

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

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# **The International Seismological Summary**

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1959 JULY, AUGUST, SEPTEMBER

The 1959 number of the Summary includes a few modifications to the presentation due to the output format of the electronic computer and card-controlled typewriter.

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

KEW OBSERVATORY  
July 1965

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

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

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JULY 1 2.H 27.M 47.S EPICENTRE 28.11 139.51 DEPTH= 533.KM

DEPTH OF FOCUS= 0.079R

A=-0.67174 B= 0.57360 C= 0.46877 D= 0.6494 E= 0.7605  
G=-0.3565 H= 0.3044 K=-0.8833 HT= 2.4

SE= 1.61

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
TORISIMA	2.46	16.2	1	12	0	2	6	-2				
HATIDYOZIMA	4.98	3.1	1	31	1							
SIOMISAKI	6.21	329.8	1	41A	0	3	2	1				
OMAESAKI	6.56	350.7	1	45A	1	3	7	0				
OWASE	6.58	335.3	1	45A	0	3	7	0				
OSIMA	6.64	359.1	1	45	0	3	5	-3				
HAMAMATU	6.76	347.4	1	47	1	3	12	2				
MERA	6.79	2.3	1	45A	-2	3	7	-4				
MUROTO	6.87	319.5	1	48	1	3	15	3				
SHIZUOKA	6.90	352.4	1	47	-1	3	12	-1				
AJIRO	6.92	357.2	1	46	-2	3	11	-2				
MISIMA	7.00	356.3	1	46	-3	3	8	-7				
TU	7.07	339.6	1	51A	2	3	18	2				
WAKAYAMA	7.14	329.7	1	50	0	3	20	3				
KAMEYAMA	7.20	339.7	1	50A	-1	3	20	2				
NARA	7.26	335.3	1	52A	1	3	22	3				
TOKUSIMA	7.28	325.8	1	52A	1	3	19	-1				
YOKOHAMA	7.29	0.9	1	49	-3	3	17	-3				
SIMIDU	7.31	311.1	1	53A	1	3	23	3				
OSAKA	7.35	333.4	1	53A	1	3	23	2				
NAGOYA	7.36	343.6	1	53A	1	3	21	0			13	49 SCS
SUMOTO	7.37	328.7	1	53A	1	3	24	3				
HUNATU	7.39	355.3	1	52A	-1	3	21	-1				
KOTI	7.46	318.0	1	54A	1	3	25	2			13	49 SCS
KOBE	7.52	331.6	1	55A	1	3	26	2				
IIDA	7.52	349.5	1	56A	2	3	26	2			4	23
ABUYAMA	7.53	334.5	1	54A	0							
KOHU	7.53	354.2	1	53A	-1	3	24	0				
TOKYO C.M.O.	7.55	1.5	1	52A	-2	3	22	-2				
HONGO	7.58	1.6	1	51	-3	3	23	-2			5	8
KYOTO	7.60	335.9	1	55K	0	3	25	0				
GIHU	7.63	342.9	1	55A	0	3	25	-1			13	49 SCS
HIKONE	7.65	339.6	1	57	2	3	29	3				
TYOSI	7.67	8.2	1	54A	-1	3	25	-2				
TAKAMATU	7.75	324.3	1	57A	1	3	30	2				
TITIBU	7.85	357.5	1	56	-1	3	29	-1				
UWAZIMA	7.86	312.1	1	58A	1	3	33	3				
MIYAZAKI	7.97	300.4	2	1	3	3	37	5				
KUMAGAYA	8.01	359.3	1	57A	-2	3	30	-3				
TSURUGA	8.06	339.6	2	0	1	3	32	-2				
MAIZURU	8.10	335.9	2	0A	0	3	35	1				
TUKUBASAN	8.10	3.4	1	57K	-3	3	14	-20			3	11 *SP
OKAYAMA	8.10	325.3	1	59	-1	3	37	3				
KAKIOKA	8.11	3.9	1	58	-2	3	33	-2				
MATUYAMA	8.13	316.2	2	2A	2	3	38	3				
YAKUSIMA	8.20	288.6	2	1	0	3	31	-5				
MATUMOTO	8.21	351.3	2	0	-1	3	35	-2				
OIWAKE	8.23	354.6	2	1	0	3	36	-1				
TAKAYAMA	8.24	347.2	2	0	-1							
MAEBASI	8.27	357.6	1	59A	-2	3	42	4				
MITO	8.28	5.4	2	1	0	3	36	-2				
HUKUI	8.37	341.7	2	2	0							
TOYOOKA	8.40	332.9	2	3A	0	3	43	3				
UTUNOMIYA	8.42	2.0	2	1	-2							
MATUSIRO	8.48	353.0	2	1A	-2	3	39	-3			6	56 PCP
OOITA	8.49	308.8	2	5A	1	3	40	-2				
KAGOSIMA	8.50	296.0	2	5A	1	3	44	2				
NAGANO	8.60	353.0	2	3A	-2	3	45	1				
TOTTORI	8.62	330.0	2	6	1	3	50	6				
HIROSIWA	8.69	317.6	2	6	0	3	45	0				
ASOSAN	8.70	305.3	2	6	0	3	48	2				
TOYAMA	8.78	347.8	2	6	-1	3	45	-2				
ONAHAMA	8.89	7.2	2	6A	-2	3	46	-3				
YONAGO	8.98	325.9	2	8	-1	3	55	4				
SHIRAKAWA	9.00	3.7	2	8	-1	3	48	-3				
TAKADA	9.02	353.6	2	8	-1	3	50	-1				
MATSUE	9.13	324.8	2	10	0	3	56	2				
HAMADA	9.27	318.7	2	12A	0	3	47	-9				
SAGA	9.43	305.1	2	15	2	4	3	4				

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1959		PAGE 488									
WAZIMA	9.50	347.3	2	13	-1						
NAGASAKI	9.50	301.3	2	14	0	4	1	1			
HUKUOKA	9.52	307.1	2	14A	0	4	4	3			
SAIGO	9.61	328.6	2	16	1	4	3	1			
HUKUSIMA	9.64	4.6	2	15A	0	4	2	-1			
NIIGATA	9.79	357.9	2	12	-5	4	2	-4			
AIKAWA	9.93	354.2	2	17	-1	4	4	-5			
YAMAGATA	10.13	3.8	2	20	0	4	12	0			
SENDAI	10.19	6.2	2	21A	0	4	14	1			
TOMIE	10.30	298.5							3	22	
ISINOMAKI	10.40	7.9	2	22A	-1	4	18	1			
ITUHARA	10.65	307.2	2	25	-1	4	22	0			
SAKATA	10.76	1.4	2	29	2	4	24	0			
MIZUSAWA	11.07	6.6	2	31	1	4	31	1			
AKITA	11.59	2.3	2	36A	1	4	43	3			
MORIOKA	11.64	6.4	2	37A	1	4	44	3			
MIYAKO	11.69	9.4	2	35	-1	4	42	1			
HATINOHE	12.50	7.1	2	45A	0	4	58	1			
AOMORI	12.72	4.4	2	48	1	5	3	2			
HAKODATE	13.67	3.8	2	57A	1	5	21	3			3 58
MORI	13.98	3.3	3	1	1	5	29	5			
MURORAN	14.23	4.4	3	3	1	5	12	-17			
URAKAWA	14.25	9.9	3	5	3	5	35	6			
HIROO	14.47	11.4	3	6A	1	5	35	2			
TOMAKOMAI	14.47	6.1	3	9	4	5	45	12			
SUTTSU	14.66	2.1	3	7	1	5	40	3	14	2	SCS
SAPPORO	15.00	5.2	3	10A	0	5	46	3			
OBHIRO	15.07	10.5	3	12	1	5	52	8			
KUSIRO	15.35	13.7	3	14	1	5	57	8			
GUAM	15.37	160.4	3	13	0	5	54	5			
ASAHIKAWA	15.80	7.6	3	18	0						
NEMURO	15.96	16.3	3	21	2	6	6	6			
VLADIVOSTOK	16.19	339.7	3	24	3				6	13	
ZO-SE	16.21	285.0	3	19	-3	5	57	-7	5	20	*SP
ILAN	16.25	262.2	3	20K	-2	6	36	31			
ABASHIRI	16.33	12.3	3	25	2	6	12	6			
TAIPEI	16.38	263.3	2	12	-71						
HWALIEN	16.59	259.7	3	27	2						
YUSHAN	17.33	258.8	3	29	-4						
ALISHAN	17.45	259.0	3	36	2	6	33	7			
TAWU	17.78	255.3	3	37	0						
HENGCHUN	18.04	254.5	3	47	7						
TAINAN	18.13	258.0	3	43	3						
NANKING	18.34	287.4	3	42K	0	6	38	-3			5 48 *SP
Y.-SAKHLINSK	18.97	6.8	3	49	1	6	53	1	10	14	
CHANGCHUN	19.39	327.7	3	52A	0	6	58	-1	5	0	6 4 *SP
BAGUIO CITY	21.00	240.3	4	6	-1	7	33	7			
MANILA	21.85	235.8	4	13	-2	7	37	-3			
PEKING	22.62	307.7	4	21	-1	7	49	-3			8 3 PCP
HONG KONG	23.62	261.5	4	31	0	8	4	-4			6 49 PP
PAOTOW	27.19	304.9	5	3	0	9	3	-2	6	29	7 29 *SP
PETROPAVLOVK	28.72	24.3	5	15	-1	9	27	-1			8 8 PCP
PHU-LIEN	30.73	263.6	5	33	0	10	0	0			7 5 PP
CHENG TU	30.96	283.4	5	33K	-2	9	58	-5			8 3 *SP
LANCHOW	31.12	293.9	5	37	0	10	2	-4			7 12 PP
ULAN-BATOR	32.07	316.9	5	45A	0						
MAGADAN	32.37	10.7	5	47	0	10	23	-2			7 14 PP
KUNMING	33.00	273.3	5	52K	0	10	31	-3	7	29	8 22 *SP
RABAUL	34.37	157.2	6	1	-3						
YAKUTSK	34.52	351.9	6	4	-1						7 36 PP
IRKUTSK	35.57	322.5	6	14A	0	11	14	1	7	46	7 52 PP
PORT MORESBY	38.02	167.7	6	34A	0	11	46	-4	8	12	8 17 PP
LHASA	42.22	284.1	7	9	1	12	51	1	8	52	9 42 *SP
CHITTAGONG	43.30	273.5	7	18K	2	13	9	3	9	5	9 10 PP
TIKSI	43.96	355.2	7	21	0	13	13	-2			
MEDAN	45.88	245.4	7	36K	0						
LEMBANG	46.42	226.4	7	37K	-3	13	42	-7			
DJAKARTA	46.44	227.8	7	38K	-3	13	49	0			
CHARTERS TS.	48.28	171.5	7	55	0	14	7	-8			
SEMI PALATNSK	49.52	313.7	8	3	-1	14	21	-11	9	41	
DEHRA DUN	53.10	288.2	8	29	-1	15	19	-1			
FRUNSE	53.63	304.2	8	33	-1	15	28	1			11 11
NOUMEA	56.47	149.8	8	53	0						
BRISBANE	56.78	165.6	8	55	0	16	6	-2			
WARSAK DAM	57.56	294.2	9	1	0	16	19	1			
COLLEGE	57.57	28.9	9	0	-1	16	19	1	10	43	20 11 SS
STALINABAD	58.71	300.0	9	8	0	16	33	1			
KHEYS	62.05	348.7	9	24	-7	17	2	-12	11	9	10 1 PCP



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1959		PAGE 489									
QUETTA	62.37	291.2	9 32K	-1	17 18	0	11 27	12 2	PP		
RIVERVIEW	62.59	169.1	9 33	-1	17 21	1					
ADELAIDE	62.71	180.7	9 35A	0	17 21	-1	11 27	11 59	PP		
CANBERRA	63.73	171.3	9 41A	0			11 34	12 17	PP		
SITKA	64.33	37.2	9 46	1				36 18	PKPPKP		
ASHKABAD	66.77	301.8	10 2K	2	18 14	4		18 57	SCS		
NORD	69.83	356.4	10 18	-1	18 46	0					
APATITY	70.19	336.9	10 20K	-1	18 47	-3		13 0	PP		
RESOLUTE	71.63	13.2	10 29A	0	19 3	-3	12 15	13 18	PP		
SODANKYLA	72.58	338.1	10 34	-1	19 16	0	12 28	10 49	PCP		
MOSCOW	73.52	324.7	10 40	0	19 23	-4	12 30	19 53	SCS		
KARAPIRO	73.85	151.0	10 43K	1			12 35	10 57	PCP		
VICTORIA	73.87	43.4	10 43	1			12 31				
THULE	74.28	6.6	10 41	-3	19 24	-11	12 35				
KIRUNA	74.29	339.8	10 44	0	19 35	0	12 36	22 47	*SS		
TONGARIRO	74.93	151.8	10 47	-1			12 42				
GORIS	74.98	306.9	10 49	1	19 43	0					
PULKOVO	75.08	330.4	10 48	-1	19 41	-3	12 39	23 0	*SS		
NURMI JARVI	77.07	332.6	11 0	0	20 4	-1	12 55				
HELSINKI	77.14	332.2	11 0	0	20 2	-4		11 11	PCP		
GEBBIES PASS	77.66	156.1	11 6	3							
SHASTA	77.89	50.3	11 6A	2							
MINERAL	78.58	50.4	11 9A	1			12 57				
BERKELEY	79.26	52.9	11 13	2	20 28	0	13 2				
HUNGRY HORSE	79.50	40.6	11 15	2	20 32	2	13 2				
SKALSTUGAN	79.62	338.8	11 13	0	20 30	-1					
LICK	79.94	53.1	11 17A	2			13 13				
RENO	80.18	50.5	11 18K	2			13 14				
UPPSALA	80.26	334.2	11 15K	-1	20 34	-4	13 19	23 55	*SS		
SIMFEROPOL	80.58	316.1	11 17K	-1	20 40	-1	13 15				
SCORESBY SD.	80.79	353.8	11 19	0	20 43	0	13 13	26 7	SS		
FRESNO	81.50	52.9	11 25	2			13 21				
BUTTE	81.56	42.1	11 24	1			13 14				
EUREKA	82.80	49.0	11 31	2	21 0	-3	13 29	16 23	PP		
IASI	83.23	320.4			21 11	4					
LWOW	83.62	324.0	11 33	-1	21 10	-1	13 30	16 58	PPP		
WARSAW	83.66	327.0	11 34	0	21 2	-9		22 1	SP		
GOTEBORG	83.88	334.6	11 34	-1			13 24				
PASADENA	83.94	54.6	11 36	1	21 6	-8		11 50	PCP		
BACAU	83.97	320.2			22 6	52					
FOCSANI	84.29	319.3			21 20	3					
KSARA	85.04	305.7	11 33	-7	21 18	-7	13 34	14 54	PP		
COPENHAGEN	85.13	333.0	11 41	0	21 26	1	13 36	21 12	SKS		
KRAKOW	85.57	325.8	11 42	-1			13 39	15 1	PP		
BUCHAREST	85.67	318.7			21 23	-7		22 37			
BYTOM	85.87	326.4						24 52			
RACIBORZ	86.40	326.5	11 48	1			13 47				
JERUSALEM	86.56	304.2	11 48K	0				13 43			
REYKJAVIK	86.91	351.9	11 51A	2							
POTSDAM	87.20	330.4	11 47	-4	21 49	4	13 44	17 23	*PPP		
RAPID CITY	88.11	39.9	11 56	1			13 49				
PRUHONICE	88.21	328.0	11 55K	0	21 53	-1	13 49	22 57	SP		
SOFIA	88.31	318.6	11 56	0	22 4	9	13 55	21 39	SKKS		
HALLE	88.32	330.3	11 56	0	21 52	-3	13 53	21 33	SKS		
JENA	88.89	330.0	11 59	0	21 38	1	13 55	15 7	PP		
ABERDEEN	89.08	340.2			21 37	-1		18 42	SP		
SONNEBERG	89.45	329.8						23 12	SP		
TUCSON	90.17	52.9	12 7	2			13 59				
TUCSON TELE.	90.20	52.8	12 7	2	21 47	2	14 0	17 29	PP		
DE BILT	90.67	333.8			21 50	3		23 31	SP		
LJUBLJANA	90.94	325.2	12 7	-1							
TOLMEZZO	91.44	326.2	12 9	-1	21 47	-4	14 18	12 51			
STUTTGART	91.52	329.7	12 10	-1	22 21	-2	14 6	21 49	SKS		
TRIESTE	91.60	325.3			22 23	-1		21 52	SKS		
TUBINGEN	91.76	329.6	12 12	0							
UCCLE	92.01	333.4	12 14	1	21 56	1					
EBINGEN	92.06	329.4	12 14	1							
STRASBOURG	92.29	330.3	12 14	0	21 57	1	14 9	22 25	SKKS		
DOORBES	92.46	332.8			21 57	0		23 44	SP		
KEW	93.23	336.2			22 38	0		22 1	SKS		
RATHFARNHAM	93.64	340.2	9 31A-170					12 1			
PARIS	94.33	333.1						24 8			
ROME	94.89	323.3			24 3	71		22 9			
FOLINIERE	95.51	334.7	12 28	-1							
MESSINA	95.74	318.9			24 27	88		19 7	PP		
CUGLIERI	98.17	324.2						27 43			
BREBEUF	100.78	23.0						14 47			
CAPE HALLETT	102.37	170.8						19 54	PP		

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PENNSYLVANIA	103.17	28.2			22	51	0		
ALGIERS UNI.	103.58	325.3						17	16 PP
TOLEDO	104.33	331.8			23	40	-31	26	50 PS
PALISADES	104.57	25.5			22	59	6	18	1 PP
HALIFAX	104.60	16.8			22	57	4	25	54 SP
GRANADA	106.39	330.0						19	17 PP
TAMANRASSET	112.69	314.0	17	38	2	24	37	66	18 35 PP
ELISABTHVLL	114.79	269.7	17	43	3			19	54 PP
BROKEN HILL	115.05	266.5						18	43 PP
BERMUDA	115.59	22.6				23	37	-5	24 57 SKKS
BULAWAYO	117.16	260.6	17	47	2				
SOUTH POLE	117.95	180.0	17	46	0			19	49 19 10 PP
BYRD STATION	119.40	168.7	17	49	0			19	54 20 35 *PPP
LEOPOLDVILLE	122.09	283.4	17	57A	3				
SAN JUAN	127.55	31.2	18	6	1			20	9 20 38 *SPKP
ST. KITTS	129.95	28.1							
MBOUR	132.00	328.6	19	10K	57			20	44 20 42 *SPKP
CHINCHINA	132.80	51.4	18	16	2	23	44	-50	20 18
FUQUENE	133.72	49.0	18	21	5	23	48	-47	
BOGOTA	134.11	50.2							20 59 SKP
TRINIDAD	136.47	30.6							21 5 SKP
HUANCAYO	143.75	70.9	18	37	2			20	39 21 48 PP
LA PAZ	152.01	71.5	18	52A	5			20	5

JULY 2 11.H 27.M 48.5 EPICENTRE -20.45-178.68 DEPTH= 627.KM

DEPTH OF FOCUS= 0.094R

A=-0.93752 B=-0.02167 C=-0.34726 D=-0.0231 E= 0.9997  
G= 0.3472 H= 0.0080 K=-0.9378 HT= 4.6

SE= 1.56

	DELTA DEG.	AZ. DEG.	P			S			O-C		*PP		SUPP.	
			M	S	O-C	M	S	O-C	M	S	M	S		
SUVA	3.56	309.4	1	28	3	2	32	-1					3	20
APIA	9.33	46.0	2	10	-3	3	50	-9						
ONERAHI	16.44	200.4	3	25	4									
KARAPIRO	18.12	194.9	3	37A	0									
TONGARIRO	19.35	193.7	3	44	-4									
WELLINGTON	21.50	193.6	4	5	-3	7	25	-1						
GEBBIES PASS	24.29	195.4	4	30	-2	8	8	-2						
RABAUL	32.64	295.7	5	42	-2									
CHARTERS TS.	32.87	264.5	5	45K	-1	11	0	37						
PORT MORESBY	34.72	283.3	6	1K	0								14	10
MELBOURNE	35.89	233.2												
ADELAIDE	40.09	239.7	6	45K	0								12	46
GUAM	49.29	310.1	7	54	-1									
CAPE HALLETT	52.25	184.2	8	19	2									
TERRE ADELIE	52.87	198.6	8	22	1									
BYRD STATION	64.80	170.5	9	40	0				11	47				
SOUTH POLE	69.68	180.0	10	10	0									
MATUSIRO	69.79	324.1	10	9K	-1									
HONG KONG	78.10	299.3	10	58	1									
BERKELEY	78.57	42.3	10	59	0									
LICK	78.64	43.0	11	0K	0									
PASADENA	79.11	47.3	11	2	0									
NANKING	79.40	310.0	11	4K	0									
FRESNO	79.50	44.4	11	5	1									
SHASTA	80.20	39.9	11	8K	0									
MINERAL	80.47	40.6	11	9K	0									
RENO	81.10	42.1	11	13K	1									
ARGENTINE I.	81.27	157.2	11	14	1									
CHANGCHUN	81.97	322.7	11	17	0									
HALLEY BAY	82.67	173.2	11	20	0									
TUCSON	83.38	52.2	11	25	1									
TUCSON TELE.	83.51	52.2	11	26	2						13	39		
EUREKA	83.52	43.8	11	24	0						13	43		
PEKING	85.41	315.7	11	33K	-1									
COLLEGE	88.29	12.7	11	46	-1						13	57		
KUNMING	88.78	297.2	11	51K	1									
YAKUTSK	91.81	338.3	18	27	384									
RESOLUTE	107.92	16.1	17	16	-10									
QUETTA	120.58	293.6	17	43	1									
SCORESBY SD.	128.07	9.7	17	55	-1									
KIRUNA	131.12	350.5	18	2	0								20	31 SKP
MOSCOW	135.55	331.4											20	46 SKP

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1959					PAGE 491
NURMIJARVI	136.70	343.4	18 13	1	20 50 SKP
UPPSALA	138.95	347.5			20 55 SKP
SIMFEROPOL	143.54	319.7	18 24	-1	
LWIRO	144.87	233.2	18 31A	4	25 7 SKP
KISHINEV	145.32	326.3			25 4 SKP
LWOW	145.58	333.8	18 29	1	
RATHFARNHAM	146.69	8.3	18 30	0	19 24
KRAKOW	146.97	337.8	18 33	3	
JERUSALEM	147.66	297.4	18 37A	6	
JENA	148.52	347.5	18 33	0	18 49
PRUHONICE	148.71	343.5	18 39K	6	
BENSBERG	149.20	352.8	18 40	6	
BRATISLAVA	149.55	339.0	18 41	7	
UCCLE	149.62	356.2	18 41	7	
DOURBES	150.30	355.7	18 43	8	
STUTTGART	151.04	349.2	18 37	1	
TUBINGEN	151.30	349.2	18 44	7	
STRASBOURG	151.46	351.0	18 44K	7	18 55 PKP2
FOLINIERE	151.70	2.5	18 38	1	18 55 PKP2
LJUBLJANA	152.26	340.0	18 39	1	18 58 PKP
TAMARRASSET	175.46	301.5	19 1	2	20 42 PKP2

JULY 2 11.H 34.M 22.S EPICENTRE -20.37-178.60 DEPTH= 617.KM

DEPTH OF FOCUS= 0.092R

A=-0.93796 B=-0.02295 C=-0.34599 D=-0.0245 E= 0.9997  
G= 0.3459 H= 0.0085 K=-0.9382 HT= 4.6

SE= 1.31

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
SUVA	3.57	307.7	1	27	2	2	29	-3				
APIA	9.23	46.0	2	9	-3	3	50	-7				
KARAPIRO	18.22	195.0	3	39	1							
TONGARIRO	19.44	193.8	3	47	-2							
WELLINGTON	21.59	193.7	4	9	0	7	29	1				
BRISBANE	26.84	249.2	4	56A	1							
CANBERRA	32.12	235.5	5	41A	1							
CHARTERS TS.	32.95	264.4	5	46K	-1						8	12
PORT MORESBY	34.78	283.2	6	2K	0	10	49	-3			14	13 *SS
ADELAIDE	40.19	239.7	6	46	0							
HONOLULU	46.01	27.0	7	31	-1							
KIPAPA	46.15	27.0	7	32	-1							
GUAM	49.29	310.0	7	54	-2							
CAPE HALLETT	52.34	184.3	8	19	1							
TERRE ADELIE	52.97	198.6	8	23	0							
BYRD STATION	64.86	170.5	9	41	-1				11	42		
SOUTH POLE	69.76	180.0	10	11	0				12	15	10	27 PCP
MATUSIRO	69.77	324.0	10	10K	-1							
ZO-SE	77.18	310.2	10	53	0							
HONG KONG	78.13	299.2	10	59	1							
BERKELEY	78.46	42.2	11	1	1							
LICK	78.54	43.0	11	1K	1							
UKIAH	78.63	40.8	11	2	1							
PASADENA	79.01	47.3	11	3	0							
CANTON	79.22	299.5	11	4	0							
FRESNO	79.39	44.3	11	5K	0							
NANKING	79.40	309.9	11	5	0							
SHASTA	80.10	39.9	11	6K	-2							
MINERAL	80.36	40.6	11	11K	1							
RENO	80.99	42.0	11	14K	1							
ARGENTINE I.	81.31	157.2	11	15	1							
CHANGCHUN	81.95	322.7	11	17K	-1							
HALLEY BAY	82.74	173.2	11	19	-3							
TUCSON	83.28	52.2	11	26	2							
TUCSON TELE.	83.40	52.1	11	27	2				13	43	29	41 PKKP
EUREKA	83.41	43.8	11	25	0				13	37	37	47 PKPPKP
PEKING	85.40	315.6	11	34K	-1							
SALT LAKE C.	86.78	44.3	11	39	-2							
COLLEGE	88.20	12.6	11	46	-2	21	41	1	13	58		
KUNMING	88.81	297.2	11	52K	1							
BOZEMAN	89.74	40.4	11	56	1							
RAPID CITY	93.98	44.4	12	15	1							
HUANCAYO	97.98	106.0	12	0	-32							
RESOLUTE	107.83	16.1	17	17	-1						35	44 *SSS

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1959					PAGE 492
QUETTA	120.62	293.7	17 45	2	
SCORESBY SD.	127.98	9.7	17 56	-1	
APATITY	128.68	344.9	17 58K	0	
KIRUNA	131.05	350.6	18 2	-1	20 32 SKP
BULAWAYO	131.73	215.1	18 33	29	
SKAI STUGAN	136.19	353.0	18 11	-2	
NURMI JARVI	136.65	343.5	18 3	-10	21 28 PKS
UPPSALA	138.89	347.6			20 56 PKS
ELISABTHVLE	139.18	221.1	18 12	-6	20 44
GOTEBORG	141.91	350.8	18 19K	-5	
COPENHAGEN	143.78	349.4	18 24	-3	
LWOW	145.54	333.9	18 30	0	
DURHAM	145.58	3.1	18 30K	0	
IASI	145.82	327.6	18 48	18	
RATHFARNHAM	146.60	8.4	18 34	3	25 43
POTSDAM	146.78	346.9	18 34	3	
KRAKOW	146.93	337.9	18 34	3	
RACIBORZ	147.49	339.7	18 33	1	
JERUSALEM	147.69	297.5	18 39	6	18 43 PKP2
HALLE	147.85	347.6	18 35	2	20 58
JENA	148.46	347.7	18 34	0	20 57
PRAGUE	148.61	343.8	18 42	8	
PRUHONICE	148.66	343.6	18 35A	1	21 4
KEW	148.93	2.1	18 39	5	
SONNEBERG	149.06	347.9	18 40	5	
BENSBERG	149.13	352.9	18 41	6	18 48 PKP2
BRATISLAVA	149.51	339.1	18 37	2	21 7
DOURBES	150.22	355.9	18 44	8	18 52 PKP2
STUTTGART	150.98	349.3	18 39	2	21 6
TUBINGEN	151.23	349.4	18 39	1	
STRASBOURG	151.39	351.2	18 46K	8	18 57 PKP2
EBINGEN	151.59	349.3	18 39	1	
FOLINIERE	151.62	2.6	18 40	2	18 58 PKP2
LEOPOLDVILLE	151.90	210.5	18 49K	10	21 10
LJUBLJANA	152.21	340.2	18 48	9	19 0 PKP2
TOLMEZZO	152.35	342.5	19 44	65	20 2
TRIESTE	152.81	340.8	19 4	24	
CLERMONT-FD.	154.63	357.2	18 54	11	19 12 PKP2
TAMARRASSET	175.48	302.8	19 2K	2	20 44 PKP2

JULY 3 5.H 21.M 11.S EPICENTRE 58.53-151.76 DEPTH= 0.KM

A=-0.46222 B=-0.24828 C= 0.85130 D=-0.4732 E= 0.8810  
G=-0.7500 H=-0.4028 K=-0.5247 HT= -8.4

SE= 1.51

	DELTA DEG.	AZ. DEG.	P		O-C S	S O-C			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
COLLEGE	6.64	14.7	1	44	3	3	11	13				
SITKA	8.90	92.5	2	11	-2							
HUNGRY HORSE	24.35	98.1	5	21	1	9	56	18			7	2
SHASTA	25.76	120.9	5	35A	1							
RESOLUTE	26.24	30.2	5	41K	3	10	9	-1				
MINERAL	26.40	120.3	5	40K	0							
BUTTE	26.62	100.7	5	40	-2							
BOZEMAN	27.65	99.7	5	52	1							
PETROPAVLOVK	27.83	280.6									7	51
RENO	27.87	118.9	5	54A	1							
MAGADAN	28.79	296.9	6	18	16							
LICK	28.85	124.0	6	31A	29							
EUREKA	29.72	114.1	6	10	0							
FRESNO	30.14	122.2	6	14A	0							
THULE	32.72	25.7	6	35	-1							
RAPID CITY	32.81	94.5	6	36	-1							
PASADENA	33.05	122.7	6	40	1						6	54
TIKSI	33.06	325.2	6	39	0							
YAKUTSK	36.88	309.6	7	12	0							
TUCSON TELE.	37.98	115.4	7	22	1						9	8 PCP
TUCSON	38.00	115.6	7	22	1							
NORD	38.06	9.7	7	23	1							
LAWRENCE	40.63	93.3	7	42	-1							
KHEYS	40.98	353.8	7	40	-6							
SCORESBY SD.	46.46	20.9	8	31	1							
SHAWINIGAN	46.75	68.5	8	31K	-2							
BREBEUF	47.08	70.0	8	33K	-2							

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1959										PAGE 493
SEVEN FALLS	47.28	66.6	8 36	-1						
PENNSYLVANIA	48.34	77.5	8 45	0						
MATUSIRO	49.53	275.8	8 54A	0	16	2	0			
WASHINGTON	50.17	78.5	8 58	-1						
PALISADES	50.20	74.3	9 0	0	16	14	3			11 12 PP
COLUMBIA	51.85	85.7	9 10	-2						
HALIFAX	52.56	64.0								20 32 SS
KIRUNA	53.82	3.7	9 26	-1						
APATITY	54.18	357.5	9 30	1						
SODANKYLA	54.41	0.8	9 31	0						
SKALSTUGAN	57.61	8.4	9 53K	-1						
NURMI JARVI	61.27	2.0	10 19	0						
BERMUDA	61.55	74.0								25 9 SSS
HELSINKI	61.62	1.9	10 24	2						10 52 PCP
UPPSALA	61.67	6.1	10 21K	-1						
JENA	70.06	11.1	11 13	-3						11 31
FOLINIERE	70.49	19.7	11 19	1						
PRUHONICE	71.28	9.3	11 24K	1						
STUTTGART	71.93	13.1	11 28	1						
SAN JUAN	72.26	83.8	11 27	-2						
CLERMONT-FD.	74.01	18.0	11 40	1						
QUETTA	85.91	327.1	12 45	2						
HUANCAYO	93.22	107.7	13 17	0						
CANBERRA	105.70	226.9	15 25	777						
BYRD STATION	139.54	171.8	19 25	-5						
SOUTH POLE	148.35	180.0	19 47	2						19 56
KIMBERLEY	150.14	6.1	19 56	8						

JULY 3 17.H 55.M 14.S EPICENTRE -16.26 172.82 DEPTH= 22.KM

A=-0.95296 B= 0.12010 C=-0.27828 D= 0.1250 E= 0.9922  
G= 0.2761 H=-0.0348 K=-0.9605 HT= 5.5

SE= 1.74

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
PORT VILA	4.54	250.6	1	5	-4							
SUVA	5.68	110.1	1	26	1							
NOUMEA	8.50	224.0	2	2A	-2	2	57	-43				
APIA	15.08	82.7	3	32	-1	7	11	51				
ONERAHI	19.48	176.2	4	29	1	8	5	5			6	11 PP
AUCKLAND	20.60	175.5	4	44	4	8	39	15			7	39
BRISBANE	21.46	235.3	4	49K	1	8	55	15				
KARAPIRO	21.71	174.2	4	50A	-1						5	38 PP
TUAI	22.77	171.2	5	1	0							
TONGARIRO	22.98	174.6	5	4A	1				5	47	5	50 PP
RABAU	23.56	298.4	5	8	-1	9	22	4				
COBB RIVER	24.73	180.2	5	24	4							
WELLINGTON	24.99	176.5	5	23	0						10	21
CHARTERS TS.	25.50	257.6	5	28K	0	10	1	10				
PORT MORESBY	25.92	282.1	5	33K	1						10	29
KAIMATA	26.20	182.3	5	36	2							
RIVERVIEW	26.20	224.1	5	35K	1	10	8	5				
GEBBIES PASS	27.35	180.3	5	47	2						10	58
CANBERRA	28.51	223.8	5	55K	0	11	32	52	6	43	8	4 PCP
ROXBURGH	29.35	185.0	6	2	-1	10	51	-2			7	35
MELBOURNE	32.60	223.4	6	30K	-2	11	52	8	7	13	13	6
FORT NELSON	34.33	214.1	6	46	0	12	19	8				
ADELAIDE	35.69	232.1	6	58	0	12	34	2			13	20 PCS
GUAM	40.53	315.2	7	39	1	14	32	46			9	19 PCP
HONOLULU	46.98	38.3	8	30	-1	15	2	-17				
PERTH	53.73	242.1	10	6	44	17	52	58			12	14 PP
TERRE ADELIE	54.55	194.7	9	27	-1	17	9	5				
CAPE HALLETT	56.05	180.9	9	39	0	17	33	9			22	5 SS
MANILA	59.67	298.1	10	2	-2	19	20	69				
TUKUBASAN	60.67	329.9	10	11K	0	18	27	3			12	32 PP
BAGUIO CITY	60.90	299.7	10	12	-1	18	30	3				
SCOTT BASE	61.69	181.5	10	14A	-4	19	26	49			13	12 PP
MATUSIRO	61.86	328.8	10	19K	0	18	47	8			14	28 PPP
ABUYAMA	61.95	325.7	10	20K	0							
MIZUSAWA	62.56	332.6	11	11	47	19	30	42				
TAWU	63.69	305.6	10	37K	6							
HWALIEN	64.01	307.5	10	47	14							
WILKES	64.18	203.5	10	34K	-1	19	8	0				
ZO-SE	68.39	313.7	11	1K	0	20	9	10				
Y -SAKHLINSK	68.49	333.3	11	2	0				11	47	20	52 *SS

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1959										PAGE 494			
HONG KONG	69.03	302.1	11	6K	1	19	53	-14		13	44	PP	
VLADIVOSTOK	70.01	329.3	11	12	1				11	55	13	46	PP
CANTON	70.12	302.4	11	12	0	20	28	8					
PETROPAVLOVK	70.18	351.0	11	9	-3				11	55	13	42	PP
NANKING	70.59	313.2	11	15K	0	20	31	6					
MIRNY	71.16	204.6	11	17	-2	20	37	5	11	58	15	48	PPP
SOUTH POLE	73.84	180.0	11	32	-2	22	14	71			14	43	PP
CHANGCHUN	73.89	326.3	11	35K	1	21	12	9					
PHU-LIEN	74.66	297.4	11	41K	2						14	32	PP
MEDAN	75.83	278.0	11	45A	-1								
PEKING	76.87	318.8	11	52K	1	21	45	9					
MAGADAN	77.64	348.7	11	57	1				12	40	18	44	
KUNMING	79.70	299.9	12	10K	3	22	19	13					
PAOTOW	81.13	316.7	12	16	1	22	31	10					
UKIAH	81.20	45.0	12	14	-1								
BERKELEY	81.25	46.5	12	16K	1	23	9	47			24	13	PS
LICK	81.44	47.2	12	17K	1								
FRESNO	82.49	48.4	12	21K	-1								
SHASTA	82.52	43.9	12	23K	1								
PASADENA	82.54	51.3	12	22K	0	22	37	1					
LANCHOW	83.35	310.4	12	29	3								
RENO	83.72	45.9	12	29K	1								
PORT BLAIR	83.92	284.0				23	44	-5			13	17	
SITKA	84.77	25.6	12	34	1								
YAKUTSK	85.10	341.1	12	35	0								
VICTORIA	85.73	36.7	13	36	58								
COLLEGE	86.25	15.7	12	38	-2								
EUREKA	86.38	47.2	12	41	0						30	37	PKKP
ULAN-BATOR	86.69	322.0	12	44	1								
TOCKLAI	86.94	298.8	12	50	6								
TUCSON	87.46	55.5	12	48	2						16	25	PP
TUCSON TELE.	87.58	55.5	12	48	1						16	26	PP
HALLEY BAY	87.63	175.2	13	46	59								
LILLOOET	87.66	35.3	14	1	74				14	45			
ARGENTINE I.	88.13	159.3	12	47	-3								
SHILLONG	89.02	296.9	12	54K	0						23	27	
SALT LAKE C.	89.79	47.3	12	57	0								
CHIHUAHUA	90.12	60.3									17	10	*PPP
IRKUTSK	90.18	325.1	13	0K	1				13	44	25	52	PS
LHASA	90.99	300.5	13	6K	3								
HUNGRY HORSE	91.24	39.7	13	5	1								
BUTTE	91.26	42.2	13	5	1								
BOZEMAN	92.12	42.9	13	10	2								
TIKSI	92.56	347.3	13	9	-1				13	50			
TACUBAYA	93.44	70.9	13	14K	0	23	16	-29	14	4	17	4	PP
BOKARO	93.79	293.6				24	41	21			18	23	PP
COLOMBO	94.72	275.8	14	9	49						24	27	
VERA CRUZ	96.18	71.9				25	43	62			19	49	PPP
RAPID CITY	96.91	46.2	13	30	0								
KODAIKANAL	97.89	278.4				25	6	11					
AGRA	101.41	295.0				25	10	-15			27	46	PPS
DEHRA DUN	102.05	298.2				25	17	-13			18	2	PP
SEMIPALATNSK	103.97	318.8	14	1	-1								
BOMBAY	104.33	285.8				25	36	-13					
FLORISSANT	105.23	53.5	14	11	777						20	38	PPP
LAHORE	105.42	298.8	18	19	777						19	8	PP
RESOLUTE	106.17	16.1	14	10	777	25	36	0			18	31	PP
FRUNSE	106.85	310.5	14	15	777						18	33	PP
HUANCAYO	106.98	108.3	15	5	777								
STALINABAD	110.82	305.5									19	8	PP
KHEYS	111.06	350.8	18	30	-1								
QUETTA	111.51	296.5	18	24	-8	24	51	-20			19	19	PP
LA PAZ	111.65	115.5	18	26	-6						19	22	PP
CHINCHINA	112.06	91.2	18	33	0						20	6	PP
CLEVELAND	112.23	51.4	15	25	777								
BOGOTA	113.46	92.0									19	32	PP
NORD	114.49	1.5									29	56	PPS
PENNSYLVANIA	114.98	52.2									19	36	PP
SVERDOLOVSK	115.58	325.6							19	26			
BRÉBEUF	117.90	46.8	19	27	43								
PALISADES	117.98	51.9									20	1	PP
FORDHAM	118.01	52.1									19	49	PP
SHAWINIGAN	118.38	45.6	18	52	7								
ASHKABAD	119.01	304.6	18	48	2						29	30	SKSP
SEVEN FALLS	119.63	44.8	18	48	0						20	55	PP
GRAHAMSTOWN	121.10	212.9	18	51	0								
CARACAS	121.76	87.6	19	46	54						21	44	PP
APATITY	122.43	342.8	18	53	0	25	17	-34			28	16	PS



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HERMANUS	123.68	206.2						22	21	PKS			
SAN JUAN	123.91	78.6	18	57	1								
SODANKYLA	124.43	344.9	18	57	0								
HALIFAX	125.04	46.6						21	40	*PPP			
SCORESBY SD.	125.05	6.0	18	59	1			20	42	PP			
KIRUNA	125.48	347.5	18	59	0			21	29	PP			
KIMBERLEY	125.62	214.9	19	1A	2								
BERMUDA	125.80	61.6	19	44	44			21	28	PP			
MAKHACH-KALA	126.62	311.7	19	2	1								
FORT FRANCE	128.10	83.9						21	44	PP			
GORIS	128.19	307.7	19	6	2	25	49	-19	21	9	PP		
PULKOVO	128.73	336.7	19	5	0			19	48	21	9	PP	
TIFLIS	128.86	310.8	19	7	2			19	52	22	32	PKS	
BULAWAYO	129.55	225.5	19	28	21								
NURMIJARVI	130.21	340.0	19	9	1					22	31	PKS	
HELSINKI	130.36	339.6				26	6	-7		22	35	PKS	
SKALSTUGAN	130.84	348.6	19	9	0								
REYKJAVIK	131.12	8.5	19	15	5								
SOTCHI	131.92	314.5	19	12	1								
UPPSALA	132.87	343.2	19	10	-3					22	40	PKS	
BROKEN HILL	133.40	231.0	19	18	4								
WINDHOEK	134.67	212.3	20	2	46								
SIMFEROPOL	135.10	318.4	19	18	1			20	3	22	46	PKS	
ELISABTHVILLE	135.96	233.2	19	22	3			20	5	23	16		
GOTEBORG	136.21	345.2	19	18	-1								
KISHINEV	137.27	323.6	19	21	0								
KSARA	137.59	302.6	19	18A	-4								
WARSAW	137.74	334.4	19	23	1	26	9	-19		22	57	PKS	
IASI	137.87	324.6	19	56	34					23	53		
COPENHAGEN	137.88	343.5	19	25	3					23	0	PKS	
LWOW	138.08	329.9	19	23	0	26	14	-14	20	8	22	58	PKS
JERUSALEM	138.58	299.8	19	26	2			19	59				
ABERDEEN	138.98	355.8								23	46	PP	
KRAKOW	139.81	332.9	19	29	3					22	25	PP	
LWIRO	139.98	245.9	19	25A	-1								
SKALNATE PL.	140.30	331.8	19	26	-1					23	8	*PPP	
BUCHAREST	140.31	322.0	19	50	23					22	42	PP	
RACIBORZ	140.53	334.3	19	29	2					24	11		
POTSDAM	140.56	340.5	19	21	-6								
DURHAM	141.33	354.8	20	12	43					21	28		
COLLMBERG	141.50	339.6	19	26	-3					26	42		
HALLE	141.67	340.7	19	30	1					29	11	SKKS	
PRAGUE	142.02	337.3	19	39	9	27	8	33		41	33	SS	
PRUHONICE	142.05	337.1	19	29A	-1					35	6	PPS	
HURBANOVO	142.19	331.9	19	31	1								
TIMI SOARA	142.21	327.1	19	22	-8					23	0		
JENA	142.28	340.6	19	27	-3	26	13	-22		22	10	PP	
BRATISLAVA	142.45	333.1	19	30	0	26	33	-3		23	12	PKS	
PLAUEN	142.46	339.7	19	26	-4								
MUNSTER	142.48	345.0	20	24	53								
CHEB	142.74	339.1	19	34	3					23	3	PP	
SONNEBERG	142.88	340.5	19	33	2								
DE BILT	142.92	347.3	19	32	1					41	46	SS	
RATHFARNHAM	143.04	359.1	19	31K	0								
BELGRADE	143.24	326.5	19	1A	-31	28	59	142		24	58	PP	
BENSBERG	143.52	344.7	19	32	0								
UCCLE	144.32	347.4	19	35	1								
KEW	144.45	352.6	19	33	-1					23	35	*PPP	
SKOPJE	144.52	322.1	19	24A	-10					27	38	PPP	
ZAGREB	144.73	331.5	19	31K	-3	26	27	-12					
STUTTGART	144.92	341.1	19	36	1					21	2		
DOURBES	144.93	346.8	19	37	2								
TUBINGEN	145.17	341.0	19	36K	1								
LJUBLJANA	145.21	333.2	19	36K	1					22	39		
ATHENS	145.27	314.6	19	36K	1								
EBINGEN	145.51	340.8	19	37K	1								
STRASBOURG	145.52	342.4	19	38K	2					22	56	PP	
TOLMEZZO	145.56	335.0	19	37	1					24	1		
RAVENSBURG	145.65	339.8	19	39	3								
TRIESTE	145.85	333.5	19	37	1					23	6	PP	
CHUR	146.49	339.1	19	40K	3								
BASLE	146.52	341.8	19	41	4								
PARIS	146.59	348.4	19	44K	6								
FOLINIERE	147.12	351.8	19	40	2								
NEUCHATEL	147.18	342.0	19	42	3					23	38	PP	
BOLOGNA	147.80	334.8	19	42	2			20	45	28	16		
PAVIA	148.06	337.9	19	56	16								
CLERMONT-FD.	149.34	345.8	19	45	3								



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1959		PAGE 496									
ROME	149.36	330.5	19 42K	0				20 30	23 13	PKS	
LEOPOLDVILLE	149.79	229.1	19 45K	2					23 49		
MONACO	149.93	338.6	19 45	2					20 50		
MESSINA	150.38	322.0	19 48	4	26 36	-11			23 16	PKS	
REGGIO CALA.	150.39	321.7	19 50	6				20 36			
BANGUI	152.05	247.8	19 53	7					32 24		
CUGLIERI	152.51	333.2	19 46	-1					32 6		
SERRA PILAR	155.19	2.6	19 41A	-9	26 23	-29			23 49	PP	
COIMBRA	156.12	2.4	19 50A	-2							
TOLEDO	156.31	354.0	19 53	1	27 10	17	21 4	20 23	PKP2		
ALICANTE	157.22	346.3	19 41	-12	26 21	-33		23 55	PP		
LISBON	157.56	4.0	20 31A	37				25 6			
ALGIERS UNI.	157.65	338.0	19 54	0				24 13	PP		
GRANADA	158.92	352.0	20 31K	36	26 40	-16		25 7	PP		
ALMERIA	159.07	349.4	19 58	3				20 36	PKP2		
RELIZANE	159.40	341.9	19 57	1				24 21	PP		
TAMANRASSET	166.39	300.4	20 5K	2				25 35	PP		
MBOUR	170.37	99.9	20 7	2				27 5	SKS		

JULY 3 17.H 55.M 53.S EPICENTRE -16.22 172.91 DEPTH= 0.KM

A=-0.95335 B= 0.11853 C=-0.27762 O= 0.1234 E= 0.9924  
G= 0.2755 H=-0.0343 K=-0.9607 HT= 5.5

SE= 2.41

	DELTA DEG.	AZ. DEG.	P		O-C S	S O-C			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
NOUMEA	8.59	224.3	2	7	-1							
APIA	14.98	82.8	3	40	5						15	7 SCS
BRISBANE	21.56	235.3	4	57	4							
KARAPIRO	21.74	174.4	4	54	-1							
TONGARIRO	23.01	174.8	5	8	1							
WELLINGTON	25.02	176.7	5	29	2							
CHARTERS TS.	25.60	257.5	5	33	1							
PORT MORESBY	26.00	282.0	5	37	1							
RIVERVIEW	26.29	224.2	5	44	5							
GEBBIES PASS	27.39	180.4	5	44	-5							
CANBERRA	28.60	223.8	6	4	4							
ROXBURGH	29.39	185.1	6	6	-1							
FORT NELSON	34.42	214.1	6	54	3							
ADELAIDE	35.79	232.1	7	1	-2							
GUAM	40.56	315.1	7	42	-1							
HONOLULU	46.89	38.2	8	33	-1	14	23	-62			10	33 PP
KIPAPA	47.03	38.2	8	33	-2							
CAPE HALLETT	56.09	181.0	9	41	-2							
MANILA	59.73	298.0	10	0	-9							
TUKUBASAN	60.69	329.8	10	13	-2							
SCOTT BASE	61.73	181.5	10	15	-7						13	32 PP
MATUSIRO	61.87	328.7	10	23	0							
WILKES	64.26	203.5	10	38K	-1	19	13	-3			23	28 SS
ZO-SE	68.43	313.6	11	4	-2							
Y.-SAKHLINSK	68.49	338.3	11	8	2							
HONG KONG	69.09	302.1	11	10	0	20	21	6				
VLADIVOSTOK	70.02	329.3	11	16	1							
PETROPAVLOVK	70.15	350.9	11	16	0							
CANTON	70.18	302.4	11	17	1							
NANKING	70.63	313.2	11	18	-1							
SOUTH POLE	73.88	180.0	11	35	-3						14	46 PP
CHANGCHUN	73.91	326.2	11	38	-1							
PHU-LIEN	74.72	297.4	11	44	1							
MEDAN	75.92	278.0	11	47	-3							
PEKING	76.90	318.8	11	56	0							
MAGADAN	77.62	348.7	12	1	1							
KUNMING	79.76	299.8	12	13	2							
UKIAH	81.11	45.0	12	18	0							
BERKELEY	81.16	46.5	12	17	-2							
LICK	81.34	47.2	12	20	0							
PASADENA	82.45	51.3	12	26	1	22	40	-2				
LANCHOW	83.40	310.4	12	32	2							
RENO	83.63	45.9	12	33	2							
SITKA	84.70	25.5	12	38	1							
COLLEGE	86.18	15.7	12	42	-2						28	8 SS
EUREKA	86.28	47.2	12	45	0						30	43 PKKP
TUCSON	87.37	55.5	12	50	0	23	19	-11			16	25 PP
TUCSON TELE.	87.48	55.4	12	51	0						30	42 PKKP
ARGENTINE I.	88.13	159.3	12	50	-4							

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SALT LAKE C.	89.69	47.3	13	1	0	23	31	0	
IRKUTSK	90.20	325.1	13	5	2				
LHASA	91.05	300.5	13	9	2				
HUNGRY HORSE	91.15	39.7	13	7	-1	23	43	4	17 4 PP
BUTTE	91.17	42.2	13	7	-1	23	40	1	
BOZEMAN	92.03	42.9	13	12	0				30 21 PKKP
TIKSI	92.54	347.3	13	11	-3				
TACUBAYA	93.34	70.9	13	25	7				
RAPID CITY	96.82	46.2	13	33	-1				17 32 PP
RESOLUTE	106.10	16.1	14	16	777				
QUETTA	111.57	296.5	18	35	-1				
LA PAZ	111.58	115.5							19 21 PP
COLUMBIA	112.04	59.5	19	21	44				
BOGOTA	113.37	92.0							19 36 PP
PENNSYLVANIA	114.88	52.2							19 41 PP
WASHINGTON	115.48	54.3	18	41	-3				19 46 PP
SVERDLOVSK	115.60	325.7	18	47	3				
PALISADES	117.88	51.9							20 4 PP
SEVEN FALLS	119.54	44.7	18	50	-2				
APATITY	122.47	342.8	18	57	0				
SAN JUAN	123.81	78.5	18	58	-2				22 43 PKS
SODANKYLA	124.42	344.9	18	59	-2				
SCORESBY SD.	125.00	6.0	19	1	-1				20 3 PP
KIRUNA	125.47	347.6	19	2	-1				
GORIS	128.23	307.7	19	9	0				
PULKOVO	128.73	336.8	19	9	0				
TIFLIS	128.90	310.8	19	11	1				
BULAWAYO	129.65	225.4	19	41	30				
NURMI JARVI	130.20	340.1	19	11	-1				22 34 PKS
HELSINKI	130.35	339.6							22 38 PKS
SKALSTUGAN	130.82	348.7	19	13	0				
REYKJAVIK	131.07	8.6	19	13	-1				
UPPSALA	132.86	343.3	19	16	-1				22 43 PKS
BROKEN HILL	133.50	230.9	19	19	1				
SIMFEROPOL	135.13	318.5	19	24	2				
GOTEBORG	136.20	345.3	19	21	-2				
KSARA	137.65	302.6	19	22	4	27	10	35	22 55 PP
WARSAW	137.74	334.5	19	27	1				
COPENHAGEN	137.87	343.6	19	29	2				23 6 PKS
LWOW	138.09	329.9	19	29	2				
KRAKOW	139.82	333.0	19	32	2				
LWIRO	140.08	245.9	19	27	-4				
SKALNATE PL.	140.31	331.8	19	29	-2				
RACIBORZ	140.53	334.3	19	32	1				
POTSDAM	140.55	340.6	19	22	-9				24 10
COLLMBERG	141.49	339.7	19	30	-3				
HALLE	141.66	340.8	19	31	-2				28 32 SKKS
PRUHONICE	142.05	337.2	19	32	-2				23 0 PKS
HURBANOVO	142.20	332.0	19	33	-1				
JENA	142.27	340.7	19	35	1	27	46	63	22 24 PP
BRATISLAVA	142.46	333.3	19	33	-2				
PLAUEN	142.46	339.8	19	31	-4				
SONNEBERG	142.87	340.6	19	31	-4				22 22 PP
DE BILT	142.90	347.5	19	37	2				
SOFIA	142.97	321.7	19	33	-3				
UCCLE	144.30	347.5	19	38	0				
KEW	144.42	352.7	19	38	0				
SKOPJE	144.55	322.2	20	34	56				26 59 PPP
ZAGREB	144.74	331.7	19	46	7				
DOURBES	144.91	346.9	19	40	1				
STUTTGART	144.91	341.2	19	39	0				
TUBINGEN	145.16	341.1	19	39	0				
LJUBLJANA	145.21	333.3	19	39	0				
ATHENS	145.31	314.7	19	39A	-1				
EBINGEN	145.50	340.9	19	40	0				
STRASBOURG	145.51	342.5	19	41	1				
TOLMEZZO	145.56	335.1	19	42	2				
TRIESTE	145.86	333.6	19	41	0				23 9 PP
CHUR	146.49	339.2	19	46	4				
PARIS	146.57	348.5	19	50	8				
FOLINIERE	147.09	351.9	19	44	1				
NEUCHATEL	147.17	342.2	19	45	2				
CLERMONT-FD	149.32	345.9	19	52	6				
LEOPOLDVILLE	149.89	229.1	19	53	6				
MONACO	149.93	338.7	19	53	6				
MESSINA	150.41	322.1	19	52	4				
ALGIERS UNI.	157.64	338.2	19	59	1				
GRANADA	158.90	352.2	20	27K	28				

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RELIZANE	159.39	342.1	20	4	4	
TAMANRASSET	166.45	300.7	20	7K	0	24 15 PP
MBOUR	170.29	99.5	20	10	1	

JULY 4                      4.H 54.M 22.S    EPICENTRE -24.26-177.15    DEPTH= 115.KM

DEPTH OF FOCUS= 0.013R

A=-0.91159    B=-0.04538    C=-0.40858    D=-0.0497    E= 0.9988  
 G= 0.4081    H= 0.0203    K=-0.9127    HT= 3.6

SE= 1.69

	DELTA DEG.	AZ. DEG.	P			O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S	M	S
SUVA	7.35	325.0	1	46	0	3	26	18				
APIA	11.57	26.9	2	38	-5	4	36	-14				
KARAPIRO	14.98	202.9	3	28	1					4	2	
NOUMEA	15.20	274.1	3	34A	5					3	53	
TUAI	15.28	197.1				5	59	-18				
TONGARIRO	16.13	200.9				6	36	0				
WELLINGTON	18.27	199.8				7	1	-22				
KAIMATA	20.52	204.7				7	56	-13				
GEBBIES PASS	21.12	200.9				8	8	-12				
BRISBANE	26.99	256.8	5	34A	1					10	58	
RIVERVIEW	29.21	243.7	5	52	-1					16	22 SCS	
CANBERRA	31.24	241.5	6	10A	-1							
CHARTERS TS.	34.09	269.8	6	34	-1					7	12	
PORT MORESBY	37.09	287.3	7	0	-1					7	34	
ADELAIDE	39.54	244.0	7	20K	-1							
CAPE HALLETT	48.58	185.1	8	36	2				9	6		
TERRE ADELIE	49.76	200.1	8	42	-1							
GUAM	52.83	311.1	9	5	-1				9	37	10 13 PCP	
SCOTT BASE	54.19	184.2	9	14A	-2					10	55 PP	
BYRD STATION	60.82	170.3	10	0	-2				10	18	10 43 PCP	
SOUTH POLE	65.88	180.0	10	34	-1				11	5		
MATUSIRO	73.69	323.9	11	21K	-2	20	40	-3			25 36 SS	
HALLEY BAY	78.73	172.8	11	49	-2							
PETROPVLOVK	79.89	345.5	11	56	-1							
LICK	80.49	41.8	12	3A	2				12	37		
PASADENA	80.69	46.1	12	3	1	22	5	7			12 34	
ZO-SE	80.70	310.1	12	2	0							
HONG KONG	81.19	299.2	12	4	0	22	4	1				
FRESNO	81.26	43.2	12	6	1							
SHASTA	82.24	38.8	12	11	1							
CANTON	82.29	299.4	12	9	-1							
MINERAL	82.47	39.5	12	12A	1							
NANKING	82.91	309.7	12	12	-1							
RENO	83.00	41.0	12	15	1							
TUCSON	84.63	51.2	12	24	2				12	58		
TUCSON TELE.	84.75	51.2	12	24	2				12	59		
EUREKA	85.31	42.9	12	26	1				13	0		
CHANGCHUN	85.84	322.2	12	27	-1							
PEKING	89.10	315.2	12	43	0							
COLLEGE	91.70	12.1	12	55	-1				13	29		
KUNMING	91.76	296.6	12	57	1							
CHENG TU	93.16	302.1	13	4	2							
YAKUTSK	95.85	337.7	13	12	-2							
RESOLUTE	111.17	16.4				26	38	108			28 50 PS	
PALISADES	115.17	54.5									15 1	
KIMBERLEY	123.23	203.1	18	45A	2							
APATITY	132.77	344.6	19	2	0							
KIRUNA	135.09	350.7	19	0	-6							
ELISABTHVLE	137.01	216.7	19	12	3							
SKALSTUGAN	140.19	353.4	19	9	-6							
NURMIJARVI	140.75	343.1	19	9	-7				19	47	22 41 SKP	
HELSINKI	140.95	342.6	19	14	-3							
UPPSALA	142.96	347.7	19	15	-5							
LWIRO	143.53	227.4	19	21A	0							
GOTEBORG	145.95	351.2	19	30K	5				20	5		
SIMFEROPOL	147.32	317.0	19	31	3							
COPENHAGEN	147.83	349.8	19	32	4							
LEOPOLDVILLE	149.09	204.6	19	36K	6				20	11		
KISHINEV	149.24	324.1	19	35	4							
DURHAM	149.35	5.0	19	38K	7							
LWOW	149.60	332.5	19	37	6						20 15	

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RATHFARNHAM	150.19	11.0	19 52A	20		
JERUSALEM	150.54	292.0	19 39A	7	20 17	
POTSDAM	150.86	347.1	19 37	4	20 16	
KRAKOW	151.02	337.0	19 40	7		
RACIBORZ	151.59	339.0	19 42	8		
SKALNATE PL.	151.62	335.6	19 28	-6		
HALLE	151.92	347.9	19 42	7	20 19	21 59
JENA	152.53	348.0	19 43	8	20 19	23 25 PP
PRAGUE	152.70	343.6	19 52	16		
PRUHONICE	152.75	343.4	19 42K	6		20 28 *SP
BENSBERG	153.14	353.9	19 56	20		
BRATISLAVA	153.60	338.2	19 37	0		19 59 PKP2
STUTTGART	155.03	350.0	19 39	0	20 5	
FOLINIÈRE	155.40	5.3	19 46	7		20 7 PKP2
STRASBOURG	155.42	352.1	19 44	5	20 7	
LJUBLJANA	156.31	339.5	19 49	9		20 10 PKP2
TRIESTE	156.91	340.2	19 41	0	20 13	
ALGIERS UNI.	167.53	359.3				24 52 PP
TAMANRASSET	177.14	239.5	19 57	1	20 34	21 43 PKP2

JULY 4 7.H 40.M 43.S EPICENTRE 71.73 -0.83 DEPTH= 0.KM

A= 0.31538 B=-0.00458 C= 0.94895 D=-0.0145 E=-0.9999  
G= 0.9489 H=-0.0138 K=-0.3154 HT=-12.2

SE= 5.13

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
SCORESBY SD.	6.96	269.8	1	39	-7	2	50	-16				
KIRUNA	8.31	107.7	2	7	2	3	39	-1			8	42
SKALSTUGAN	9.56	142.3	2	23K	1	4	9	-2				
SODANKYLA	10.48	101.1	2	36	1	4	27	-7				
NORD	10.50	347.3	2	29	-6	4	14	-20				
APATITY	12.50	92.6	3	5	3	5	25	2			5	39
UPPSALA	14.02	138.7	3	22	0						8	43 PCP
KHEYS	14.64	33.3	3	51	21	6	57	43				
NURMIJARVI	15.09	125.1	3	40	4	6	29	4				
HELSINKI	15.46	125.3	3	46	5	6	34	0				
COPENHAGEN	17.07	153.7	4	6	4							
PULKOVO	17.24	117.9	4	3	-1	7	27	12				
THULE	18.08	315.3	4	6	-8							
KEW	20.33	179.1				8	28	4				
PRUHONICE	22.92	153.9	5	12	5							
STUTTGART	23.50	163.2				9	54	31				
RESOLUTE	24.65	320.5	5	30	7	9	45	2			11	17
SVERDLOVSK	28.89	88.3									11	17
TIKSI	33.27	26.4	6	42	1						12	8
COLLEGE	41.83	339.6	7	56	3							
PALISADES	46.39	269.8				15	22	4				
TAMANRASSET	49.11	172.2	8	51	0							

JULY 6 9.H 10.M 23.S EPICENTRE -26.86 -62.33 DEPTH= 627.KM

DEPTH OF FOCUS= 0.094R

A= 0.41481 B=-0.79119 C=-0.44939 D=-0.8857 E=-0.4643  
G=-0.2087 H= 0.3980 K=-0.8933 HT= 2.8

SE= 2.03

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
ANTOFAGASTA	7.99	291.8	1	59	-2	3	34	-3				
LA PAZ	11.63	331.3	2	36K	1	4	41	1				
HUANCAYO	19.14	317.8	3	47A	1	6	46	-2				
PORT STANLEY	25.04	173.4	4	38	-1						14	24 SCS
BOGOTA	33.29	338.3	5	50	1	10	24	-5				
FUQUENE	33.98	339.4	5	55	0							
CHINCHINA	34.15	335.9	5	56	-1	10	36	-6			10	47 SCP
TRINIDAD	37.30	1.5	6	22	0						8	26
CARACAS	37.40	352.5	6	30K	7	11	35	5				
ARGENTINE I.	38.42	181.3	6	31	-1						15	27 SCS
BALBOA HTS.	39.34	332.5	6	40	1							



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ALGIERS UNI .	88.23	46.9	11 48A	1	21 30	-9	14 2	15 27	PP		
ARCATA	88.41	318.1	11 48A	0							
IVIGTUT	88.49	6.8	11 50	2	21 46	5		21 18	SKS		
TORTOSA	89.03	42.5	11 51	0	21 22	0					
LWIRO	90.01	92.5	11 58K	3	21 32	4					
BARCELONA	90.37	42.7			21 28	-2					
JERSEY	92.75	34.8			21 39	-4		29 42			
VICTORIA	92.78	324.4	12 8	0			14 25				
HORSESHOE B.	93.24	325.1	11 58K	-12				14 11			
FOLINIÈRE	93.33	35.8	12 10	-1							
RATHFARNHAM	93.44	29.9	12 10K	-1	21 54	7	14 27	16 0	PP		
CLERMONT-FD.	93.51	39.6	12 13	2	20 49	-96					
ALBERNI	93.97	324.4	12 13	-1							
ROXBURGH	93.99	213.5						23 51	SP		
WELLINGTON	94.03	219.4	12 8	-6				23 43	SP		
MONACO	94.91	43.1	12 17	-1			14 34				
PARIS	94.93	36.9	12 19	1	21 53	-2					
TONGARIRO	94.96	221.3	12 18	0			14 32				
KAIMATA	95.04	216.8	12 24	6							
KARAPIRO	95.79	222.3	12 21A	-1			14 37	29 8	PKKP		
REYKJAVIK	96.06	16.6	12 24A	1			14 43				
NEUCHÂTEL	96.39	40.1	12 25	1	22 2	0					
DURHAM	96.51	30.6	12 23K	-2	22 4	1	14 36	16 21	PP		
DOURBES	96.80	36.6	12 27	1	22 5	1					
BASLE	97.04	39.9	12 28	1	22 6	1	14 44				
UCCLE	97.06	36.0	12 28	1	22 54	-1					
ROME	97.14	46.6	12 27	-1	23 0	5	14 44	16 33	PP		
PRATO	97.25	44.3	14 46	138	22 4	-3					
MESSINA	97.41	51.0			22 4	-4		16 16	PP		
REGGIO CALA.	97.43	51.1			22 5	-3		16 29			
BOLOGNA	97.71	43.9			22 14	5		14 57			
STRASBOURG	97.71	39.1	12 30	0	23 1	1	14 47	16 38	PP		
ABERDEEN	97.77	28.5			23 1	0		22 12	SKS		
CHUR	97.81	41.2	12 31K	0	22 7	-3	14 47				
EBINGEN	98.18	39.8	12 32	0	22 11	-1	14 50				
DE BILT	98.22	35.2			23 6	2	14 47	16 32	PP		
TUBINGEN	98.42	39.6	12 33	-1	22 12	-1	14 49				
STUTTGART	98.61	39.4	12 35K	1	23 9	1	14 51	16 43	PP		
BENSBERG	98.64	36.8	12 35	0	22 17	3					
WITTEVEEN	99.37	35.0					14 53	16 48	PP		
MUNSTER	99.42	36.1	12 41	3	22 19	2					
TARANTO	99.63	49.6			22 9	-9					
TOLMEZZO	99.67	42.8	12 33	-6	22 11	-8		16 43	PP		
TRIESTE	99.76	43.7	12 40	0	22 19	-3	14 55	16 52			
LJUBLJANA	100.43	43.6	12 43K	0			15 0	16 54	PP		
SONNEBERG	100.55	38.6	12 43	0	23 0	-24	15 1	17 2	PP		
JENA	101.03	38.3	12 46	1	23 21	-7	15 2	17 0	PP		
CHEB	101.07	39.3			22 24	-2		16 58	PP		
PLAUEN	101.14	38.8	12 45	-1	23 2	-27	15 2	16 59	PP		
SCORESBY SD.	101.22	12.8	12 47	1	23 32	3	15 2	22 27	SKS		
ZAGREB	101.23	44.3			22 27	1	15 5	19 23	PPP		
HALLE	101.51	37.9	12 48	1	23 25	-7	15 3	17 2	PP		
COLLMBERG	101.99	38.4	12 51	1	22 32	2		15 7	PP		
PRA GUE	102.23	39.9			23 46	8	15 8	17 8	PP		
PRUMONICE	102.26	40.0	12 52K	1	22 35	4	15 9	17 10	PP		
POTSDAM	102.54	37.4	12 51	-1	22 34	2	15 7	17 10	PP		
BRATISLAVA	102.95	42.5	12 53	-1	23 41	-3	15 8	17 14	PP		
ATHENS	103.10	54.1			22 34	-1					
SKOPJE	103.11	49.6	13 51K	57	22 34	-1		18 51	PPP		
RESOLUTE	103.48	351.5	12 56A	0	23 50	2	15 12	17 17	PP		
HURBANOVO	103.49	43.1			23 8	-40		17 12	PP		
BELGRADE	103.64	46.6					15 27				
COPENHAGEN	103.74	34.2	12 59	2	23 53	3	15 12	17 19	PP		
HONOLULU	104.24	286.8	12 32	-27	22 31	-9		25 41	SP		
RACIBORZ	104.42	41.0			22 41	0		17 27	PP		
GOTEBORG	104.44	32.3	13 0	0			15 17	17 14	PKP		
SOFIA	104.70	49.5	13 14	13				19 27	*PPP		
KRAKOW	105.43	41.5			22 41	-4		17 27	PP		
SUVA	106.01	239.7						25 58			
WARSAW	106.90	39.7			23 36	8		20 57	PKS		
SKALSTUGAN	107.21	26.8	13 17	777			15 31	17 38	PP		
BUCHAREST	107.21	48.6			22 58	6		17 55	PP		
LWOW	107.80	42.7			22 54	12		20 7	PPP		
UPPSALA	108.02	31.5	13 16	777	22 52	-3		17 49	PP		
FOCSANI	108.39	47.6			23 9	8					
BACAU	108.49	46.7			22 58	6					
IASI	109.13	46.2			22 59	-1					
JERUSALEM	109.60	63.7	17 24	3				25 26			



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NORD	110.65	6.5	17 23	0	23 6	2				24 49
KSARA	110.81	61.8	17 16	-7	23 12	5				18 10 PP
CANBERRA	111.43	207.2	17 26	2						
NURMI JARVI	111.55	32.1	17 24	0	23 7	-5				24 54
HELSINKI	111.60	32.5	17 25	1	23 8	-4				25 1
RIVERVIEW	111.79	209.6								18 22 PP
KIRUNA	111.90	23.9	17 26K	1	24 56	105				18 20 PP
COLLEGE	112.11	332.6	17 26	1	23 12	0	15 51			28 25 PKKP
SIMFEROPOL	112.81	49.9			23 15	0	15 57			18 27 PP
SODANKYLA	114.09	25.1	17 30	1	23 20	1				18 33 PP
PULKOVO	114.11	33.6	17 28	-1						33 43 SS
ADELAIDE	115.40	199.1	17 33	1						18 52 PP
BRISBANE	116.17	215.0	17 36	3						27 35
APATITY	116.70	25.3	17 35A	1			18 51			20 53 PPP
MOSCOW	117.26	38.8	17 37	1	23 32	1				18 58 PP
TIFLIS	119.67	55.4	17 41	1	23 41	2				19 13 PP
GORIS	120.39	58.2	17 42	0	23 42	0				21 22 PKS
KHEYS	120.46	10.6	17 43	1			20 4			19 21 PP
CHARTERS TS.	125.79	213.7	17 38	-14						19 53 PP
ASHKABAD	129.46	61.7	18 0	1						20 19 PP
SVERDLOVSK	129.99	37.0	18 2	2						20 20 PP
PORT MORESBY	133.98	222.4	17 58	-10						20 41 PP
RABAU	134.55	232.4	17 57	-12						20 42
TIKSI	134.75	355.0	18 7	-2			20 34			26 37 SKKS
KARACHI	134.87	79.4	18 12	3						20 45 PP
QUETTA	135.61	73.3	18 0	-11	24 10	-12	20 38			20 48 PP
STALINABAD	137.68	61.4	18 8	-6						
TASHKENT	137.94	57.2	18 6	-9	24 15	-10				20 53 PP
BOMBAY	138.10	91.2								20 57
POONA	138.90	92.2	18 19	2						31 30 PS
PETROPAVLOV	139.91	322.1	18 12	-6			20 46			21 25 PP
MAGADAN	140.15	334.2	18 13	-6			20 46			21 27 PP
FRUNSE	141.65	54.0	18 20	-3			20 49			24 26 PPP
MADRAS	142.31	104.0	18 22	-2						27 26
SEMI PALATNSK	143.07	40.3	18 24	-1						27 31 SKKS
SEHORE	143.14	86.6	18 23	-2						
YAKUTSK	143.93	350.4	18 27	1	24 29	-6	20 48			21 48 PP
AGRA	144.77	80.3	18 28K	1	24 30	-6				25 12 PPP
LEMBANG	145.12	162.4	18 32A	4			20 56			
DEHRA DUN	145.16	74.8	18 33	5						27 44
VIZIANAGRAM	147.29	98.2	18 37	6						
MEDAN	150.57	138.6	18 39A	3						21 8
BOKARO	151.06	88.9	18 46	9	24 40	-5				22 23 PP
GUAM	151.38	247.6	18 38	1			21 8			28 19 SKKS
Y.-SAKHLINSK	151.86	322.0	18 40	2			21 6			22 32
PORT BLAIR	152.10	118.0	18 44	6						21 13
IRKUTSK	152.71	18.0	18 42	3			21 3			19 2 PKP2
CHITTAGONG	156.09	95.2	18 48	4			21 37			
LHASA	156.40	77.0	18 49	5						
SHILLONG	156.83	87.4	18 47	2						41 58 SS
MIZUSAWA	156.90	307.9	18 50	5						22 19 PKS
ULAN-BATOR	157.35	19.0	18 43	-3						
TUKUBASAN	158.77	301.6	18 48A	1						23 8 PP
MATUSIRO	160.06	304.0	18 49A	1			21 15			23 17
VLADIVOSTOK	160.07	328.1	18 50	2			21 15			23 19
ABUYAMA	162.70	301.8	18 55A	4						
PAOTOW	164.92	22.9	18 56	3						29 42
LANCHOW	165.04	48.7	18 57A	4			21 22			22 13 *SPKP
KUNMING	166.40	94.3	18 58A	3			21 24			20 5 PKP2
PEKING	166.81	5.0	18 57A	2			21 24			23 52 PP
MANILA	167.40	194.9	18 57	2						32 8
CHENG TU	167.44	69.3	18 58A	3			21 23			20 8 PKP2
PHU-LIEN	168.24	118.5	18 58A	2						21 26
BAGUIO CITY	169.26	195.2	18 58	2						
HONG KONG	174.46	144.2	19 1	2			21 28			30 19 SKKS
NANKING	174.73	349.5	19 1A	2			21 26			24 30 PP
ZO-SE	174.77	324.8	19 1A	2			21 26			24 31 PP
HWALIEN	175.41	232.0	19 4	5						

JULY 6 9.H 23.M 33.S EPICENTRE -26.76 -62.44 DEPTH= 618.KM

DEPTH OF FOCUS= 0.092R

A= 0.41367 B=-0.79265 C=-0.44787 D=-0.8865 E=-0.4627  
G=-0.2072 H= 0.3971 K=-0.8941 HT= 2.8



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SE= 2.31													
	DELTA DEG.	AZ. DEG.	P		O-C	S		O-C	*PP		SUPP.		
			M	S	S	M	S	S	M	S	M	S	
ANTOFAGASTA	7.86	291.5	1	57	-2	3	32	-2					
LA PAZ	11.50	331.5	2	35	1	4	39	2					
HUANCAYO	19.00	317.9	3	47A	2	6	49	3					
PORT STANLEY	25.14	173.3	4	40	0						14	22 SCS	
BOGOTA	33.16	338.5	5	49	0	10	26	-2					
CHINCHINA	34.03	336.1	5	54	-2	10	33	-8					
TRINIDAD	37.20	1.7	6	22	0						8	26	
CARACAS	37.29	352.7	6	29	6	11	23	-7					
ARGENTINE I.	38.51	181.2	6	32	-1						15	30 SCS	
BALBOA HTS.	39.20	332.6	6	39	1								
ST. VINCENT	39.71	1.8	6	42K	0						8	34	
BARBADOS	39.74	4.3	6	44	1						8	32	
FORT FRANCE	41.26	1.9	6	53K	-2	12	29	2					
ST. KITTS	43.84	359.6	7	11K	-4						8	47	
SAN JUAN	45.01	355.1	7	20A	-4	13	11	-9	9	12			
SANTIAGO MA.	47.33	324.5	7	51	9	13	51	-1					
COMITAN	51.57	322.6	9	12	59	14	45	-4					
HALLEY BAY	51.99	169.2	8	14	-2								
MERIDA	54.25	328.3	9	15	43	15	18	-6			17	12	
VERA CRUZ	56.17	320.9	8	51	6	15	54	5					
PUEBLA	57.23	318.9	8	53	1								
TACUBAYA	58.11	318.3	9	0A	2	16	17	4	10	59	11	25 PP	
BYRD STATION	58.28	189.9	9	0	1						9	42 PCP	
BERMUDA	58.85	357.8	8	59	-4	16	19	-4			10	58 PP	
MBOUR	60.19	52.8	9	10	-2						11	36 PP	
GUADALAJARA	61.59	315.8	9	22	1	16	59	2					
COLUMBIA	62.95	342.7	9	27	-3	17	7	-6					
SOUTH POLE	63.39	180.0	9	32	0	17	14	-5			27	33 PKKP	
CHAPEL HILL	64.29	345.1	9	38	0						10	51	
GEORGETOWN	66.74	347.6	9	53A	0	17	58	0	11	57			
WASHINGTON	66.74	347.6	9	51	-2	17	48	-10	11	55	38	3 PKPPKP	
DALLAS	67.69	329.1	9	59	0								
MORGANTOWN	68.04	345.5	10	1A	0	18	14	1					
FORDHAM	68.10	350.7	9	48	-13	18	0	-14					
PALISADES	68.26	350.7	10	2	0	18	14	-2			21	56 SS	
PENNSYLVANIA	68.73	347.5	10	4	-1	18	16	-5	12	8	12	47 PP	
HERMANUS	68.96	118.8				18	27	3			19	8 SKS	
CHIHUAHUA	69.19	319.5	10	12	4	18	31	5					
FAYETTEVILLE	69.32	332.9	10	7A	-2	19	0	32					
ST. LOUIS 1	70.07	337.1	10	13A	0								
FLORISSANT	70.26	337.1	10	13A	-1	18	33	-5	12	18			
LUBBOCK	70.72	325.8	10	16	-1	18	41	-3					
HALIFAX	71.04	359.1	10	20A	1	18	25	-22	12	26	22	3 *SS	
WINDHOEK	71.28	106.3	10	22	2						11	57	
SCOTT BASE	71.70	189.7	9	21K	-62	17	57	-57			37	52 PKPPKP	
BREBEUF	72.63	351.8	10	27	-1						13	18 PP	
OTTAWA	72.83	350.2	10	28A	-1	19	6	-1	12	35	22	53 *SP	
PONTA DELGDA	72.84	29.8	10	29K	0	19	5	-2	12	37	13	22 PP	
ANGRA DO HO.	72.94	28.2				19	7	-1					
SHAWINIGAN	73.56	352.6	10	32A	-1	19	14	-1	12	39			
SEVEN FALLS	73.92	354.0	10	34A	-1	19	18	-1	12	41	24	15 SS	
TUCSON	74.62	318.9	10	39A	0	19	25	-1	12	46	13	55 PP	
CAPE HALLETT	74.88	194.6	10	41A	1	19	37	8	12	47	13	55 PP	
GRAHAMSTOWN	75.06	119.9	10	42	1								
KIMBERLEY	75.38	115.0	11	43	60						13	51	
LEOPOLOVILLE	77.06	88.4	10	54	2				13	1	13	56	
PRETORIA	79.35	113.4	10	32	-32								
RAPID CITY	79.77	331.4	11	6	-1	20	19	-1	13	26	40	14 PKPPKP	
PASADENA	80.37	316.0	11	10A	0	20	23	-3	13	22	16	36 PPP	
SALT LAKE C.	81.34	324.3	11	15A	0								
LISBON	82.01	39.3	11	19A	1	20	40	-2	13	30	14	38 PP	
BULAWAYO	82.07	108.5	11	20	2	20	41	-2					
TAMANRASSET	82.11	59.7	11	19	0	20	33	-10	13	31	14	32 PP	
EUREKA	82.66	321.1	11	21A	0	20	43	-6			40	9 PKPPKP	
LCO. MARQUES	82.86	115.3	11	25	3						13	36 PP	
FRESNO	83.09	317.1	11	23A	0								
COIMBRA	83.43	38.6	11	26A	1	20	48	-8	13	37	14	48 PP	
SERRA PILAR	83.97	37.8	11	19	-9	20	52	-9	12	28	14	44 PP	
VINEYARD	84.05	316.2	11	39	11	21	1	-1					
GRANADA	84.26	43.4	11	31A	2	20	55	-9	13	43	15	7 PP	
BOZEMAN	84.54	328.1	11	30A	-1								
LICK	84.58	316.6	11	31A	0	21	8	1					
ELISABTHVILLE	84.73	100.3	11	33	2				13	43	22	6 SP	
ALMERIA	84.75	44.2				20	55	-14			22	16	
MIRNY	85.13	170.4	11	33	0	21	11	-1			13	46	

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BERKELEY	85.30	316.7	11 34A	0	21 13	-1	13 47	14 42	*SP		
BUTTE	85.52	327.6	11 35	0	21 4	-12		25 14	PSP		
TOLEDO	85.72	41.1	11 36K	0	21 3	-15	13 49	22 17			
RELIZANE	86.00	46.6	11 38A	0	21 6	-14	13 50				
MINERAL	86.48	318.9	11 39A	-1	21 6	-19					
UKIAH	86.68	317.2	11 40A	-1	21 21	-5	13 54				
ALICANTE	86.92	44.0	11 32	-10	21 8	-21		14 58	PP		
SHASTA	87.16	318.8	11 42A	-1							
WILKES	87.17	177.1	11 44	1				21 27	SCS		
HUNGRY HORSE	87.88	328.5	11 46A	0	22 41	64	14 0	21 15	SKS		
ALGIERS UNI.	88.23	47.0	11 48K	0	21 40	0	14 1	21 17	SKS		
ARCATA	88.28	318.1	11 49	1							
IVIGTUT	88.41	6.9	11 50	1	21 48	6		21 18	SKS		
TORTOSA	89.02	42.5	12 0	8	21 23	-1					
LWIRO	90.11	92.6	12 0	3			14 14				
VICTORIA	92.65	324.4	12 8	0			14 19				
LILLOET	93.26	326.7	12 19	8			14 37				
FOLINIÈRE	93.31	35.8	12 10	-1							
RATHFARNHAM	93.40	30.0	12 10A	-2	21 46	-3	14 25	18 20	PP		
CLERMONT-FD.	93.49	39.7	12 13	1	21 50	1					
ROXBURGH	94.02	213.6	12 6	-9							
WELLINGTON	94.05	219.4	12 15	0			14 43	23 48	SP		
MONACO	94.90	43.1	12 19	0	21 58	1					
PARIS	94.91	36.9	12 19K	0	21 54	-3					
TONGARIRO	94.96	221.4	12 19	0			14 34				
KARAPIRO	95.79	222.4	12 23A	0			14 36	29 9	PKKP		
REYKJAVIK	95.99	16.7	12 24A	1							
NEUCHÂTEL	96.38	40.1	12 26	1	22 3	-1					
DURHAM	96.47	30.6	12 25	-1	22 3	-1	14 39	16 25	PP		
PAVIA	96.73	42.5			22 5	0					
SIDA	96.74	18.2	12 27	0							
DOURBES	96.78	36.7	12 26	-1	22 5	0					
BASLE	97.03	39.9	12 28	0	22 5	-1		16 31	PP		
UCCLE	97.04	36.0	12 34	6			14 42				
ROME	97.14	46.6	12 46	17	23 3	6	14 44	16 37	PP		
PRATO	97.25	44.4			23 6	8	14 46				
MESSINA	97.43	51.0	14 4	94	22 34	-25	14 30	16 25	PP		
REGGIO CALA.	97.45	51.1			22 6	-3		16 19			
STRASBOURG	97.69	39.1	12 31	0	23 3	1	14 45	16 37	PP		
BOLOGNA	97.70	43.9			22 17	6	15 3	18 33			
ABERDEEN	97.73	28.5			23 2	0		22 13	SKS		
CHUR	97.80	41.2			22 5	-6					
EBINGEN	98.16	39.9	12 33	0	22 13	0	14 47	16 40	PP		
DE BILT	98.19	35.2			23 7	1	14 49	16 42	PP		
RAVENSBURG	98.33	40.4			22 13	0					
TUBINGEN	98.40	39.6	12 35	1	22 13	-1	14 49	16 41	PP		
STUTTGART	98.60	39.4	12 35	0	23 11	2	14 49	16 41	PP		
BENSBERG	98.62	36.8	12 34	-1	22 17	2					
TARANTO	99.64	49.6			22 10	-9		15 55			
TOLMEZZO	99.67	42.8			22 18	-2	14 59	16 56			
TRIESTE	99.76	43.7	12 43	3	22 21	1	14 54	16 51	PP		
LJUBLJANA	100.42	43.6			22 22	-2	14 36	16 54	PP		
SONNEBERG	100.53	38.7	12 46	2	22 26	1	14 58	16 57	PP		
JENA	101.01	38.3	12 46	0	23 31	2	15 1	17 0	PP		
CHEB	101.05	39.3			23 30	0		16 59	PP		
PLAUEN	101.12	38.9			22 25	-3	14 58	17 00	PP		
SCORESBY SD.	101.14	12.9	12 46	-1	23 34	4	14 52	17 4	PP		
HALLE	101.49	37.9	12 49	1	22 30	2	15 2	17 4	PP		
COLLMBERG	101.98	38.4			22 32	1		17 0	PP		
PRAGUE	102.22	39.9			23 43	4		17 8	PP		
PRUHONICE	102.24	40.1	12 52	1	23 45	5	15 8	17 10	PP		
POTSDAM	102.52	37.4	12 41	-12	22 34	0	15 6	17 10	PP		
BRATISLAVA	102.95	42.5			23 35	-10	15 6	17 15	PP		
SKOPJE	103.12	49.6	12 50A	-5	21 25	-71		17 41	PPP		
RESOLUTE	103.37	351.6	12 56A	0	23 48	-1		19 9	*PPP		
SITKA	103.37	327.5						17 20	PP		
HURBANOVO	103.49	43.1			22 36	-2	14 52	17 14	PP		
BELGRADE	103.64	46.6					15 12	17 22			
COPENHAGEN	103.72	34.3	13 0	2	23 53	1	15 10	17 18	PP		
RACIBORZ	104.41	41.0			22 43	1		17 24	PP		
GOTEBORG	104.41	32.3					15 14	15 55			
TIMISOARA	104.51	46.0			22 42	0		16 28			
SOFIA	104.72	49.5	12 31	-31				16 59	PP		
KRAKOW	105.42	41.5			22 44	-2		17 33	PP		
CAMPULUNG	106.81	47.5			22 53	1					
WARSAW	106.89	39.7			22 45	-8		19 58	PPP		
SKALSTUGAN	107.17	26.9						17 46	PP		
BUCHAREST	107.22	48.6			22 58	4		23 48	PS		



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YAMAGATA	2.94	243.9	0 49	0	1 35	9	
SAKATA	3.09	258.3	0 51	0	1 31	2	
HUKUSIMA	3.13	235.0	0 50	-2	1 36	6	
HAKODATE	3.15	314.9	0 48	-4	1 24	-7	
TOMAKOMAI	3.34	331.9	1 2	7			1 43
OBHIRO	3.35	353.6	1 2	7	1 37	1	
KUSIRO	3.42	8.6	0 53	-3	1 29	-9	
MURORAN	3.43	323.8	1 1	5	1 38	0	
ONAHAMA	3.44	220.8	1 12	16	1 58	20	
MORI	3.45	317.5	1 3	7			2 6
SHIRAKAWA	3.69	229.1	1 2	2	1 33	-11	
SAPPORO	3.90	333.7	1 7	4	1 45	-5	
NEMURO	3.99	20.1	1 1	-3	1 42	-10	
NIIGATA	4.00	246.8	1 24	20			
MITO	4.10	219.5	1 8	2			
SUTTSU	4.14	321.8	1 15	9	2 9	13	
UTUNOMIYA	4.29	226.1	1 11	3			2 8
KAKI OKA	4.36	220.8	1 5	-4			2 19
TUKUBASAN	4.41	221.4	1 7K	-3			2 53
TYOSI	4.48	211.2	1 14	3			
KUMAGAYA	4.85	226.2	1 16	0	2 28	14	
MAEBASI	4.85	230.4	1 17A	1	2 22	8	
TAKADA	4.96	241.6	1 16	-2			
TOKYO C.M.O.	5.01	220.0	1 19	1	2 20	2	
OIWAKE	5.21	233.0	1 24	3	2 33	10	
NAGANO	5.23	237.8	1 23	1	2 47	24	
MATUSIRO	5.29	236.6	1 22A	0	2 20	-5	2 29
MERA	5.59	214.7					2 51
MATUMOTO	5.63	235.4	1 32	5			
HUNATU	5.66	225.3	1 22	-6	2 31	-3	
KOHU	5.68	227.4	1 28	0	2 35	0	
WAZIMA	5.78	249.8	1 30	1			
SHIZUOKA	6.26	224.1					2 47
OMAESAKI	6.64	223.0					3 25
GIHU	6.92	234.9	1 46	1	3 36	30	
NAGOYA	6.94	232.6	2 1	15	3 39	33	
HIKONE	7.33	236.3	1 56	5			
KAMEYAMA	7.46	232.9					3 31
ABUYAMA	8.02	236.5	1 58K	-3			
VLADIVOSTOK	9.55	295.5	2 21	-1			
UGLEGORSK	9.56	353.5					3 8
PETROPAVLOVK	16.97	32.2	4 10	9	7 23	14	
YAKUTSK	24.02	343.7	5 12	-6			
ULAN-BATOR	27.64	299.7	5 45	-6			
COLLEGE	45.97	33.5	8 26	-1			
CHITTAGONG	47.03	264.5	8 20	-15			
RESOLUTE	59.67	15.2	10 5A	-4			
QUETTA	61.91	287.2	10 20	-4			
SODANKYLA	63.31	337.3	10 29	-4			
KIRUNA	64.76	339.5	10 38	-5			
NURMIJARVI	68.53	332.3	11 2	-5			
EUREKA	72.86	52.8	11 37	4			
RAPID CITY	77.20	42.8	12 2	4			
COLLMBERG	79.76	331.1	12 9	-3			
PRUHONICE	80.22	329.5	12 12	-2			
STUTTART	83.24	331.6	12 27	-3			
BYRD STATION	129.86	167.0	19 20	8			

JULY 8 2.H 3.M 57.5 EPICENTRE 70.66 -19.24 DEPTH= 0.KM

A= 0.31459 B=-0.10981 C= 0.94285 D=-0.3296 E=-0.9441  
G= 0.8902 H=-0.3107 K=-0.3332 HT=-11.9

SE= 2.01

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S		
SCORESBY SD.	0.92	260.1	0	13K	-7	0	21	-13				
REYKJAVIK	6.64	190.1	1	35	-6	2	52	-6				
SIDA	6.93	175.6	1	46	1	3	8	2				
NORD	11.02	2.0	2	40	-2							
SKALSTUGAN	14.00	104.7	3	24	2							
KIRUNA	14.15	82.3	3	28	4							
SODANKYLA	16.43	79.2	3	54	1							
DURHAM	17.75	144.8	4	12	2							
RATHFARNHAM	18.37	154.7	4	19A	1						4	46
UPPSALA	18.47	107.1	4	19	0							

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GOTEBORG	18.48	118.6	4 14	-5					
APATITY	18.53	73.9	4 19A	-1	8 1	17			
NURMIJARVI	20.26	97.7	4 39	-1	8 31	9			
COPENHAGEN	20.34	121.1	4 48	8	8 38	14			
KEW	21.12	145.8	4 46	-3	8 51	11			
RESOLUTE	21.43	315.2	4 48K	-4	8 42	-3			
MUNSTER	22.38	132.8	5 1	0					
PULKOVO	22.69	93.3	5 4	0	9 21	12			
UCCLE	22.71	138.9	5 23	19	9 17	8			
BENSBERG	23.21	134.4	5 11	2					
DOURBES	23.42	139.1	5 11	0	9 40	18			
FOLINIÈRE	23.69	148.0	5 13	-1					
HALLE	23.92	127.0	5 16	0				5 41	
JENA	24.34	128.1	5 20	0				5 33	
COLLMBERG	24.38	125.8	5 21	0					
STRASBOURG	25.57	135.7	5 31	-1	10 21	23		6 15	PP
STUTT GART	25.73	133.5	5 33	-1					
TUBINGEN	25.92	133.8	5 35	0					
PRUHONICE	26.00	125.0	5 36A	0				6 29	
ERINGEN	26.23	134.3	5 37	-1					
CLERMONT-FD.	27.24	144.4	5 46	-1					
LJUBLJANA	29.60	128.4	6 8	-1					
ROME	32.98	133.8	7 55	77				15 54	
COLLEGE	40.20	328.9	7 38	-2					
RAPID CITY	47.24	282.5	8 37	1					
BOZEMAN	48.33	290.2	8 45	0					
LAWRENCE	49.20	272.3	8 52	0					
TAMARRASSET	50.04	149.7	8 56	-2				9 34	
DALLAS	55.28	270.6	9 38	1					
EUREKA	55.47	291.1	9 40	1					
TUCSON TELE.	60.35	283.2	10 14	1					
TUCSON	60.47	283.2	10 16	2					
MATUSIRO	71.87	19.0	11 29	2					
BYRD STATION	159.85	209.9	20 35	34					

JULY 8 4.H 0.M 34.S EPICENTRE 43.94 147.58 DEPTH= 73.KM  
DEPTH OF FOCUS= 0.006R

A=-0.60986 B= 0.38727 C= 0.69144 D= 0.5361 E= 0.8442  
G=-0.5837 H= 0.3707 K=-0.7224 HT= -3.2

SE= 2.81

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
NEMURO	1.58	248.0	0 25		-2	0 44		-4				
ABASHIRI	2.39	273.1	0 39		1	1 10		3				
KUSIRO	2.51	248.7	0 38		-2	1 7		-3				
OBIHIRO	3.35	253.8	0 51		-1	1 30		-1				
HIROO	3.53	243.5	0 53		-1	1 31		-4				
ASAHI GAWA	3.77	269.4	1 1		3							
URAKAWA	3.95	244.8	0 59		-1	1 46		0				
Y.-SAKHLINSK	4.56	313.1	1 11		2							
TOMAKOMAI	4.61	254.2	1 21		12	2 0		-2				
SAPPORO	4.62	261.3	1 10K		1	2 2		0				
MURORAN	5.10	253.9	1 17		1	2 12		-2				
MORI	5.46	252.8	1 24		3	2 20		-3				
SUTTSU	5.48	260.6	1 31		10							
HAKODATE	5.49	249.2	1 19		-2	2 18		-6				
HATINOHE	5.64	234.9	1 29		5	2 19		-9				
AOMORI	5.92	240.6	1 27		0							
MIYAKO	6.00	226.3	1 24		-4	2 25		-12				
MORI OKA	6.39	230.7	1 32		-2	2 34		-12				
UGLEGORSK	6.40	325.5	1 37		3	2 51		5				
MIZUSAWA	6.82	227.4	1 46		6	2 44		-13				
AKITA	7.00	235.5				2 51		-10				
ISINOMAKI	7.25	222.8	2 49		63	2 56		-11				
SENDAI	7.58	224.0								2 59		
SAKATA	7.70	231.8				3 10		-8				
YAMAGATA	7.88	226.3	1 46		-9	3 12		-11				
HUKUSIMA	8.20	223.5	2 15		16	3 19		-12				
ONAHAMA	8.64	218.4				3 43		2				
NIIGATA	8.82	229.9				3 44		-2				
MITO	9.30	218.2				3 43		-15				
UTUNOMIYA	9.44	221.2	3 5		49	3 50		-11				

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KAKIOKA	9.56	218.9	2 25	8	3 52	-12	
TUKUBASAN	9.60	219.2	2 11	-7	3 48	-17	
MAEBASI	9.95	223.7	3 25	62			
KUMAGAYA	10.00	221.7			3 54	-23	
NAGANO	10.19	227.8	2 42	16			
TOKYO C.M.O.	10.21	218.8			4 5	-15	
OIWAKE	10.27	225.3	3 36	69			
MATUSIRO	10.27	227.3	2 22A	-5	4 10	-11	4 22
VLADIVOSTOK	11.42	271.3	2 54	11			
MAGADAN	15.76	6.0	3 39	0			
YAKUTSK	20.93	336.1	4 35	-4	8 26	3	
ULAN-BATOR	28.34	292.5	5 51	2			
COLLEGE	40.75	36.2	7 36	0			8 1
SEMIPALATNSK	44.81	303.1	8 9	0			
SHILLONG	48.37	266.8	8 37	0			
NAMANGAN	54.21	295.1	9 20	-1			
RESOLUTE	54.70	16.8	9 23A	-1			10 33 PCP
WARSAK DAM	58.01	288.1	9 47	-1			
SODANKYLA	60.41	337.6	10 3	-1			
KIRUNA	61.70	339.9	10 12	-1			
SHASTA	63.33	58.3	10 24	0			
QUETTA	63.41	287.2	10 25	0			
MINERAL	64.02	58.2	10 28	-1			
RENO	65.61	58.0	10 47	8			
SCORESBY SD.	65.64	356.2	10 38	-1			
NURMI JARVI	66.01	333.0	10 42	1			10 57
HELSINKI	66.16	332.6	10 43	1			
SKALSTUGAN	67.13	340.0	10 48	0			
EUREKA	67.97	56.1	10 53	-1			
UPPSALA	68.73	335.5	10 58K	0			
RAPID CITY	72.06	45.7	11 18	-1			
GOTEBORG	72.17	336.8	11 18	-1			
COPENHAGEN	73.75	335.4	11 28	0			
TUCSON	75.86	58.9	11 41	0			
KRAKOW	75.87	328.2	11 41	0			
PRUHONICE	77.89	331.1	11 53A	1			12 16
JENA	78.08	333.3	11 53	0			12 17
BENSBERG	79.43	335.8	12 1	1			
STUTTGART	80.73	333.6	12 7	0			
TUBINGEN	80.98	333.5	12 10	1			
KEW	80.99	340.3	12 10	1			
EBINGEN	81.32	333.4	12 11	1			
STRASBOURG	81.35	334.3	12 11	1			
JERUSALEM	82.63	307.4	12 18	1			
SHAWINIGAN	83.08	26.8	12 17	-2			
OTTAWA	83.09	29.1	12 19K	0			
SEVEN FALLS	83.19	25.3	12 19	-1			
FOLINIÈRE	83.52	339.4	12 22	0			
CLERMONT-FD.	85.28	335.9	12 55	25			
MONACO	85.75	332.2	12 32	-1			
TAMARRASSET	105.05	324.0	13 22	777			15 51
BYRD STATION	133.41	166.1	19 10	2			

JULY 9 16.H 5.M 25.S EPICENTRE -20.37 -68.80 DEPTH= 121.KM

DEPTH OF FOCUS= 0.014R

A= 0.33927 B=-0.87475 C=-0.34599 D=-0.9323 E=-0.3616  
G=-0.1251 H= 0.3226 K=-0.9382 HT= 4.6

SE= 2.42

	DELTA DEG.	AZ. DEG.	P M	S S	O-C S	M M	S S	O-C S	*PP M S	SUPP. M S
LA PAZ	3.90	9.5	1	4A	4	1	44	-1		1 13 PP
HUANCAYO	10.38	321.9	2	24	-3	4	23	1		
BOGOTA	25.37	347.7	5	18K	0	9	35	2		5 57 PP
CHINCHINA	26.06	344.4	5	23K	-1	9	43	-1		6 0 PP
CARACAS	30.73	3.6	6	11A	5	11	6	7		
BALBOA HTS.	31.01	339.0	5	48	-21	12	7	64		
GALERAZAMBA	31.60	347.8	6	21	7	11	16	4		11 57 SS
TRINIDAD	31.67	14.0	6	11A	-3					
PORT STANLEY	32.42	167.3	6	20	-1	11	25	0		
ST. VINCENT	34.14	13.1	6	32	-4	11	46	-6		
BARBADOS	34.49	16.0	6	38	-1					
FORT FRANCE	35.68	12.8	6	44	-5	12	11	-5		
ANTIGUA	37.91	12.0	7	3	-4					8 19



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ST. KITTS	37.94	9.5	7	5	-3							7	47
SAN JUAN	38.60	4.1	7	9	-4	12	55	-5					
SANTIAGO MA.	38.81	328.5	7	18	3	12	55	-8					
SAN SALVADOR	39.39	327.7	7	20	0								
COMITAN	43.00	326.1	7	50	1	14	8	3				14	40
ARGENTINE I.	44.96	177.3	8	3	-2	14	36	3					
MERIDA	45.84	332.4	8	9A	-3	14	35	-11	8	38		8	51 *SP
VERA CRUZ	47.58	324.0				15	12	2				9	12 *SP
TACUBAYA	49.49	321.1	8	44A	4	15	45	8	9	8		11	51 PP
BERMUDA	52.60	4.4	8	58	-6	15	58	-22	9	28		11	2 PP
GUADALAJARA	52.96	318.3	9	11	5				9	35		17	15 *SS
COLUMBIA	55.31	347.6	9	20	-4	16	55	-1	9	49		10	44 PCP
CHAPEL HILL	56.81	350.1	9	33	-1				9	56			
DALLAS	59.29	332.7	9	50	-2								
HALLEY BAY	59.35	168.7	9	49	-3								
WASHINGTON	59.46	352.5	9	53A	0				10	19		10	42 PCP
CHIHUAHUA	60.57	322.3	10	3	3	18	21	16					
MORGANTOWN	60.59	350.1	10	1K	1	18	7	2					
FORDHAM	61.08	355.6	9	40	-24	17	46	-25					
PALISADES	61.25	355.6	10	4	-1	18	12	-1	10	32		10	57 PCP
PENNSYLVANIA	61.43	352.2	10	5	-1	18	14	-2	10	34		10	47 *SP
TERRE HAUTE	62.02	343.7	8	35	-95							25	55
CLEVELAND	62.65	349.3	10	12	-2	18	30	-1					
BYRD STATION	63.62	188.7	10	20	-1	18	54	11	10	49		11	1 *SP
HALIFAX	64.84	4.1	10	26	-3	18	58	0				10	35 PCP
BREBEUF	65.70	356.3	10	34A	0	19	8	-1					
OTTAWA	65.75	354.7	10	27	-7	19	10	1	11	14		10	59 PCP
TUCSON	66.00	321.6	10	35K	-1	19	18	6	11	4		39	13 PKPPKP
TUCSON TELE.	66.00	321.8	10	35K	-1				11	5		39	10 PKPPKP
SHAWINIGAN	66.70	357.0	10	40	0	19	24	3				11	9 PCP
SEVEN FALLS	67.19	358.5	10	42	-2	19	30	3				11	12 PCP
SOUTH POLE	69.76	180.0	10	58	-1	20	3	6	11	29		38	53 PKPPKP
PONTA DELGDA	70.60	35.1	11	4K	0	20	14	7	11	30		13	54 PP
RAPID CITY	71.45	334.6	11	8K	-1				11	38		38	56 PKPPKP
PASADENA	71.74	318.5	11	11K	0	20	28	8	11	41		13	55 PP
SALT LAKE C.	72.80	327.1	11	17	0	20	41	9	11	48			
EUREKA	74.06	323.8	11	20K	-5				11	53		30	10 PKKP
FRESNO	74.46	319.6	11	26	-1								
VINEYARD	75.42	318.8	11	33	1				12	5		12	21 *SP
LICK	75.95	319.1	11	36K	0				12	3		12	19 *SP
BOZEMAN	76.10	330.9	11	35	-1	21	11	3				12	15 *SP
RENO	76.28	321.8	11	38K	1				12	9		12	22 *SP
BERKELEY	76.67	319.2	11	39K	-1	21	21	6	12	9		15	7 PP
SCOTT BASE	76.96	190.3	11	40	-1	21	25	7	12	7		15	11 PP
BUTTE	77.06	330.4	11	44	2	20	54	-25	12	10			
HERMANUS	77.21	122.1				21	27	6				21	50 SKS
MINERAL	77.85	321.5	11	45K	-1				12	14			
UKIAH	78.04	319.7	11	48	1				12	16		12	31 *SP
SHASTA	78.54	321.4	11	48	-2								
WINDHOEK	78.81	110.0	11	50K	-1								
HUNGRY HORSE	79.45	331.2	11	54K	-1	21	47	3	12	25		14	52 PP
CAPE HALLETT	79.51	195.5	11	55K	0	21	52	7	12	23		15	11 PP
ARCATA	79.65	320.7	11	59	3								
LISBON	81.07	43.1	12	5K	2	22	1	0	12	33		13	50
COIMBRA	82.37	42.2	12	15	5	22	17	3	12	44			
SERRA PILAR	82.79	41.4	12	5A	-7				12	31		15	19 PP
LEOPOLDVILLE	82.93	92.0	12	12A	-1	22	20	0	12	41		15	21 PP
GRAHAMSTOWN	83.36	122.9	12	13A	-2								
KIMBERLEY	83.45	118.1	12	15K	-1								
GRANADA	83.91	46.8	12	21A	3	22	32	2	12	51		15	45 PP
VICTORIA	84.10	327.0	12	18K	-1				12	48			
TAMANRASSET	84.21	63.3	12	19A	0	22	25	-8	12	44		15	42 PP
ALMERIA	84.52	47.6	12	22	1	22	33	-3	12	52		15	41 PP
HORSESHOE B.	84.58	327.7	11	35K	-46								
LILLOOET	84.77	329.3	11	45	-37							13	50 PP
TOLEDO	85.01	44.3	12	22	-1	22	42	1	12	56		23	38 PS
ALBERNI	85.29	327.0	12	27	2								
ALICANTE	86.63	47.0	12	20	-11	22	48	-8				15	45 PP
PRETORIA	87.33	116.3	11	39	-56							12	7
ALGIERS UNI.	88.37	49.8	12	38	-2	22	58	-15	13	6		16	8 PP
BANGUI	89.09	85.0	12	44	1							24	22
BULAWAYO	89.73	111.3	12	46	0				13	17			
SETIF	89.82	51.1	12	46	0	23	31	5				23	0 SKS
RATHFARNHAM	90.97	32.2	12	51	-1	23	12	1	13	21		16	27 PP
JERSEY	91.01	37.1										21	53
BROKEN HILL	91.68	106.0	12	56	1								
REYKJAVIK	91.70	18.7	12	57K	2				13	27		16	37 PP
FOLINIERE	91.73	38.0	12	53	-2				13	24			



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ELISABTHVLE	91.74	103.0	12 55	0	23 52	9	13 27	23 24	SKS			
VIK	92.09	20.1	13 13	16								
CLERMONT-FD.	92.48	41.8	12 59	0	23 27	9						
SIDA	92.65	20.1	12 59	-1				16 39	PP			
KEW	93.14	35.6	13 3	1	23 59	4	13 32	16 36	PP			
HAWAII V.OB.	93.43	289.3	13 4	1				26 55				
PARIS	93.48	38.9	13 36K	33	23 33	8						
DURHAM	94.10	32.4	13 7	1			13 37	16 49	PP			
MONACO	94.38	44.9	13 8A	1				16 53	PP			
SITKA	94.90	329.8	13 11	1				17 42	PP			
ABERDEEN	95.05	30.1			24 35	24		16 57	PP			
DOUBES	95.28	38.3	13 11	-1	23 28	-6						
NEUCHATEL	95.40	41.8	13 11	-1	23 40	5						
UCCLE	95.44	37.6	13 15	3	24 35	20						
TONGARIRO	95.62	224.7	13 16	3			13 44					
ROXBURGH	95.85	216.9						31 43	SS			
BASLE	96.01	41.5	13 44	29	24 41	21		23 44				
PAVIA	96.10	44.1			24 3	-17	13 45	29 17	PS			
RESOLUTE	96.29	353.2	13 15	-1	24 23	1		13 45	PP			
SCORESBY SD.	96.33	14.3	13 21	5	24 25	3	13 47	23 43	SKS			
DE BILT	96.47	36.6	13 17	0	23 45	4	13 49	17 10	PP			
KIPAPA	96.53	290.3	13 21	4			13 50	14 1	*SP			
STRASBOURG	96.55	40.6	13 19	2	23 45	5	13 49	17 9	PP			
HONOLULU	96.56	290.2	13 21	4	24 39	15		17 15	PP			
PRATO	96.89	45.8	13 53	34	23 43	0						
CHUR	96.97	42.6	13 20	1				17 6	PP			
ROME	97.12	48.0	13 22	2	24 39	10	13 53	17 12	PP			
EBINGEN	97.13	41.2	13 21	1				13 52	*SP			
BENSAERG	97.13	38.2	13 20	0				17 15	PP			
BOI OGNA	97.27	45.3			25 21	51	14 0	18 15				
TIBINGEN	97.32	40.9	13 22	1				13 52	*SP			
STUTTGART	97.49	40.7	13 20	-2	23 51	-41	13 37	17 15	PP			
WITTEVEEN	97.59	36.3	12 55	-27								
MUNSTER	97.79	37.4	13 23	0			13 52					
MESSINA	98.07	52.4			23 49	-48	13 56	17 14	PP			
REGGIO CALA.	98.11	52.5			23 51	-46		17 24	PP			
TOLMEZZO	99.05	43.9	13 30	1	23 57	-48	14 10	16 58	PP			
TRIESTE	99.28	44.8	13 33	3	24 59	12	14 3	17 30	PP			
SONNEBERG	99.29	39.7	13 31	1			14 0	17 0	PP			
JENA	99.71	39.3	13 32	0	24 59	8	14 0	17 31	PP			
CHEB	99.90	40.3			24 57	5	14 2	24 0	SKS			
PLAUEN	99.90	39.8			25 0	8	14 3	17 29	PP			
LJUBLJANA	99.92	44.6	13 35	2			14 5	17 37	PP			
HALLE	100.13	38.8	13 36	2	25 3	9	14 3	17 40	PP			
ZAGREB	100.81	45.2			25 4	4	14 13	17 39	PP			
POTSDAM	101.07	38.2	13 38	0	25 4	2	14 7	17 36	PP			
PRAGUE	101.15	40.7			25 2	-1	14 12	17 46	PP			
PRUHONICE	101.19	40.8	13 41	3	25 8	5	14 9	17 48	PP			
COPENHAGEN	101.79	34.9			25 9	1	14 14	17 47	PP			
GOTEBORG	102.19	32.8					14 12	17 50	PP			
BRATISLAVA	102.25	43.1			25 5	-7		17 53	PP			
HURBANOVO	102.87	43.6			25 9	-8		24 17	SKS			
RACIBORZ	103.47	41.4	14 21	33	25 6	-16		17 59	PP			
SKOPJE	103.47	50.1			25 18	-4		18 50	PP			
BELGRADE	103.55	47.1	14 22K	33	25 18	-5		18 5	PP			
COLLEGE	103.68	334.4	13 47A	-2	25 18	-6	14 19	18 38	PP			
SKALSTUGAN	104.14	27.1	14 3	12			14 22	29 38	PKKP			
TIMISOARA	104.32	46.3			24 25	6		18 15	PP			
SKALNATE PL.	104.53	42.7			25 10	-21		24 15	SKS			
KRAKOW	104.54	41.7			24 25	5		18 19	PP			
NORD	104.92	6.9	15 23	777								
SOFIA	105.04	49.7	14 26	777				25 21	SKKS			
UPPSALA	105.62	31.5	14 8	777	24 24	-1		18 17	PP			
WARSAW	105.72	39.7			25 38	-3		27 49	PS			
TANANARIVE	106.42	117.8						18 29				
LWOW	107.07	42.6			24 34	2		18 33	PP			
BUCHAREST	107.38	48.4	17 59	-13	24 43	9		25 33	PS			
KIRUNA	108.38	23.6			24 37	-1		18 38	PP			
IASI	108.91	45.8			25 36	-7		18 44	PP			
NURMI JARVI	109.19	31.5						18 31	PP			
HELSINKI	109.30	31.9			24 45	3		19 14	*PPP			
SODANKYLA	110.70	24.3						18 54	PP			
PULKOVO	111.94	32.6			24 49	-3	18 55	25 47	SKKS			
JERUSALEM	112.02	63.0	18 27	6				28 10	PS			
KSARA	112.93	61.0	14 35	777	24 57	1		19 13	PP			
SIMFEROPOL	113.12	48.8			25 0	4		28 52	PS			
APATIY	113.32	24.1	18 27	3	25 0	3		19 57	PP			
MEIBOURNE	113.97	208.8					19 15					
RIVERVIEW	114.02	215.8			25 4	4		19 20	PP			

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KHEYS	115.13	9.5	18 31	4	25 11	7	19 50	PP
MOSCOW	115.81	37.1	18 31	2				
ADELAIDE	119.11	205.8	18 37	2			19 52	PP
TIFLIS	120.70	52.9	18 39	1			26 58	SKKS
MAKHACH-KALA	122.69	51.4					20 17	
CHARTERS TS.	127.19	222.7	19 1	10			22 12	
TIKSI	127.70	353.0	18 49	-3			19 23	
SVERDLOVSK	128.07	32.6	18 54	2			27 44	SKKS
PETROPAVLOVK	131.18	323.9	19 2	4			21 23	PP
ASHKABAD	131.29	57.0	19 1	3			28 8	SKKS
MAGADAN	131.76	334.2	19 3	4			19 42	23 10
RABAUL	132.95	243.3	18 46	-16			22 38	
PORT MORESBY	133.89	233.5	18 55	-8			21 34	PP
YAKUTSK	136.44	347.4	19 9	1				
TASHKENT	138.89	49.9	19 14	2			19 49	22 3
QUETTA	139.03	67.1	19 5	-8			19 34	22 8
STALINABAD	139.27	54.2	19 15	2			22 21	PP
NAMANGAN	140.71	49.5	19 11	-5				
SEMI PALATNSK	141.34	31.8	19 21	4				
FRUNSE	142.01	45.4					19 46	22 52
UGLEGORSK	142.20	326.6	18 53	-26				
Y.-SAKHLINSK	143.13	323.3	19 18	-2			22 35	PP
BOMBAY	143.88	85.6	19 40	19			29 19	
POONA	144.78	86.5	19 26	3				
LAHORE	145.18	63.8	19 25	1			20 1	*SPKP
COLOMBO	146.83	109.4	19 33	7			29 37	
GUAM	147.22	263.3	19 27	0			20 2	20 15
IRKUTSK	147.71	7.9	19 30	2			20 0	*SP
MIZUSAWA	148.20	312.6	19 34	5			20 9	20 5
DEHRA DUN	148.54	65.0	19 34	5				PKP2
HYDERABAD	148.91	89.8	19 38	8				29 45
TUKUBASAN	150.20	308.2	19 34K	2			23 5	PP
MATUSIRO	151.43	310.1	19 34A	1			23 41	PP
VLADIVOSTOK	151.44	327.2	19 38	5			20 20	23 21
ULAN-BATOR	152.30	6.2	19 38	3				PP
LEMBANG	152.74	172.2	19 38K	3				23 24
BOKARO	156.23	77.0	20 38	58				PKS
LHASA	159.56	59.2	19 48	4			23 30	
PAOTOW	159.83	2.6	19 47	2			30 25	
PEKING	159.94	348.8	19 47	2			20 20	24 7
SHILLONG	161.47	70.2	19 47	1				PP
LANCHOW	163.06	20.9	19 50	2			30 54	
TOCKLAI	163.66	64.0	19 57	9				
ZO-SE	166.04	321.9	19 51	0			20 25	20 37
NANKING	166.52	331.2	19 53	2			20 26	*SPKP
MANILA	169.04	239.9	19 56	3				PP
BAGUIO CITY	170.27	247.7	19 56	3	25 54	-49		24 56
KUNMING	170.86	57.8	19 57	3			20 31	25 9
PHU-LIEN	175.70	83.5	19 32	-24	26 21	-24		PP
HONG KONG	176.63	305.3	19 56	0				26 9
CANTON	176.68	324.7	19 59	3				PP

JULY 10 4.H 11.M 41.S EPICENTRE -18.96 -69.65 DEPTH= 0.KM

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G=-0.1123 H= 0.3028 K=-0.9464 HT= 4.9

SE= 2.84

	DELTA DEG.	AZ. DEG.	P			O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S		
LA PAZ	2.84	30.8	1	1	13	1	43	20		2	3	
HUANCAYO	8.79	320.6	2	12	1	4	9	17				
BOGOTA	23.83	349.0	5	17	1	9	51	22		5	40	
CHINCHINA	24.50	345.5	5	22	0	9	54	14				
FUQUENE	24.61	350.2	5	26	3	10	5	23				
CARACAS	29.39	5.4	5	33	-34	10	55	-6				
GALERAZAMBA	30.07	348.9				11	34	23				
PORT STANLEY	33.96	166.9	6	50	3							
SAN JUAN	37.27	5.5	7	13	-2							
ARGENTINE I.	46.40	176.9	8	29	-1							
TACUBAYA	47.90	321.1	8	49	7	15	46	7		10	41	
BERMUDA	51.27	5.4	9	4	-4	16	19	-7		11	22	
COLUMBIA	53.77	348.3	9	24	-2	16	55	-5				
CHAPEL HILL	55.30	350.7	9	37	-1							
DALLAS	57.68	333.0	9	53	-2							

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WASHINGTON	57.97	353.2	9	55	-2						10	19
MORGANTOWN	59.07	350.7	10	4A	0	18	7	4				
PALISADES	59.79	356.3	10	9	0	18	15	4			12	39
PENNSYLVANIA	59.94	352.8	10	9	-1	18	18	4				
HALLEY BAY	60.88	168.7	10	15	-2							
MBOUR	61.55	61.2	10	23	2							
LAWRENCE	62.42	337.7	10	24	-3							
BREBEUF	64.25	356.9	10	38K	-1	19	12	4				
OTTAWA	64.29	355.3	10	37K	-2							
TUCSON	64.40	321.8	10	38	-2							
BYRD STATION	64.89	188.5	10	42	-1						12	52 PP
SHAWINIGAN	65.26	357.6	10	45	-1							
SEVEN FALLS	65.78	359.1	10	49	0							
RAPID CITY	69.85	334.9	11	25	10							
PASADENA	70.16	318.7	11	16	0	20	47	19				
SOUTH POLE	71.16	180.0	11	21	-2						11	40 PCP
SALT LAKE C.	71.19	327.4	11	22	-1							
EUREKA	72.46	324.1	11	29	-1							
FRESNO	72.88	319.8	11	43	10							
LICK	74.37	319.3	11	39A	-2							
BOZEMAN	74.48	331.2	11	40	-2							
RENO	74.69	322.0	11	46	3							
BERKELEY	75.09	319.4	11	44	-2							
BUTTE	75.45	330.6	11	47	-1							
MINERAL	76.26	321.7	12	2	10							
SHASTA	76.95	321.6	11	54	-2							
HUNGRY HORSE	77.84	331.5	12	22	21							
SCOTT BASE	78.19	190.4	13	17	74							
CAPE HALLETT	80.65	195.6	12	15	-1							
LEOPOLDVILLE	83.78	92.5	12	34A	2							
TAMANRASSET	84.30	63.7	12	36A	1							
TOLEDO	84.57	44.7	12	38	2							
KIMBERLEY	84.81	118.5	12	36	-2							
SETIF	89.56	51.4	13	14	13							
BULAWAYO	90.98	111.6	13	11	4							
RESOLUTE	94.80	353.5	13	28	3	24	21	-16			30	49 SS
STUTTGART	96.95	40.8	13	53	18							
MATUSIRO	149.91	311.4	19	52	5						20	10
HONG KONG	175.12	313.6									33	12 SKKKS

JULY 11 4.H 51.M 33.S EPICENTRE -18.71 168.32 DEPTH= 0.KM

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	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
NOUMEA	3.98	205.8	1	3K	-1	2	0	8				
SUVA	9.61	88.3	2	34	11							
BRISBANE	16.54	235.4	3	56	1	6	56	-3				
ONERAHI	17.82	163.7	4	14	3							
AUCKLAND	18.97	163.8				8	5	11				
APIA	19.71	78.6	4	37	3							
CHARTERS TS.	20.85	262.8	4	46	0	8	39	4				
RABAU	21.38	310.4	4	55	4							
TUAI	21.44	160.8	4	28	-24	8	49	3				
RIVERVIEW	21.49	222.1	4	54A	2	8	54	7				
PORT MORESBY	22.50	291.4	5	3	0	9	11	5	5	18		
WELLINGTON	23.16	167.6	5	11	2							
CANBERRA	23.80	222.1	5	16K	1						5	57 PP
KAIMATA	23.88	174.3	5	21	5							
GEBBIES PASS	25.18	172.6	5	28	-1							
ADELAIDE	30.81	232.4	6	20	0							
CAPE HALLETT	53.61	179.2	9	24	-1	17	9	11				
SCOTT BASE	59.18	180.4	10	3A	-2						14	14
MATUSIRO	61.89	332.8	10	20	-4	18	44	-3				
BYRD STATION	68.62	169.7	11	4	-3						11	40 PCP
SOUTH POLE	71.41	180.0	11	21	-3							
HALLEY BAY	85.52	176.3	12	39	-2							
ULAN-BATOR	86.04	323.7	12	47	3							
BERKELEY	86.06	48.0	12	45	1							
LICK	86.26	48.7	12	45K	0							
SHASTA	87.27	45.4	12	49	-1							
ARGENTINE I.	87.32	160.4	12	47	-3							

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FRESNO	87.33	49.8	12 53	3				
PASADENA	87.42	52.8	12 46	-5				
MINERAL	87.64	46.0	12 51A	-1				
RENO	88.52	47.3	13 0	4				
COLLEGE	89.80	17.2	12 58	-4				
EUREKA	91.20	48.6	13 7	-1				
TUCSON	92.39	56.9	13 14	0				
TUCSON TELE.	92.50	56.8	13 14	0				
RESOLUTE	109.70	16.3	18 35	8	25	3	1	28 27 PS
OTTAWA	121.24	47.8	18 52	-3				
SODANKYLA	125.58	342.8	19 2	-2				
KIRUNA	126.85	345.4	19 3	-3				
NURMI JARVI	130.91	337.2	19 14	0				22 37 PKS
SKALSTUGAN	132.27	345.8	19 14	-2				
COLLMBERG	142.08	334.8	19 24	-10				
PRUHONICE	142.41	332.1	19 32A	-3				23 11 PKS
BENSBERG	144.51	339.4	19 37	-1				
LEOPOLDVILLE	144.93	231.8	19 39K	0				
LJUBLJANA	145.19	327.4	19 39	-1				24 17
RATHFARNHAM	145.23	354.3	19 47	7				20 9
STUTT GART	145.59	335.3	19 40	0				
TUBINGEN	145.83	335.2	19 41	0				
TRIESTE	145.86	327.5	19 42	1				
DOURBES	146.08	341.1	19 41	0				
KEW	146.10	347.2	19 42	1				
EBINGEN	146.15	334.9	19 42	1				
STRASBOURG	146.29	336.5	19 42	0				21 54
FOLINIERE	148.67	345.7	19 47	2				
MONACO	150.33	331.4	19 53	5				20 57 PKP2
CLERMONT-FD.	150.36	338.8	19 54	6				
SETIF	156.97	322.6						20 31 PKP2
TAMANRASSET	163.41	287.1	20 5	1				20 56 PKP2

JULY 11 12.H 1.M 44.5 EPICENTRE -36.81 78.68 DEPTH= 0.KM

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SE= 2.20

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.		
			M	S		M	S	S	M	S	M	S	
KERGUELEN I.	14.01	203.8	3	13	-7						6	14	SS
PERTH	30.92	92.1	7	15	57	11	4	-16					
TANANARIVE	32.58	294.7	6	31	-2	11	38	-9			17	0	SCS
WILKES	34.73	157.9	6	48	-3	12	23	3			8	6	PP
LEMBANG	39.83	48.6	7	35A	1	13	41	3					
DJAKARTA	39.88	47.0	7	34	-1						9	36	
LCO. MARQUES	40.45	272.0	7	40	1								
GRAHAMSTOWN	42.36	258.7	7	55A	0								
MEDAN	44.30	29.3	8	13A	2	14	46	2					
KIMBERLEY	45.52	263.9	8	20K	0								
BULAWAYO	46.51	276.7	8	27	-1								
KODAIKANAL	46.80	358.4									17	45	
HERMANUS	47.70	254.2	8	42	5	15	39	7			18	46	SS
ADELAIDE	47.99	106.6	8	42	2	15	48	12			10	31	PP
MADRAS	49.56	1.9									16	3	
BROKEN HILL	49.79	282.9	8	53	-1								
PORT BLAIR	50.00	18.1									10	29	
MELBOURNE	51.70	112.5	9	10A	2	16	38	10					
ELISABTHVLE	52.29	285.0	9	12	-1	16	42	6			11	6	PP
SOUTH POLE	53.38	180.0	9	17	-4								
SCOTT BASE	53.94	164.8	9	24	-1	17	7	9			14	59	PCS
HYDERABAD	53.94	359.7	9	17	-8	16	58	0			11	16	PP
WINDHOEK	54.50	266.9	9	31	2								
POONA	55.22	354.4	9	35	1	17	17	1					
CANBERRA	55.65	111.1	9	39A	2	17	34	13			11	58	PP
BOMBAY	55.68	353.3	9	40	2	17	26	4			14	23	
CAPE HALLETT	55.88	158.3	9	42	3	17	34	10			21	22	SS
LWIRO	57.31	294.8	9	50A	1	17	54	11					
RIVERVIEW	57.88	110.4	9	55A	2	17	59	8					
HALLEY BAY	58.39	196.6	10	0	3								
CHITTAGONG	60.14	14.0	10	7	-2	18	24	4			12	23	PP
CHARTERS TS.	60.61	93.9	10	12K	0	18	30	4					
BOKARO	60.68	7.5	10	14K	1	18	32	5			12	31	PP
BRISBANE	62.22	104.8	10	23A	0	18	41	-6					
BYRD STATION	62.98	176.5	10	28	0	19	4	8			12	25	PP

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PHU-LIEN	63.08	29.5	10 28	-1	19 0	3				12 40 PP
SHILLONG	63.27	13.3	10 28A	-2	19 2	2				15 20
AGRA	63.60	359.3	10 46K	14	19 25	21				19 46 SKS
MANILA	64.82	46.1	10 41	1	19 23	4				
TOCKLAI	65.01	15.9	10 57	16						
ROXBURGH	65.29	129.3			19 28	3				23 28 SS
KUNMING	65.55	23.9	10 43K	-2	19 30	2				
BAGUIO CITY	66.06	44.5	10 49	1	19 27	-7				
LEOPOLDVILLE	66.22	283.0	10 49A	0	19 44	8				23 41 SS
LHASA	67.11	11.7	10 53K	-2	19 48	1				
PORT MORESBY	67.21	84.7	10 57A	2	19 52	4	11 9			
QUETTA	67.53	349.0	10 57	0	19 53	1				13 28 PP
HONG KONG	67.66	35.5	10 59	1	19 56	3				20 59 SCS
CANTON	67.92	34.4	10 59	-1	20 2	5				
LAHORE	68.12	356.0	10 45	-16	19 26	-33				
BANGUI	69.25	292.5	11 13	5						21 17
WARSAK DAM	70.75	353.7	11 15	-2						
CHENG TU	71.19	22.9	11 17	-3	20 33	-2				
TONGARIRO	72.48	126.0	11 27	-1						
ARGENTINE I.	74.25	195.3	11 41	3						
RBAUL	74.29	83.4	11 38	0						
STALINABAD	75.54	352.0	11 45	0	21 22	-2				
LANCHOW	76.18	20.8	11 46	-3	21 30	-1				
ASHKABAD	76.72	343.6	11 50	-2	21 35	-2				
NANKING	78.10	34.0	12 1A	1	21 53	1				
TASHKENT	78.22	352.8	11 59	-1	21 57	4				12 9 PCP
ZO-SE	78.41	36.3	12 1A	0	21 56	1				
FRUNSE	79.40	356.9	12 5	-2	22 4	-2				
JERUSALEM	79.42	323.4	12 9	2	22 15	9				
KSARA	80.80	325.0	12 17	3	22 24	4				14 19 PP
GORIS	81.56	335.3	12 19	1	22 32	4				22 36 SCS
PEKING	83.87	28.0	12 27	-3	22 52	0				
TIFLIS	84.07	335.2	12 32	1						23 49 PS
SEMIPALATNSK	86.84	1.0	12 46	1	23 0	-21				24 16 PS
ULAN-BATOR	88.03	18.6	12 51	0						
SIMFEROPOL	90.80	330.1	13 5	1	23 35	-22				24 0 SCS
TAMANRASSET	90.86	297.9	13 5	1	24 2	4				16 40 PP
IRKUTSK	91.49	15.4	13 5A	-2						23 37 SKKS
MATUSIRO	91.50	44.0	13 7K	0	24 5	2	13 27			16 47 PP
TIKUBASAN	92.32	45.3								23 48 PP
SYERDLOVSK	94.52	350.2	13 22	1	23 54	1				
MESSINA	94.67	315.2			24 28	-3				17 4 PP
MOSCOW	98.60	337.9	13 42	3						17 40 PP
ROME	98.92	316.3	14 8	27	25 9	2				17 53 PP
LJUBLJANA	100.63	320.4	14 51	63						
TRIESTE	100.75	319.7			25 26	4				18 2 PP
BRATISLAVA	100.80	323.2								17 26 PP
ALGIERS UNI.	101.28	307.5	13 56	5	25 30	3				18 6 PP
WARSAW	101.90	327.9	13 56	2	25 30	-2				17 54 PP
PAVIA	102.88	317.2								17 49 PP
MBOUR	102.93	278.3			24 46	11				18 16 PP
PRUHONICE	103.26	323.4			25 50	7				18 19 PP
PULKOVO	104.16	337.0			24 46	4				18 36 PP
ALICANTE	104.47	307.1	13 58	-8	25 45	-8				
STUTTGART	105.14	320.1	13 56	777	26 1	7				18 15 PP
TORTOSA	105.28	309.6	18 50	777						33 22
JENA	105.32	322.8	14 25	777						18 36 PP
HALLE	105.51	323.4			26 8	1				18 45 PP
POTSDAM	105.55	324.6								18 38 PP
STRASBOURG	105.76	319.3			26 8	-1				18 28 PP
GRANADA	105.83	304.6								18 38 PP
TOLEDO	107.62	306.8								28 17
COPENHAGEN	107.96	327.0			25 6	6				18 29 PP
DOURBEŞ	108.33	319.3								18 59 PP
UPPSALA	108.59	332.2			26 31	0				19 10
PARIS	108.72	317.3								19 12 PP
DE BILT	109.20	321.2			26 16	-21				19 16 PP
APATITY	109.49	343.2			26 38	-1				19 1 PP
KEW	111.69	318.6								19 21 PP
KIRUNA	113.05	339.5								19 17 PP
DURHAM	114.04	321.3			25 20	-4				
KHEYS	117.55	355.0								19 52 PP
LA PAZ	118.42	216.7								29 55 PS
HUANCAYO	125.59	211.8	18 57	-4						37 9 SS
NORD	126.94	349.4	19 2	-1						
SCORESBY SD.	127.70	335.3								21 12 PP
BOGOTA	139.37	224.5								22 25 PP
CARACAS	139.41	238.6	18 37	-50	25 56	-38				

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1959						PAGE 515
COLLEGE RESOLUTE	140.84 141.91	29.4 357.2	19 26 19 27	-3 -4		22 27 PP 23 21 PP
SAN JUAN BERMUDA	144.07 149.63	248.9 272.6	19 39 19 55	4 11		
SITKA	149.68	37.2	19 52	8		23 48 PP
HALIFAX	150.57	297.2	19 54	9		42 46 SS
SHAWINIGAN	156.67	303.6				20 27 PKP2
BREBEUF PALISADES	157.49 158.30	301.3 289.6	19 58	2		20 28 PKP2 24 12 PP
OTTAWA	158.95	302.0				20 35 PKP2
LILLOOET	159.74	40.2	19 56	-2		20 36 PKP2
VICTORIA	160.05	47.1				20 1 PKP2
SHASTA	163.12	70.2				20 54 PKP2
COLUMBIA	163.22	266.4	20 5	4		
BERKELEY	163.31	80.0	19 59	-2		24 49 PP
MINERAL LICK	163.76 163.77	71.2 82.0	20 57K 20 58K	55 56		24 49 PP 24 42 PP
HUNGRY HORSE	165.17	35.0	20 5	2		24 47 PP
FRESNO	165.19	84.6	20 9K	6		21 3 PKP2
RENO	165.20	73.8	20 7A	4		21 4 PKP2
PASADENA	166.02	95.9	20 8	4		24 56 PP
BUTTE	167.52	39.0				21 13 PKP2
EUREKA	168.16	72.5	20 9	4		24 58 PP
BOZEMAN	168.52	36.5	20 10	4		21 16
SALT LAKE C.	170.88	61.1	20 10	3		21 28
TUCSON	170.94	117.3	20 13	6		25 22 PP
TUCSON TELE.	171.06	117.2	20 12	5		25 21 PP
RAPID CITY	172.59	10.5	20 10	2		25 24 PP
DALLAS	174.57	224.8	20 13	4		
LAWRENCE	174.73	296.0	19 40	-29		

JULY 11 18.H 22.M 59.S EPICENTRE 44.39 148.92 DEPTH= 0.KM

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SE= 2.59

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
GORNY	1.10	299.5	0	25	2							
KURILSK	1.13	318.9	0	28	5	0	40	1				
LESZAVODSK	1.30	287.8	0	27	2							
SHIKOTAN	1.60	251.9	0	30	0							
KOSMODEMANSK	2.20	263.6	0	39	1	1	5	-2				
NEMURO	2.64	247.6	0	44K	0	1	13	-5				
ABASHIRI	3.36	265.4	0	58	3	1	40	4				
KUSIRO	3.57	248.4	0	59A	1	1	39	-2				
OBIIHRO	4.40	252.5	1	12	2	2	5	3				
HIROO	4.59	244.7	1	14A	2	2	3	-4				
ASAHIGAWA	4.76	265.0	1	17	2	2	16	5				
URAKAWA	5.01	245.6	1	19	1	2	17	-1				
Y.-SAKHLINSK	5.05	302.7	1	20	1	2	19	0				
SAPPORO	5.64	259.2	1	30A	3	2	33	-1				
TOMAKOMAI	5.66	253.3	1	31	4	2	35	1				
MURORAN	6.15	253.2	1	36	2	2	43	-3				
SUTTSU	6.51	258.9	1	40	1	2	58	3				
MORI	6.51	252.4	1	43	4	2	56	1				
HAKODATE	6.54	249.4	1	39A	-1	2	48	-8				
UGLEGORSK	6.65	317.4	1	46	5	3	17	18				
HATINOHE	6.68	237.4	1	40	-2	2	50	-10				
AOMORI	6.98	242.1	1	47	1	3	1	-6				
MIYAKO	7.01	229.9	1	42	-4	2	56	-12				
MORIOKA	7.43	233.6	1	50	-2	3	5	-13				
MIZUSAWA	7.84	230.6	1	58	0	3	18	-11				
AKITA	8.05	237.6	2	24	23							
ISINOMAKI	8.24	226.4	2	1	-3	3	29	-10				
SENDAI	8.58	227.4	2	7	-1	3	35	-12				
SAKATA	8.73	234.3	2	11	1	3	44	-7				
YAMAGATA	8.89	229.4	3	44	91							
HUKUSIMA	9.20	226.8	2	16	-1	3	51	-11				
ONAHAMA	9.60	222.1				4	6	-6				
SHIRAKAWA	9.80	225.2	2	32	7	4	7	-10				
NIIGATA	9.85	232.4	2	45	19							
OKHA	9.98	338.9	2	40	12							
AIKAWA	10.24	235.3	2	29	-2							



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MITO	10.26	221.7			4	17	-12		
UTUNOMIYA	10.42	224.4	3	6	32	4	20	-13	
KAKIOKA	10.52	222.3	2	31	-4	4	17	-18	
TUKUBASAN	10.57	222.5	2	32	-4	4	21	-15	4 6
TAKADA	10.88	231.7	2	38	-2	4	33	-11	
MAEBASI	10.95	226.6	2	38	-3	4	34	-11	3 34
TOKYO C.M.O.	11.17	222.0	2	56	12	4	40	-11	
NAGANO	11.21	230.3	2	46	1	5	16	24	
OIWAKE	11.28	228.0	2	52	7				
MATUJIRO	11.29	229.8	2	43A	-3	4	57	3	4 43
YOKOHAMA	11.42	221.6				4	47	-9	
WAZIMA	11.47	236.5	2	48	0				
MATUMOTO	11.65	229.5	2	52	2	4	46	-16	
TOYAMA	11.76	233.2	3	2	10				
HUNATU	11.80	224.7				4	55	-11	
KOHU	11.80	225.7			10	4	57	-9	
VLADIVOSTOK	12.38	270.1	3	3	3				3 11 PP
NAGOYA	12.99	229.0	3	35	26				
HIKONE	13.32	231.2	3	12	-1				
ABUYAMA	13.99	231.8	3	19A	-3				
MAGADAN	15.23	3.6	3	40	2				
OOITA	17.45	236.2	4	39	33				
YAKUTSK	20.93	334.3	4	43	-4	8	29	-7	
PEKING	24.55	271.3	5	22A	0	9	36	-5	
ZO-SE	25.49	248.1	5	32A	1	9	54	-3	
NANKING	26.52	252.6	5	41	0	10	12	-2	
ULAN-BATOR	29.06	292.0	6	3	-1				
LANCHOW	35.04	272.2	6	57	1	12	24	-5	
CHENGTU	37.70	264.2	7	19A	0	13	4	-6	
COLLEGE	39.82	36.6	7	38	1				
KUNMING	41.98	258.3	7	54	0	14	8	-6	
SEMI PALATNSK	45.37	303.1	8	21	-1				
SHILLONG	49.35	267.4	8	50	-3				
CHITTAGONG	51.38	264.2	9	9	1				
FRUNSE	52.06	296.2	9	13	-1				
RESOLUTE	53.99	17.2	9	27A	-1	17	8	5	19 13 SCS
TASHKENT	56.25	297.0	9	44	0	17	33	0	10 45 PCP
LAHORE	58.29	284.7	9	58A	-1				
APATITY	58.33	336.0	9	54	-5				20 57
WARSAK DAM	58.79	288.6	10	1	-1				
SODANKYLA	60.36	337.9	10	12	-1				
KIRUNA	61.61	340.3	10	19	-3				
SHASTA	62.27	59.2	10	27A	1				
HUNGRY HORSE	62.57	48.2	10	29	1				
MINERAL	62.97	59.1	10	31A	0				
LEMBANG	63.09	227.3	10	31K	0				
CHARTERS TS.	64.12	182.8	10	37	-1				
QUETTA	64.19	287.7	10	38A	-1				11 13 PCP
RENO	64.55	58.9	10	39	-2				
MOSCOW	64.69	324.3	10	41	-1				
BUTTE	64.78	49.6	10	43	0				
ASHKABAD	65.09	299.4	10	44A	-1	19	23	-4	
BOZEMAN	65.83	49.2	10	51	2				
NURMI JARVI	66.04	333.4	10	49	-2				
HELSINKI	66.20	333.0	10	50	-2				
EUREKA	66.92	56.9	10	58	2				
SKALSTUGAN	67.03	340.5	10	55A	-2				
SALT LAKE C.	68.53	53.7	11	8	2				
UPPSALA	68.72	336.0	11	6A	-2				
PASADENA	68.94	62.6	11	10	1				
TIFLIS	70.66	309.7	11	20	1				
RAPID CITY	71.06	46.5	11	23	1				
GORIS	71.30	307.1	11	24	1	20	42	1	
SIMFEROPOL	73.90	317.9	11	38A	-1	21	0	-10	
TUCSON	74.81	59.8	11	46	2				
TUCSON TELE.	74.82	59.6	11	46	2				
KRAKOW	75.99	328.9	11	50	-1				11 55 PCP
RACIBORZ	76.60	329.9	11	54	0				12 7 PCP
HALLE	77.50	334.1	11	58	-1				
PRUHONICE	77.96	331.8	12	2A	0				13 8
DURHAM	78.08	343.0	11	45	-17				
JENA	78.11	334.0	12	2	0				12 34
MUNSTER	78.38	336.7	12	1	-3				
CANBERRA	79.33	179.9	12	11	2				
BENSBERG	79.41	336.5	12	9	0				
UCCLE	80.33	338.1	12	11	-3				
RATHFARNHAM	80.39	345.2	12	17	2				
STUTTGART	80.75	334.3	12	17	0				
KEW	80.88	341.1	12	18	1				



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DOORBES	80.90	337.6	12 18	1			
TUBINGEN	81.00	334.3	12 18	0			
KSARA	81.22	309.2	12 10	-9	22	6	-23
LJUBLJANA	81.32	329.8	12 19A	-1			
EBINGEN	81.34	334.2	12 20	0			
STRASBOURG	81.35	335.1	12 20	0			
TRIESTE	81.94	330.0	12 22	-1			
SHAWINIGAN	82.25	27.6	12 25	1			
BASLE	82.35	334.7	12 25	0			
SEVEN FALLS	82.37	26.1	12 24	-1			
BREBEUF	82.88	28.6	12 28	0			
JERUSALEM	83.11	308.2	12 30K	1			
MORGANTOWN	85.49	35.7	12 43	2			
ROME	85.65	328.5					21 48
SETIF	93.23	331.2	13 17	-1			
ELISABTHVLE	120.44	284.3	18 56	2			
SCOTT BASE	122.46	175.6					36 30 SS
HUANCAYO	130.32	63.5	19 56	43			
BYRD STATION	133.61	166.1	19 18	-1			22 48 SKP
HALLEY BAY	148.71	182.2					23 31 PP
ARGENTINE I.	152.24	150.3					23 58 PP
PORT STANLEY	160.73	121.8					24 9 PP

JULY 12 0.H 24.M 22.S EPICENTRE -19.91-177.65 DEPTH= 363.KM

DEPTH OF FOCUS= 0.052R

A=-0.94019 B=-0.03857 C=-0.33846 D=-0.0410 E= 0.9992  
G= 0.3382 H= 0.0139 K=-0.9410 HT= 4.7

SE= 1.74

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
SUVA	4.10	294.6	1	15	3	2	13	5				
APIA	8.27	43.7	1	55	-4	3	23	-9				
NOUMEA	15.03	258.1	3	19A	2	6	10	15				
ONERAHI	17.29	202.3	3	43	2	6	50	12				
TUAI	19.36	192.3	4	1	0	7	16	0				
WELLINGTON	22.26	195.2	4	27	-2	8	13	7				
COBB RIVER	22.64	199.2	4	32	-1							
KAIMATA	24.36	199.9	4	47	-1							
GEBBIES PASS	25.08	196.8	4	52	-3	9	2	10				
BRISBANE	27.84	248.7	5	21A	1	9	36	0				
RIVERVIEW	30.96	237.0	5	47	0	10	25	1				
CANBERRA	33.11	235.4	6	6A	1	10	57	-1			8 19	PPP
RABAU	33.29	294.0	6	3	-4	11	46	46				
CHARTERS TS.	33.88	263.5	6	12	0	11	6	-3				
PORT MORESBY	35.55	281.9	6	25	-1							
MELBOURNE	36.98	233.0	6	37A	-1							
ADELAIDE	41.19	239.4	7	12A	0	12	55	-4				
HONOLULU	45.20	26.1	7	44	0							
KIPAPA	45.34	26.1	7	45	0							
GUAM	49.69	308.9	8	18	-1							
CAPE HALLETT	52.86	184.6	8	43	1							
SCOTT BASE	58.48	183.8	10	47	86						11 30	PCP
BYRD STATION	65.17	170.6	10	5	0				11 26		10 34	PCP
TUKUBASAN	68.65	324.3	10	26	-1						13 49	
MATUSIRO	69.93	323.3	10	33K	-2	19	13	-1				
VINEYARD	77.41	43.2	11	19	1							
BERKELEY	77.52	41.8	11	19	1							
LICK	77.59	42.6	11	20A	1				12 45			
PASADENA	78.04	46.9	11	22A	1	20	51	7	12 46		11 32	PCP
FRESNO	78.44	43.9	11	24K	1							
HONG KONG	78.68	298.7	11	25	1	20	16	-34	12 56		14 26	PP
SHASTA	79.17	39.5	11	27K	0				12 54			
MINERAL	79.44	40.2	11	29K	1				12 55			
CANTON	79.77	299.1	11	30	0	21	2	1				
NANKING	79.79	309.4	11	30K	0	21	3	1			21 12	SKS
RENO	80.06	41.7	11	33K	1				12 59			
ARGENTINE I.	81.38	157.0	11	38	-1							
TUCSON	82.29	51.8	11	45	2				13 13		13 54	*SP
TUCSON TELE.	82.42	51.8	11	46	2				13 14		38 19	PKPPKP
EUREKA	82.46	43.4	11	45	1						38 5	PKPPKP
HALLEY BAY	83.09	173.0	11	47	0							
MAGADAN	83.27	344.4	11	45	-3							

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HORSESHOE B.	84.14	32.3	11	40	-13						
PEKING	85.70	315.2	12	1K	1	22	2	2			21 47 SKS
SALT LAKE C.	85.83	44.0	12	2	1						
COLLEGE BUTTE	87.56	12.3	12	7	-2	22	0	-18	13	35	24 8 PS
HUNGRY HORSE	88.08	39.2	12	12	0				13	40	
BOZEMAN	88.47	36.7	12	13	0				13	42	
KUNMING	88.81	40.1	12	17	2				13	47	
	89.40	296.8	12	20K	2	22	39	5			22 12 SKS
YAKUTSK	91.67	338.0									16 8
LANCHOW	92.69	307.4	12	34	1	23	10	7			
RAPID CITY	93.03	44.1	12	35	1				14	6	
ULAN-BATOR	95.25	319.2									16 33
TIKSI	98.25	345.1	12	52	-6						
RESOLUTE	107.14	16.0	17	42	777	23	40	-7			
OTTAWA	112.16	48.1	17	53	0						
SEVEN FALLS	115.67	46.5	17	56	-4						
QUETTA	121.25	293.8	18	12	1						
SVERDLOVSK	123.69	325.8									19 58 PP
KIMBERLEY	127.00	204.8	18	24A	2						
SCORESBY SD.	127.38	10.0	18	24	2						
APATITY	128.46	345.3	18	24	-1						
SODANKYLA	130.09	348.0	18	28	0						21 16 SKP
KIRUNA	130.74	351.1	18	29	0						21 18 SKP
BULAWAYO	132.61	214.4	18	33	1						
MOSCOW	135.53	332.2	17	38	-60						20 34
MAKHACH-KALA	135.80	311.7									21 34 PP
SKALSTUGAN	135.84	353.6	18	30	-8						21 35 SKP
NURMIJARVI	136.46	344.2	18	31	-9						22 14 PKS
HELSINKI	136.67	343.7	18	33	-7						
BROKEN HILL	137.27	218.9	18	32	-9						
TIFLIS	138.09	310.8									21 43 PP
UPPSALA	138.62	348.4	18	36	-8						
ELISABTHVLE	140.11	220.3	18	50	4				21	48	
SIMFEROPOL	143.74	320.8	18	52	-1						21 55
DURHAM	145.07	4.0	18	54A	-1						
IASI	145.90	328.8	19	8	11						
LWIRO	145.96	232.7	18	59A	2						
RATHFARNHAM	146.01	9.3	19	0	3						
KRAKOW	146.83	339.2	19	1	3						
KSARA	147.20	301.9	18	58	-1				20	39	22 31 PP
RACIBORZ	147.36	341.0	19	3K	4						20 40
HALLE	147.58	348.8	19	0	1				20	35	22 5 PP
JENA	148.19	348.9	19	0	0				20	38	22 33 PP
JERUSALEM	148.26	298.5	19	5K	5						
PRAGUE	148.40	345.1	19	5	5						
KEW	148.43	3.2	18	47	-13						19 5
PRUHONICE	148.46	344.9	19	2A	2				20	42	22 36 PP
BENSBERG	148.78	354.1	19	6	5				20	40	
SONNEBERG	148.79	349.0	19	1	0				20	39	
UCCLE	149.13	357.5	19	7	6						
BRATISLAVA	149.38	340.4	19	2	0				20	38	
DOURBES	149.82	357.1	19	10	8						
STUTTGART	150.68	350.7	19	5	1						21 55 PP
TUBINGEN	150.93	350.8	19	11	7						
BELGRADE	150.96	332.9	19	12	8				20	55	29 7
STRASBOURG	151.06	352.6	19	12	8						
FOLINIÈRE	151.11	3.9	19	6	2						19 11 PKP2
EBINGEN	151.29	350.8	19	5	0						
LJUBLJANA	152.07	341.7	19	7A	1						19 14 PKP2
TOLMEZZO	152.16	344.1	19	5	-1						
CHUR	152.49	349.3	19	15K	9						
TRIESTE	152.65	342.4	19	7	0						22 59 PP
NEUCHÂTEL	152.72	353.1	19	8	1						
LEOPOLDVILLE	152.75	209.1	19	9A	2				20	50	
CLERMONT-FD.	154.20	358.8	19	10	1				21	2	
GRANADA	162.02	15.6	20	9K	51						21 41 PKP2
SETIF	163.55	351.3	19	21	1				20	58	23 49 PP
TAMANRASSET	175.89	314.6	19	28A	1				21	9	25 2 PP

JULY 12 19.H 21.M 58.S EPICENTRE 41.78 72.57 DEPTH= 0.KM

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G= 0.1988 H= 0.6333 K=-0.7479 HT= -2.3

SE= 2.20

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1959		PAGE 519											
	DELTA DEG.	AZ. DEG.	P		O-C	S			*PP		SUPP.		
			M	S	S	M	S	S	M	S	M	S	
ANDI JAN	1.04	188.6									0	22	PG
HAMANGAN	1.05	220.8									0	22	PG
FERGANA	1.52	203.5	0	30	2						0	53	S*
FRUNSE	1.85	52.8									0	34	PG
TCHIMKENT	2.28	284.2									0	46	PG
LUNACHARSKOE	2.48	260.6									0	46	PG
TASHKENT	2.52	260.6	0	46	3						1	20	S*
NARYN	2.59	96.6	0	43	-1						1	18	S*
RYBACHE	2.69	74.4	0	47	2						1	23	S*
DZHERGETAL	2.76	202.4	0	49	3						1	28	S*
FABRICHNAYA	3.16	62.4	0	53	1						1	36	S*
GARM	3.27	212.8	0	56	2						1	40	S*
ALMATA-2	3.84	65.6	1	4	2						1	59	S*
ILI	3.96	55.3	1	5	2						2	0	S*
STALINABAD	4.35	223.4	1	11	2						2	26	SG
KHOROG	4.36	190.3	1	11	2						2	17	S*
KURMENTY	4.41	71.4	1	10	0						2	16	S*
KULYAB	4.43	209.9	1	10	0						2	25	SG
SAMARKAND	4.74	245.5	1	15	1						1	34	
WARSAK DAM	7.81	186.3	1	55A	-3	3	22	-6					
BAIRAM-ALI	9.07	246.0									2	52	
SEMI PALATNSK	10.13	29.1	2	27	-3	4	17	-8					
LAHORE	10.31	171.6	2	27	-5								
ASHKABAD	11.58	255.4				4	51	-10			6	36	
QUETTA	12.43	203.2	2	57	-4	5	14	-8					
SVERDLOVSK	16.92	337.0				6	59	-9			3	48	
GORIS	20.02	272.2	4	37	0								
TIFLIS	20.69	279.2	4	45	1						8	43	PCP
SOTCHI	24.14	285.4									5	23	
ULAN-BATOR	24.95	64.0	5	29	3								
MOSCOW	26.60	313.6									6	2	
SIMFEROPOL	27.96	289.6									12	8	SS
PULKOVO	31.50	319.4									13	8	SS
APATITY	33.32	333.8	6	41K	0	12	0	-2					
HELSINKI	34.21	319.0	6	50	1								
LWOW	34.27	300.5	6	53	3								
NURMI JARVI	34.43	319.5	6	51	0						7	49	PP
SODANKYLA	35.58	331.4	6	59	-2								
UPPSALA	37.83	317.6	7	19	-1								
KIRUNA	37.97	330.9	7	20	-1								
YAKUTSK	39.04	39.0	7	28	-2								
KHEYS	39.15	354.5	7	30	-1								
PRUHONICE	40.31	302.2	7	39	-2						9	19	PP
SKALSTUGAN	40.58	323.3	7	42A	-1								
COPENHAGEN	40.71	311.1	7	44	0								
LJUBLJANA	41.24	296.3	7	49	1								
HALLE	41.63	304.9	7	56	5								
STUTTGART	43.99	301.6	8	11	0								
MATUSIRO	50.06	73.1	8	54A	-4						10	14	
TAMANRASSET	58.36	273.3	9	57	-2						11	32	
COLLEGE	69.09	17.2	11	8	-2								
SOUTH POLE	131.59	180.0	19	11	-4						22	36	
BYRD STATION	141.37	176.6	19	24	-9								

JULY 13 12.H 28.M 47.S EPICENTRE 52.01-172.00 DEPTH= 0.KM

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G=-0.7785 H=-0.1094 K=-0.6180 HT= -6.2

SE= 1.97

	DELTA DEG.	AZ. DEG.	P		O-C	S			*PP		SUPP.		
			M	S	S	M	S	S	M	S	M	S	
PETROPAVLOVK	17.82	285.2	4	9	0						7	31	SS
COLLEGE	17.90	34.7	4	11	1	7	42	15					
SITKA	21.69	62.1	4	55	3	8	58	11					
MAGADAN	21.99	304.7	4	56	1						9	0	PCP
Y.-SAKHLINSK	29.47	278.3	6	4	-2	11	0	2					
NEMURO	29.49	269.9	6	5	-1								
ALBERNI	29.64	76.3	6	9A	2						11	6	
ABASHIRI	29.93	272.1	6	9	-1								
KUSIRO	30.40	270.2	6	12	-2	11	9	-4					
HORSESHOE B.	30.52	75.3	6	12	-3	11	8	-7					
VICTORIA	30.79	76.9	6	18	1	12	30	71					

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1959										PAGE 520
LILLOOET	30.81	72.2	5 50	-28						8 46
WAKKANAI	30.83	276.3	6 24	6						
OBIIRO	31.18	271.1	6 21	0						
ASAHIGAWA	31.23	273.1	6 22	1						
URAKAWA	31.86	270.2	6 28	1	11 39	3				
YAKUTSK	32.17	311.1	6 27	-3						
SAPPORO	32.24	272.7	6 30	0						
TOMAKOMAI	32.40	271.7	6 33	1						
MURORAN	32.88	271.8	6 36	0						
SUTTSU	33.08	273.1	6 37	0	12 4	9				17 3 SCS
MORI	33.25	271.8	6 40	1						
HAKODATE	33.34	271.2	6 38	-2						7 29
HATINOHE	33.55	268.7	6 41	-1	12 2	0				7 52 PP
MIYAKO	33.80	267.1	6 43	-1						
AOMORI	33.85	269.7	6 46	2	12 20	13				
MORIOKA	34.27	267.8	6 46	-2						
MIZUSAWA	34.64	267.0	6 51	0	12 16	-3				
AKITA	34.92	268.7	6 53K	0	12 22	-1				8 17 PP
HAWAII V.OB.	35.06	151.8	6 52	-3	12 24	-2				
SENDAI	35.31	266.0	6 57	0						8 19 PP
SHASTA	35.40	88.6	6 58A	1						9 27
SAKATA	35.58	267.8	7 0	1						
YAMAGATA	35.66	266.5	6 59	-1						
UKIAH	35.82	91.4	7 0	-1						8 57 PP
HUKUSIMA	35.90	265.7	7 0	-2						8 28 PP
MINERAL	36.09	88.5	7 4A	1						
ONAHAMA	36.14	264.3	7 7	3						8 31 PP
SHIRAKAWA	36.45	265.1	7 7	1						
HUNGRY HORSE	36.46	72.1	7 7	1	12 48	1				8 37 PP
NIIGATA	36.67	267.1	7 32	24						9 40
MITO	36.77	263.9	7 8	-1	13 1	9				
UTUNOMIYA	37.03	264.7	7 11	0						8 31 PP
KAKI OKA	37.05	264.0	7 10	-1						
TUKUBASAN	37.10	264.0	7 11K	-1	12 57	0	7 19			8 31 PP
BERKELEY	37.19	92.3	7 12A	-1	12 59	1				
RESOLUTE	37.39	25.3	7 14K	0	12 59	-2				8 31 PP
KUMAGAYA	37.59	264.6	7 16	0						
MAEBASI	37.62	265.2	7 16K	0	13 20	15				9 10 PP
TOKYO C.M.O.	37.67	263.7	7 17	0	13 2	-4				8 30 PP
TAKADA	37.68	266.7	7 17	0						
RENO	37.68	88.2	7 18A	1						
YOKOHAMA	37.89	263.5	7 24	6						
LICK	37.91	92.5	7 19K	0						
NAGANO	37.98	266.2	7 20	1	13 16	6				
OIWAKE	37.98	265.5	7 25	6	13 15	5				
VLADIVOSTOK	38.02	279.3	7 18	-2	13 12	1				8 52 PP
MATUSIRO	38.05	266.1	7 17K	-3	13 10	-1				8 43 PP
HERA	38.12	262.7	7 21	1						
WAZIMA	38.33	268.2	7 24	2						
HUNATU	38.39	264.3	7 26	3	13 19	2				
MATUMOTO	38.39	265.9	7 24	1						
KOHU	38.43	264.6	7 25	2	13 24	7				
VINEYARD	38.44	93.0	7 24	1						
BUTTE	38.48	74.6	7 23	0	13 21	3				8 51 PP
MISIMA	38.53	263.7	7 24K	0						9 5 PP
TOYAMA	38.58	267.1	7 24	0						10 10
SASKATOON	38.94	63.1			13 25	1				
IIDA	38.95	265.1	7 26	-1						
SHIZUOKA	38.97	264.0	7 28	1						
OMAESAKI	39.32	263.7	7 59	29						
FRESNO	39.40	91.7	7 32A	1						
BOZEMAN	39.56	74.2	7 33	1	13 29	-5				9 51
HUKUI	39.57	267.1	7 34	2						
GIHU	39.69	265.9	7 30	-3						9 7 PP
NAGOYA	39.71	265.4	7 34	0						8 7
EUREKA	40.09	85.4	7 36	-1						13 28 SCP
HIKONE	40.09	266.2	7 39	2						
KAMEYAMA	40.23	265.5	7 39	1						
KYOTO	40.58	266.3	7 42	1						9 4
NARA	40.74	265.8	7 42	0						
ABUYAMA	40.77	266.3	7 43K	1						
TOYOOKA	40.80	267.7	7 42	-1	13 54	1				
OSAKA	40.94	266.1	7 43	-1	13 49	-6				
KOBE	41.14	266.4	7 44	-1	13 55	-3				
SUMOTO	41.54	266.3	7 48	-1						9 56
SIOMISAKI	41.60	264.5	7 49	0						9 43
SALT LAKE C.	41.84	81.0	7 52	1	14 11	3				9 3 PP
MATSUE	41.94	269.0	7 52	0						
TAKAMATU	42.08	266.9	7 52	-1	14 8	-4				

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PASADENA	42.12	93.4	7	54A	1	14	14	2	8	3	9	30	PCP
KOTI	42.91	266.5	8	3	3	14	28	4			9	51	PP
HAMADA	42.92	269.2	8	3	3	14	28	4			9	42	PP
HIROSIMA	43.04	268.3	8	0	-1						9	54	PP
THULE	43.17	19.6	7	58	-4						9	47	PP
OOITA	44.31	267.7	8	14A	3						9	5	
HUKUOKA	44.81	269.1	8	15	0								
RAPID CITY	45.09	71.6	8	17	-1	14	56	0					
SAGA	45.11	268.8	8	27	9								
KUMAMOTO	45.15	268.0	8	18	0								
MIYAZAKI	45.32	266.5	8	16	-3								
KHEYS	45.81	350.3	8	15	-8	14	49	-17			9	57	PCP
NORD	45.97	4.9	8	24	-1	15	5	-3			14	0	PCS
KAGOSIMA	46.10	266.9	8	17	-9								
TUCSON	47.93	89.5	8	38	-2	15	39	3			10	43	PP
IRKUTSK	48.55	305.4	8	44K	-1	15	43	-2			10	39	PP
PEKING	49.33	285.9	8	50K	-1	15	59	3			10	48	PP
GUAM	51.69	238.2	9	5	-4								
ZO-SE	52.21	273.8	9	11K	-2						11	13	PP
NANKING	53.02	276.4	9	17K	-2	16	48	2			11	23	PP
CHIHUAHUA	53.39	89.1									13	17	
FAYETTEVILLE	55.48	73.9	9	34	-3	17	13	-7					
SCORESBY SD.	55.92	11.7	9	39	-1	17	27	2			10	39	PCP
DALLAS	56.15	78.5	9	27	-15								
HWALIEN	57.03	267.4	9	45K	-3								
CLEVELAND	59.01	61.2	10	0A	-2	17	57	-9					
LANCHOW	59.22	290.3	10	4K	1	18	14	5					
APATITY	59.24	348.9	10	1K	-2	18	8	-1			10	50	PCP
OTTAWA	59.32	54.5	10	3K	-1	18	13	3					
SHAWINIGAN	59.97	51.9	10	7	-1	18	17	-1					
SODANKYLA	60.12	351.8	10	8	-1	18	23	3			10	54	PCP
KIRUNA	60.12	354.6	10	8	-1	18	18	-2			10	54	PCP
BREBEUF	60.30	53.2	10	9	-2	18	22	-1					
SEVEN FALLS	60.50	50.3	10	11K	-1	18	26	1					
SEMIPALATNSK	61.09	315.9	10	13	-3	18	32	-1					
MORGANTOWN	61.16	61.8	10	16K	0	18	33	-1					
PENNSYLVANIA	61.45	59.5	10	19	1	18	39	2					
REYKJAVIK	61.88	14.4	10	20	-1				11	2			
SIDA	62.76	12.7	10	28	1				11	7			
CANTON	62.84	273.2	10	27K	-1	18	55	0			12	55	PP
HONG KONG	62.87	272.0	10	27K	-1	19	11	16			12	48	PP
SVERDLOVSK	63.22	330.7	10	30	0								
WASHINGTON	63.25	60.5	10	30	0	18	50	-10			13	14	PP
BAGUIO CITY	63.34	262.5	10	29	-2	18	57	-4					
PALISADES	63.38	56.9	10	32	1	19	2	0			12	41	PP
FORDHAM	63.52	57.0	10	7	-25	18	39	-24					
RABAUL	63.73	220.6	10	30	-4						12	40	PP
CHAPEL HILL	64.32	64.1	10	38	1								
TACUBAYA	64.40	91.0	10	41	3	19	10	-4			13	3	PP
COLUMBIA	64.61	66.9	10	40	1	19	13	-4					
SKALSTUGAN	64.70	357.9	10	39K	-1						11	11	PCP
APIA	65.54	179.8	10	47	2						14	57	PPP
HALIFAX	65.74	48.0	10	48K	1						20	42	SCS
VERA CRUZ	66.45	88.7	11	37	46	19	41	2			22	53	
NURMI JARVI	67.03	351.1	10	54	-1	19	45	-1			11	27	PCP
PULKOVO	67.12	348.0	10	55	0						20	18	PS
HELSINKI	67.34	350.9	10	57	0								
KUNMING	67.86	282.6	10	59K	-1	19	57	1			13	31	PP
UPPSALA	68.22	354.8	11	1	-1	20	0	-1			39	12	PKPPKP
MERIDA	69.15	82.5				20	13	1					
FRUNSE	69.36	313.9	11	10	1								
MOSCOW	69.86	342.7	11	11	-1						13	29	PP
PORT MORESBY	70.50	223.2	11	14K	-2	20	26	-2	11	24	11	38	PCP
LHASA	71.24	294.1	11	22K	1	20	44	8					
COPENHAGEN	72.61	357.4	11	30	1	20	56	4			25	31	SS
TASHKENT	72.94	316.3	11	31	0						14	3	PP
SHILLONG	73.87	290.8	11	36K	0	21	8	2			14	26	PP
RATHFARNHAM	74.38	8.8	11	40A	1								
BERMUDA	74.74	56.9	11	40	-1	21	13	-3			26	8	SS
STALINABAD	75.45	315.0	11	44	-1	21	24	0					
WARSAW	75.55	351.8	11	55K	9	21	21	-4			22	4	PS
POTSDAM	75.89	356.8	11	47	-1	21	30	1			21	45	
DE BILT	76.23	1.8	11	13	-37								
CHITTAGONG	76.36	288.7	11	53K	2	21	39	5			14	47	PP
MUNSTER	76.39	0.2	11	51	0								
KEW	76.65	5.3	11	51	-1								
HALLE	76.81	357.5	11	53	0	21	38	-1			12	42	
JENA	77.39	357.7	11	56	0	21	43	-2			12	37	

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BENSBERG	77.40	0.5	11 56	0						12 37
UCCLE	77.52	2.4	11 57	0	21 47	1				
LWOW	77.62	349.5	11 57	-1	21 47	0				14 50 PP
DEHRA DUN	77.73	303.7	12 8	10	22 9	20				
PLAUE	77.80	357.3	11 57	-2						
KRAKOW	77.81	352.2	11 58	-1						
RACIBORZ	77.92	353.3	11 58K	-1						
WARSAK DAM	77.94	310.5	11 58K	-1						
SONNEBERG	77.95	357.9	12 0	1						
PRAGUE	78.15	355.8	12 2	2	21 55	2				15 7 PP
DOURBES	78.22	2.2	12 0	-1	22 26	32				
PRUHONICE	78.23	355.7	12 2A	1	21 56	2				12 12 PCP
CALCUTTA	78.25	291.4								16 2
LAHORE	78.61	307.1	12 2K	-1						
SKALNATE PL.	78.65	351.8	11 58	-5						
BOKARO	78.68	294.1	12 4A	1						22 1
FOLINIÈRE	79.34	5.7	12 7	0						
PARIS	79.45	3.7	12 10K	2						12 17 PCP
STUTT GART	79.59	359.2	12 9	1	22 7	-1				22 51 PS
IASI	79.75	346.6	12 9	0	22 29	19				12 29
STRASBOURG	79.79	0.2	12 10K	1	22 12	2	12 40			27 25 SS
TUBINGEN	79.83	359.3	12 10	0						
BRATISLAVA	79.89	353.8	12 10A	0	22 15	4	12 36			
EBINGEN	80.18	359.3	12 12	0						
ASHKABAD	80.23	321.9	12 11K	-1						22 34
CHARTERS TS.	80.43	219.4	12 11	-2	22 16	-1				
SIMFEROPOL	80.82	341.5	12 15	0	22 26	5				12 28 PCP
BASLE	80.84	0.3	12 15	0						13 6
TIFLIS	81.33	333.0	12 18	0	22 29	3				15 24 PP
NEUCHATEL	81.36	0.7	12 18	0	22 27	0				
TOLMEZZO	81.87	356.5	12 26	6	22 32	0				
CAMPULUNG	81.99	347.9			22 47	14				
LJUBLJANA	82.16	355.4	12 21K	-1						12 58
CLERMONT-FD.	82.51	3.4	12 25	1	22 42	4				
TRIESTE	82.59	355.9	12 24	0	22 41	2				
BUCHAREST	82.68	347.0			22 53	13				14 40
GORIS	82.94	331.1	12 27	1						15 41 PP
BELGRADE	82.95	351.1	12 27K	1	22 46	3				22 51 SCS
PAVIA	83.18	359.2	12 32	5						24 45 PPS
QUETTA	83.27	311.7	12 28K	0	22 51	5				15 36 PP
PRATO	84.45	357.7	12 34	0	23 3	5				
VIZIANAGRAM	84.53	292.4			22 55	-4				
MONACO	84.64	0.4	12 35	1						
SOFIA	84.73	348.7	12 38	3						
BRISBANE	84.89	210.7	12 35A	-1	23 1	-1				
SAN JUAN	85.08	66.5	12 38	1						
SERRA PILAR	86.12	12.5	12 42K	0						
ROME	86.38	356.6	12 43K	0	23 20	3				24 35 PS
KARACHI	86.90	309.3	12 51	5						12 53 PCP
TARANTO	87.54	352.9	12 4	-45						21 13
TOLEDO	87.88	9.2	12 52K	2	23 36	5				
HYDERABAD	87.90	295.8			23 13	-18				19 56
LISBON	88.41	13.3	12 53K	0	23 39	3				
ANTIGUA	88.97	63.4	12 54	-2						
ATHENS	89.34	347.6	12 37	-20						
DJAKARTA	89.41	259.3			23 42	-3				15 37
POONA	89.52	300.0	12 59	1						23 24
ALICANTE	89.71	6.7	12 58	-1	23 47	-1				16 31 PP
BOMBAY	89.76	301.0	13 0	1	23 54	6				23 25 SKS
MESSINA	89.92	354.1	12 57	-3	23 46	-4				23 26 SKS
CHINCHINA	90.05	81.9	13 2	1	23 30	1				23 54 SKKS
KARAPIRO	90.22	189.8	13 0K	-1			13 10			
GRANADA	90.60	9.2	13 7A	4	24 2	6				16 16 PP
FUQUENE	90.81	80.1	13 5	1	23 30	-4				23 57 SKKS
CARACAS	90.90	71.8	13 13	8						
BOGOTA	91.27	80.9	13 10	4						
ALGIERS UNI.	91.48	4.0	13 6	-1	24 7	3				
SETIF	92.13	2.1	13 10	0						
JERUSALEM	93.21	337.0	13 15A	0						
CANBERRA	93.42	211.0	13 15	-1						17 7 PP
COLOMBO	95.57	288.5			24 9	9				
ADELAIDE	96.71	218.8	13 30	-1						17 30 PP
TAMANRASSET	105.50	2.4	14 11	1	26 7	-8				18 35
LA PAZ	111.35	89.6	18 41	7	25 21	7				28 49 PS
CAPE HALLETT	124.63	186.5	18 59	0						37 50 SS
LWIRO	127.44	333.4	19 8A	3						
SCOTT BASE	130.26	185.8	19 7	-3						22 30 PKS
LEOPOLDVILLE	132.13	350.2	19 16K	2						21 35 PP



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TANANARIVE	134.79	301.9	19 21	2	22 47	PKS
BYRD STATION	135.11	168.7	19 2	-17	21 52	PP
ELISABTHVILLE	136.76	331.6	19 24	2	22 6	PP
BROKEN HILL	139.10	328.8	19 25	-2		
SOUTH POLE	141.83	180.0	19 23	-8	23 4	PP
ARGENTINE I.	142.40	138.9	19 26	-6		
BULAWAYO	144.35	325.4	19 34	-2		
PRETORIA	149.63	322.0			20 25	PKP2
WINDHOEK	149.78	343.1	19 46A	1		
PIETERMZBURG	152.14	314.7			20 49	PKP2
HALLEY BAY	152.73	161.8	19 55	6		
KIMBERLEY	153.60	325.2	19 51A	1		
GRAHAMSTOWN	156.98	317.0	19 55	0		

JULY 14 8.H 40.M 49.S EPICENTRE 51.96-171.72 DEPTH= 0.KM

A=-0.61241 B=-0.08908 C= 0.78551 D=-0.1439 E= 0.9896  
G=-0.7773 H=-0.1131 K=-0.6189 HT=-6.1

SE= 2.89

	DELTA DEG.	AZ. DEG.	P			O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S		
COLLEGE	17.85	34.4	4	12	0	7	48	19				
PETROPAVLOVK	18.00	285.5	4	0	-14							
MAGADAN	22.16	304.8	5	3	3	8	59	-1				
UGLEGORSK	29.14	282.9								10	26	
Y.-SAKHLINSK	29.65	278.6	6	5	-5							
LILLOOET	30.66	72.3	5	35	-44							
YAKUTSK	32.34	311.2	7	9	36					8	45	
TIKSI	32.35	329.3										
SHASTA	35.23	88.7	7	0	2							
MINERAL	35.92	88.6	7	5A	1							
HUNGRY HORSE	36.31	72.2	7	15	7							
BERKELEY	37.01	92.5	7	16	2							
RESOLUTE	37.37	25.2	7	15	-2	12	53	-12		9	41	
RENO	37.51	88.3	7	19A	1							
LICK	37.73	92.6	7	19A	-1							
MATUSIRO	38.21	266.4	7	20	-4	13	8	-10		8	44	
FRESNO	39.23	91.8	7	33A	1							
BOZEMAN	39.41	74.3	7	35	1							
EUREKA	39.92	85.6	7	38	0							
SALT LAKE C.	41.68	81.1	7	53	1							
PASADENA	41.94	93.5	7	54	0	14	16	2		9	45	
RAPID CITY	44.94	71.7	8	19	0					9	11	
KHEYS	45.90	350.3								9	56	
TUCSON	47.76	89.6	8	40	-1							
TUCSON TELE.	47.77	89.4	8	40	-1							
ULAN-BATOR	49.93	299.7	9	3	5							
LAWRENCE	52.78	72.1	9	18	-1							
DALLAS	55.99	78.7	9	42	-1							
OTTAWA	59.21	54.6	10	3	-3							
SHAWINIGAN	59.87	52.0	10	8	-2							
KIRUNA	60.19	354.7	10	9	-3							
BREBEUF	60.19	53.4	10	11K	-1							
SEVEN FALLS	60.40	50.5	10	12	-2							
MORGANTOWN	61.04	61.9	10	12K	-6							
PENNSYLVANIA	61.33	59.7	10	20	0	18	35	-5				
HONG KONG	63.04	272.2	10	34	2	19	25	23				
WASHINGTON	63.12	60.7	10	32	0							
PALISADES	63.27	57.1	10	32	-1	19	6	2		12	40	
SVERDLOVSK	63.36	330.9	10	33	-1							
CHAPEL HILL	64.19	64.2	10	38	-1							
COLUMBIA	64.47	67.0	10	40	-1	19	11	-8				
APIA	65.48	180.1	10	53	6							
HALIFAX	65.65	48.2	10	48K	-1	19	32	-2				
NURMI JARVI	67.12	351.3	10	54	-4							
UPPSALA	68.29	354.9	11	11	6							
SHILLONG	74.05	291.0	11	46K	6							
BERMUDA	74.62	57.0				21	21	2				
CHITTAGONG	76.54	289.0	11	54	0	21	41	1		14	49	
JENA	77.45	357.9	12	0	1					12	59	
WARSAK DAM	78.11	310.7	12	4	1							
PRUMONICE	78.30	355.9	12	1A	-3					12	15	
FOLINIERE	79.38	5.9	12	10	0					12	16	
STUTTGART	79.65	359.4	12	9	-2					12	57	
STRASBOURG	79.84	0.3	12	24	12							

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CHARTERS TS.	80.49	219.7	12 12	-4	
SIMFEROPOL	80.93	341.7	12 15	-3	
TIFLIS	81.46	333.2	12 27	6	
QUETTA	83.44	311.9	12 33	2	12 37 PCP
MONACO	84.69	0.6	12 38	1	
KARAPIRO	90.19	190.0	12 59	-5	
LWIRO	127.57	333.8	19 16A	8	
BYRD STATION	135.02	168.8	19 21	-1	
BROKEN HILL	139.24	329.2	19 26	-4	
SOUTH POLE	141.77	180.0	19 23	-11	
BULAWAYO	144.50	325.8	19 35	-4	
PRETORIA	149.79	322.4	19 46	-1	

JULY 14 11.H 33.M 55.S EPICENTRE 57.11-157.55 DEPTH= 64.KM

DEPTH OF FOCUS= 0.005R

A=-0.50423 B=-0.20838 C= 0.83805 D=-0.3819 E= 0.9242  
G=-0.7745 H=-0.3201 K=-0.5456 HT= -8.0

SE= 1.90

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
COLLEGE	9.09	27.2	2	14	3	3	56	4				
SITKA	12.08	80.9	2	49	-2							
ALBERNI	20.95	98.0	4	40A	1							
HORSESHOE B.	21.72	96.2	4	44	-3							
LILLOOET	21.75	91.9	5	0	13							
VICTORIA	22.14	98.2	4	51	0							
PETROPAVLOVK	25.03	279.7	5	19	0						7	42
HUNGRY HORSE	27.34	89.9	6	7	26							
SHASTA	27.93	110.8	5	45A	-1							
RESOLUTE	29.01	29.1	5	56A	0	10	42	1			8	12 PCP
BUTTE	29.54	92.5	5	59	-1							
RENO	30.11	109.4	6	5A	0							
BOZEMAN	30.59	91.8	6	10	0							
EUREKA	32.16	105.2	6	22	-1				6	41	12	44 SCP
FRESNO	32.23	112.8	6	24	0							
TIKSI	32.47	325.5	6	25	-1							
SALT LAKE C.	33.43	99.4	6	34	0							
PASADENA	35.11	113.8	6	48	-1				7	17		
YAKUTSK	35.38	308.9	6	49	-2							
RAPID CITY	35.89	87.4	6	55	0							
NORD	39.94	8.3	7	31	2							
TUCSON TELE.	40.35	107.5	7	32	0				7	50		
TUCSON	40.36	107.7	7	31	-2							
KHEYS	42.03	352.6	7	40	-6							
MATUSIRO	46.54	272.4	8	20A	-3						8	48
DALLAS	47.41	93.9	8	28	-1							
OTTAWA	49.51	66.5	8	44	-2							
SHAWINIGAN	50.15	63.5	8	49	-2							
BREBEUF	50.48	65.0	8	51K	-2							
SEVEN FALLS	50.69	61.8	8	53	-2							
MORGANTOWN	51.47	74.6	8	41	-20							
PALISADES	53.59	69.2				16	45	2			20	52 SS
ULAN-BATOR	54.22	304.4	8	0	-81							
KIRUNA	55.36	0.9	9	29A	0							
APA TITY	55.39	354.9	9	29A	0							
SODANKYLA	55.79	358.0	9	33	1							
SKALSTUGAN	59.38	5.3	9	58A	0						10	44 PCP
SVERDLOVSK	62.33	337.4	10	18	0							
NURMI JARVI	62.71	358.8	10	20	0						10	45
HELSINKI	63.05	358.6	10	22	0							
UPPSALA	63.32	2.7	10	24A	0							
HONG KONG	70.65	281.2	10	33	-37	19	17	-61				
HALLE	71.41	6.9	11	15	0						12	28
UCCLE	71.42	12.0	11	16	1							
COLLMBERG	71.67	6.2	11	17	1							
JENA	71.95	7.2	11	18	0				11	36		
DOURBES	72.14	12.0	11	20	1							
FOLINIÈRE	72.78	15.7	11	24	1							
PRUHONICE	73.08	5.3	11	26A	1						12	27
NAMANGAN	73.88	323.4	11	30	1							
STUTTGART	73.91	9.1	11	30	0				11	47		
STRASBOURG	73.97	10.1	11	31	1							

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WARSAK DAM	80.23	320.4	12	3	-2
TOLEDO	80.82	20.4	12	9K	1
DEHRA DUN	81.12	313.8	12	12	2
QUETTA	85.29	322.5	12	31K	0
CHARTERS TS.	89.98	231.4	13	1	8
LWIRO	125.07	352.2	18	55	2
BULAWAYO	142.80	350.4	19	23	-3
SOUTH POLE	146.94	180.0	19	31	-2
PRETORIA	148.39	350.1	19	40	5
KIMBERLEY	151.60	355.7	19	46K	6

13 21

JULY 14 13.H 0.M 21.S EPICENTRE -16.35 172.86 DEPTH= 25.KM

A=-0.95262 B= 0.11927 C=-0.27982 D= 0.1242 E= 0.9923  
G= 0.2777 H=-0.0348 K=-0.9601 HT= 5.5

SE= 1.94

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
SUVA	5.61	109.4	1	24	0	2	26	-3				
NOUMEA	8.46	224.7	1	59	-5	3	43	3				
ONERAHI	19.38	176.3	4	28	1						4	53
AUCKLAND	20.51	175.6	4	43	4	8	34	12	5	0		
BRISBANE	21.44	235.5	4	53A	5	8	53	13				
KARAPIRO	21.61	174.3	4	51A	1						5	55
TUAI	22.68	171.3	5	0	-1							
TONGARIRO	22.88	174.7	5	4	1							
WELLINGTON	24.89	176.6	5	23	1	9	35	-6				
CHARTERS TS.	25.52	257.8	5	29K	1	9	58	7				
PORT MORESBY	25.98	282.3	5	34	2						6	12
GEBBIES PASS	27.26	180.3	5	40	-4							
ROXBURGH	29.26	185.1				10	53	1				
ADELAIDE	35.67	232.3	6	58	0						9	26 PCP
GUAM	40.62	315.2	7	42	3							
CAPE HALLETT	55.96	180.9	9	37	-1	17	48	25			11	49 PP
SCOTT BASE	61.60	181.5	9	19	-59							
MATUSIRO	61.96	328.8	10	18	-2						18	45
WILKES	64.12	203.5				19	11	3			23	23 SS
HONG KONG	69.12	302.1	11	7	1	20	15	7			21	14 SCS
BYRD STATION	70.17	170.1	11	11	-1				11	31	11	26 PCP
PETROPAYLOVK	70.28	351.0	10	5	-68				10	24		
SOUTH POLE	73.75	180.0	11	32	-2							
BERKELEY	81.28	46.5	12	16	1	22	29	6				
LICK	81.47	47.2	12	17K	1							
FRESNO	82.51	48.4	12	23	1							
SHASTA	82.55	43.9	12	23K	1							
PASADENA	82.56	51.3	12	21	-1	22	42	6			23	36 PS
MINERAL	82.91	44.5	12	24A	0							
RENO	83.76	45.9	12	30K	2							
YAKUTSK	85.20	341.1	12	36	1							
COLLEGE	86.32	15.7	12	39	-2				13	3		
EUREKA	86.41	47.2	12	41	0						30	40 PKKP
TUCSON	87.48	55.5	12	47	1							
TUCSON TELE.	87.60	55.4	12	48	1						15	23
LILLOOET	87.71	35.3	11	59	-49							
SHILLONG	89.10	296.9	12	54K	0							
SALT LAKE C.	89.82	47.3	12	59	1							
BUTTE	91.30	42.2	13	4	-1							
BOZEMAN	92.16	42.9	13	10	2							
TIKSI	92.66	347.3	13	7	-4							
RAPID CITY	96.94	46.2	13	31	1							
RESOLUTE	106.24	16.1	14	12	777						27	48 PS
OTTAWA	116.46	47.1	18	42	0							
SHAWINIGAN	118.42	45.6	18	46	1							
KIRUNA	125.58	347.5	18	59	0							
BULAWAYO	129.52	225.4	19	7	0							
NURMI JARVI	130.31	340.0	19	8	0						22	32 PKS
COLLMBERG	141.60	339.6	19	26	-3							
HALLE	141.77	340.7	19	31	2							
PRUHONICE	142.15	337.1	19	32	2						21	57
JENA	142.38	340.6	19	29	-1							
UCCLE	144.42	347.5	19	38	4							
KEW	144.55	352.6	19	33	-1							
ZAGREB	144.84	331.5	19	29	-6							
STUTTGART	145.02	341.1	19	35	0				19	55		

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DOURBES	145.03	346.8	19 36	1				
TUBINGEN	145.27	341.0	19 36	1				
LJUBLJANA	145.31	333.2	19 36K	0				
ATHENS	145.37	314.5	19 36K	0				
EBINGEN	145.61	340.8	19 37	1				
STRASBOURG	145.62	342.4	19 38K	2	20 0	23 9	PP	
TOLMEZZO	145.66	335.0	19 36	0				
TRIESTE	145.96	333.5	19 39	2				19 43 PKP2
PARIS	146.69	348.4	19 44A	6				23 8 PP
FOLINIERE	147.22	351.9	19 40	1				
NEUCHATEL	147.28	342.0	19 43	4				
PAVIA	148.16	337.9	19 44	4				35 39 PPS
PRATO	148.50	334.3	19 48	7				
CLERMONT-FD.	149.44	345.8	19 46	4				
ROME	149.46	330.4	19 46	4				23 33 PP
LEOPOLDVILLE	149.77	229.0	19 50K	7				
MONACO	150.04	338.6	19 49	6				
MESSINA	150.48	321.9	19 50	6				
SETIF	157.30	332.9	19 55	2	20 26			
TAMANRASSET	166.47	300.2	20 5	2	20 31	24 57	PP	

JULY 14 22.H 31.M 38.S EPICENTRE 0.02 119.88 DEPTH= 142.KM

DEPTH OF FOCUS= 0.017R

A=-0.49823 B= 0.86704 C= 0.00029 D= 0.8670 E= 0.4982  
G=-0.0001 H= 0.0003 K=-1.0000 HT= 7.2

SE= 1.87

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
BAGUIO CITY	16.31	2.4	3	42	0	6	44	7				
MEDAN	21.48	279.7	4	35	-3	8	36	14				
HONG KONG	22.84	346.3	4	56	5	8	57	11				
GUAM	28.03	60.5	5	39	0							
PORT MORESBY	28.71	109.8	5	43	-2							
CHARTERS TS.	32.61	129.2	6	20K	0	11	34	10				
SHILLONG	37.11	315.3	6	56A	-2							
ADELAIDE	38.97	155.0	7	13	0							
MATUSIRO	40.13	23.1	7	20A	-3	13	12	-6				
BRISBANE	41.95	133.4	7	40	2						17	5
CANBERRA	44.42	145.4	7	58A	0				8	5		
RIVERVIEW	44.65	142.1									8	35
KARAPIRO	63.51	133.2	10	17	0				10	27		
CAPE HALLETT	78.78	166.1	11	49	1							
SCOTT BASE	81.69	171.0	11	9	-54							
APATITY	88.62	337.5	12	39	1						23	5
SOUTH POLE	90.02	180.0	12	45	1							
COLLEGE	90.97	25.3	12	49	0							
SODANKYLA	91.24	337.3	12	49	-1							
BROKEN HILL	91.37	255.6	12	51	1							
ELISABTHVILLE	92.42	258.4	12	56	1							
BYRD STATION	95.11	171.3	13	0	-8						16	59 PP
RESOLUTE	102.60	8.9	13	40	-1	25	34	24			24	22 SKS
STUTTART	103.50	320.5	14	15	30						18	7 PP
TAMANRASSET	112.37	294.6	18	16	-2						19	2 PP
EUREKA	115.74	45.3	18	29	4						19	44 PP
PALISADES	137.29	15.4	19	6	0						21	54 PP
BERMUDA	147.49	7.2	19	27	3							
SAN JUAN	160.79	17.6	20	27	45							

JULY 16 15.H 17.M 28.S EPICENTRE 50.47-177.32 DEPTH= 0.KM

A=-0.63831 B=-0.02992 C= 0.76920 D=-0.0468 E= 0.9989  
G=-0.7684 H=-0.0360 K=-0.6390 HT= -5.6

SE= 1.87

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
PETROPAVLOVK	15.09	289.4	3	34	0	6	26	4				
MAGADAN	20.23	308.9	4	37	0							
COLLEGE	21.09	35.8	4	46	0	8	40	5				
SITKA	25.35	58.7	5	32	4							

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UGLEGORSK	26.04	282.8	5	34	0				
Y -SAKHLINSK	26.38	278.0	5	39	2				
YAKUTSK	30.71	312.5	6	14	-2	11	14	-3	
TIKSI	31.88	331.0	6	18	-9	11	30	-6	
ALBERNI	33.28	71.3	6	36	-3				
TUKUBASAN	33.59	261.5	6	41A	-1				9 21 PCP
VICTORIA	34.42	71.9	6	47	-2				
LILLOOET	34.47	67.6	6	27	-22				
MATUSIRO	34.58	263.6	6	49K	-1				9 37
BANFF	38.01	64.3	7	16	-3				
SHASTA	38.85	82.8	7	28K	2				9 37 PP
HUNGRY HORSE	40.12	67.6	7	38	1				
RESOLUTE	40.19	24.1	7	37	0	13	38	-5	9 15 PP
BERKELEY	40.55	86.3	7	41K	1				
RENO	41.13	82.5	7	47K	2				
LICK	41.26	86.5	7	47K	1				9 15 PP
BUTTE	42.13	70.0	7	53	0				
FRESNO	42.78	85.9	7	59	1				
BOZEMAN	43.22	69.6	8	3	1				
EUREKA	43.59	80.0	8	5	0				
SALT LAKE C.	45.42	75.9	8	21	1				
PASADENA	45.45	87.6	8	20	0				
PEKING	46.50	283.9	8	27	-1				
IRKUTSK	46.68	304.2	8	30	0				
KHEYS	46.75	349.5	8	21	-9				
ULAN-BATOR	47.57	297.9	8	38	1				
NORD	47.76	3.8	8	36	-2				
RAPID CITY	48.76	67.2	8	45	-1				
PAOTOW	49.94	288.2	8	56K	1				
TUCSON	51.35	84.2	9	30	24				
TUCSON TELE.	51.36	84.0	9	6	0				
LANCHOW	56.57	287.7	9	45	1	17	44	10	
FAYETTEVILLE	59.13	69.5	10	1	-1				
HONG KONG	59.54	268.7	10	5	0				
DALLAS	59.75	74.0	10	6	0				
APATITY	60.05	346.9	10	7	-1	18	18	-1	
CHENGTU	60.10	282.9	10	8	-1				
SODANKYLA	61.10	349.7	10	15	-1				10 29
KIRUNA	61.27	352.4				18	36	1	
SVERDLOVSK	62.86	328.4	10	27	0				
OTTAWA	62.91	50.8	10	25	-3				
SHAWINIGAN	63.52	48.3	10	30	-2				
BREBEUF	63.87	49.6	10	33A	-1				
SEVEN FALLS	64.02	46.8	10	34	-1				
MORGANTOWN	64.83	57.8	10	40	0				
KUNMING	64.88	279.4	10	39	-2				
PENNSYLVANIA	65.10	55.7	10	41	-1	19	28	6	
SKALSTUGAN	66.04	355.3	10	46	-2				
PALISADES	67.00	53.1	10	54	0	19	51	5	24 40 SS
PULKOVO	67.85	345.3	11	0	0	19	48	-8	
NURMI JARVI	67.96	348.5	11	0	0	19	59	2	11 26 PCP
COLUMBIA	68.28	62.7	11	2	0				
UPPSALA	69.37	352.0	11	8K	-1				39 11 PKPPKP
MOSCOW	70.25	339.9	11	12	-2				
NAMANGAN	70.79	311.5	11	17	-1				
SHILLONG	71.22	287.5	11	17K	-3				
CHITTAGONG	73.62	285.3	11	35	1				
COPENHAGEN	73.91	354.3	11	38	2	21	12	6	
RATHFARNHAM	76.33	5.5	11	48K	-2				15 55
LAHORE	76.78	303.7	11	53K	1				
POTSDAM	77.15	353.5	11	56	1				
MUNSTER	77.85	356.9	12	0	2				
HALLE	78.10	354.1	12	0	0	21	55	3	12 14
COLLMBERG	78.23	353.4	12	1	1				12 12
KEW	78.40	1.9	12	2	1				
LWOW	78.42	346.1	12	11	9				
BYTOM	78.61	349.5							13 38
JENA	78.69	354.3	12	3	0				12 38
KRAKOW	78.78	348.8	12	4	1				12 17 PCP
BENSBERG	78.88	357.1	12	4	0				
UCCLE	79.10	358.9	12	6	1				16 14 PKP
PRAGUE	79.34	352.3	12	9	2				
PRUHONICE	79.42	352.2	12	7A	0				
DOURBES	79.80	358.7	12	9	0				
IASI	80.37	343.1	12	13	1				
BRATISLAVA	80.96	350.3	12	14	-1				
STUTTGART	80.98	355.6	12	16	1				
TIFLIS	81.03	322.5	12	17	1	22	27	4	

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BACAU	81.10	343.4	12 48	32	
FOLINIÈRE	81.10	2.1	12 16	0	
TUBINGEN	81.23	355.7	12 18	1	
STRASBOURG	81.23	356.6	12 17	0	
EBINGEN	81.58	355.8	12 19	1	
QUETTA	81.69	308.0	12 19K	0	
CAMPULUNG	82.69	344.3	12 29	5	
NEUCHÂTEL	82.84	357.1	12 26	1	
LJUBLJANA	83.32	351.7	12 28	1	
TRIESTE	83.78	352.2	12 32	2	
BELGRADE	83.84	347.4	12 32A	2	
CLERMONT-FD.	84.14	359.7	12 34	2	
MONACO	86.09	356.6	12 42	1	
KARAPIRO	88.24	185.7	12 51K	-1	13 4
SAN JUAN	88.76	62.3	12 51	-3	
TOLEDO	89.83	5.2	12 49	-10	13 0
ADELAIDE	93.47	214.9	13 16A	0	
TAMANRASSET	107.03	357.3	18 2	777	18 42 PP
BYRD STATION	134.27	168.1	19 12	-5	23 16
ELISABTHVLE	136.28	323.6	19 23	2	
SOUTH POLE	140.28	180.0	19 22	-6	31 19
BULAWAYO	143.44	316.4	19 33	-1	
WINDHOEK	149.95	332.6	19 51	6	
PIETERMZBURG	150.55	304.5	20 52	67	
HALLEY BAY	152.21	164.7	19 53	5	
KIMBERLEY	152.62	314.1	19 57A	8	

JULY 16 19.H 13.M 58.S EPICENTRE -20.99 167.92 DEPTH= 0.KM

A=-0.91376 B= 0.19549 C=-0.35613 D= 0.2092 E= 0.9779  
G= 0.3483 H=-0.0745 K=-0.9344 HT= 4.4

SE= 2.97

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
NOUMEA	1.89	226.2	0	36A	2	1	15	16				
SUVA	10.30	75.9	2	30	-2	4	28	-1				
BRISBANE	15.04	241.7	3	36	1	6	36	12				
KARAPIRO	18.11	160.3	4	16	1							
TONGARIRO	19.29	161.9	4	40	11							
RABAUL	22.65	315.3	5	4	0							
PORT MORESBY	23.09	296.8	5	9K	1	9	25	9	5	18	5	48 PP
ADELAIDE	29.17	235.3	6	5	0							
GUAM	41.12	324.4	6	47	-60							
CAPE HALLETT	51.34	179.1	9	3	-5							
SCOTT BASE	56.91	180.3	9	29	-20							
LEMBANG	59.88	274.3	10	10	0							
MATUSIRO	63.74	333.6	10	32K	-4							
BYRD STATION	66.45	169.5	10	49	-4						11	14 PCP
SOUTH POLE	69.14	180.0	11	9	-1							
SHILLONG	87.10	298.6	12	48K	-1							
BERKELEY	87.85	48.0	12	57	5							
LICK	88.03	48.7	12	49A	-4							
FRESNO	89.07	49.9	12	58	0							
PASADENA	89.09	52.8	13	3	5							
SHASTA	89.12	45.5	13	0	1							
RENO	90.33	47.4	13	10K	6							
COLLEGE	92.08	17.3	13	9	-3							
EUREKA	92.97	48.8	13	15	-1							
TUCSON	93.93	57.1	13	22	1							
TUCSON TELE.	94.05	57.0	13	23	2							
RESOLUTE	111.98	16.5	18	34	-3						35	22 PSPS
OTTAWA	123.03	48.8	18	54	-5							
SHAWINIGAN	124.99	47.3	19	8	6							
APATITY	125.48	340.3	19	0	-3							
SEVEN FALLS	126.24	46.4	19	0	-5							
SAN JUAN	129.25	83.0	19	4	-7							
NURMI JARVI	132.84	336.2	19	16	-1						22	43 PKS
SKALSTUGAN	134.37	345.0	19	15	-5							
LEOPOLDVILLE	143.21	229.8	19	34A	-2							
COLLMBERG	143.96	333.1	19	34	-3						19	44
PRUHONICE	144.22	330.3	19	35K	-3							
HALLE	144.24	334.2	19	34	-4						20	49
ATHENS	144.81	306.7	19	36K	-3							
JENA	144.83	333.8	19	36	-3						20	5



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PLAUEN	144.91	332.9	19 33	-6	19 57
DURHAM	145.35	349.3	19 37K	-3	
SONNEBERG	145.40	333.5	19 38	-2	
MUNSTER	145.49	338.4	19 39	-1	19 50 PKP2
DE BILT	146.18	340.8	19 42	1	
BENSBERG	146.49	337.8	19 41	-1	19 52 PKP2
L JUBLJANA	146.88	325.2	19 43	1	19 55
RATHFARNHAM	147.44	353.5	19 39	-4	19 46 PKP2
STUTT GART	147.47	333.5	19 41	-2	
TRIESTE	147.55	325.3	19 45	2	20 2 PKP2
TUBINGEN	147.71	333.3	19 45	1	
EBINGEN	148.03	333.0	19 45	1	
DOURBES	148.09	339.5	19 44	0	19 55 PKP2
STRASBOURG	148.21	334.7	19 47	3	19 56 PKP2
KEW	148.22	346.0	19 45	0	
NEUCHATEL	149.80	333.7	19 50	3	
FOLINIERE	150.77	344.2	19 52	3	
MONACO	152.11	328.8	19 56	5	
CLERMONT-FD.	152.32	336.7	19 56	5	
SETIF	158.49	318.5	20 22	23	20 33 PKP2
TAMANRASSET	163.57	279.4	20 3	-1	24 43 PP

JULY 18 6.H 60.M 40.S EPICENTRE -21.83-179.34 DEPTH= 576.KM

DEPTH OF FOCUS= 0.086R

A=-0.92912 B=-0.01073 C=-0.36962 D=-0.0115 E= 0.9999  
G= 0.3696 H= 0.0043 K=-0.9292 HT= 4.2

SE= 1.63

	DELTA DEG.	AZ. DEG.	P M S	O-C S	M S O-C M S S	*PP M S	SUPP. M S
RAOUL ISLAND	7.50	170.5	1 53	-1	3 26 1		
APIA	10.74	43.3	2 26	0	4 19 -4		
ONERAHI	14.94	200.2	3 12	5	5 46 7		
KARAPIRO	16.64	194.3	3 24A	0			4 9
TONGARIRO	17.87	193.1	3 34	-1			
WELLINGTON	20.02	193.1	3 54	-2	6 57 -8		7 26
CORB RIVER	20.34	197.5			7 7 -4		
KAIMATA	22.04	198.4	4 37	23	7 30 -8		
GEBBIES PASS	22.81	195.1	4 16	-5	7 41 -10		
BRISBANE	25.71	251.8	4 49	2			
RIVERVIEW	28.61	238.9	5 12A	0			14 48 SCS
CANBERRA	30.74	237.1	5 30K	0			
CHARTERS TS.	32.15	266.8	5 42K	0	10 13 -3		
PORT MORESBY	34.47	285.7	6 1K	0		7 40	11 11 SCP
ADELAIDE	38.87	241.1	6 37K	0			7 6
GUAM	49.72	311.6	8 1	0			
SCOTT BASE	56.48	183.5	8 50	1			
BYRD STATION	63.55	170.3	9 36	0		11 33	
SOUTH POLE	68.31	180.0	10 9	4		12 12	
MATUSIRO	70.55	324.8	10 18K	-1		12 21	18 47
LEMBANG	71.77	269.8	10 25K	-1			
BERKELEY	80.00	42.4	11 11A	0			
LICK	80.07	43.2	11 12A	1			13 21 PP
ARGENTINE I.	80.24	157.2	11 10	-2			
PASADENA	80.50	47.4	11 13	0	20 37 4		
FRESNO	80.91	44.5	11 16	1			13 25 PP
HALLEY BAY	81.38	173.3	11 18	0			
SHASTA	81.65	40.1	11 20A	1			
MINERAL	81.91	40.7	11 20A	0			
RENO	82.53	42.2	11 24A	0			
TUCSON	84.71	52.4	11 36	2			
EUREKA	84.93	44.0	11 35	0		13 47	
COLLEGE	89.77	12.9	11 56	-2		14 7	
HUNGRY HORSE	90.94	37.3	12 2	-2			
RESOLUTE	109.41	16.3	17 24	777			32 48 SS
APATI TY	129.89	344.3					20 32 PP
BULAWAYO	130.15	215.2					20 34 PP
KIRUNA	132.36	350.0	18 8	-1			20 41 SKP
BROKEN HILL	134.79	219.6					20 52 PP
SKALSTUGAN	137.54	352.3					20 56 SKP
ELISABTHVILLE	137.63	220.9	18 22	3			21 0 SKP
NURMI JARVI	137.83	342.6	18 8	-11			20 59 SKP
TIFLIS	138.10	308.7					21 0 PP
UPPSALA	140.15	346.7	18 15	-8			

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LWIRO	143.55	232.5	18 31A	1					
SIMFEROPOL	144.17	318.0	18 21	-10					
LWOW	146.52	332.3	18 37	3					20 57
JENA	149.72	346.2					21 2		
PRUHONICE	149.84	342.0	18 55A	16					
SONNEBERG	150.32	346.3					21 6		
STUTT GART	152.26	347.8	18 46	3					
STRASBOURG	152.71	349.7	19 5	22			21 11		
LJUBLJANA	153.32	338.2					21 8		
TAMANRASSET	175.40	282.8	19 4	1					24 38 PP

JULY 18 19.H 55.M 2.S EPICENTRE 15.74 120.57 DEPTH= 146.KM  
 DEPTH OF FOCUS= 0.018R

A=-0.48971 B= 0.82914 C= 0.26964 D= 0.8610 E= 0.5085  
 G=-0.1371 H= 0.2322 K=-0.9630 HT= 5.6

SE= 2.11

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
BAGUIO CITY	0.67	1.1	0	22	-1	0	40	-1				
MANILA	1.22	160.9	0	27	0	0	45	-3				
HENGCHUN	6.23	1.6	1	31	0	2	47	6				
TAWU	6.58	2.7	1	20	-15							
KAOHSIUNG	6.85	357.7	1	36	-3							
TAITUNG	6.99	4.4	1	42	1							
TAINAN	7.23	357.5	1	44	0	4	35	90				
HSINKONG	7.36	5.8	1	45	-1	3	19	11				
YUSHAN	7.70	2.6	1	58	7							
ALISHAN	7.74	1.6	1	55	4							
PENGHU	7.80	353.1	1	46	-6							
HUALIEN	8.24	6.7	1	56	-2	3	42	12				
TAICHUNG	8.36	0.7	1	58	-1							
HONG KONG	8.89	318.1	2	6	0	3	44	-1				
HSINCHU	9.02	2.3	2	41	33							
ILAN	9.05	6.9	2	9	1							
TAIPEI	9.28	5.4	2	13	2	3	43	-11				
CANTON	10.02	317.8	2	21K	0							
PHU-LIEN	14.16	292.9	3	14K	-1	5	54	5				
ZO-SE	15.30	2.0	3	28A	-1	6	20	5				
NANKING	16.31	354.7	3	44A	2	6	44	6				
YAKUSIMA	17.24	30.2	3	57A	4	7	1	3				
KAGOSIMA	18.20	28.3	4	3	-1	7	21	2			15 31 SCS	
TOMIE	18.38	22.5	4	4A	-2	7	21	-2				
MIYAZAKI	18.90	29.6	4	13A	1	7	38	5				
NAGASAKI	18.91	24.9	4	10A	-2	7	35	1				
UNZENDAKE	19.06	25.7	4	19A	6	7	39	2				
KUNMING	19.13	301.8	4	15K	1	7	44	6				
KUMAMOTO	19.33	26.6	4	14	-2	7	45	3				
SAGA	19.53	25.1	4	22A	4							
ASOSAN	19.56	27.3	4	19	1							
HUKUOKA	19.87	24.9	4	21A	-1	7	56	4			15 39 SCS	
I TUHARA	19.98	21.6	4	18	-5	7	57	3				
OOITA	20.08	27.9	4	21	-3	7	58	2			15 42 SCS	
SIMIDU	20.35	31.3	4	26	-1	8	6	5				
SIMONOSEKI	20.40	25.4	4	26	-1	8	9	7				
UWAZIMA	20.51	29.8	4	32	4	8	14	10				
MATUYAMA	21.10	29.2	4	35	1	8	21	6			5 12	
KOTI	21.25	31.1	4	35A	-1	8	23	5				
MUROTO	21.34	32.8	4	39	3						5 23	
HIROSIMA	21.40	27.8	4	39	2	8	21	1			15 41 SCS	
HAMADA	21.69	26.3	4	42	2	7	57	-29				
TAKAMATU	22.12	30.8	4	43	-1	8	32	-1				
TOKUSIMA	22.19	32.2	4	58	13	8	37	3			15 46 SCS	
OKAYAMA	22.35	30.0	4	46	0	8	42	5				
SIOMISAKI	22.35	35.2	4	48	2	8	42	5				
SUMOTO	22.57	32.2	4	50K	2	8	46	5			5 51 PP	
MATSUE	22.59	27.4	4	49	0	8	48	7				
WAKAYAMA	22.62	32.9	4	49K	0	8	47	5			5 15	
YONAGO	22.70	27.9	4	51	1	8	35	-8				
KOBE	22.98	32.2	4	54	2	8	52	4			15 49 SCS	
OWASE	23.05	34.8	4	54	1	8	51	2				
OSAKA	23.14	32.8	4	59A	5	8	34	-17				
TOTTORI	23.16	29.3	4	55	1	8	57	6				
TORISIMA	23.28	47.5	4	57	2							

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NARA	23.32	33.2	4 57	1	9 1	7					15 54	SCS
ABUYAMA	23.33	32.5	4 56A	0								
SAIGO	23.34	26.8	4 57	1	8 58	4						
TOYOOKA	23.47	30.3	4 59	2	8 58	2					12 52	
GUAM	23.51	92.4	4 57	0	9 19	22	5 28				5 50	*SP
KYOTO	23.53	32.5	4 58A	0	9 0	3						
TU	23.72	34.2	5 0	0								
MAIZURU	23.74	31.4	5 0	0	9 7	6						
KAMEYAMA	23.79	34.0	5 1A	1	9 5	3						
HIKONE	23.99	33.0	5 3	1	9 11	6					15 56	SCS
TSURUGA	24.19	32.1	5 5K	1	9 10	1						
NAGOYA	24.30	34.2	5 8	3	9 16	6						
GIHU	24.36	33.5	5 5	-1	9 5	-7					15 55	SCS
HAMAMATU	24.38	36.1	5 9	3								
PEKING	24.50	351.8	5 6K	-1	9 14	0						
HATIDYOZIMA	24.55	41.8	5 4	-3								
OMAESAKI	24.58	37.0	5 8	0	9 22	7					7 13	
HUKUI	24.60	31.8	5 8	0								
MEDAN	24.69	242.9	5 10	1								
SHIZUOKA	24.95	36.6	5 11	0	9 15	-6					15 56	SCS
LANCHOW	25.17	326.7	5 19K	6	9 32	7						
MISIMA	25.37	37.1	5 14	-1	9 24	4					15 57	SCS
OSIMA	25.38	38.3	5 15	0							16 0	SCS
AJIRO	25.41	37.4	5 19	4								
KOHU	25.52	35.8	5 16	0	9 30	-1					16 0	SCS
HUNATU	25.54	36.2	5 16	-1	9 32	1					16 0	SCS
TOYAMA	25.58	32.2	5 13	-4	9 29	-3						
MATUMOTO	25.64	34.0	5 17	-1	9 33	0					16 3	SCS
DJAKARTA	25.68	213.0	5 14K	-4	9 36	3						
MERA	25.75	38.6	5 24	5								
LEMBANG	25.83	210.7	5 19K	0	9 39	3						
WAZIMA	25.96	30.8	5 18	-3	9 39	1					16 2	SCS
YOKOHAMA	26.00	37.5	5 22	1							10 36	
MATUSIRO	26.00	33.9	5 17A	-4	9 29	-10	5 44				8 46	
OIWAKE	26.02	34.6	5 19	-2							6 18	
TITIBU	26.06	35.9	5 20	-1							16 2	SCS
NAGANO	26.08	33.6	5 21	-1	9 39	-1					16 4	SCS
TOKYO C.M.O.	26.23	37.2	5 20	-3	9 40	-2					6 3	PP
HONGO	26.26	37.2	5 25	2	9 56	13					6 12	
KUMAGAYA	26.35	36.0	5 25	1							6 23	PP
MAEBASI	26.35	35.2	5 21K	-3							16 2	SCS
TAKADA	26.43	33.1	5 23	-2	9 43	-3						
TUKUBASAN	26.81	36.8	5 23	-5	9 42	-10					6 0	PP
KAKIOKA	26.86	36.9	5 23	-6								
UTUNOMIYA	26.91	36.0	5 27	-2	9 43	-11					6 13	PP
AIKAWA	27.13	31.7	5 32	1							6 12	PP
MITO	27.14	37.0	5 30	-1							16 8	SCS
PORT BLAIR	27.34	265.0	5 33	0	10 3	2					6 13	PP
NIIGATA	27.46	32.9	5 37	3	10 4	2					6 20	PP
SHIRAKAWA	27.51	35.6	5 33	-2	9 58	-5					16 8	SCS
ONAHAMA	27.78	36.7	5 37	0	10 2	-6					6 33	PP
CHITTAGONG	27.93	288.1	5 38K	-1	10 22	12					6 29	PP
HUKUSIMA	28.10	35.0	5 39	-1	10 10	-3					16 10	SCS
CHANGCHUN	28.28	7.3	5 41K	-1	10 11	-5						
YAMAGATA	28.40	34.1	5 42	-1	10 16	-1					16 12	
SHILLONG	28.52	294.7	5 42K	-2	10 14	-5					6 27	PP
SAKATA	28.60	32.5	5 44	-1	10 20	-1					16 19	SCS
SENDAI	28.71	34.7	5 44	-2	10 19	-3					16 12	SCS
VLADIVOSTOK	28.96	17.3									6 48	
ISINOMAKI	29.06	35.0	5 47	-2	10 24	-4					16 14	SCS
AKITA	29.35	31.7	5 51	0	10 34	1					16 15	SCS
MIZUSAWA	29.46	33.7	5 50	-2	10 29	-5						
MORIOKA	29.89	33.0	5 55	-1	10 38	-3					16 18	SCS
MIYAKO	30.28	34.0	5 57	-2	10 42	-5						
LHASA	30.44	302.1	6 1K	0								
AOMORI	30.53	31.1	6 0	-2							16 22	SCS
HATINOHE	30.69	32.3	6 1	-2	10 49	-5					7 12	PP
CALCUTTA	31.14	287.6	6 4A	-3	11 3	2						
HAKODATE	31.23	29.8	6 8A	0	11 4	2					16 27	SCS
MORI	31.40	29.2	6 11	2	11 4	-1						
MURORAN	31.77	29.4	6 8	-4	11 14	4					16 27	SCS
SUTTSU	31.79	28.0	6 12	-1	11 6	-5					7 27	PP
TOMAKOMAI	32.20	29.8	6 17	1	11 19	2						
URAKAWA	32.52	31.5	6 19	0	11 23	1					16 28	SCS
SAPPORO	32.52	28.9	6 18A	-1	11 15	-7					7 26	PP
OBIHIRO	33.29	31.0	6 26	0	11 35	1						
ASAHI GAWA	33.54	29.1	6 29	1	11 41	3					16 41	SCS
BOKARO	33.62	289.4	6 18K	-10	11 42	3					7 33	PP

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KUSIRO	33.94	32.1	6 31A	0	11 40	-4				16 38 SCS
ULAN-BATOR	34.01	343.5	6 31	-1						
WAKKANAI	34.50	26.6	7 36	60						12 55
ABASHIRI	34.64	30.7	6 36	-1	11 55	0				16 44 SCS
NEMURO	34.80	32.7	6 39	1	11 54	-3				16 41 SCS
VIZIANAGRAM	35.55	279.2	6 46K	1						
Y.-SAKHLINSK	36.15	26.0	6 50	0	12 17	-1				7 56
PORT MORESBY	36.29	131.8	6 50A	-1	12 14	-6	7 26			7 44 *SP
RABAUL	37.03	119.8	6 58	1	12 34	3				8 31 PCP
IRKUTSK	38.66	344.0	7 11K	0	12 56	0				8 46 PP
MADRAS	39.18	271.4	7 15K	0	13 2	-2				8 49 PP
HYDERABAD	40.34	278.5	7 29K	4	13 25	4				8 46 PP
COLOMBO	40.80	262.3	7 25	-3	13 20	-8				
AGRA	41.01	293.3	7 33K	3	13 38	7				9 25 PP
DEHRA DUN	41.48	298.1	7 36	2	13 34	-4				9 13 PP
KODAIKANAL	42.29	268.0	7 45K	4	14 51	61				9 49
CHARTERS TS.	43.59	143.8	7 51K	0	14 2	-7				
POONA	44.64	280.6	7 59	0	14 21	-3				9 49 PP
LAHORE	44.84	299.0	8 2K	1						
BOMBAY	45.59	281.2	8 7	0	14 41	4				9 58 PP
SEMIPALATNSK	47.38	325.8	8 20	-1	15 2	-1				10 14 PP
WARSAK DAM	47.56	301.8	8 21K	-2						
FRUNSE	47.57	314.3	8 22	-1	15 8	3				16 18 *SS
PERTH	47.64	185.5	8 22	-1	15 3	-3	9 0			10 11 PP
PETROPAYLOVK	47.78	30.1	8 23	-1	15 6	-2				18 46 SS
MAGADAN	49.02	19.9	8 36	2	15 26	0				10 32 PP
STALINABAD	50.63	307.2	8 45	-1						15 54
KARACHI	50.75	290.6	8 47K	0						9 7
TASHKENT	50.88	310.7	8 49	1	15 55	4				
QUETTA	50.99	296.2	8 48K	-1	15 56	3				10 38 PP
ADELAIDE	53.26	161.4	9 3K	-3	16 22	-2	9 42			13 58 SCP
BRISBANE	53.27	143.5	9 3A	-3	16 21	-3				
RIVERVIEW	57.27	149.8	9 34A	0	17 19	2				
CANBERRA	57.50	152.5	9 35K	-1	17 20	0	10 12			18 3 PS
MELBOURNE	58.01	157.3	9 38	-2	17 28	1				10 26 PCP
ASHKABAD	58.67	305.0	9 44K	0						11 57 PP
NOUMEA	58.73	128.9	9 44	-1	17 38	2				
SVERDLOVSK	60.63	326.9	9 57	-1	17 58	-2				12 9 PP
GORIS	68.09	306.6	10 46	0						19 36 SCS
TIFLIS	69.14	309.1	10 52	0						13 25 PP
KHEYS	70.91	350.1	10 58	-5						13 46 PP
ONERAHI	72.21	136.4	11 16	5	20 23	3				
APIA	73.03	110.0	11 26	10	20 35	6	12 16			
MOSCOW	73.18	324.1	11 15	-1	20 27	-4	12 6			13 58 PP
KARAPIRO	74.20	137.7	11 22K	0						14 8 PP
KAIMATA	74.46	143.5	11 28	4						
APATITY	74.49	336.5	11 22K	-2	20 42	-3	12 4			14 6 PP
ROXBURGH	75.27	146.9			20 50	-4				21 30 PS
WELLINGTON	75.68	140.9	11 30K	-1	20 55	-4				21 44 PS
TUAI	75.75	137.7	11 28	-3						
GEBBIES PASS	75.90	143.8	11 31	-1						
COLLEGE	76.57	26.0	11 34	-2	21 5	-3				22 6 SCS
SIMFEROPOL	76.57	313.2	11 36K	0	21 8	0	12 30			11 54 PCP
PULKOVO	76.68	328.7	11 35	-1	21 6	-3				14 33 PP
KSARA	77.08	301.7	11 42	3	21 23	9	12 28			14 44 PP
SODANKYLA	77.11	336.7	11 37	-2	21 14	0				14 43 PP
JERUSALEM	78.00	299.8	10 37A	-67	20 26	-58				
KERGUELEN I.	78.66	211.0	11 50	3	21 37	6				
HELSINKI	79.25	329.6	11 50	0	21 33	-4				16 17 PP
NURMI JARVI	79.32	329.9	11 51	0	21 37	-1				14 41 PP
KIRUNA	79.33	337.7	11 50K	-1	21 35	-3				14 54 PP
TANANARIVE	79.67	247.0	11 53	0	21 46	5				14 55 PP
IASI	80.63	316.4	11 56	-2	21 53	2				22 10
NORD	80.63	354.2	11 56	-2	21 47	-4				30 15 SSS
FOCSANI	81.22	314.9	12 4	3	22 3	6				
BACAU	81.22	315.8	12 1A	0	22 2	5				
WILKES	82.06	184.1	12 8	3						15 4 PP
LWOW	82.28	319.5	12 6	0	22 5	-3				15 20 PP
BUCHAREST	82.28	313.9	12 12A	6	23 12	64				22 14 SKS
CAMPULUNG	82.80	314.9	12 11A	2	23 3	50				22 15 SKS
UPPSALA	82.88	330.3	12 7K	-2	22 10	-4	12 57			16 12 PP
WARSAW	83.43	322.4	12 12K	0	22 16	-4				15 26 PP
SKALSTUGAN	83.92	334.7	12 13K	-2	22 24	0				30 28 PKKP
SITKA	84.41	32.2	12 19	2	22 30	1				15 39 PP
MIRNY	84.58	190.7	12 17	-1	22 26	-5				15 38 PP
SOFIA	84.68	312.7	12 18	0	22 45	13				15 42 PP
KRAKOW	84.75	320.5	12 18	-1	22 29	-4				15 36 PP
SKALNATE PL.	84.82	319.6	12 23A	4	22 28	-5				

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BYTOM	85.27	321.0	12 22	1							
ATHENS	85.73	308.1	12 22K	-2	22 42	0					
RACIBORZ	85.79	320.9	12 24K	0	22 36	-7			24 33	PPS	
BELGRADE	86.04	315.4	12 26K	1	22 48	3			15 51	PP	
SKOPJE	86.26	312.5	12 25A	-1	22 36	-11			15 57	PP	
HURBANOVO	86.53	318.8	12 31A	3	22 55	5			15 42	PP	
COPENHAGEN	86.98	327.4	12 29	-1	22 56	2			15 59	PP	
RESOLUTE	87.05	8.9	12 30K	0	22 40	-15			28 38	SS	
BRATISLAVA	87.12	319.3	12 31A	1	22 52	-3			15 48	PP	
VIENNA-H.	87.55	319.6	12 33	1	23 3	4			22 47	SKS	
POTSDAM	87.96	324.2	12 35	1	23 6	3	13 12		16 4	PP	
PRUHONICE	88.03	321.6	12 42K	7	23 12	8			16 12	PP	
PRAGUE	88.07	321.7	12 34K	-1	23 6	2			15 56	PP	
BERGEN	88.28	333.3	12 35	-1	23 4	-2			22 50	SKS	
COLLMBERG	88.43	323.2	12 36	-1	23 10	3			15 58	PP	
ZAGREB	88.67	317.4	12 38K	0	23 11	1			22 53	SKS	
HALLE	88.95	323.7	12 40	1	23 14	2	13 20		16 3	PP	
PLAUEN	89.24	322.7	12 37	-3	23 16	1	13 14		16 10	PP	
CHEB	89.28	322.3	12 35	-6					16 20	PP	
JENA	89.40	323.2	12 41	0	23 16	0	13 15		16 9	PP	
LJUBLJANA	89.54	318.0	12 42K	0					16 23	PP	
TARANTO	89.71	312.1	12 53	10	23 3	-16					
SCORESBY SD.	90.17	348.2	12 43	-2	23 22	-1			16 17	PP	
TRIESTE	90.19	317.8	12 44K	-1	23 23	-1			16 23	PP	
TOLMEZZO	90.36	318.7	12 47	1	23 29	4	12 59				
MUNSTER	91.17	325.3	12 48	-1					16 30		
REGGIO CALA.	91.71	310.3	12 51	-1	23 9	-28			23 39		
STUTTGART	91.71	321.9	12 52	0	23 40	3			16 33	PP	
MESSINA	91.75	310.4	12 51	-1	23 58	21			16 36	PP	
BENSBERG	91.89	324.5	12 52	-1	23 11	-28					
RAVENSBURG	91.90	320.9	12 52	-1	23 45	6			23 9	SKS	
TUBINGEN	91.90	321.8	12 52K	-1	23 41	2			16 34	PP	
EBINGEN	92.11	321.5	12 53	-1	23 43	2			16 37	PP	
BOLOGNA	92.22	317.5	12 52	-2	23 16	-25			17 1	PP	
LWIRO	92.30	268.3	12 55A	0					25 28		
DE BILT	92.43	326.1	12 56	1	23 45	2			16 40	PP	
ROME	92.51	314.7	12 55K	-1	23 15	-29			16 39	PP	
PRATO	92.63	317.0	12 58	2	23 48	3					
STRASBOURG	92.65	322.2	12 55	-1	23 45	0			16 41	PP	
BASLE	93.24	321.3	12 56	-3	23 51	1					
ABERDEEN	93.27	332.7			23 19	-32			16 45	SS	
PAVIA	93.32	318.7	12 59K	0	23 21	-30			16 45	PP	
ALBERNI	93.38	36.6	12 56	-4							
UCCLE	93.53	325.2	13 0	0	23 20	-33					
DOURBES	93.74	324.5	12 59	-2	23 22	-33					
CAPE HALLETT	93.80	166.5	13 3	1	23 24	-31			16 49	PP	
NEUCHATEL	93.87	321.1	13 2	0	23 20	-36					
HORSESHOE B.	94.20	36.0	13 4	1					14 5		
DURHAM	94.42	330.5	13 4K	0	24 7	7			16 53	PP	
VICTORIA	94.55	36.8	13 5	0							
SIDA	94.56	342.9	13 7	2					16 54	PP	
LCO. MARQUES	94.97	244.6	13 7A	0	23 35	-30			31 16	SS	
MONACO	95.08	318.0	13 7A	0							
REYKJAVIK	95.32	344.4	13 8K	0	24 16	8			17 6	PP	
PARIS	95.58	324.1	13 10	0	24 13	3					
KEW	95.67	327.4	13 9K	-1	24 8	-3			17 1	PP	
BROKEN HILL	95.80	256.7	13 11	0					13 30		
ELISABTHVLE	96.07	259.7	13 12	0	24 20	6			17 10	PP	
CLERMONT-FD.	96.78	321.3	13 14	-1	24 25	4					
SCOTT BASE	97.02	171.1	13 18	2	24 26	3			14 23	*SP	
BULAWAYO	97.08	251.1	13 16	0							
FOLINIERE	97.26	325.2	13 16	-1					17 5	PP	
BANFF	97.39	31.8	13 17	-1							
RATHFARNHAM	97.52	331.0	13 21	3					17 12	PP	
PIETERMZBURG	97.76	241.5	13 2	-18							
ARCATA	97.87	43.8			23 49	-41					
JERSEY	97.91	326.1	17 19	777					31 18		
SHASTA	99.07	43.3	13 27K	1	23 57	-43			29 54	PKKP	
UKIAH	99.29	45.0	13 27	1					17 24	PP	
MINERAL	99.77	43.3	13 29	0	23 52	-54			30 16	SS	
HUNGRY HORSE	99.86	33.5	13 30	1	23 56	-50			17 35	PP	
SETIF	99.94	312.0	13 28	-1	23 59	-48			17 34	PP	
BANGUI	100.27	277.5	13 34	3							
BERKELEY	100.56	45.7	13 32	0	23 58	-54	14 10		17 39	PP	
TORTOSA	100.99	318.0	13 36	2	24 0	-56					
SASKATOON	101.01	27.4	17 24	777					23 58		
LICK	101.25	46.0	13 36A	1	23 49	-69			30 12	SS	
ALGIERS UNI.	101.33	313.4	13 34	-2	24 59	0			17 30	PP	
RENO	101.37	43.3	13 39A	2	24 8	-51			30 11	SS	

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VINEYARD	101.72	46.4	13	41	4						30	10	SS
BUTTE	102.07	34.8	13	40	1	24	5	-60			32	25	SS
KIMBERLEY	102.37	243.4	13	42	2								
FRESNO	102.80	45.7	13	44A	2	24	11	-60			29	45	PKKP
ALICANTE	102.94	316.3	13	46	3	25	30	18			18	4	PP
BOZEMAN	103.12	34.4	13	46	2						29	43	PKKP
RELIZANE	103.59	313.6	13	46	0						17	54	PP
EUREKA	103.90	41.7	13	48	1	24	10	-70	14	31	18	9	PP
TOLEDC	104.40	319.2	13	51A	2	25	31	7			18	10	PP
ALMERIA	105.08	315.9	13	55	777	25	37	0			18	17	PP
PASADENA	105.29	47.3	13	56	777	24	23	0			17	50	PP
SOUTH POLE	105.64	180.0	14	2	777	24	29	-50			17	25	PKP
GRANADA	105.65	316.7	13	59A	777	25	59	0			18	20	PP
SALT LAKE C.	105.70	38.7	13	58	777						18	29	PP
TAMANRASSET	105.81	299.7	13	57	777	25	40	0			18	10	PP
LEOPOLDVILLE	105.91	269.9				24	25	0			17	29	PP
SERRA PILAR	106.42	322.4									18	24	PP
COIMBRA	106.90	321.5									18	27	PP
HERMANUS	107.95	238.4				24	38	0			18	41	PP
LISBON	108.26	320.7									18	36	PP
RAPID CITY	108.32	31.7	14	7	777						18	33	PKP
BYRD STATION	110.44	170.7	14	20	777	24	46	6	15	8	18	20	PKP
TUCSON	111.46	45.4	18	22	5	24	54	10			19	0	PP
LAWRENCE	116.09	30.5	14	40	777								
SEVEN FALLS	116.60	8.7	18	30	3						19	37	PP
SHAWINIGAN	116.84	10.3	18	27	0						19	36	PP
CHIHUAHUA	116.91	45.8	18	8	-19						23	26	
OTTAWA	117.38	12.9	18	29	1	25	10	4			19	39	PP
HALLEY BAY	117.68	188.9	18	28	-1								
BREBEUF	117.71	11.2	18	21	-8						27	16	
PONTA DELGDA	118.07	330.0	18	30	1						19	48	PP
FAYETTEVILLE	118.86	31.8	18	30	-1								
CLEVELAND	119.50	19.0	18	35K	3						25	11	SKS
HALIFAX	119.81	3.4	18	34	1	25	16	1			29	24	PS
DALLAS	119.92	36.1	18	36	3								
PENNSYLVANIA	121.20	16.3	18	38	2	25	26	7			20	8	PP
PALISADES	121.96	12.9	15	9	777	25	27	5			20	11	PP
FORDHAM	122.12	12.9	18	4	-33	24	52	-31					
WASHINGTON	123.19	16.4	18	41	2	25	22	-4			20	8	PP
CHAPEL HILL	125.37	19.5	18	42	-2						20	38	
COLUMBIA	126.42	22.3	18	48	2	25	40	4			20	40	PP
TACUBAYA	127.56	49.6	18	54	6	26	2	23			21	14	PP
MBOUR	128.45	303.3	18	54	4	25	52	11					
VERA CRUZ	129.91	47.4									22	12	
ARGENTINE I.	130.43	177.3	18	56	3						22	5	
OAXACA	130.85	50.1									22	10	
BERMUDA	131.89	6.0	18	54	-2	25	58	8			21	17	PP
MERIDA	133.01	40.0									22	18	
PORT STANLEY	144.11	181.7	19	18	0								
SAN JUAN	145.46	11.2	19	22	1				20	10			
BALBOA HTS.	148.38	40.4	19	27	1						29	37	SKKS
GALERAZAMBA	149.34	31.7	19	35	8						29	48	SKKS
FORT FRANCE	149.67	3.3	19	31	4								
ST. VINCENT	151.22	3.7	19	34	4								
BARBADOS	151.32	0.3	19	33	3								
TRINIDAD	153.70	4.4	19	36	3								
CHINCHINA	153.92	39.2	19	39	6						20	1	PKP2
FUQUENE	154.61	35.0	19	39	5								
BOGOTA	155.11	36.8	19	40	5						20	3	PKP2
HUANCAYO	164.14	78.6	19	51	6						25	14	PP
LA PAZ	171.61	96.3	19	49K	-1						25	16	PP

JULY 19 3.H 42.M 4.S EPICENTRE -6.65 105.28 DEPTH= 0.KM

A=-0.26176 B= 0.95826 C=-0.11501 D= 0.9647 E= 0.2635  
G= 0.0303 H=-0.1109 K=-0.9934 HT= 6.9

SE= 2.49

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
DJAKARTA	1.61	73.3	0	31K	2	0	52	1				
LEMBANG	2.33	94.6	0	44K	4							
MEDAN	12.11	326.9	3	2	6	5	23	10				
MANILA	26.22	36.4	5	44	6	10	24	15				
PERTH	27.03	160.0	6	5	20	10	43	21			11	15



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BAGUIO CITY	27.47	33.3	5 56	7	11 2 33	
CANTON	30.56	14.6	6 11	-6		
KUNMING	31.61	355.5	6 27	1		
CHITTAGONG	31.70	335.8	7 26	59	13 28 112	
SHILLONG	34.58	338.3	6 51A	-1		
LHASA	38.59	339.9	7 27	1	13 17 -6	
POONA	39.83	309.4	7 38	2		
ZO-SE	40.50	21.2	7 40	-2		
NANKING	40.59	17.8	7 43	1		
SIAN	40.82	4.6	7 43	-1		
PORT MORESBY	41.53	96.6	7 49A	-1	13 59 -8	9 6 PP
ADELAIDE	41.70	137.1	7 52K	0		9 48
CHARTERS TS.	41.90	112.6	7 52	-1	14 5 -7	
LANCHOW	42.52	358.3	7 59	1		
AGRA	42.71	323.0	7 58A	-2	14 16 -8	
GUAM	44.00	62.9	8 8	-2		
MELBOURNE	47.51	136.7	8 39	1		
PEKING	47.52	11.3	8 38	0		
KARACHI	49.21	312.5	8 49A	-2		
CANBERRA	49.21	131.7	8 52A	1		9 14
BRISBANE	49.75	120.5	8 54A	-2	15 58 -7	
ABUYAMA	50.22	32.7	9 0A	1		
RIVERVIEW	50.25	129.0	8 59A	0	16 7 -5	
WARSAK DAM	51.51	323.9	9 10A	1		
QUETTA	51.88	317.0	9 12A	0	16 32 -2	11 8 PP
MATUSIRO	52.91	33.3	9 16A	-4	16 32 -16	11 14 PP
CHANGCHUN	53.41	18.0	9 22A	-1		
TUKUBASAN	53.72	34.9				10 30 PCP
ULAN-BATOR	54.35	1.3	9 30	0		
NAMANGAN	56.55	329.8	9 45	-1		
FRUNSE	56.64	333.3	9 45	-2	17 34 -4	
TANANARIVE	57.37	251.9	10 3	11		
IRKUTSK	58.69	359.3	10 0	-1		
WILKES	59.57	177.5			18 11 -6	21 55 SS
NOUMEA	60.86	111.7	10 14	-2		
Y. -SAKHLINSK	62.84	27.9	10 27	-2		
TERRE ADELIE	64.96	165.1	10 38	-5		
KAIMATA	68.01	133.2	11 9	6		
ONERAHI	69.19	125.6	11 12	2		
KARAPIRO	70.38	127.8	11 16A	-1		
TONGARIRO	70.54	129.1	11 17	-1		
YAKUTSK	71.03	11.9	11 19	-2	20 27 -10	
GORIS	71.12	315.5	11 21	-1	20 35 -3	
MAKHACH-KALA	71.90	319.2	11 24	-2	20 43 -4	
SVERDLOVSK	73.00	336.2	11 33	0	20 56 -4	
TIFLIS	73.13	317.1	11 34	0	21 0 -1	
PETROPAVLOVK	74.61	30.1	11 40	-2		
MAGADAN	75.20	22.1	11 54	8		
BULAWAYO	75.25	251.0	11 46	0		
ELISABTHVLE	76.84	259.6	11 56	1		
KSARA	76.86	306.8	12 0	5	21 36 -7	14 52 PP
SOTCHI	77.31	317.3	11 57	-1	21 41 -6	
SCOTT BASE	77.71	169.0	11 59	-1		12 18 PCP
TIKSI	79.66	7.4	12 11	1		
SIMFEROPOL	81.56	317.2	12 20	0		
MOSCOW	83.17	328.2	12 28	-1		
SOUTH POLE	83.40	180.0	12 28	-2		12 41
WINDHOEK	85.81	247.9	12 1	-41		
BUCHAREST	86.94	315.2			23 30 4	
ATHENS	87.43	308.5	12 51K	1		
PULKOVO	88.21	330.7	12 53	-1	23 34 -3	
APATITY	89.27	338.6	12 57A	-2	23 40 -7	
LWOW	89.42	320.2	12 59	-1	23 46 -3	
LEOPOLDVILLE	89.53	265.7	13 1A	1	23 49 -1	
KHEYS	90.55	352.0	13 2	-3		
BYRD STATION	90.56	172.9	13 5	0		16 37 PP
HELSINKI	90.92	330.5	13 6	0		
NURMIJARVI	91.14	330.8	13 8	1	23 59 -5	14 4
WARSAW	91.69	322.2	13 10	0	24 6 -3	16 46 PP
SODANKYLA	91.74	337.7	13 10	0		
KRAKOW	92.06	320.0	13 12	0		16 52 PP
KIRUNA	94.16	337.7	13 20A	-1	23 49 -42	
UPPSALA	94.51	329.6	13 22	-1		17 7 PP
LJUBLJANA	95.26	315.6	13 26A	0		17 19 PP
PRUHONICE	95.51	319.6				17 25 PP
PRAGUE	95.59	319.7				17 21 PP
COLLMBERG	96.56	320.8	13 34	2		
SKALSTUGAN	97.24	333.2	13 35A	0		

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JENA	97.45	320.4	13	38	2						17	32	PP
STUTTGART	98.97	318.2	13	43	0						17	43	PP
TAMANRASSET	101.52	291.8	13	56	1						17	56	PP
SETIF	101.86	305.5									18	2	
COLLEGE	103.14	24.8	14	0	-2						18	12	PP
RESOLUTE	111.02	5.6	18	35	0	25	12	-4			19	12	PP
MBOUR	122.82	282.8									20	24	PP
SHASTA	125.68	43.8	19	4	1						20	52	PP
MINERAL	126.38	43.9	19	6K	1								
HUNGRY HORSE	126.76	31.8	19	6	1								
BERKELEY	126.94	46.9	19	9	3								
LICK	127.61	47.3	19	9K	2								
RENO	127.97	44.0	19	10K	2								
BUTTE	128.98	33.4	19	8	-2								
FRESNO	129.18	47.2	19	12	2								
BOZEMAN	130.03	32.9	19	14	2								
EUREKA	130.61	42.2	19	13	0								
PASADENA	131.48	49.6	19	16	2						22	36	
TUCSON	137.83	48.1	19	30	4						22	19	PP
SEVEN FALLS	139.54	355.9	19	22	-7								
SHAWINIGAN	140.21	357.9	19	22	-8								
BREBEUF	141.29	358.8	19	26	-6								
OTTAWA	141.39	1.1	19	26	-6								
LAWRENCE	142.87	26.9	19	32	-3								
CLEVELAND	144.79	8.9	19	38	0								
FAYETTEVILLE	145.70	28.6	19	35	-5								
PALISADES	145.78	358.9	19	41	1						23	0	PP
FORDHAM	145.94	358.9	19	8	-32								
DALLAS	146.83	35.3	19	44	2								
WASHINGTON	147.82	3.4	19	45	2								
CHAPEL HILL	150.60	7.2	19	51	3								
COLUMBIA	152.16	11.3	19	52	2								
BERMUDA	152.74	341.2	19	52	1						23	40	PP
LA PAZ	156.09	195.8	19	59	4								
HUANCAYO	161.41	178.1	20	6	4								

JULY 19 13.H 44.M 53.S EPICENTRE -23.81-179.96 DEPTH= 516.KM

DEPTH OF FOCUS= 0.076R

A=-0.91591 B=-0.00066 C=-0.40138 D=-0.0007 E= 1.0000  
G= 0.4014 H= 0.0003 K=-0.9159 HT= 3.7

SE= 2.85

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.		
			M	S		M	S	O-C S	M	S	M	S	
RAOUL ISLAND	5.72	161.8	1	35	-1								
APIA	12.61	39.3	3	12	26	4	46	-13					
ONERAHI	12.89	201.1	2	50	1								
KARAPIRO	14.59	194.3	2	36	-30	5	14	-22					
TUAI	15.15	188.7				5	45	-1					
TONGARIRO	15.82	193.0	3	5	-13								
WELLINGTON	17.97	193.0	3	39	-1	6	37	1					
COBB RIVER	18.28	197.9	3	42	-1	6	43	1					
KAIMATA	19.99	198.9	4	5	6	7	8	-3					
GEBBIES PASS	20.75	195.3	4	4	-2	7	27	4					
BRISBANE	24.61	255.7	4	40	-1								
RIVERVIEW	27.13	241.9	5	14	11								
CANBERRA	29.22	239.8	5	22K	1								
CHARTERS TS.	31.53	270.2	5	41	0	10	13	-1					
MELBOURNE	33.00	236.7	5	54	1								
ADELAIDE	37.44	243.2	6	30K	0								
SCOTT BASE	54.47	183.4	8	41A	0								
BYRD STATION	61.70	170.1	9	28	-2				11	13			
SOUTH POLE	66.34	180.0	9	58	-1								
BERKELEY	81.84	42.5	11	23	-3								
LICK	81.90	43.2	11	26	0								
PASADENA	82.25	47.5	11	29	1								
SHASTA	83.53	40.2	11	34	-1								
MINERAL	83.78	40.9	11	35A	-1								
RENO	84.37	42.4	11	49	10								
TUCSON	86.37	52.5	11	50	2				13	46			
EUREKA	86.75	44.2	11	44	-6				13	40			
COLLEGE	91.82	13.1	12	11	-3				14	10			
SODANKYLA	133.40	346.2									20	57	PP
KIRUNA	134.20	349.4									20	59	PP



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BUTTE	71.78	330.6	11	2K	-1	20	7	2	11	49	28	43	SSS
MINERAL	72.81	321.5	11	8K	-1	20	25	8			12	17	*SP
UKIAH	73.07	319.7	11	10K	0	20	23	3	12	2	38	50	PKPPKP
SHASTA	73.50	321.4	11	11K	-2	20	35	10					
SASKATDON	74.00	337.8	11	13	-3	20	36	6					
HUNGRY HORSE	74.16	331.5	11	15K	-1	20	20	-12	12	7	13	59	PP
ARCATA	74.64	320.8	11	21	2	20	41	4					
SOUTH POLE	74.90	180.0	11	19	-2						14	9	PP
BANFF	76.87	332.8	11	24	-8								
LISBON	78.48	44.5	11	42A	1	21	21	2	12	34	14	42	PP
VICTORIA	78.90	327.3	11	42	-1								
HORSESHOE B.	79.36	328.0	11	45	0								
LILLOOET	79.52	329.6	11	24	-22								
COIMBRA	79.70	43.5	11	48K	1	21	35	3	12	39	22	48	PS
SERRA PILAR	80.06	42.6	11	42A	-7	21	26	-9	12	36	14	47	PP
ALBERNI	80.09	327.3	11	46	-3								
HERMANUS	81.37	123.3	12	0	4	21	48	-1			23	13	PS
GRANADA	81.63	48.0	11	55K	-2	21	49	-2	12	51	14	51	PP
SCOTT BASE	81.72	190.4	11	57	-1	21	57	5	12	49	22	57	PPS
LUANDA	81.73	96.9	12	0A	2	21	54	2	12	53	12	6	PCP
WINDHOEK	82.15	111.2	12	0A	0								
ALMERIA	82.30	48.7	12	0	-1	21	59	1	12	49	15	9	PP
TOLEDO	82.51	45.4	12	2A	0	21	58	-2	12	56	15	58	PP
TAMANRASSET	83.41	64.4	12	7A	1	22	19	10	12	56	15	29	PP
CAPE HALLETT	84.03	195.6	12	9	0	22	15	0	13	1	15	18	PP
RELIZANE	84.07	50.7	12	10A	0	22	15	-1	13	1	15	33	PP
ALICANTE	84.36	48.0	12	12	1	22	12	-7			17	22	PPP
LEOPOLDVILLE	84.79	93.1	12	14A	1	22	20	-3	13	5	16	16	PP
ALGIERS UNI.	86.32	50.5	12	19A	-2	22	28	-10	13	11	15	44	PP
KIMBERLEY	87.34	118.9	12	30A	4								
REYKJAVIK	87.37	19.2	12	27K	1	22	51	4	13	19			
BARCELONA	87.42	45.9				22	34	-14					
RATHFARNHAM	87.50	32.8	12	25K	-1	22	49	0	13	18	15	57	PP
VIK	87.84	20.6				22	37	-15					
SETIF	87.89	51.7	12	28A	0	23	13	21	13	23	15	42	PP
JERSEY	87.91	37.6	12	25	-3						22	35	PP
SIDA	88.40	20.6	12	34	3	23	0	3	13	24			
FOLINIERE	88.69	38.5	12	31	-1								
SITKA	89.63	330.4	12	39	3						16	13	PP
CLERMONT-FD.	89.75	42.2	12	37	0	22	53	-16					
KEW	89.92	36.1	12	37A	-1	22	49	-22	13	26	16	14	PP
BANGUI	90.30	85.6	12	42	2	23	11	-3					
EDINBURGH	90.33	31.3				22	40	-35			16	11	PP
PARIS	90.51	39.2	12	42A	2	22	53	-23					
DURHAM	90.64	32.7	12	42A	1	23	5	-12	13	33	16	18	PP
RESOLUTE	90.99	353.7	12	42	-1	23	22	2	13	34	16	14	PP
ABERDEEN	91.43	30.4	12	43A	-2	22	57	-27	13	33	25	33	PPS
THULE	91.44	0.5	12	43K	-2								
CUGLIERI	91.57	48.8	13	57	72	24	7	42					
SCORESBY SD.	91.75	14.6	12	47	1	23	27	0	13	42			
MONACO	91.90	45.2	12	48	1				13	43			
DOURBES	92.27	38.5	12	49	0	23	33	1					
UCCLE	92.37	37.8	12	49	0	23	2	-30					
NEUCHATEL	92.66	42.0	12	51	1	23	6	-29			23	6	SKS
BULAWAYO	93.13	111.7	12	53	0				13	49	16	36	
BASLE	93.24	41.6	12	42	-11	23	11	-29			23	11	SKS
DE BILT	93.32	36.8	12	54	1	23	7	-34	13	42	16	41	PP
PAVIA	93.55	44.2	12	55	1						16	40	PP
STRASBOURG	93.70	40.7	12	55A	0	23	8	-36	13	46	16	38	PP
BENSBERG	94.10	38.3	12	58	1	24	11	24					
CHUR	94.29	42.7	13	0	2	23	14	-35	13	54	16	53	PP
EBINGEN	94.34	41.3	13	0	2	23	15	-34			16	49	PP
WITTEVEEN	94.42	36.4	12	59	1								
PRATO	94.48	45.9	13	0	1	23	47	-4					
ELISABTHVLE	94.50	103.3	13	0	1	23	58	7	13	53	23	23	SKS
TUBINGEN	94.51	41.0	12	58	-1	23	16	-35	13	53	16	49	PP
RAVENSBURG	94.63	41.8				23	17	-35			13	59	*SP
STUTTGART	94.66	40.8	12	59A	-1	23	17	-35	13	49	16	50	PPP
BROKEN HILL	94.67	106.2	13	2	2								
MUNSTER	94.69	37.4	13	0	0	24	4	12					
BOLOGNA	94.81	45.3	13	21	21	23	1	-52			17	17	
TERRE ADELIE	94.89	192.1	13	1	0	24	55	61					
ROME	94.90	48.0	13	1A	0	23	17	-37	13	53	16	53	PP
MESSINA	96.21	52.2	16	43	777	24	21	16			18	38	PP
BERGEN	96.24	29.0				24	7	1			16	44	PP
REGGIO CALA.	96.26	52.4	13	45	38	23	21	-45					
SONNEBERG	96.37	39.6	13	8	1	23	25	-42	13	54	17	2	PP
TOLMEZZO	96.48	43.8	13	8	0	23	25	-43	14	3	16	55	

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JENA	96.76	39.1	13	8	-1	23	27	-43	13	55	17	5	PP
TRIESTE	96.77	44.7	13	9	0	24	12	2	14	5	17	7	PP
APIA	96.98	253.7									17	12	PP
PLAUEN	96.99	39.7	13	9	-1	23	26	-46			17	4	PP
CHEB	97.02	40.1	13	5	-5	24	11	-1	13	57	23	27	SKS
HALLE	97.13	38.6	13	13	2	24	14	1	14	0	17	12	PP
LJUBLJANA	97.40	44.4	13	11	-1				14	4	17	58	
MIRNY	97.57	173.4	13	11	-2	23	29	-48	14	5	17	17	PP
WELLINGTON	97.65	223.7	13	12	-1	23	12	-65	14	10	17	15	PP
COLLMBERG	97.72	39.0	13	14	1	23	30	-48	14	5	17	12	PP
GEBBIES PASS	97.86	220.8	13	24	10								
POTSDAM	98.03	38.0	13	13	-2	23	33	-48	14	4	17	17	PP
TARANTO	98.03	50.3									17	22	PP
TONGARIRO	98.08	225.8	13	17	2				14	9	17	17	PP
PRAGUE	98.30	40.4	13	17K	1	24	27	4	14	12	17	12	PP
ZAGREB	98.33	44.9	13	20	4	24	24	1			17	18	PP
COLLEGE	98.33	335.1	13	15K	-1	24	17	-6	14	8	17	25	PP
PRUHONICE	98.35	40.5	13	15A	-1	24	27	4	14	8	17	17	PP
LWIRO	98.39	94.6	13	17	0	23	43	-41					
COPENHAGEN	98.49	34.6	13	16A	-1	24	27	3	14	10	17	18	PP
KARAPIRO	98.66	227.0	13	16	-2				14	10	17	18	PP
WILKES	98.83	180.4	13	17	-2	24	25	-2	14	9	17	13	PKP
ROXBURGH	98.94	218.0				23	39	-49			25	19	
BRATISLAVA	99.59	42.7	13	10K	-12	24	37	3	14	11	17	20	PP
NORD	100.01	6.9	13	25	1	23	43	-54			26	33	PS
HURBANOVO	100.25	43.2				23	44	-55			17	34	PP
SKA LSTUGAN	100.30	26.8	13	25	0						29	42	PKKP
ONERAHI	100.47	228.5	13	28	2	23	45	-56			17	35	PP
RACIBORZ	100.68	41.0	13	28	1	23	45	-58	14	20	16	40	PP
BUDAPEST	100.76	43.7	15	35	128	24	32	-11					
BYTOM	101.18	40.8				23	26	-81					
BELGRADE	101.22	46.5	13	31K	2						17	40	PP
SKOPJE	101.40	49.5	14	29A	59	23	52	-57			19	4	PPP
KRAKOW	101.77	41.2	13	34	2	23	53	-59			16	49	PP
SKALNATE PL.	101.83	42.1				23	51	-61			17	37	PP
UPPSALA	102.07	31.1	13	33	0	23	50	-64	14	30	17	44	PP
ATHENS	102.47	53.8	13	34	-1	23	44	-74					
WARSAW	102.78	39.1				23	39	-81			28	6	PPS
SOFIA	102.93	49.0	13	38	1	24	26	-36	14	30	17	1	PP
KIRUNA	104.30	23.1	13	43	0	25	12	-1	14	33	18	1	PP
LWOW	104.35	41.8	13	43	0	24	2	-71			18	3	PP
SUYA	104.43	246.4				24	49	-25			18	14	PP
CAMPULUNG	104.50	46.5				24	5	-70			18	9	PPP
BUCHAREST	105.15	47.5	13	5K	777	24	12	-4			18	23	PPP
NURMIJARVI	105.63	30.8	13	50	777	24	9	0			18	3	PKP
HELSINKI	105.77	31.1	18	2	777	24	2	6	19	0	27	36	SP
BACAU	105.93	45.4				24	11	-4			18	20	PPP
FOCSANI	106.06	46.3				24	13	-3					
IASI	106.45	44.7				24	13	6			18	17	PPP
SODANKYLA	106.66	23.6	18	4	777	24	14	3			18	19	PP
KERGUELEN I.	106.90	154.3				25	45	2					
PULKOVO	108.45	31.6				24	15	-5			18	30	PP
APATITY	109.26	23.3	14	1	777	24	25	1	14	52	18	32	PKP
TANANARIVE	110.24	117.1	14	36	777				15	23	18	51	PP
KHEYS	110.31	9.0	18	48	40	24	34	6			30	25	
SIMFEROPOL	110.89	47.3	18	6	-3	24	32	1			18	51	PP
JERUSALEM	111.07	61.5	17	49	-21						28	6	PS
KSARA	111.79	59.3	15	8	777	24	37	3			18	18	PKP
MOSCOW	112.64	35.6	18	7	-6	24	37	-1			19	0	PP
NOUMEA	112.90	237.4	19	6K	53	25	11	32					
RIVERVIEW	117.13	218.4	14	44K	777	25	0	5					
CANBERRA	117.33	215.9	18	23	1						19	38	PP
MELBOURNE	117.61	211.2	18	24	2	24	56	0			19	37	PP
TIFLIS	118.80	50.6	18	29	4	25	7	7			19	47	PP
BRISBANE	120.14	225.1	18	29	2						30	52	PS
GORIS	120.16	53.0	18	24	-3	25	11	6			19	52	PP
ADELAIDE	122.94	208.6	18	34	1	25	13	-1			20	12	PP
SVERDLOVSK	124.53	30.2	18	38	2	25	35	16			20	24	PP
PETROPVLOVK	126.04	325.7	18	40	1	25	26	2	19	36	37	11	SS
MAGADAN	126.41	335.3	18	43	4								
CHARTERS TS.	129.69	227.0									18	32	PP
PERTH	132.73	187.3	18	55	4						21	20	PP
RABAU	133.54	248.9	18	32	-21						21	29	PP
PORT MORESBY	135.39	239.2	18	49	-7				19	55	21	36	PP
SEMIPALATNSK	137.67	27.7	19	3	2				19	56	21	45	PP
Y.-SAKHLINSK	137.99	325.9	19	3	2								
QUETTA	138.27	61.6	18	57	-5	25	55	4	19	52	21	52	PP
ABASHIRI	138.80	321.3	19	1	-2						22	3	PP
KARACHI	139.02	68.0									22	24	SKP

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KUSIRO	139.28	319.9	19	1	-3			22	8 PP
FRUNSE	139.34	40.2	18	55	-9	26	8 16	22	25 PKS
OBIIHIRO	140.06	320.6	19	17	12				
URAKAWA	140.74	319.8	19	5	-1			22	27 PP
WARSAK DAM	141.04	54.3	19	2	-5				
SAPPORO	141.09	322.0	19	7	0			22	27 PP
SUTTSU	141.91	322.4	19	13	4			22	45
MORI	142.12	321.3	19	11	2				
HAKODATE	142.22	320.7	19	9	0				
AOMORI	142.73	319.4	19	14	4				
IRKUTSK	142.79	5.2	19	8	-2	20	0	22	33 PKS
MIZUSAWA	143.42	316.8	19	12	1			22	49 PKS
I SINOMAKI	143.66	315.7	19	11	0				
SENDAI	144.02	315.7	19	12	0			23	42
LAHORE	144.05	56.9	19	11	-1			22	32 SKP
SAKATA	144.40	317.4	19	15	2				
HUKUSIMA	144.58	315.2	19	15	2				
ONAHAMA	144.69	313.8	19	14	1				
BOMBAY	144.79	78.7	19	18	5			24	19 PP
SHIRAKAWA	145.07	314.5	19	17	3				
MITO	145.27	313.2	19	17	3				
KAKIOKA	145.54	313.2	19	15	0				
UTUNOMIYA	145.60	313.9	19	17	2			22	58
TUKUBASAN	145.60	313.2	19	15A	0			22	34 PP
POONA	145.77	79.3	19	18	3			29	28
GUAM	145.81	271.7	19	16K	1			22	37 PP
AIKAWA	145.92	317.3	19	18	3				
TOKYO C.M.O.	146.12	312.6	19	20	4			21	17
KUMAGAYA	146.14	313.6	19	10	-6				
VLADIVOSTOK	146.20	329.9	19	18	2	20	12	22	47 PP
MAEBASI	146.23	314.2	19	19	3				
YOKOHAMA	146.31	312.3	19	22	6				
HERA	146.42	311.4	19	21	5				
TAKADA	146.42	315.9	19	18	2				
TITIBU	146.44	313.6	19	19	3				
OIWAKE	146.63	314.5	19	20	3				
NAGANO	146.69	315.3	19	21	4			29	2
MATUSIRO	146.74	315.1	19	18K	1			22	36 PP
OSIMA	146.82	311.4	19	24	7			20	55
AJIRO	146.89	312.1	19	21	4				
HUNATU	146.90	313.0	19	24	7				
MISIMA	146.96	312.3	19	20	3				
KOHU	146.97	313.4	19	20	3				
MATUMOTO	147.07	314.8	19	22	5				
WAZIMA	147.16	317.4	19	25	8				
ULAN-BATOR	147.30	3.2	19	22	4				
TOYAMA	147.35	316.2	19	21	3				
SHIZUOKA	147.43	312.5	19	21	3				
DEHRA DUN	147.47	57.0	19	23	5			24	6
IIDA	147.55	313.8						24	22
OMAESAKI	147.74	312.0	19	24	6				
HUKUI	148.33	315.9	19	26	7				
GIHU	148.35	314.5	19	24	5			29	45
CHANGCHUN	148.43	337.9	19	19	0	26	20 14	20	14
SEHORE	148.44	70.4	19	30	11			23	15 PP
AGRA	148.44	62.7	19	21K	2			23	43 PP
HIKONE	148.77	314.7	19	30	10				
KAMEYAMA	148.85	313.8	19	29	9			20	43
KYOTO	149.27	314.8	19	27	6				
NARA	149.38	314.1	19	29	8				
OWASE	149.45	312.8	19	28	7				
ABUYAMA	149.46	314.6	19	23K	2				
TOYOOKA	149.59	316.4	19	25	4				
OSAKA	149.61	314.3	19	25	4			31	2
COLOMBO	149.82	102.6						29	37
KOBE	149.83	314.7	19	22	1				
TOTTORI	150.00	316.9	19	31	9				
HYDERABAD	150.15	81.4	19	31	9			23	59
SUMOTO	150.22	314.4	19	25	3			21	49
TOKUSIMA	150.58	314.2	19	25	3				
MATSUE	150.79	318.0	19	31	8				
MUROTO	151.31	313.2	19	27	3				
MADRAS	151.50	90.7	19	35	11			23	14 PP
KOTI	151.60	314.3	19	28	4			24	13
HAMADA	151.77	318.1	19	29	5			24	3
HIROSIMA	151.86	316.9						24	7
MATUYAMA	151.97	315.6	19	27	2			24	5
SIMIDU	152.41	313.5	19	30	5			22	8



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OOITA	153.08	315.8	19 32	6							24 21
HUKUOKA	153.66	317.8	19 30	3							26 12
KUMAMOTO	153.95	316.1	19 36	9							
MIYAZAKI	153.98	313.6	19 34	7							
NAGASAKI	154.55	316.9	19 31	3							24 20
PEKING	154.58	348.0	19 31K	3			20 26				23 19 PP
PAOTOW	154.71	359.0	19 30K	2							23 30 PP
YAKUSIMA	155.46	311.8	19 32	3							24 22
BOKARO	156.11	65.3	19 35	5							23 39 PP
LHASA	157.74	46.7	19 35K	3							30 20 SKKS
LEMBANG	158.04	175.0	19 36	3							23 53 PP
LANCHOW	158.59	12.7	19 36K	3							23 56 PP
DJAKARTA	158.60	172.7	19 7	-26							20 9
SHILLONG	160.55	55.2	19 37	2							24 37 PP
ZO-SE	160.89	327.9	19 39K	3			20 34				24 6 PP
NANKING	161.20	334.8	19 38K	2			20 34				24 5 PP
CHITTAGONG	161.83	64.3	19 42	5			20 29				21 22
TOCKLAI	162.10	47.7	19 43	6							
PORT BLAIR	163.32	100.1									25 12
CHENG TU	163.81	17.2	19 41K	2			20 36				24 19 PP
MEDAN	164.30	136.3	19 42K	3			20 20				
HWALIEN	165.62	309.2	19 57	17							
HSINKONG	166.30	306.8	19 49	8							
TAWU	167.06	305.1	19 47	5							
KUNMING	168.30	32.0	19 44K	2	26 12 -13		20 40				24 57 PP
MANILA	168.87	268.3	19 54	11							31 42
BAGUIO CITY	169.25	278.0	19 45	2							24 47 PP
CANTON	171.38	336.0	19 47K	3			20 42				24 57 PP
HONG KONG	171.66	328.6	19 54	10							25 7 PP
PHU-LIEN	173.80	25.6	19 59	14							

JULY 20 2.H 41.M 10.S EPICENTRE -5.72 111.52 DEPTH= 528.KM

DEPTH OF FOCUS= 0.078R

A=-0.36507 B= 0.92569 C=-0.09908 D= 0.9303 E= 0.3669  
G= 0.0364 H=-0.0922 K=-0.9951 HT= 7.0

SE= 1.74

	DELTA DEG.	AZ. DEG.	P			S			*PP			SUPP.	
			M	S	O-C	M	S	O-C	M	S	M	S	
LEMBANG	4.03	254.0	1	17A	-4							13 47	SCS
MEDAN	15.81	305.5	3	18	1	6	4	7					
MANILA	22.25	24.8	4	20	2	7	56	10					
BAGUIO CITY	23.76	22.0	4	32	0	8	8	-2					
PORT BLAIR	25.47	312.7				8	36	-2					
PERTH	26.40	171.7	4	56	1	8	55	3				7 20	
PHU-LIEN	26.79	349.8	5	0	1							6 13	PP
HONG KONG	27.97	5.2	5	10A	1	9	18	1	6 26				
CANTON	28.68	3.4	5	17A	2	9	30	2	6 43			11 59	
HENGCHUN	29.00	17.9	5	22	4								
TAWU	29.37	17.9	5	22	1	9	41	3					
TAINAN	29.79	16.3										6 40	
HSINKONG	30.22	18.2	5	30	1	9	52	0					
ALISHAN	30.44	17.0	5	35	4	10	1	6					
TAICHUNG	31.01	16.4	5	38	3								
HWALIEN	31.11	18.1										6 4	
KUNMING	31.78	344.6	5	45A	3	10	21	5	7 13			13 18	SS
ILAN	31.90	17.8	5	44	1	10	16	-2					
TAIPEI	32.08	17.2	5	46	2	10	22	2					
CHITTAGONG	33.93	326.0	6	0	0	11	34	45				7 21	PP
PORT MORESBY	35.49	98.1	6	15K	2	11	12	0				8 30	PCP
TOCKLAI	36.13	334.1	6	21A	3								
MADRAS	36.27	301.0	6	21	2	11	22	-2				7 18	PP
SHILLONG	36.50	329.3	6	22A	1	11	27	0					
CHARTERS TS.	36.61	116.0	6	24K	2	11	29	0					
CHENG TU	36.89	349.2	6	26A	1	11	30	-3					
ZO-SE	37.76	13.6	6	33A	1	11	44	-2	8 2			8 18	PP
GUAM	38.11	59.7	6	35	1							15 46	SCS
NANKING	38.20	10.0	6	37A	2	11	52	0	8 8			14 51	SS
ADELAIDE	38.40	142.8	6	38K	1	11	54	-1				8 39	
SIAN	39.83	356.6	6	51	3	12	19	3	8 21				
LHASA	40.29	331.9	6	54A	2	12	24	1					
YAKUSIMA	40.30	25.7	6	52A	0	12	21	-2				8 38	
RBAUL	40.52	89.8	6	54	0	12	22	-4				8 45	
KAGOSIMA	41.29	24.9	6	59A	-1	12	36	-1					

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TOMIE	41.51	22.2	6 58A	-4	12 32	-8				8 48
MIYAZAKI	41.97	25.6	7 6A	0	12 48	1				
NAGASAKI	42.04	23.4	7 7A	1						11 50
LANCHOW	42.21	350.7	7 9	2	12 53	3	8 41			
KUMAMOTO	42.44	24.2	7 10	1	12 53	-1				
SAGA	42.66	23.5	7 13	2	12 58	1				
HUKUOKA	43.00	23.4	7 34	20	13 1	0				9 11
ITUHARA	43.11	21.7	7 14	-1						
OOITA	43.18	24.9	7 15	0	13 3	-1				
SIMIDU	43.38	26.6	7 17	0	13 5	-2				16 21 SCS
MELBOURNE	44.11	141.2	7 24K	2						9 15 PP
MATUYAMA	44.17	25.6	7 24A	1	13 18	0				9 20 PP
POONA	44.28	303.8	7 22	-2	13 32	13				8 57
KOTI	44.28	26.6	7 25	1	13 18	-1				16 50 SCS
HIROSIMA	44.50	24.9	7 25A	0	13 20	-3				
HAMADA	44.81	24.2	7 26	-2	13 25	-2				16 30 SCS
BRISBANE	44.97	123.6	6 31	-58	13 32	3				
TAKAMATU	45.16	26.6	7 30	-1	13 33	1				16 31 SCS
TOKUSIMA	45.19	27.3	7 31	0	13 32	0				16 33 SCS
SIOMISAKI	45.23	28.9	7 31	0	13 33	0				
BOMBAY	45.31	303.6			13 30	-4				16 24
TORISIMA	45.34	35.8	7 31	-1						
CANBERRA	45.35	135.6	7 33K	1						9 27 PP
SUMOTO	45.56	27.4	7 34A	0	13 38	1				9 31
WAKAYAMA	45.59	27.7	7 37	3						
PEKING	45.73	5.0	7 38A	3	13 40	0	9 10			16 34
OWASE	45.95	28.8	7 36	-1	13 38	-5				16 38 SCS
KOBE	45.97	27.4	7 36A	-1	13 40	-3				16 34 SCS
AGRA	46.01	316.9			13 39	-5				16 33
OSAKA	46.11	27.7	7 38A	0	13 46	1				9 55 SCS
RIVERVIEW	46.14	132.6	6 39K	-59	13 49	4				
NARA	46.27	28.0	7 38	-1	13 47	0				16 42 SCS
ABUYAMA	46.31	27.6	7 40A	1						
KYOTO	46.50	27.6	7 41	0	13 51	1				16 41 SCS
TOYOOKA	46.52	26.4	7 42A	1	13 51	0				16 42 SCS
KAHEYAMA	46.71	28.5	7 42	0	13 53	0				16 44 SCS
HIKONE	46.95	27.9	7 45	1	13 58	1				16 46 SCS
NAGOYA	47.21	28.7	7 46A	0	14 0	0				16 47 SCS
GIHU	47.30	28.3	7 46	-1	13 59	-2				16 45 SCS
OMAESAKI	47.36	30.3	7 47	0	14 4	2				
HUKUI	47.60	27.3	7 49	0						
SHIZUOKA	47.75	30.1	7 49	-1						
IIDA	47.90	29.2	8 51	59						14 12
DEHRA DUN	48.09	320.1	7 53	0	14 7	-5				9 21 PP
MISIMA	48.14	30.5	7 52A	-1	14 11	-2				
HUNATU	48.35	30.0	7 54	-1	14 13	-3				
KOHU	48.35	29.7	7 54	-1	14 15	-1				9 13
MERA	48.43	31.4			13 59	-18				8 52
MATUMOTO	48.56	28.7	7 58	2						
TOYAMA	48.56	27.7	7 56	0	14 20	1				
YOKOHAMA	48.74	30.8	7 56	-2	14 17	-4				
TITIBU	48.88	29.9	7 58A	-1	14 21	-2				
OIWAKE	48.90	29.1	7 59	0	14 23	0				
MATUSIRO	48.92	28.7	7 57A	-2						17 55 SS
WAZIMA	48.98	26.9	7 59	-1	14 24	0				
TOKYO C.M.O.	48.98	30.7	7 57A	-3	14 20	-4				
NAGANO	49.01	28.6	7 57	-3	14 23	-2				17 20 SCS
KUMAGAYA	49.17	30.0	8 10	9						9 20
MAEBASI	49.21	29.5	7 58	-3						
TAKADA	49.38	28.3	8 3	0	14 29	-1				
TYOSI	49.58	31.6	8 2	-2						
TUKUBASAN	49.58	30.5	8 1K	-3	15 27	54				9 17 PCP
KAKI OKA	49.63	30.6	8 2	-2	14 28	-5				
UTUNOMI YA	49.72	30.1	8 3	-2	14 30	-5				17 2 SCS
MITO	49.89	30.7	8 6	0	14 33	-4				
AIKAWA	50.12	27.6	8 8	0						
SHIRAKAWA	50.35	29.9	8 9	-1	14 41	-2				
NIIGATA	50.41	28.3	8 11	1	14 45	1				
ONAHAMA	50.55	30.6	8 10A	-1	14 44	-2				
CHANGCHUN	50.87	12.8	8 13	-1						
HUKUSIMA	50.96	29.6	8 13	-1	14 51	0				17 11 SCS
YAMAGATA	51.30	29.1	8 16	-1						
SAKATA	51.56	28.2	8 20	1	15 2	3				
SENDAI	51.58	29.5	8 18A	-1	14 59	-1				10 25
ISINOMAKI	51.91	29.7	8 20	-1	15 2	-2				
VLADIVOSTOK	52.01	18.9	8 22	0			10 0			17 17 SCS
AKITA	52.34	27.8	8 25A	1						
MIZUSAWA	52.36	29.0	8 24	0	15 10	0				

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MORIOKA	52.83	28.6	8 27	-1	15 15	-1				
MIYAKO	53.18	29.3	8 29	-1	15 19	-2			10 8	
KARACHI	53.35	308.1	8 27	-4						
AOMORI	53.53	27.5	8 33	0	15 25	0				
ULAN-BATOR	53.57	356.1	8 32	-1						
HATINOHE	53.65	28.2	8 31	-3	15 23	-4				
HAKODATE	54.27	26.7	8 38	0	15 35	0			17 34	SCS
MORI	54.46	26.4	8 40	1	15 39	1				
WARSAK DAM	54.66	319.1	8 39K	-2						
MURORAN	54.82	26.5	8 41	-1					17 40	
SUTTSU	54.88	25.6	8 42	0	15 45	2			17 39	SCS
TOMAKOMAI	55.25	26.8	8 48	3	15 50	2				
NOUMEA	55.46	113.1	8 47K	1	15 54	3				
URAKAWA	55.51	27.9	8 47	0	15 52	1			17 45	SCS
SAPPORO	55.58	26.2	8 46	-1	15 51	-1			10 27	PP
QUETTA	55.65	312.6	8 45K	-3	15 50	-3			10 26	
KERGUELEN I.	55.76	211.6	8 55	7						
HIROO	55.86	28.2	8 49A	0						
OBIHIRO	56.30	27.6	8 52	0	16 2	0				
ASAHIGAWA	56.60	26.4	8 54	0	16 6	1				
KUSIRO	56.91	28.4	8 56A	0	16 6	-3			17 53	SCS
ABASHIRI	57.65	27.5	9 1A	0	16 18	-1				
NEMURO	57.73	28.9	9 1	-1						
IRKUTSK	58.10	354.8	9 4A	0	16 27	2	10 46		11 40	PP
FRUNSE	58.84	328.9	9 9	0	16 34	0	10 50		11 44	
STALINABAD	59.24	321.7	9 10	-2	16 33	-6				
Y.-SAKHLINSK	59.27	24.4	9 11	-1	16 40	0			10 53	
WILKES	60.38	180.5	9 18	-1	16 52	-1	10 56		11 36	PP
TASHKENT	60.68	324.5	9 21	0	16 54	-3	11 2		18 19	SCS
MACQUARIE I.	61.76	150.8	9 27K	-2						
MIRNY	62.07	188.3	9 30	-1			11 15		12 6	PP
SEMI PALATNSK	62.09	337.9	9 28	-3	17 12	-2	11 12		18 25	SCS
TANANARIVE	63.56	251.8	9 39	-1			11 26		15 17	
TERRE ADELIE	64.37	167.4	9 42	-3	17 38	-4				
COBB RIVER	64.71	132.9	9 42	-5						
ONERAHI	64.72	126.8	9 47	0						
GEBBIES PASS	65.37	135.7	9 51	-1					12 21	PP
ASHKABAD	65.74	316.0	9 53K	-1	17 57	-2	11 37		19 0	SCS
KARAPIRO	66.07	128.9	9 57K	1			10 22		12 29	PP
WELLINGTON	66.25	132.7	9 56K	-1					12 20	PP
SUVA	66.31	107.2			18 9	4				
TONGARIRO	66.34	130.3	9 58K	0	18 7	1				
TUAI	67.50	129.6	10 4	-1	18 18	-1				
PETROPAVLOVK	70.80	27.9	10 24	0	18 58	1	12 10		13 8	PP
MAGADAN	72.12	19.8	10 32	0	19 12	0	12 20		13 22	PP
SVERDLOVSK	74.80	333.8	10 49	2	19 39	-2	12 35			
GORIS	74.91	313.3	10 47	-1	19 40	-2	12 34		22 48	*SS
CAPE HALLETT	75.40	164.3	10 51	1	20 24	37			13 48	PP
APIA	75.76	102.7	10 57	5						
TIFLIS	76.78	315.1	10 59	1			12 47		20 20	SCS
SCOTT BASE	77.46	169.7	11 2A	0						
KSARA	81.34	305.3	11 23K	1	20 47	-2	13 10		14 37	PP
BULAWAYO	81.42	250.6	11 23	1					20 48	
JERUSALEM	81.45	303.2	11 24	1					13 23	
BROKEN HILL	81.88	256.3	11 27	2					20 55	
LWIRO	82.54	268.5	11 29K	1					32 48	
ELISABTHVILLE	83.11	259.0	11 32	1	22 7	61	13 21		26 51	SS
SOUTH POLE	84.31	180.0	11 37	0			13 28		21 19	SP
KIMBERLEY	84.43	241.7	11 38A	1						
SIMFEROPOL	85.16	315.9	11 41	0	21 26	0			21 14	SKS
MOSCOW	85.73	327.0	11 43	-1	21 28	-3	13 33		21 15	SKS
IASI	90.06	317.3	12 5	1	21 44	-27				
FOCSANI	90.10	315.8			21 49	-22				
BACAU	90.42	316.6	12 28	22	21 46	-28				
PULKOVO	90.48	330.0	12 6	0	21 45	-29	13 59		22 12	
KHEYS	90.54	351.4	12 2	-4	21 43	-32	13 55		15 38	PP
BYRD STATION	90.66	172.2	12 8	1	22 43	27	14 2		15 49	PP
BUCHAREST	90.70	314.4			21 54	-22			25 50	
APATITY	90.72	337.9	12 6	-1	21 46	-30	13 58		15 50	PP
ATHENS	91.75	307.8	12 10A	-2	22 32	7				
WINDHOEK	91.90	247.2	12 13K	1						
SOFIA	92.51	312.5	12 15	0	23 16	44	14 7		17 39	
LWOW	92.72	319.6	12 16	0	21 59	-35	14 8		25 1	PS
HELSINKI	93.20	330.0	12 18	0	22 37	-1	14 14		15 59	PP
SODANKYLA	93.27	337.3	12 17	-2	22 32	-6	14 11		16 9	PP
BANGUI	93.31	274.0	12 26	7					43 44	
NURMI JARVI	93.39	330.3	12 21	2	22 40	1	14 17		22 7	SKS
WARSAW	94.79	321.9			23 12	21			23 26	S

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HALLEY BAY	95.19	189.7	12 26	-1							
KRAKOW	95.37	319.7	12 28	0	22 14	-42	14 20	18 2	PPP		
KIRUNA	95.67	337.6	12 28K	-2	22 13	-46	14 22	18 6	*PPP		
LEOPOLDVILLE	95.79	265.0	12 31K	1	23 1	1	14 24	16 30	PP		
RACIBORZ	96.49	319.7	12 32	-1	23 6	0		18 28	PPP		
UPPSALA	96.87	329.5	12 34K	-1	23 7	-2	14 28	16 30	PP		
TARANTO	96.93	310.0			22 20	-49					
ZAGREB	97.93	315.3			23 19	1		22 28	SKS		
MESSINA	98.20	307.7	12 25	-16	23 3	-17		16 26	PP		
PRUHONICE	98.84	319.6			22 32	-53	14 35	30 25	SS		
PRAGUE	98.91	319.7			23 30	4		18 31	*PPP		
LJUBLJANA	98.95	315.6	12 42	-2				22 32			
SKA LSTUGAN	99.21	333.4	12 45K	-1	22 33	-55	14 39	16 52	PP		
TRIESTE	99.50	315.2	17 51	777	23 26	-5		22 46	SKS		
POTSDAM	99.67	322.0			22 34	-58	14 39	18 37	*PPP		
COLLEGE	99.68	25.2	12 50	2	23 37	5	14 42	16 55	PP		
COLLMBERG	99.77	320.9	12 47	-1	23 36	3	14 41	18 38			
COPENHAGEN	99.82	325.4	12 49	1	23 40	7	14 38	18 21	*PPP		
HALLE	100.42	321.2	12 51	0	22 39	-59		17 8	PP		
ROME	100.53	311.4			22 40	-59		18 40			
JENA	100.69	320.6	12 52	0	22 39	-62	14 44	17 2	PP		
NORD	100.86	353.2	12 52	-1	22 42	-60		17 10	PP		
SONNEBERG	100.97	320.1			22 41	-62		18 45	*PPP		
PRATO	101.46	313.5			22 43	-62		18 50	*PPP		
STUTTGART	102.40	318.6	12 59	-1	23 25	-30		17 15	PP		
STRASBOURG	103.37	318.5						19 5	PPP		
BASLE	103.61	317.4			22 53	-72		17 18	PP		
DE BILT	104.52	322.3						19 10	PP		
DOORBES	105.21	320.3			23 5	7		17 25	*PPP		
UCCLE	105.25	321.1						23 2			
SETIF	106.37	305.9						17 25	PP		
PARIS	106.79	319.3			23 11	4		26 19	PS		
CLERMONT-FD.	106.90	316.0						19 30	PP		
TAMANRASSET	106.94	292.0	13 20	777	24 30	-64		17 51	PP		
SITKA	107.27	31.7	17 57	777							
ABERDEEN	107.48	328.5						26 26	PS		
DURHAM	107.88	325.9						26 7	PS		
KEW	107.99	322.4			23 15	-59		17 29	PP		
ALGIERS UNI.	108.19	306.7	15 20	777				18 3	PP		
FOLINIERE	108.72	319.6	17 30	777							
SCORESBY SD.	108.87	345.1			23 20	16		18 9	PP		
RESOLUTE	109.42	7.2	13 34	777	24 16	-56		18 11	PP		
ALICANTE	110.75	308.8	13 31	777	24 14	50		25 44			
RATHFARNHAM	110.97	325.3						17 43			
GRANADA	113.39	308.0			24 1	27					
ALBERNI	115.86	37.3	17 42	0							
HORSESHOE B.	116.73	36.7	17 46	2							
VICTORIA	117.00	37.6	17 46	2							
BANFF	120.25	32.2	17 52	1							
UKIAH	120.60	47.6	17 54	3				20 41			
SHASTA	120.66	45.6	17 54K	3			20 41	27 59	PKKP		
MINERAL	121.35	45.7	17 55K	2			20 43	27 54	PKKP		
BERKELEY	121.73	48.6	17 57K	3	24 10	6	20 44	19 26	PP		
PORT STANLEY	122.08	187.8	17 56	2							
LICK	122.37	49.0	17 58K	3			20 45	27 55	PKKP		
HUNGRY HORSE	122.59	34.4	17 58	3				19 31	PP		
VINEYARD	122.76	49.6	18 0	5							
RENO	122.93	46.0	17 58K	2			20 47	27 53	PKKP		
FRESNO	123.94	49.1	18 1K	3			20 48	27 47	PKKP		
BUTTE	124.69	36.1	18 1	2							
EUREKA	125.67	44.6	17 51	-10				20 2	PP		
BOZEMAN	125.77	35.8	18 5	4				20 0	PP		
PASADENA	126.10	51.5	18 5	3	24 24	7	20 4	26 7	SKKS		
SALT LAKE C.	127.87	41.4	18 8	3							
MBOUR	128.66	283.8	18 10A	3				20 5	PP		
RAPID CITY	131.16	33.0	18 15	3				20 51	PP		
TUCSON	132.51	50.8	18 18	4			20 19	20 59	PP		
TUCSON TELE.	132.56	50.6	18 3	-11			20 19	20 59	PP		
CHIHUAHUA	137.75	52.9						21 26	PP		
SEVEN FALLS	138.71	2.4	18 19	-7				21 14	SKP		
LAWRENCE	138.99	32.4	18 20	-6							
SHAWINIGAN	139.16	4.5	18 19	-7			20 18	21 14	SKP		
OTTAWA	139.98	7.9	18 22	-6			20 20	21 30	PP		
BREBEUF	140.13	5.6	18 24A	-4				21 17	PP		
FAYETTEVILLE	141.66	34.5	18 28	-4							
DALLAS	142.28	40.7	18 32	-1							
CLEVELAND	142.54	16.2	18 32	-1							
GUADALAJARA	143.08	62.9	18 36	2							
PENNSYLVANIA	144.08	12.2	18 34	-2	23 37	-76		20 33			

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PALISADES	144.53	7.1	18 38	2	21 25	PP
FORDHAM	144.69	7.1	18 4	-33	27 25	
TACUBAYA	147.16	62.8	18 49	9	28 52	SKKS
CHAPEL HILL	148.42	16.5	18 46	4		
COLUMBIA	149.55	20.9	18 47	3	21 50	*SPKP
BERMUDA	153.24	352.9	18 50	1	28 42	
LA PAZ	157.92	180.9	19 1	6	23 16	PP
HUANCAYO	161.07	158.9	19 4	5	23 38	PP
SAN JUAN	167.21	349.8	18 33	-31	24 5	PP
ST. VINCENT	169.74	316.7	19 8	2		
TRINIDAD	171.46	305.4	19 10	3	20 33	PKP2
BOGOTA	174.32	100.9	19 13	5	24 45	PP
FUQUENE	174.77	92.5	20 11	63	24 43	PP

JULY 20 16.H 53.M 39.S EPICENTRE -23.48 179.21 DEPTH= 544.KM

DEPTH OF FOCUS= 0.081R

A=-0.91811 B= 0.01265 C=-0.39613 D= 0.0138 E= 0.9999  
G= 0.3961 H=-0.0055 K=-0.9182 HT= 3.8

SE= 1.53

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	O-C S	M	S	M	S
SUVA	5.35	352.0	1	32	-1	2	38	-9				
RAOUL ISLAND	6.30	156.5	1	42	0							
NOUMEA	11.82	273.2	2	39	2							
APIA	12.86	43.1	2	46	-1	4	57	-5				
ONERAHI	12.95	197.8	2	51	3	5	12	8				
KARAPIRO	14.74	191.5	3	6	0	5	44	7				
TUAI	15.38	186.1	3	12	-1	5	46	-2				
TONGARIRO	15.98	190.4	3	19	0	6	6	7				
WELLINGTON	18.14	190.8	3	37	-2	6	35	-1				
COBB RIVER	18.38	195.7	3	41	-1	6	40	0				
GEBBIES PASS	20.88	193.4	4	3	-2	7	18	-4				
BRISBANE	23.95	254.9	4	38	5	8	12	0				
RIVERVIEW	26.62	240.9	4	57	1	8	54	0				
CANBERRA	28.73	238.9	5	15A	0				6	49		
CHARTERS TS.	30.76	270.0	5	32	0	9	55	-3				
RABAUL	32.38	302.2	5	44	-2	11	11	48			15	13
MELBOURNE	32.54	235.9	5	48A	1							
PORT MORESBY	33.68	289.2	5	55A	-2	10	39	-4	7	41	6	59
ADELAIDE	36.91	242.7	6	23	-1	11	28	-3				
CAPE HALLETT	49.11	183.6	7	59	0	14	26	2				
TERRE ADELIE	49.39	198.6				14	29	1				
GUAM	49.85	313.9	8	5	0	14	33	-1				
WILKES	60.17	205.8				16	45	-3			24	5 SSS
BYRD STATION	62.16	170.0	9	28	-2				11	26	11	47 PP
SOUTH POLE	66.66	180.0	9	57	-1	18	8	1			10	58
MATUSIRO	71.14	326.1	10	23A	-2	19	1	3			26	55
ABUYAMA	71.28	323.2	10	25K	-1							
PETROPAVLOVK	78.35	347.5	11	5	0							
ARGENTINE I.	79.24	157.5	11	9	-1							
HALLEY BAY	79.90	173.6	11	14	1							
BERKELEY	82.11	43.0	11	25	1							
LICK	82.18	43.7	11	26A	1						14	44
PASADENA	82.60	48.0	11	26	-1	21	3	4				
FRESNO	83.02	45.0	11	30	1							
SHASTA	83.77	40.6	11	34K	1							
MINERAL	84.03	41.3	11	35A	1							
RENO	84.65	42.8	11	39	2							
TUCSON	86.78	52.9	11	49	2				13	52		
TUCSON TELE.	86.90	52.8	11	49	1				13	52		
EUREKA	87.05	44.5	11	48	0				13	52	15	23 PP
HORSESHOE B.	88.71	33.5	11	58	2							
PORT STANLEY	90.03	148.5	12	3	1							
COLLEGE	91.68	13.4	12	8	-2	22	22	0	14	15	21	50 SKS
HUNGRY HORSE	93.06	37.9	12	15	-1						16	5 PP
YAKUTSK	93.90	338.9	12	18	-2							
RESOLUTE	111.37	16.5	17	29	-3							
PALISADES	117.43	54.7									28	11 SP
SEVEN FALLS	120.23	48.0	17	48	-1							
KIMBERLEY	122.53	206.7	17	54	1							
APATITY	131.10	343.3	18	4	-6						20	41
BROKEN HILL	132.67	220.1									20	51 SKP

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SODANKY	132.90	345.	18 11	-2	20 50 SKP
KIRUNA	133.74	349.0	18 13	-2	20 51 SKP
SKALSTUGAN	138.97	351.1	18 19	-5	
NURMI JARVI	138.98	341.1	18 25	1	
HELSENKI	139.16	340.6	18 19	-6	
UPPSALA	141.42	345.2	18 23	-7	
SIMFEROPOL	144.45	315.7			18 34
KSARA	146.37	296.2	18 42	5	20 56
COPENHAGEN	146.38	346.5	18 41	4	
WARSAW	146.79	335.3	18 43	5	20 51
JERUSALEM	147.16	292.6	18 43A	5	
LWOW	147.31	329.8	18 43	4	
KRAKOW	148.92	333.8	18 43	2	
POTSDAM	149.25	343.3	18 44	2	
COLLMBERG	150.25	342.4	18 45	2	21 5
HALLE	150.35	343.8	18 45	2	
MUNSTER	150.83	349.3	18 46	2	
PRUHONICE	150.95	339.4	18 51K	7	21 5
JENA	150.96	343.8	18 44	0	21 5 22 35 PP
SONNEBERG	151.56	343.8	18 46	1	
DOURBES	153.09	352.3	18 48	1	
STUTT GART	153.55	345.1	18 48	0	
STRASBOURG	154.04	346.9	18 49	0	
LJUBLJANA	154.30	334.9	18 48	-1	
FOLINIERE	154.76	359.5	18 50	1	
TRIESTE	154.93	335.4	18 42	-8	
MONACO	158.69	343.4	18 56	1	19 55
TAMANRASSET	174.15	264.4	19 8	2	21 20 24 42 PP

JULY 21 7.H 43.M 13.S EPICENTRE -14.30 167.84 DEPTH= 0.KM

A=-0.94765 B= 0.20415 C=-0.24552 D= 0.2106 E= 0.9776  
G= 0.2400 H=-0.0517 K=-0.9694 HT= 5.9

SE= 1.97

	DELTA DEG.	AZ. DEG.	P			O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S	M	S
NOUMEA	8.06	189.2	2	0	-1							
SUVA	10.86	112.0	2	39	-1	4	47	4				
RABAUL	18.42	301.5	4	18	0	7	59	17		6	44	
BRISBANE	19.04	224.1	4	29K	3	8	6	11				
APIA	19.78	91.0	4	36	2	8	32	20				
PORT MORESBY	20.82	281.2	4	46A	1	8	41	7	5	3	5 14 PP	
ONERAHI	22.16	165.8	5	2	3	9	5	6				
KARAPIRO	24.49	165.2	5	22	0							
RIVERVIEW	24.63	215.0	5	31A	8	9	52	10				
TONGARIRO	25.71	166.1	5	33A	0							
TUAI	25.75	163.1	5	33	-1							
WELLINGTON	27.54	168.7	5	48	-2							
KAIMATA	28.28	174.4	5	58	1							
GEBBIES PASS	29.58	172.9	6	7	-1							
MELBOURNE	31.00	216.7	6	22	1							
ROXBURGH	31.17	178.0				11	19	-9				
ADELAIDE	33.31	226.7	6	42K	1							
GUAM	35.84	319.3	7	4	1							
PERTH	50.47	240.3								11	5 PP	
MANILA	54.53	299.8	9	31	-1					15	52	
TERRE ADELIE	55.31	192.4	9	36	-1							
BAGUIO CITY	55.78	301.5	9	39	-2	17	31	4				
TUKUBASAN	56.68	333.2				17	44	5		9	46 PCP	
ABUYAMA	57.71	328.7	9	54A	0							
MATUSIRO	57.79	331.0	9	53A	-2	18	12	18		10	47 PCP	
CAPE HALLETT	57.99	179.1	9	55	-1	17	59	3		12	11 PP	
LEMBANG	59.53	270.4	10	6A	-1							
DJAKARTA	60.44	271.0	10	11A	-2	18	29	1				
SCOTT BASE	63.56	180.3	10	30K	-4							
ZO-SE	63.61	315.9	10	33A	-2							
HONG KONG	63.95	303.8	10	38K	1	19	19	7		20	43 SCS	
WILKES	64.0	202.3	10	36	-2	19	13	-1		23	17	
Y.-SAKHLINSK	65.01	341.3	10	43	-1	19	29	4				
CANTON	65.04	304.1	10	44A	0	19	29	3				
NANKING	65.80	315.3	10	48A	-1							
VLADIVOSTOK	65.96	331.9	10	50	0							
UGLEGORSK	67.11	341.9	10	56	-1							
PETROPAVLOVK	67.62	354.0	10	58	-2	19	52	-5				
CHANGCHUN	69.66	328.5	11	13A	0	20	25	4				



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1959								PAGE 547	
PEKING	72.28	320.8	11 29A	0	20 55	3			
BYRD STATION	73.01	170.0	11 29	-4				14 16	PP
SIAM	73.92	312.4	11 39A	1					
KUNMING	74.58	301.4	11 42A	0	21 20	2			
MAGADAN	74.88	351.1	11 42	-2	21 22	1			
SOUTH POLE	75.79	180.0	11 48	-1					
CHENGTU	75.89	307.1	11 50A	0	21 35	3			
PAOTOW	76.45	318.5	11 54	1					
LANCHOW	78.46	312.0	12 5A	1	22 3	3			
YAKUTSK	81.77	342.9	12 27	5	22 46	11			
ULAN-BATOR	82.24	323.6	12 25	1					
UKIAH	83.30	47.0	12 29	-1					
BERKELEY	83.48	48.4	12 31	0	23 5	13			
VINEYARD	83.68	49.7	12 33	1					
LICK	83.72	49.1	12 33A	1					
SHILLONG	83.87	298.2	12 33A	0					
SHASTA	84.53	45.8	12 36A	0					
FRESNO	84.86	50.2	12 37A	-1					
MINERAL	84.94	46.3	12 37A	-1					
PASADENA	85.15	53.1	12 38	-1	23 10	2		28 53	SS
SITKA	85.17	27.3	12 39	0					
COLLEGE	85.75	17.4	12 39	-3	23 6	-8		23 32	SCS
IRKUTSK	85.88	326.5	12 42	-1					
RENO	85.89	47.6	12 43A	0					
ALBERNI	86.61	37.3	12 46	0					
VICTORIA	87.11	38.3	12 48A	-1					
HORSESHOE B.	87.56	37.6	12 54A	3					
EUREKA	88.65	48.7	12 56	0				16 25	PP
LILLOOET	88.91	36.8	13 5	8					
TIKSI	89.65	348.5	12 58	-3					
TUCSON	90.37	56.9	13 5	1					
SALT LAKE C.	92.05	48.5	13 13	1					
BANFF	92.84	37.8	13 14	-1					
HUNGRY HORSE	92.86	40.8	13 15	-1					
BUTTE	93.10	43.3	13 16	-1					
BOZEMAN	94.01	44.0	13 22	1					
RESOLUTE	105.62	15.9			26 1	-6		18 29	PP
KHEYS	108.36	350.5						18 30	PP
HUANCAYO	112.15	109.5	19 26	49					
OTTAWA	118.58	45.9	18 49	-1					
APATITY	119.16	341.7	18 52K	1				20 1	PP
SHAWINIGAN	120.40	44.2	18 53	0					
PALISADES	120.51	50.7						20 16	PPP
SEVEN FALLS	121.57	43.2	18 55	0					
KIRUNA	122.49	346.0	18 57	0				20 39	PP
MOSCOW	123.81	328.7	19 0	0					
TIFLIS	123.95	310.8	19 2	2					
NURMI JARVI	126.68	338.3	19 7	2					
SOTCHI	127.13	314.2	19 5	-1				23 5	PKS
BULAWAYO	127.29	230.5	19 8	2					
SKALSTUGAN	127.91	346.4	19 7K	-1					
SAN JUAN	128.21	77.8	19 6	-2					
BERMUDA	129.04	59.8						21 19	PP
UPPSALA	129.54	341.0	19 8	-3				21 13	PP
SIMFEROPOL	130.44	317.6	19 12	-1				22 37	PKS
KSARA	132.50	302.9	19 19	3				21 24	PP
ELISABTHVILLE	133.07	238.7	19 19	1				22 51	SKP
JERUSALEM	133.45	300.3	19 22A	4					
WARSAW	133.84	332.2	19 21	2				21 58	PP
LWOW	133.93	327.9	19 21	2				22 50	PKS
COPENHAGEN	134.55	340.7	19 22	2				21 53	PP
KRAKOW	135.82	330.6						22 1	PP
POTSDAM	137.02	337.5						22 59	
HALLE	138.14	337.5	19 34	7				22 17	
PRAGUE	138.28	334.3						22 21	PP
PRUMONICE	138.29	334.1	19 30K	3				22 16	PP
JENA	138.73	337.3	19 28	0				22 13	PP
DURHAM	138.79	350.7						19 2	PP
SONNEBERG	139.32	337.1	19 22	-7				22 22	
DE BILT	139.82	343.4	19 32	2				22 28	PP
RATHFARNHAM	140.82	354.4						27 57	
LJUBLJANA	141.21	330.1	19 28	-4					
UCCLE	141.22	343.3	19 31	-1					
STUTTGART	141.39	337.3	19 28	-5				22 45	PP
DOURBES	141.78	342.5	19 32	-1				22 36	
TRIESTE	141.87	330.2	19 29	-4				22 39	PP
STRASBOURG	142.07	338.4	19 29	-5				22 41	PP
BASLE	143.02	337.6	19 35	0					

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1959								PAGE 548
TARANTO	143.42	321.1					23 13	
FOLINIERE	144.31	346.7	19 37	-1				
PRATO	144.45	330.6	19 39	1			23 56	
ROME	145.20	327.0	19 39A	0				
MESSINA	145.83	319.3	19 41	1	25 53	-55	20 27 PP	
LUANDA	145.92	229.1	19 44	4				
CLERMONT-FD.	146.09	340.7	19 43A	2			23 5 PP	
MONACO	146.22	334.1	19 45	4				
LEOPOLDVILLE	147.09	237.7	19 44A	2				
CUGLIERI	148.48	328.8	20 17	32				
TORTOSA	151.37	339.7	20 0	11				
SETIF	153.12	327.3	19 50	-2			23 42 PP	
TOLEDO	153.55	345.9	20 2	10				
ALGIERS UNI.	153.83	331.5	19 53	0			23 48 PP	
ALICANTE	153.91	338.8	19 53	0	26 59	1	43 26 SS	
GRANADA	155.98	343.0	20 3K	8	27 15	15	24 21 PP	
TAMANRASSET	161.25	299.3	20 3A	1			24 33 PP	
MBOUR	175.34	88.5	20 15	4			25 44 PP	

JULY 21 9.H 17.M 51.S EPICENTRE 19.01 -68.13 DEPTH= 0.KM

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G= 0.1206 H=-0.3005 K=-0.9461 HT= 4.9

SE= 3.15

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
SAN JUAN	2.00	107.9	0	35	0	0	59	-2				
FORT FRANCE	7.92	121.4	1	55	-4	3	31	1				
ST. VINCENT	8.78	130.4	2	9	-2							
BARBADOS	10.07	124.3	2	30	2							
TRINIDAD	10.55	141.0	2	35	0						3	26
GALERAZAMBA	10.70	221.1				4	37	-2				
BERMUDA	13.67	12.4	3	11	-6	5	42	-9				
FUQUENE	14.52	202.8	3	29	1	6	30	19				
BALBOA HTS.	14.92	229.5	3	33	0							
BOGOTA	15.43	202.8	3	40	0	6	45	12				
CHINCHINA	15.75	208.6	3	44	0	6	52	12				
COLUMBIA	18.85	325.0	4	22	-1	7	29	-22				
MERIDA	20.29	279.1	4	30	-10							
SAN SALVADOR	20.91	258.6	4	47	1							
WASHINGTON	21.29	340.5	4	50	0	8	30	-12				
FORDHAM	22.32	348.5	4	31	-29						8	17
PALISADES	22.48	348.5	5	7	5	8	53	-11				
COMITAN	23.03	266.9									5	25 PPP
PENNSYLVANIA	23.27	341.0	5	11	1	9	23	4				
CLEVELAND	25.15	335.8	5	29K	1	9	51	0				
HALIFAX	25.82	7.4	5	33	-1	10	10	8				
VERA CRUZ	26.45	275.0	5	42	2	10	42	29			5	56
BREBEUF	26.81	351.4	5	57	14							
OTTAWA	27.06	348.2	5	46	1							
SHAWINIGAN	27.73	353.1	5	52	0							
SEVEN FALLS	28.12	356.1	5	56	1	10	37	-3				
FAYETTEVILLE	28.56	311.9	5	59	0	11	45	58				
TACUBAYA	29.33	275.9	6	14	8							
HUANCAYO	31.67	193.5	6	26	-1						7	35 PP
LUBBOCK	33.36	302.6	6	41	0							
LA PAZ	35.29	180.0	6	56	-2	12	41	9			8	37 PP
RAPID CITY	38.51	318.3	7	23	-2						8	46
TUCSON	40.44	297.6	7	42	1						9	22 PP
SALT LAKE C.	43.12	309.8	8	5	2							
BOZEMAN	44.22	316.8	8	14	2							
BUTTE	45.34	316.7	8	20	-1							
EUREKA	45.85	306.9	8	24	-1						10	9 PP
PASADENA	46.78	299.3	8	32	0	14	51	-32				
HUNGRY HORSE	47.12	319.2	8	34	-1						13	53
FRESNO	48.39	302.6	8	44K	-1							
RENO	48.78	306.2									9	37
VINEYARD	49.64	302.4	8	55	0							
LICK	49.91	303.1	8	57K	0							
MINERAL	50.27	307.0	8	58A	-2							
BERKELEY	50.46	303.7	9	0	-1							
SHASTA	50.92	307.3	9	1	-3							
LILLOET	52.75	319.9	9	25	7							
VICTORIA	53.13	316.9	9	18A	-3							

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HORSESHOE B. ALBERNI	53.25 54.20	318.0 317.6	10 20K 9 48	58 19				
SIDA	55.96	24.3	9 39	-3			10 1	
RESOLUTE	57.54	351.8	9 51K	-2	17 46	-4	19 35	SCS
TOLEDO	58.33	54.4	10 4	5	18 3	3	22 54	SS
GRANADA	58.68	57.6	10 7K	6	18 37	32		
ALICANTE	61.12	56.1	10 19	1	18 38	2		
FOLINIÈRE	61.26	44.3	10 16	-3				
CLERMONT-FD.	63.63	47.7	10 33	-2				
DOURBES	64.62	42.9	10 36	-5	19 14	-6		
NORD	65.99	7.2	10 45	-5				
STRASBOURG	66.72	44.5	11 2	7	19 44	-2	11 29	PCP
STUTTGART	67.66	44.3	10 58	-2	19 45	-12	11 20	PCP
TAMANRASSET	68.25	72.4	11 2K	-2	20 6	2	13 35	PP
COLLEGE	68.59	333.2	11 3	-3	20 4	-4		
SKALSTUGAN	68.89	28.2	11 6	-2			11 26	
JENA	69.04	41.8	11 13	4			11 34	
HALLE	69.23	41.2	11 18	8	20 12	-4		
COPENHAGEN	69.23	36.7	11 11	1	20 15	-1	21 11	SCS
TOLMEZZO	70.46	46.5	11 40	22				
PRUHONICE	71.03	42.6	11 20	-1	20 34	-3	12 25	
TRIESTE	71.06	47.2	11 20	-1				
LJUBLJANA	71.54	46.7	11 21	-3			11 42	PCP
UPPSALA	71.65	32.0	11 35	10	20 39	-5		
KIRUNA	72.03	23.5	11 24	-3	20 45	-4		
SODANKYLA	74.44	23.6	11 38	-3			11 52	PCP
NURMI JARVI	75.01	30.8	11 45	0				
HELSINKI	75.24	31.1	11 47	1				
APATITY	76.93	22.7	11 52	-3	21 38	-5	26 32	SS
LWOW	77.07	41.6	12 5	9			21 45	
MOSCOW	83.01	33.3	12 44	16				
SIMFEROPOL	85.10	44.1					22 58	
SOTCHI	89.33	43.8	12 59	0				
KSARA	90.65	53.9	13 5	0	23 53	-7	16 39	PP
TIFLIS	93.51	43.7					23 49	
MAKHACH-KALA	94.62	41.6					23 56	
BYRD STATION	102.46	188.0	14 2	3				
SCOTT BASE	115.58	191.1					16 52	
RABAU	138.01	285.4	19 24	-2			23 11	
PORT MORESBY	144.56	280.7	19 37	-1				
CHARTERS TS.	147.60	262.4	19 45	2				
ADELAIDE	151.42	230.9	19 55K	6				

JULY 21 12.H 29.M 10.S EPICENTRE 16.22 -97.83 DEPTH= 0.KM

A=-0.13081 B=-0.95176 C= 0.27757 D=-0.9907 E= 0.1362  
G=-0.0378 H=-0.2750 K=-0.9607 HT= 5.5

SE= 2.72

	DELTA DEG.	AZ. DEG.	P			O-C			*PP		SUPP.	
			M	S	O-C	M	S	S	M	S	M	S
OAXACA	1.29	51.6	0	23A	-2	0	52	9		0	35	
PUEBLA	2.82	352.8	0	52	5	1	42	20		1	10	
VERA CRUZ	3.38	28.3	0	59	4	1	55	19				
TACUBAYA	3.42	337.7	0	58A	3	1	57	20		1	13	
COMITAN	5.47	88.9	1	4	-21	2	8	-21		2	42	
LEON	6.09	323.8	1	42	9	3	14	29		2	8	
MANZANILLO	6.81	295.4	1	46	3	3	25	22				
GUADALAJARA	6.85	311.2	1	52	8	3	31	27				
SAN SALVADOR	8.67	105.4	2	19	10					5	10	
MERIDA	9.09	57.6	2	8	-7	4	2	2		5	31	
MAZATLAN	10.63	312.0				5	0	22				
CHIHUAHUA	14.51	329.8	3	31	3							
LUBBOCK	17.66	348.9	4	8	-1							
BALBOA HTS.	19.22	109.8	4	28	0							
TUCSON	19.85	325.8	4	35	0	8	19	5				
FAYETTEVILLE	20.05	8.6	4	36	-1	8	30	12				
GALERAZAMBA	22.58	101.0				9	26	19				
COLUMBIA	23.28	37.4	5	12	2	9	32	13				
CHINCHINA	24.49	114.7	5	23	1	9	47	7				
PASADENA	25.56	318.1	5	31	-1	10	0	2				
CHAPEL HILL	25.78	36.9	5	34	0							
FUQUENE	25.93	111.6	5	43	8							
BOGOTA	26.01	113.7	5	40	4	10	14	8				
SALT LAKE C.	27.32	336.4	5	49	1	10	35	8				

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EUREKA	28.07	329.2	5	54	-1	11	2	23								
RAPID CITY	28.14	351.8	5	55	-1											
FRESNO	28.26	320.6	5	55K	-2											
CLEVELAND	28.83	25.9	6	2K	0	10	58	7								
WASHINGTON	29.00	34.8	6	4	1	11	7	13								
VINEYARD	29.23	318.9	6	5	0											
LICK	29.76	319.6	6	10K	0											
PENNSYLVANIA	29.98	31.2	6	11	-1	11	25	15								
RENO	30.13	324.8	6	13K	0											
BERKELEY	30.47	319.8	6	17A	1	11	23	6								
BOZEMAN	31.39	342.1	6	25	1	11	46	14								
MINERAL	31.69	324.1	6	27A	0											
FORDHAM	32.12	35.4	5	53	-38	11	11	-32								
BUTTE	32.17	340.5	6	30	-1	10	46	-58								
PALISADES	32.21	35.1	6	30	-2	11	30	-15								
SHASTA	32.37	323.8	6	31	-2									7	46 PP	
BERMUDA	34.05	55.7	6	51	3	12	18	5								
OTTAWA	34.50	27.9	6	51	-1										7	55 PP
HUNGRY HORSE	34.69	340.9	6	53	0	12	30	7								
FORT FRANCE	35.35	87.3				12	37	3								
BREBEUF	35.55	29.7	7	0A	-1										12	56
HUANCAYO	35.83	140.3	7	2	-1	12	47	6								
SASKATOON	36.50	350.9				12	56	5								
SHAWINIGAN	36.72	29.3	7	10	0											
BANFF	37.64	341.7	7	17	-1											
VICTORIA	38.43	332.5	7	23A	-2											
HORSESHOE B.	39.01	333.5	7	29A	-1											
LILLOOET	39.47	335.9	7	37	4											
HALIFAX	40.40	38.3	7	39	-2	13	59	9							9	15 PP
LA PAZ	43.76	136.6	8	8	-1	14	38	-2								
RESOLUTE	58.49	0.9	9	57	-3	18	5	2								
COLLEGE	59.02	337.6	10	1	-3	18	12	2								
NORD	72.77	8.8	11	30	-2	21	0	3								
MBOUR	77.50	78.5	11	59	0											
RATHFARNHAM	78.08	37.8	12	8	6											
ABERDEEN	79.60	33.4				22	18	6								
DURHAM	80.46	35.7	12	13A	-2											
JERSEY	81.57	41.3														
KEW	82.06	38.8	12	22	-1	22	41	3								
KHEYS	82.61	5.0	12	24	-2											
TOLEDO	82.61	50.7	12	27	1	22	45	2								
GRANADA	83.66	53.3	12	36K	4	22	58	4								
SKALSTUGAN	84.23	25.0	12	34	0											
PARIS	84.57	40.8	12	37	1											
PETROPAVLOVK	85.06	324.0	12	36	-3											
UCCLE	85.07	38.5	12	39	0	23	4	-4								
DE BILT	85.12	37.1	12	34	-5	23	20	12								
KIRUNA	85.17	19.6	12	42	3	23	16	7								
DOURBES	85.46	39.1	12	39	-2	23	5	-6								
ALICANTE	85.70	51.4	12	42	0	23	15	1								
WITTEVEEN	85.72	36.1	12	41	-1											
CLERMONT-FD.	85.95	43.5	12	43	0											
TIKSI	86.89	346.6	12	44	-4	23	8	-17								
COPENHAGEN	87.70	32.1	12	52	0	23	44	11								
STRASBOURG	87.94	39.8	12	52	-1	23	38	3								
UPPSALA	88.21	27.1	12	52	-2	23	24	-14								
STUTTGART	88.74	39.3	12	56	0	23	30	-13								
ALGIERS UNI.	88.86	52.1	12	56	-1	23	27	-17								
APATITY	89.26	16.8	12	56	-3	23	25	-22								
JENA	89.26	36.7	12	56	-3	24	0	13								
POTSDAM	89.47	34.9	12	59	-1											
COLLMBERG	89.91	35.9	13	1	-1											
PRUHONICE	91.38	36.7	13	10K	1											
TRIESTE	92.86	40.8	13	14	-2											
YAKUTSK	93.50	339.6	13	18	-1											
WARSAW	93.80	32.7														
KRAKOW	94.37	34.9	13	23	0	23	57	-36								
TAMANRASSET	95.61	64.5	13	28	0	24	11	-32								
LWOW	96.71	33.6	13	31	-2											
BYRD STATION	96.75	183.7	13	29	-4											
MESSINA	97.43	46.8				24	57	-2								
MOSCOW	99.12	23.7				24	23	-50								
TUKUBASAN	104.43	315.0				25	58	1								
SVERDLOVSK	105.03	12.1														
SIMFEROPOL	105.10	33.2				24	50	-1								
VLADIVOSTOK	105.41	324.6														
MATUSIRO	105.52	316.1	18	30	6											
CAPE HALLETT	105.90	198.5				24	54	-1								

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TIFLIS	112.80	29.5				19 28 PP
MAKHACH-KALA	113.04	27.0				19 28 PP
KSARA	113.51	41.0	19 26	46		20 20 PP
ELISABTHVLE	126.78	92.5	19 3	-3		
HONG KONG	130.53	319.8				22 40 PP
TANANARIVE	146.91	99.9	19 50	8		

JULY 21 13.H 3.M 29.S EPICENTRE 15.89 -97.81 DEPTH= 0.KM

A=-0.13069 B=-0.95338 C= 0.27202 D=-0.9907 E= 0.1358  
G=-0.0369 H=-0.2695 K=-0.9623 HT= 5.6

SE= 2.18

	DELTA DEG.	AZ. DEG.	M	P	S	O-C S	M	S	O-C S	*PP M S	M	SUPP. S
OAXACA	1.50	41.2	0	24		-5					0	52
PUEBLA	3.15	353.2	0	56		4	1	46	15			
VERA CRUZ	3.66	25.6	1	2		2	1	58	14			
TACUBAYA	3.74	339.4	1	5		4	2	1	15			
MANZANILLO	6.98	297.8	2	19		33	3	33	26		4	1
GUADALAJARA	7.08	313.1					3	33	23		2	45
MERIDA	9.26	55.8					3	58	-6		3	13
CHIHUAHUA	14.81	330.3	3	36		3						
LUBBOCK	17.99	349.0	4	2		-12						
BALBOA HTS.	19.09	109.0	4	31		4						
TUCSON	20.14	326.3	4	39		0						
FAYETTEVILLE	20.38	8.4	4	39		-2						
COLUMBIA	23.53	36.9	5	14		1	9	37	13			
PASADENA	25.82	318.5	5	34		-1						
CHAPEL HILL	26.04	36.5	5	38		1					6	3
SALT LAKE C.	27.63	336.6	5	52		0						
EUREKA	28.37	329.5	5	58		0					7	34 PP
RAPID CITY	28.47	351.8	5	59		0						
FRESNO	28.53	321.0	5	59		-1						
CLEVELAND	29.12	25.6	6	4K		-1	11	2	5			
LICK	30.02	319.9	6	14K		1						
RENO	30.41	325.1	6	17A		0						
BOZEMAN	31.71	342.2	6	30		2						
MINERAL	31.97	324.4	6	30		0						
BUTTE	32.49	340.7	6	35		0						
SHASTA	32.65	324.1	6	34		-2						
OTTAWA	34.79	27.7	6	54		-1					11	15
HUNGRY HORSE	35.01	341.0	6	56		-1					11	18
HUANCAYO	35.57	140.0	7	1		0					8	48 PPP
BREBEUF	35.83	29.5	7	3A		-1						
SHAWINIGAN	37.00	29.0	7	14		0						
BANFF	37.96	341.8	7	20		-2						
SEVEN FALLS	38.34	30.0	7	25		0						
VICTORIA	38.73	332.7	7	27		-1						
HORSESHOE B.	39.32	333.7	7	20		-13						
LILLOOET	39.78	336.0	7	42		5						
HALIFAX	40.65	38.0	7	43A		-1	14	15	20			
LA PAZ	43.51	136.4	8	11		4						
RESOLUTE	58.82	0.9	10	1A		-2	17	41	-27			
COLLEGE	59.33	337.6	10	5		-2						
NORD	73.09	8.7	11	34		0						
RATHFARNHAM	78.33	37.8	12	0		-4						
KEW	82.31	38.7	12	24		-1	22	42	1			
FOLINIERE	82.95	41.4	12	30		1						
GRANADA	83.84	53.2	12	35A		2						
SKALSTUGAN	84.52	25.0	12	36		-1						
KIRUNA	85.48	19.6	12	41		0						
DOURBES	85.70	39.1	12	42		0					12	47 PCP
CLERMONT-FD.	86.18	43.5	12	46		1						
SODANKYLA	87.69	18.6	12	50		-2						
UPPSALA	88.50	27.1	12	55		-1						
STUTT GART	88.98	39.3	12	59		1						
JENA	89.51	36.7	13	1		0					16	35 PP
LJUBLJANA	93.40	40.2									17	2
TAMANRASSET	95.74	64.5	13	30A		0						
TUKUBASAN	104.68	314.9	14	3		-7					29	48 PKKP
ELISABTHVLE	126.75	92.8	19	8		2						

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JULY 21 17.H 39.M 29.S EPICENTRE 36.80-112.37 DEPTH= 0.KM

A=-0.30556 B=-0.74227 C= 0.59638 D=-0.9247 E= 0.3807  
G=-0.2270 H=-0.5515 K=-0.8027 HT= -0.5

SE= 3.22

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
EUREKA	3.90	314.5	1	2	0							
SALT LAKE C.	3.99	5.7	1	4	0	2	3	11				
CHINA LAKE	4.33	258.5	1	8	-1							
TINEMAHA	4.70	275.0	1	15	1	2	26	16			1	29
TUCSON	4.71	163.9	1	13	-1	2	18	8				
RIVERSIDE	4.96	237.1	1	16	-1	2	37	21			1	31
PALOMAR	5.03	228.2	1	13	-6	2	18	0			1	31
PASADENA	5.42	242.5	1	23	-1	2	51	23				
FRESNO	5.96	272.0	1	32A	0						3	6
RENO	6.47	297.3	1	38	-1	3	33	39				
LICK	7.43	277.0	1	53A	1	3	50	32				
BERKELEY	7.95	280.7	2	0	0	4	10	39				
SHASTA	8.74	299.5	2	10	-1	4	38	47				
UKIAH	8.88	288.5	2	48	36							
BOZEMAN	8.92	6.0	2	21	8							
LUBBOCK	9.19	107.3	2	17	0							
BUTTE	9.22	359.2	2	18	1							
CHIHUAHUA	9.71	145.2	2	31	7						3	11
ARCATA	10.00	297.6				5	20	58				
RAPID CITY	10.09	41.0	2	26	-3							
CORVALLIS	11.36	316.6	2	51	4	6	20	85				
HUNGRY HORSE	11.61	354.5	2	52	2							
DALLAS	13.40	102.5	3	23	9							
FAYETTEVILLE	14.66	87.3	3	31	0	7	36	81				
GUADALAJARA	17.90	151.3									9	21
TACUBAYA	20.83	142.8									5	5 PP
VERA CRUZ	22.59	136.5									12	1
CLEVELAND	24.31	69.4	5	19	-1	9	50	13				
OTTAWA	28.73	61.1	5	56	-5							
PALISADES	30.06	70.0	6	8	-5	11	25	14				
SEVEN FALLS	32.23	58.1	6	28	-4							
COLLEGE	35.06	334.5	6	55	-2							
RESOLUTE	38.88	7.3	7	25	-4							
KIRUNA	69.83	17.3	11	10	-4							
SKALSTUGAN	70.78	22.9	11	21	1							
SODANKYLA	71.61	15.5	11	26	1							
APATITY	72.80	13.1	11	33	1							
UPPSALA	75.27	23.6	11	48	1							
NURMIJARVI	76.84	20.3	11	53	-2							
PRUHONICE	81.71	31.4	12	25	3							
MATUSIRO	82.02	309.9	12	27	4							
SOUTH POLE	126.61	180.0	19	4	-1							

JULY 22 4.H 51.M 34.S EPICENTRE 16.04 -97.96 DEPTH= 0.KM

A=-0.13374 B=-0.95227 C= 0.27464 D=-0.9904 E= 0.1386  
G=-0.0381 H=-0.2720 K=-0.9615 HT= 5.5

SE= 3.11

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
OAXACA	1.50	49.5	0	32A	3	1	0	11			1	17
PUEBLA	2.98	355.7	1	3	13	1	45	18				
TACUBAYA	3.54	340.8	1	3K	5	1	58	17			1	11
VERA CRUZ	3.59	28.9	1	6	7	2	3	21			1	40
COMITAN	5.61	87.1	1	59	32	2	35	2			2	50
LEON	6.15	325.7	1	38	3	3	0	13				
MANZANILLO	6.77	297.1				3	1	-1				
GUADALAJARA	6.86	313.0				3	2	-3				
MERIDA	9.30	57.1				4	11	6			4	38 SS
CHIHUAHUA	14.60	330.5				6	40	26				
DALLAS	16.77	3.5	3	58	0							
LUBBOCK	17.81	349.3	4	12	1							
TUCSON	19.92	326.4	4	35	-2							
FAYETTEVILLE	20.25	8.9	4	38	-2	8	30	7				
LAWRENCE	22.96	5.4	5	4	-3							





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YAKUTSK	59.35	1.9	9 52	0	17 52	3	
WARSAK DAM	59.70	308.3	9 53K	-1			
KARAPIRO	60.79	136.6	10 1	-1			10 15
NAMANGAN	62.12	315.7	10 11	0			
QUETTA	62.35	302.8	10 10K	-2			10 52
STALINABAD	63.32	312.3	10 17	-2			
TIKSI	68.96	0.9	10 53	-1	19 50	2	
SVERDLOVSK	74.68	328.7	11 28	0			
CAPE HALLETT	79.81	167.5	11 58	1			
MAKHACH-ALA	80.01	313.0	11 56	-2			
TANANARIVE	80.16	250.4	11 58K	-1			
TIFLIS	81.90	311.6	12 9	1			
SCOTT BASE	83.28	172.0	12 15	0			13 13
KHEYS	84.74	350.3	12 21	-1	22 35	-3	
STCHI	85.71	313.3	12 27	0	22 45	-2	
COLLEGE	85.94	25.3	12 29	1			15 50 PP
MOSCOW	87.10	325.	12 34	0	23 7	6	
APATITY	88.71	337.4	12 41K	0	23 19	3	22 58 SKS
KSA'RA	88.88	303.6	12 43	1			
SIMFEROPOL	89.70	314.8	12 46	0			
SODANKYLA	91.33	337.6	12 53	0	23 48	9	
SOUTH POLE	92.57	180.0	13 0	1	23 25	-25	
HELSINKI	93.37	330.6	13 3	0			
NURMIJARVI	93.46	330.9	13 4	1	24 15	17	13 36
KIRUNA	93.55	338.5	13 3	-1	24 0	1	23 29 SKS
LWOW	95.90	320.5	13 14	0			
BYRD STATION	96.64	170.8	13 20	2			17 10 PP
UPPSALA	97.02	331.2	13 19A	0	23 51	-37	
SKALSTUGAN	98.13	335.6	13 24	0			
KRAKOW	98.43	321.3	13 27	1			
RESOLUTE	99.02	10.2	13 30A	1	24 2	-43	17 31 PP
ELISABTHVILLE	99.16	258.7	13 30	1			
BELGRADE	99.33	316.1	13 30A	0	24 7	-41	14 44
COLLMBERG	102.28	323.8	13 44	1			
LJUBLJANA	103.02	318.4	13 47K	1			15 21
JENA	103.24	323.8	13 48	1			
TRIESTE	103.66	318.2	14 2	13			
STUTTGART	105.48	322.3	13 59	2			
HUNGRY HORSE	107.28	37.4	17 49	777			
EUREKA	109.39	46.5	18 21	4			29 36 PKKP
TUCSON	115.87	52.2	18 34	5			
RAPID CITY	115.91	37.5	18 32	3			
TAMANRASSET	116.99	297.1	18 35	4			19 58 PP
SHAWINIGAN	128.27	16.6	18 55K	2			
SEVEN FALLS	128.27	14.8	18 57	4			
OTTAWA	128.38	19.6	18 53	0			
BREBEUF	128.97	17.9	18 56	2			
PALISADES	132.88	20.8					22 29
WASHINGTON	133.46	25.2	19 6	4			
SAN JUAN	155.87	29.8	19 58	19			
LA PAZ	160.22	135.3	19 52	7			

JULY 22 15.H 53.M 56.S EPICENTRE 15.86 -97.96 DEPTH= 0.KM

A=-0.13331 B=-0.95314 C= 0.27159 D=-0.9904 E= 0.1385  
G=-0.0376 H=-0.2690 K=-0.9624 HT= 5.6

SE= 3.28

	DELTA DEG.	AZ. DEG.	P			S			*PP		SUPP.	
			M	S	O-C	M	S	O-C	M	S	M	S
OAXACA	1.62	44.6	0	32K	2	1	1	9				
PUEBLA	3.16	355.9	0	58	6	1	46	15				
TACUBAYA	3.71	341.6	1	2K	2	1	54	9		1	9	
VERA CRUZ	3.75	27.5	1	5	4	2	0	14		1	41	
COMITAN	5.62	85.2	1	26	-1	2	42	8				
LEON	6.30	326.6	1	41	4	3	4	13				
MANZANILLO	6.86	298.5				3	12	8		4	12	
GUADALAJARA	6.99	314.1	1	47	0	3	15	7				
MERIDA	9.40	56.2				4	25	17				
MAZATLAN	10.78	313.8				4	54	12				
CHIHUAHUA	14.76	330.8								7	16	
DALLAS	16.95	3.4	3	59	-1							
LUBBOCK	17.99	349.4	4	15	1							
BALBOA HTS.	19.23	108.7	4	31	2							
TUCSON	20.08	326.6	4	37	-1							

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FAYETTEVILLE	20.43	8.8	4 39	-3	8 30	4	
LAWRENCE	23.14	5.4	5 7	-2			
COLUMBIA	23.64	37.1	5 22	8	9 38	12	
CHINCHINA	24.46	113.9	5 22	0	10 12	32	
PASADENA	25.74	318.7	5 42	8	9 58	-4	
FUQUENE	25.92	110.8	5 49	13			
BOGOTA	25.99	112.9	5 40	3	10 27	21	
CHAPEL HILL	26.15	36.7	5 36	-2			
SALT LAKE C.	27.59	336.8	5 54	3			
EUREKA	28.32	329.7	5 57	-1			8 11
FRESNO	28.45	321.2	6 0	1			
RPID CITY	28.48	352.1	6 0	1			
LICK	29.94	320.1	6 8K	-4			
RENO	30.35	325.3	6 17	1			
PENNSYLVANIA	30.35	31.1	6 18	2	11 26	10	
BOZEMAN	31.69	342.4	6 30	2	11 42	5	10 16
MINERAL	31.90	324.6	6 30	0			
BUTTE	32.46	340.9	6 35	0			
PALISADES	32.58	34.9	6 32	-4	11 54	3	
BERMUDA	34.36	55.4	6 49	-2	12 17	-2	8 58 PP
OTTAWA	34.88	27.8	6 51	-5			
HUNGRY HORSE	34.99	341.2	6 58	2			
HUANCAYO	35.64	139.8	7 3	1			
BREBEUF	35.93	29.6	7 1K	-3			
SHAWINIGAN	37.10	29.1	7 11	-3			
VICTORIA	38.68	332.8	7 17	-11			
HORSESHOE B.	39.27	333.	7 26A	-6			
LILLOOET	39.74	336.2	7 15	-21			
ALBERNI	39.86	332.5	7 15	-22			
RESOLUTE	58.85	1.0	9 57	-6	18 5	-3	22 16 SS
COLLEGE	59.30	337.7	10 3	-3			
KHEYS	82.97	5.0	12 27	-2			
PETROPVLOVK	85.27	324.0	12 35	-5			
KIRUNA	85.55	19.6			23 17	4	
DOURBES	85.81	39.1	12 43	0			
CLERMONT-FD.	86.30	43.5	12 44	-1			
TIKSI	87.20	346.6	12 47	-3			
STUTTGART	89.10	39.2					13 59
TAMARRASSET	95.88	64.5	13 29	-1			

JULY 22 19.H 24.M 18.S EPICENTRE 53.03 152.84 DEPTH= 638.KM

DEPTH OF FOCUS= 0.095R

A=-0.53735 B= 0.27569 C= 0.79703 D= 0.4565 E= 0.8897  
G=-0.7091 H= 0.3638 K=-0.6039 HT= -6.5

SE= 1.82

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
SEVERO-KUR.	3.11	138.2	1	21	-2	2	25	-4				
PETROPVLOVK	3.51	86.1	1	24	-1	2	32	-1				
KLYUCHI	5.66	51.2	1	40	0	3	2	2				
OKHA	5.97	278.9	1	44	1	3	8	3			2	38
MAGADAN	6.63	351.0	1	50	2	3	15	0				
UGLEGORSK	7.85	244.0	1	59	0	3	37	2				
KURILSK	8.46	204.6	2	2	-3	3	38	-7				
Y.-SAKHLINSK	8.91	231.0	2	10	1						3	50
WAKKANAI	10.54	228.2	2	33	9							
ABASHIRI	10.65	215.5	2	23	-2	4	19	-3				
NEMURO	10.84	209.3	2	24	-3	4	21	-5				
KUSIRO	11.53	212.6	2	30	-4	4	31	-6				
ASAHI GAWA	11.57	221.0	2	36	2	4	34	-4				
OBHIRO	11.99	216.3	2	35	-3							
HIROO	12.51	214.5	2	39	-4	4	48	-6				
SAPPORO	12.57	222.1	2	42	-2	4	50	-5				
URAKAWA	12.82	215.8	2	45	-1	4	53	-7				
TOMAKOMAI	12.94	220.1	2	47	0	4	57	-5				
SUTTSU	13.26	224.5	3	0	10	5	0	-7				
MURORAN	13.34	221.4				5	5	-4				
MORI	13.70	221.9	2	54	-1	5	3	-12				
HAKODATE	13.91	220.8	2	55	-2	5	13	-6				
HATINOHE	14.69	216.1	3	5	1	5	31	-1				
AOMORI	14.71	218.6	3	6	2	5	29	-4			10	41
YAKUTSK	15.25	315.3	3	10	1							
MIYAKO	15.32	213.4	3	10	0	5	44	1				

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MORIOKA	15.55	215.6	3 13	1	5 48	1				
AKITA	15.92	218.3	3 17	1	5 56	3				
MIZUSAWA	16.07	214.8	3 18	1	5 55	-1				
ISINOMAKI	16.64	213.2	3 22	0	6 5	0				
SAKATA	16.74	217.6	3 25	2	6 10	3				
SENDAI	16.92	214.0	3 25	0	5 56	-14			13 21	
VLADIVOSTOK	17.09	242.9	3 27	0	6 12	-1			3 40	PP
YAMAGATA	17.13	215.3	3 27	0	6 14	0				
HUKUSIMA	17.54	214.3	3 32	1	6 19	-1				
NIIGATA	17.89	217.9	3 35	1	6 27	1			8 29	
AIKAWA	18.11	219.8	3 38	2	6 29	-1				
ONAHAMA	18.12	212.2	3 46	10					6 23	
SHIRAKAWA	18.19	214.0	3 43	6	6 12	-19				
MITO	18.78	212.5	3 44	2	6 39	-2				
UTUNOMIYA	18.83	214.1	3 43	0	6 37	-5				
TAKADA	18.91	218.4	3 43	0	6 42	-1				
KAKI OKA	19.01	213.0	3 45	1	6 44	-1				
TUKUBASAN	19.05	213.1	3 43K	-2	6 41	-4			6 14	*SP
WAZIMA	19.19	221.7	3 48	2	6 48	0				
MAEBASI	19.24	215.7	3 47	1	6 47	-1				
NAGANO	19.31	217.9	3 48	1	6 47	-3				
KUMAGAYA	19.35	214.6	3 49	2	6 48	-2				
MATUSIRO	19.41	217.7	3 47K	-1	6 51	0			7 37	PCP
OIWAKE	19.49	216.7	3 49	0	6 43	-9				
TITIBU	19.61	215.1	3 50	0					6 28	
TOKYO C.M.O.	19.66	213.2	3 50	0	6 56	1				
TOYAMA	19.66	220.1	3 49	-1					6 28	
MATUMOTO	19.77	217.8	3 51	0						
YOKOHAMA	19.92	213.2	3 54	1						
KOHU	20.11	215.7	3 55	1					11 46	
HERA	20.33	212.2	3 56	0					6 40	
CHANGCHUN	20.34	254.2	3 55K	-1	7 1	-5				
MISIMA	20.43	214.3	3 56	-1	7 0	-8			12 6	
SHIZUOKA	20.76	215.3							6 39	
GIHU	20.97	219.2	3 59	-3					11 52	
NAGOYA	21.10	218.5	4 5	2	7 16	-3				
OMAESAKI	21.16	215.2	4 5	1	7 19	-1				
TIKSI	21.43	339.4	4 5	-1	7 21	-3				
KAMEYAMA	21.57	219.1	4 8	0					6 51	
TOYOOKA	21.63	223.2	4 7	-1	7 24	-3			11 57	PCS
ABUYAMA	21.90	220.9	4 10A	-1						
TOTTORI	21.91	224.3							6 0	
NARA	21.97	220.1	4 11	0					12 5	
OSAKA	22.11	220.7	4 12	0					7 0	
KOBE	22.22	221.4	4 13	0	7 36	-1				
MATSUE	22.45	226.3	4 17	2	7 41	1				
SUMOTO	22.63	221.5	4 16	-1	7 41	-2			12 16	
OKAYAMA	22.74	223.7	4 17	-1						
TAKAMATU	23.00	223.0	4 19	-1	7 47	-2				
SIOMISAKI	23.08	218.8	4 19	-2	7 48	-2				
HAMADA	23.35	227.3	4 21	-2	7 51	-3			7 3	PCP
HIROSIMA	23.64	226.0	4 26	0	7 56	-3			7 12	PCP
KOTI	23.88	223.0	4 28	0	7 57	-6			7 13	PCP
MATUYAMA	23.96	224.8			8 0	-4			7 12	PCP
SIMONOSEKI	24.66	228.0	4 32	-3						
SIMIDU	24.78	223.1	4 36	0					7 25	PCP
OOTA	24.96	226.0	4 38	0					7 30	PCP
HUKUOKA	25.20	228.4	4 40	0	8 22	-1			7 28	PCP
ITHUARA	25.21	231.1							7 25	PCP
SAGA	25.53	228.2	4 46	4	8 17	-12				
NAGASAKI	26.15	228.2	4 48	0	8 39	1				
MIYAZAKI	26.17	224.8	4 50	2	8 39	0			7 40	PCP
TOMIE	26.75	229.9	4 48	-5					7 38	PCP
KAGOSIMA	26.85	225.8	4 53	-1					7 40	
YAKUSIMA	27.83	224.7	5 1	-1	8 59	-5				
PEKING	28.05	257.2	5 3	-1	9 3	-5			6 36	
IRKUTSK	29.00	288.3	5 14K	2	9 22	0			8 2	PCP
ULAN-BATOR	29.28	278.7	5 16	1	9 26	-1				
COLLEGE	31.55	44.6	5 35	1	10 0	-1			7 38	14 50 SCS
ZO-SE	31.72	238.9	5 35K	0	10 3	-1			7 17	8 29 *SP
NANKING	32.23	243.0	5 39K	-1	10 8	-4			7 21	8 32 *SP
SIAN	36.21	256.6	6 10	-3	11 8	-3			7 55	9 9 *SP
LANCHOW	37.99	263.5	6 28K	1	11 35	-2			8 9	9 23 *SP
TAWU	39.12	230.9	6 38	2	11 50	-4				
SITKA	39.62	54.5	6 43	3					8 36	8 50 PP
GUAM	39.99	192.3	6 40	-3	11 57	-9			8 30	15 35 SCS
CHENGTU	41.67	257.3	6 57K	1	12 28	-2				
CANTON	42.31	240.6	7 1K	0	12 35	-4			10 1	*SP
HONG KONG	42.49	238.9	7 2K	-1	12 35	-7			10 2	*SP

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SEMIPALATNSK	43.27	297.0	7	7	-2						8	58	PP
BAGUIO CITY	44.43	227.0	7	16	-2	13	6	-3					
RESOLUTE	44.97	20.4	7	22K	0	13	15	-1			8	48	PCP
NORD	45.49	357.8	7	25	-1	13	20	-4			16	10	SCS
MANILA	45.89	225.4	7	27	-2	15	50	141					
KUNMING	46.64	253.3	7	34K	-1	13	35	-4	9	27			
PHU-LIEN	47.75	245.8	7	41	-2	13	51	-4			9	36	PP
ALBERNI	49.08	59.2	7	53	0								
SVERDLOVSK	49.23	313.5	7	54	0	14	14	-1			9	46	PP
HORSESHOE B.	49.81	58.3	7	58A	0						12	2	
TOCKLAI	50.03	262.0	8	3	3								
LHASA	50.16	267.7	8	2K	1	14	29	2					
VICTORIA	50.27	59.2	8	2A	0	14	31	2			16	47	
FRUNSE	50.90	292.0	8	6	0	14	38	1	9	59	13	2	
APATITY	51.54	334.7	8	9K	-2	14	43	-3	10	5	10	15	PP
HAWAII V.OB.	52.03	109.6	8	13	-1								
BANFF	52.52	52.5	8	14	-4								
SHILLONG	52.64	263.5	8	20K	2	14	59	-1			17	37	
CORVALLIS	52.87	63.0	8	21	1								
SODANKYLA	53.36	337.1	8	22	-1	15	17	8			11	15	*SP
KIRUNA	54.35	339.8	8	29K	-1	15	18	-4			12	17	SCP
TASHKENT	54.88	293.8	8	35	1	15	32	3	10	24			
CHITTAGONG	55.09	260.9	8	37K	1	15	36	4	10	37	10	59	PP
HUNGRY HORSE	55.13	54.3	8	36	0	15	34	2			9	28	PCP
SHASTA	55.97	66.0	8	43A	1	15	50	7	10	44			
UKIAH	56.60	67.9	8	47	1				10	47			
MINERAL	56.65	65.8	8	45A	-1	16	35	43					
RABAU	57.02	180.8	8	48	-1	15	56	-1	10	45			
STALINABAD	57.07	291.7	8	49	0	15	56	-1					
BUTTE	57.45	55.5	8	53	1	16	2	0					
DEHRA DUN	57.50	278.4	8	51	-1	15	58	-5					
BOKARO	57.59	267.1	8	52K	-1	16	2	-2					
BERKELEY	58.01	68.3	8	56A	1	16	10	1	10	51	20	0	SS
RENO	58.20	65.4	8	58A	1	16	17	5					
BOZEMAN	58.45	54.9	8	59	1	16	16	1					
PULKOVO	58.45	330.0	8	57	-1	16	13	-2	10	58	12	57	PPP
WARSAK DAM	58.69	286.0	8	59K	-1	16	15	-3	11	2			
LICK	58.74	68.4	9	1A	1				11	4			
LAHORE	58.82	282.1	9	1K	0	16	15	-4	11	5			
VINEYARD	59.30	68.7	9	5	1								
NURMI JARVI	59.48	333.2	9	4	-1	16	23	-5	11	18	17	46	SCS
HELSINKI	59.67	332.8	9	7	1	16	28	-2			11	30	PP
SKALSTUGAN	59.72	340.8	9	6K	-1	16	30	-1	11	24			
AGRA	59.84	275.8	9	4K	-4	16	26	-6			11	10	PP
FRESNO	60.17	67.6	9	10	0	16	40	4	11	16			
EUREKA	60.33	62.9	9	13	2	16	46	8			11	13	*SP
SALT LA KE C.	61.58	59.3	9	15	-4				11	20			
UPPSALA	61.86	336.2	9	20K	-1	16	54	-3	11	23	38	10	PKPPKP
PORT MORESBY	62.37	186.3	9	24K	0	17	4	1	11	28	38	20	PKPPKP
PASADENA	62.99	68.5	9	29A	1	17	13	2	11	34	18	17	SCS
REYKJAVIK	63.10	357.4	9	29K	0								
ASHKABAD	63.21	298.0	9	29K	0	17	15	2	11	30			
SIDA	63.31	355.5	9	31	1								
SEHORE	63.35	273.6	9	29	-1								
RAPID CITY	63.42	51.5	9	31	0	17	17	1	11	33	38	16	PKPPKP
QUETTA	64.14	286.3	9	34K	-1	17	24	0	11	37	12	11	PP
MEDAN	66.27	242.1	9	48K	0								
COPENHAGEN	66.84	336.9	9	52K	0	17	57	1	12	1	22	33	SS
TIFLIS	67.14	309.4	9	54	0	18	2	2			14	16	PPP
KARACHI	67.34	283.1	9	59K	4								
WARSAW	67.62	330.3	9	56K	0	18	4	-1	10	9	10	9	PCP
GORIS	68.15	306.9	10	0	0	18	13	2	12	7	14	28	PPP
ABERDEEN	68.26	345.6									13	35	PP
TUCSON TELE.	68.47	64.7	10	3	1	18	19	4	12	10	12	44	PP
TUCSON	68.48	64.9	10	3	1	18	18	3	12	10	38	6	PKPPKP
LWOW	68.77	327.2	10	3	0	18	16	-2	12	10	22	0	*SS
POONA	68.83	272.8	10	3	-1	18	16	-3					
BOMBAY	69.16	273.9	10	17	11	18	21	-2					
SIMFEROPOL	69.20	318.2	10	5K	-1	18	21	-2	12	12	22	6	*SS
POTSDAM	69.69	335.0	10	10	1	18	25	-4	12	14	13	21	PP
KRAKOW	69.87	329.8	10	10	0	18	29	-2	12	15	12	56	PP
RACIBORZ	0.6	330.9	10	12	-1	18	37	1					
DURHAM	70.49	344.6	10	12A	-1				12	21	13	2	PP
BACAU	70.59	323.7	10	13	-1	18	37	-2			16	9	
COLLMBERG	70.69	334.6	10	14	-1	19	26	46	12	23	18	39	
HALLE	70.78	335.3	10	14	-1	18	38	-3	12	22	10	33	PCP
WITTEVEEN	70.79	339.0	10	14	-1								
LEMBANG	70.84	228.3	10	14K	-1	18	40	-2					

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FOCSANI	71.22	323.0	10 26	8	18 52	6		
MUNSTER	71.38	338.1	10 18	-1				
JENA	71.40	335.3	10 19	0	18 45	-3	12 27	13 21 PP
PRAGUE	71.43	333.2	10 20K	1	18 46	-2	12 27	13 6 PP
PRUHONICE	71.48	333.1	10 20K	1	18 48	-1	12 28	13 9 PP
PLAUEN	71.65	334.8	10 17	-3	18 47	-4	12 27	
DE BILT	71.79	339.7	10 11K	-10	18 54	2	12 32	13 14 PP
SONNEBERG	72.00	335.3	10 21	-1	18 53	-2	12 30	
HURBANOVO	72.33	329.8	10 28	4	19 2	4	12 28	
CAMPULUNG	72.37	324.2	10 26	2	19 3	4		
BRATISLAVA	72.39	330.6	10 24A	0	19 0	1	12 33	13 38 *SP
BUDAPEST	72.41	329.1	10 25	0	19 1	2		
BENSBERG	72.42	338.0	10 24	-1	19 1	2		
RATHFARNHAM	72.61	347.0	10 26K	0			12 45	13 39 PP
BUCHAREST	72.72	323.0	10 32	6	19 5	3		
CHARTERS TS.	72.96	186.5	10 26	-2	19 4	-1		
UCCLE	73.19	339.7	10 29	0	18 59	-9		
TIMISOARA	73.25	326.9	10 32	3				
SHAWINIGAN	73.43	31.0	10 30K	0	19 4	-6	12 39	
KEW	73.45	342.9	10 30K	0	19 10	0	12 45	13 27 PP
OTTAWA	73.50	33.4	10 30K	-1	19 4	-7		12 36 PP
SEVEN FALLS	73.51	29.5	10 32	1	19 10	-1		19 36 SCS
DOURBES	73.80	339.3	10 34	2	19 17	3		
STUTTGART	73.99	335.9	10 34K	1	19 14	-2	12 34	13 42 PP
BREBEUF	74.10	32.0	10 33K	-1	19 15	-2		
TUBINGEN	74.24	335.9	10 35K	0				
BELGRADE	74.33	326.9	10 35K	0	19 57	37	12 45	19 21
STRASBOURG	74.51	336.8	10 36K	0	19 24	2	12 41	13 35 PP
EBINGEN	74.59	335.8	10 37K	0				
RAVENSBURG	74.80	335.3	10 38	0				
ZAGREB	74.84	330.3	10 40	2	19 27	2		
LJUBLJANA	75.06	331.4	10 39K	0			12 50	10 54 PCP
TOLMEZZO	75.17	332.5	10 40	0	19 31	2		11 25
SOFIA	75.21	324.0	10 40	0	19 28	-1	12 41	10 58 PCP
DALLAS	75.33	54.7	10 44	3				
PARIS	75.46	340.3	10 44	2	19 32	0		
BASLE	75.54	336.5	10 42	0	19 32	-1		
TRIESTE	75.65	331.7	10 42	-1	19 13	-21	12 54	14 37 PP
PENNSYLVANIA	76.80	37.1	10 48	-1	19 41	-5	12 58	14 4 *SP
PAVIA	77.33	334.6	10 53K	1	20 8	16	14 8	20 30 SKS
BOLOGNA	77.38	332.8	10 51	-1	19 56	4		
KSARA	77.67	310.6	10 53	0	20 17	22	13 3	14 5 PP
HALIFAX	77.82	25.7	10 54K	0	19 53	-4	13 9	20 39 SP
MAZATLAN	77.98	67.6					13 21	16 45
PALISADES	78.01	34.3	10 55	0	19 54	-5	13 4	13 56 PP
FORDHAM	78.16	34.4	10 18	-38	18 58	-62		
CLERMONT-FD.	78.22	338.9	10 58	2	20 4	3		
WASHINGTON	78.76	37.5	10 59	0	20 0	-6	13 11	
MONACO	79.13	335.2	10 53	-8				20 8 SP
ATHENS	79.21	321.4	11 0K	-2	20 7	-4		
ROME	79.45	331.0	11 3K	0	20 13	0	14 17	24 9 *SS
JERUSALEM	79.67	309.9	11 4	0				
BRISBANE	80.17	179.8	11 7K	0	19 24	-57		
CHAPEL HILL	80.62	40.3	11 10	1			13 23	
COLUMBIA	81.50	42.7	11 14	1				20 32 SCS
MESSINA	81.88	327.3	11 13	-2	20 28	-10	13 20	14 32 PP
TORTOSA	83.51	339.2	12 15	52	20 55	2		
SERRA PILAR	84.85	346.0	11 27A	-3			13 46	
TACUBAYA	84.99	64.3			21 12	5	13 36	
TOLEDO	85.32	342.4	11 30K	-2	21 8	-2	13 48	15 2 PP
SETIF	86.74	334.1	11 39A	0	21 30	7	13 55	
ALGIERS UNI.	86.79	336.1	11 37	-2	21 24	0	13 53	15 14 PP
VERA CRUZ	86.81	62.1			21 14	-10		
LISBON	87.29	346.0	11 41K	0				
GRANADA	87.85	341.4						14 55 PP
CANBERRA	88.05	183.1	11 46A	1				
ADELAIDE	88.46	191.6	11 46K	-1				
MERIDA	88.72	56.0			21 51	10	14 9	19 24
BERMUDA	88.88	31.0	11 48	-1	21 42	-1		14 3 PP
KARAPIRO	92.70	162.2	12 8	2				
TAMANRASSET	99.34	329.7	12 36K	0	23 17	5	14 57	16 53 PP
BANGUI	111.07	310.0	17 23	1				
TANANARIVE	114.06	270.3	17 29	1				18 37 PP
TERRE ADELIE	119.84	185.2	17 37	-2				
ELISABTHVILLE	120.17	292.6	17 41	1				20 18 SKP
LEOPOLDVILLE	120.33	308.8	17 41K	1			19 17	32 18
HUANCAYO	124.01	61.6						27 27 PKKP
BULAWAYO	126.30	285.4	17 34	-18				



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MIRNY	127.52	205.9	17 52	-2		
PRETORIA	130.85	281.3	17 53	-7	18 10	
SCOTT BASE	130.90	176.1	18 0	0	20 24	SKP
LA PAZ	131.49	57.1	18 7	6	20 34	PP
PIETERMZBURG	132.38	275.9	18 5	2		
WINDHOEK	134.74	294.7	17 56	-12		
KIMBERLEY	135.10	281.6	17 54	-14		
GRAHAMSTOWN	137.30	275.5	17 59	-13		
BYRD STATION	141.30	163.8	18 14	-7	20 36	20 56 SKP
SOUTH POLE	142.85	180.0	18 18	-5		
PORT STANLEY	161.27	98.3	19 40	52		20 59 SKP

JULY 22 23.H 2.M 26.5 EPICENTRE -5.07 152.56 DEPTH= 0.KM

A=-0.88403 B= 0.45910 C=-0.08780 D= 0.4609 E= 0.8875  
G= 0.0779 H=-0.0405 K=-0.9961 HT= 7.0

SE= 2.27

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.		
			M	S		M	S		M	S	M	S	
RABUL	0.95	336.0	0	24	5						8	18	PCP
PORT MORESBY	6.87	231.0	1	41K	-2	2	59	-3					
CHARTERS TS.	16.06	201.9	3	45	-2	6	50	5					
GUAM	19.98	337.3	4	36A	1						12	25	SCP
NOUMEA	21.77	143.2	4	51A	-2	8	49	1					
RIVERVIEW	28.64	182.4	5	56	-2	10	48	3					
ADELAIDE	32.35	201.5	6	30	-1	11	44	1					
MELBOURNE	33.33	191.0	6	38	-1	11	54	-5					
BAGUIO CITY	38.16	304.7	7	20	0	13	12	-1					
KARAPIRO	38.82	150.5	7	26A	0						9	35	
TUAI	40.31	149.8	7	40	2								
YAKUSIMA	41.15	330.5	7	44A	-1	13	57	-1					
HENGCHUN	41.15	312.0	7	48	3								
WELLINGTON	41.17	154.4	8	6	21						9	33	PP
TAWU	41.25	312.5	7	46	0								
HSINKONG	41.37	313.8	7	49	2								
SIOMISAKI	41.48	338.6	7	47	-1						17	31	
MERA	41.54	344.2	7	46	-2								
OMAESAKI	41.71	342.1	7	48	-2								
HWALIEN	41.74	315.1	7	56	6								
MIYAZAKI	41.93	332.7	7	54	2	14	15	6					
MISIMA	41.98	343.2	7	49	-3								
SIMIDU	41.99	335.0	7	52	0								
SHIZUOKA	42.00	342.5	8	4	12								
KAGOSIMA	42.05	331.5	7	52	-1	14	8	-3					
YOKOHAMA	42.07	344.2	8	13	20								
ILAN	42.17	316.1	7	58	4								
TOKYO C.M.O.	42.28	344.4	7	55	1								
GEBBIES PASS	42.36	158.3	7	55	0								
HUNATU	42.38	343.2	8	15	20								
KOTI	42.43	336.2	7	56	0	13	42	-35			9	34	
KAMEYAMA	42.50	340.3	7	56	0						11	8	
KOHU	42.56	343.1	7	56	-1	13	42	-37			17	59	
NARA	42.57	339.5	7	57	0								
SUMOTO	42.61	338.2	7	56K	-1	14	9	-10			18	20	SS
NAGOYA	42.63	341.0	8	11	14								
OSAKA	42.65	339.1	7	58	1						13	7	
TUKUBASAN	42.70	345.1	7	55A	-3	14	22	1	8	5	9	36	PCP
MITO	42.76	345.6	7	59	1								
KOBE	42.80	338.8	7	58	-1	13	56	-26					
KUMAGAYA	42.82	344.3	8	0	1						15	3	
ROXBURGH	42.89	162.7	8	10	11	14	16	-7			17	59	SS
GIHU	42.91	340.9	7	57	-3						13	40	
OOITA	42.95	333.9	7	59	-1						9	36	
HIKONE	42.96	340.3	7	59	-1								
MATUYAMA	42.99	335.6	7	59	-1						13	17	
KUMAMOTO	43.02	332.6	8	11	10								
UTUNOMIYA	43.07	345.0	8	2	1						16	54	
MAEBASI	43.14	344.0	7	59	-3						18	2	
ONAHAMA	43.20	346.3									8	44	
OIWAKE	43.22	343.4	8	2	0								
NAGASAKI	43.32	331.7	8	2A	-1	14	34	4					
MATUSIRO	43.52	343.2	8	3A	-2	14	36	3			9	45	PCP
SHIRAKAWA	43.52	345.6	8	4	-1						10	38	
PERTH	43.53	227.6	8	18	13	14	33	0			17	35	SS

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SAGA	43.56	332.6	8	9	4				
HIROSIMA	43.59	335.6	8	5A	0	14	34	1	
NAGANO	43.64	343.2	8	6	0				18 5
TOYOOKA	43.69	338.9	8	5	-1	13	48	-47	
TOMIE	43.77	330.5	8	7	0				15 24
HUKUOKA	43.78	333.0	8	7A	0	14	33	-3	9 57 PP
SIMONOSEKI	43.87	333.8	8	11	4				
TOTTORI	43.88	338.3	8	8	1				
TOYAMA	43.96	342.1	8	5	-3				
HUKUSIMA	44.06	346.2	8	13	4				10 3
HAMADA	44.19	335.6	8	10	0	14	42	0	
MATSUE	44.27	337.0	8	12	1				
SENDAI	44.46	346.9	8	11	-1				9 54
YAMAGATA	44.57	346.3	8	13	0				
LEMBANG	44.72	265.4	8	12A	-2				18 10 SS
MI ZUSAWA	45.23	347.5	8	18	0	15	22	25	
DJAKARTA	45.51	266.3	7	58	-23				15 4
AKITA	46.03	346.6	8	26	1				
HONG KONG	46.37	307.4	8	27A	0	15	39	25	8 57
ZO-SE	46.81	322.2	8	31A	0	15	19	-1	10 3 PCP 10 5 PCP
AOMORI	46.93	347.8	8	34	2				
CANTON	47.48	307.7	8	37A	1	15	30	1	10 25 PP
HAKODATE	47.86	348.1	8	38	-1				
MORI	48.20	348.0	8	43	1				
KUSIRO	48.39	352.0	8	32A	-11				14 4
TOMAKOMAI	48.41	349.2	8	47	4				
OBHIRO	48.51	350.8	9	10	26				
NEMURO	48.59	353.2							9 35
NANKING	48.93	321.3	8	49A	2				
SUTTSU	48.94	348.0	8	46	-1				
SAPPORO	48.98	349.1	8	47A	-1	15	47	-3	
VLADIVOSTOK	51.49	340.7	9	7	0	16	25	0	17 12
PHU-LIEN	51.88	301.3	9	10	0				11 6 PP
Y.-SAKHLINSK	52.52	351.5	9	14	-1				
MEDAN	54.50	278.0	9	26A	-3	16	56	-10	
CHANGCHUN	54.52	336.0	9	28A	-1	17	5	-1	12 58 PPP
PEKING	55.98	326.7	9	39A	-1	17	23	-3	13 0 PPP
SIAN	56.77	316.9	9	45A	-1				
KUNMING	56.95	304.2	9	48A	1				
PETROPAYLOVK	58.21	4.3	9	54	-2				18 12 PS
CHENG TU	58.42	310.7	9	56A	-1	17	55	-3	13 36 PPP
PAOTOW	59.85	323.5	10	7	0				
LANCHOW	61.27	316.0	10	16A	-1	18	31	-4	
TOCKLAI	64.18	302.8	10	42	6				
MAGADAN	64.43	359.0	10	38	0	19	16	2	
CHITTAGONG	65.32	297.3	10	46	2				
ULAN-BATOR	66.21	328.3	10	49	0				
SHILLONG	66.25	300.6	10	50A	0	19	39	2	
WILKES	67.64	197.1	11	2	4	19	50	-3	24 8 SS
CAPE HALLETT	68.05	174.2	11	5	4	19	58	0	13 3 PP
YAKUTSK	69.17	348.7	11	6	-2	20	6	-6	
IRKUTSK	70.22	330.8	11	14A	0				11 30 PCP
BOKARO	71.05	297.2	11	19	0	20	36	2	
SCOTT BASE	73.12	176.9	11	30	-2	20	58	1	11 51 PCP
MIRNY	73.59	201.1	11	33	-1	21	1	-2	21 23 SCS
TIKSI	78.11	352.5	11	58	-2	21	50	-2	14 58 PP
AGRA	78.65	298.8	11	59A	-4	21	52	-6	14 49 PP
DEHRA DUN	79.28	302.0	12	8	2	22	2	-3	
POONA	80.95	289.6	12	9	-6	21	57	-25	
KERGUELEN I.	81.28	221.0				22	28	2	
BOMBAY	81.97	289.8				22	37	4	
COLLEGE	82.20	21.8	12	20	-2	22	34	-1	15 47 PP
LAHORE	82.66	302.6	12	33A	9				
SEMI PALATNSK	82.74	322.1	12	22	-3	22	36	-5	22 59 SCS
SITKA	84.63	31.5	12	36	2				
FRUNSE	84.66	313.8	12	34	0	22	57	-3	
BYRD STATION	84.68	169.9	12	33	-1	22	55	-5	12 50
SOUTH POLE	84.96	180.0	12	35	-1	22	50	-13	23 55 *SS
WARSAK DAM	85.38	304.6	12	38A	0	23	4	-3	
KARACHI	88.16	296.0	12	52	1	23	18	-15	
TASHKENT	88.28	311.5	12	53	1	23	34	0	16 23 PP
STALINABAD	88.28	308.8	12	53	1	23	31	-3	
UKIAH	88.69	50.7	12	55	1				
QUETTA	88.73	300.3	12	54A	0	23	37	-2	23 24 SCS
ALBERNI	89.00	40.5	12	58	3				
BERKELEY	89.28	52.1	12	56	-1	23	41	-3	24 57 PS
CORVALLIS	89.36	45.3	13	9	12				
SHASTA	89.53	49.2	12	59	1				
LICK	89.71	52.6	13	1K	2				16 29

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VICTORIA	89.81	41.4	12 58	-1	23 30	-18						25 18
HORSESHOE B.	90.01	40.6	12 59A	-1								
MINERAL	90.08	49.7	13 1	0								16 35
FRESNO	91.11	53.4	13 1	-4								
RENO	91.37	50.6	13 7A	1								
PASADENA	92.21	56.1	13 12A	2	24 15	5						16 52 PP
EUREKA	94.33	50.9	13 20	0	24 11	-17	13 52					17 12 PP
BANFF	95.11	39.2	13 23	-1								
SVERDLOVSK	95.26	326.5	13 23	-1	23 58	-38						17 16 PP
HUNGRY HORSE	96.03	42.0	13 27	-1	24 8	-35						17 20 PP
ASHKABAD	96.40	307.5	13 30A	0	24 8	-38						17 18 PP
KHEYS	96.77	350.1	13 25	-6	24 1	-48						17 12 PP
BUTTE	97.00	44.4	13 30	-2								24 12 SKKS
BOZEMAN	98.07	44.7	13 38	1								24 18 SKKS
TUCSON	98.27	58.3	14 3	25								17 37 PP
TUCSON TELE.	98.36	58.2	13 41	3			13 55					17 37 PP
RESOLUTE	100.73	14.5	13 47A	-2	25 34	12						26 56 PS
NORD	103.34	358.4			24 39	-65						18 17 PP
RAPID CITY	103.74	46.0	14 3	1								18 17 PP
APATITY	105.50	339.6	14 8A	777	24 47	0						27 56 PS
GORIS	105.72	309.5	14 11	777								18 33 PP
TIFLIS	106.60	311.9	14 15	777								18 42 PP
SODANKYLA	107.89	340.8	18 27	1	24 58	1						18 48 PP
MOSCOW	108.05	327.3	14 19	777								18 50 PP
KIRUNA	109.56	342.6	18 32	3	25 3	5						19 0 PP
PULKOVO	110.16	332.9	14 29	777								18 53 PP
NURMI JARVI	112.27	335.0	18 38	3	25 18	1						19 23 PP
HELSINKI	112.32	334.6	18 37	2	25 14	-3						
SIMFEROPOL	113.49	317.1	14 44A	777								19 30 PP
KSARA	114.89	304.9	18 37	-3								19 49 PP
SKALSTUGAN	114.92	341.6	18 42	2								
UPPSALA	115.53	336.7	18 42	1	25 27	-3						19 40 PP
COMITAN	115.69	74.5										39 28 PKPPKP
JERUSALEM	115.82	302.8	18 44	2								19 49 PP
TERRE HAUTE	116.19	48.3	19 34	51								25 14 PP
LWOW	117.96	325.0										20 3 PPP
WARSAW	118.39	328.4	18 47	0	25 32	-8						19 4 PP
BUCHAREST	119.04	318.8										20 14 PP
BULAWAYO	119.51	243.6	18 51	2								
KIMBERLEY	119.59	233.0	18 50	1								
KRAKOW	120.13	326.7	18 51	1								20 18 PP
COPENHAGEN	120.35	335.1	18 54	3	25 49	2						20 13 PP
HERMANUS	121.04	224.6			25 56	7						29 58 PS
SOPIA	121.58	317.9	18 54	1	25 56	5						20 10 PP
OTTAWA	121.97	38.3	18 54	0								20 24 PP
BUDAPEST	121.97	324.5										20 29 PP
POTSDAM	122.25	331.9	18 56	2			19 17					23 7
BELGRADE	122.48	321.2	18 57K	2	26 3	9						22 50 PKS
PENNSYLVANIA	122.61	44.0	18 57	2	25 56	2						
COLUMBIA	122.69	52.6	18 57	2								
BRATISLAVA	122.72	326.1	18 58A	3	25 58	4						20 27 PP
ELISABTHVLE	122.96	252.7	18 59	3			19 15					20 37 PP
COLLMBERG	122.98	331.0	18 56	0								20 37 PP
PRUHONICE	123.03	329.0	18 56A	0	25 59	4						20 39 PP
PRAGUE	123.03	329.1			25 56	1						20 14
SHAWINIGAN	123.15	35.9	18 57	1								
BREBEUF	123.20	37.3	18 58K	2								
LWIRO	123.34	264.0										20 39
HALLE	123.35	331.6	18 58	1	25 58	2						20 42 PP
JENA	123.90	331.3	18 58	0			19 14					20 37 PP
PLAUN	123.90	330.6	18 57	-1			19 10					20 42 PP
WASHINGTON	123.95	45.8	18 58	0								20 40
CHEB	124.06	330.1										20 41
ABERDEEN	124.34	343.6										20 46 PP
SONNEBERG	124.44	331.0	18 59	0								20 41 PP
WITTEVEEN	124.77	335.5	18 57	-2								
MUNSTER	124.99	334.3	19 1	1								
PALISADES	125.21	42.2	19 0	0	26 22	20						20 48 PP
FORDHAM	125.31	42.3	18 23	-37								19 41
LJUBLJANA	125.37	325.2	19 0A	0			19 16					20 53 PP
BENSBERG	125.91	333.7	19 2	0								20 54 PP
DE BILT	125.92	335.8	19 4	2								20 54 PP
TRIESTE	126.04	325.2	19 4	2	26 4	-1						21 0 PP
DURHAM	126.23	341.7	19 2A	0			19 22					20 42 PP
STUTTGART	126.49	330.6	19 3	0			19 20					20 58 PP
TUBINGEN	126.71	330.4	19 3	0								
EBINGEN	127.00	330.2	19 3	-1								
UCCLE	127.24	335.2	19 6	2	26 4	-4						

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STRASBOURG	127.31	331.2	19	3	-1	26	25	17	19	21	20	59	PP
DOORBES	127.66	334.4	19	8	3	26	18	9					
BOLOGNA	128.10	325.3	19	30	24						21	44	
KEW	128.54	338.6	19	8	1						22	27	PKS
PAVIA	128.87	327.2	19	11A	4						21	17	PP
RATHFARNHAM	128.89	343.8	19	8K	1								
MESSINA	128.91	316.3	18	54	-13	26	14	1			22	24	PP
ROME	128.96	322.0	19	8K	1						21	19	PP
HUANCAYO	129.44	110.0	19	11	3						22	36	PKS
HALIFAX	129.48	33.1	19	9K	1	26	19	5			22	29	PKS
FOLINIÈRE	130.79	336.7	19	12	1								
JERSEY	131.07	338.1									22	39	
CLERMONT-FD.	131.54	331.6	19	14	2				19	32			
CHINCHINA	132.02	87.9	19	14	1						22	41	SKP
BOGOTA	133.55	88.5	19	21	5						22	49	SKP
FUQUENE	133.92	87.3	19	14	-3						22	33	SKP
BANGUI	134.09	271.2	19	18	1								
LA PAZ	134.42	118.9	19	12	-6	26	36	11			25	4	PPP
BERMUDA	135.88	47.3	19	20	0						21	44	PP
LEOPOLDVILLE	136.34	258.3	19	23A	2						22	3	PP
TORTOSA	136.47	328.9	19	23	2						22	58	PP
SETIF	136.77	320.2	19	24A	2				19	44	21	56	PP
LUANDA	137.17	251.3									22	7	
ALGIERS UNI.	137.87	322.6	19	25	1				19	47	22	13	PP
ALICANTE	138.79	327.2	18	48	-38	26	17	-16			22	15	PP
TOLEDO	139.43	332.0	19	20	-7						22	26	PP
SAN JUAN	140.00	67.4	19	31	3						23	10	SKP
SERRA PILAR	140.33	337.5	19	26A	-2						23	6	PKS
CARACAS	140.53	79.7	19	40	11						29	4	PKKP
COIMBRA	141.06	336.6	19	23K	-7						22	31	PP
GRANADA	141.31	328.9	19	28K	-2	27	13	36			21	47	PP
LISBON	142.61	336.1	19	30K	-2						23	8	PKS
TAMARRASSET	143.63	302.1	19	33A	-1				19	53	23	8	PP
FORT FRANCE	145.49	71.4	19	38	1								
ST. VINCENT	145.68	74.1	19	38	0								
PONTA DELGDA	147.45	357.4	19	46A	5						19	50	PKP2
MBOUR	166.15	312.6	20	5	1						24	56	PP

JULY 23 3.H 48.M 12.S EPICENTRE 2.71 -76.12 DEPTH= 38.KM

DEPTH OF FOCUS= 0.001R

A= 0.23968 B=-0.96971 C= 0.04697 D=-0.9708 E=-0.2399  
G= 0.0113 H=-0.0456 K=-0.9989 HT= 7.1

SE= 1.77

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.		
			M	S		M	S	S	M	S	M	S	
CHINCHINA	2.30	12.4	0	35	-1	1	2	-1					
BOGOTA	2.79	47.1	0	42	-1	1	19	3					
FUQUENE	3.63	40.9	0	52	-3	1	15	-22					
BALBOA HTS.	7.09	331.3	1	43A	-1								
CARACAS	11.96	49.3	2	57K	7	5	14	10					
HUANCAYO	14.68	177.0	3	27K	1	6	23	14					
TRINIDAD	16.60	60.9	3	51	0								
SAN JUAN	18.40	31.5	4	13	0				5	26			
LA PAZ	20.65	157.8	4	36	-2	8	36	14			4	58	PP
COLUMBIA	31.47	352.2	6	21	1								
DALLAS	35.70	329.4	6	56	0								
WASHINGTON	36.03	358.7	6	59	0								
PENNSYLVANIA	37.95	357.8	7	17	2	13	10	6			8	47	PP
OTTAWA	42.52	0.4	7	52	-1								
BREBEUF	42.67	2.6	7	54A	0				8	18			
SHAWINIGAN	43.76	3.3	8	3A	0								
TUCSON TELE.	43.86	316.1	8	5	1						12	55	
TUCSON	43.89	315.9	8	5	1				8	37			
SEVEN FALLS	44.47	5.2	8	9	0								
RAPID CITY	47.66	333.6	8	33	-1				9	29			
PASADENA	50.11	313.6	8	54	1	16	12	12			9	21	
EUREKA	51.45	320.6	9	4	1						10	59	PP
FRESNO	52.55	315.7	9	10	-1								
BUTTE	53.59	329.0	9	18	-1								
RENO	53.96	318.7	9	23A	1								
LICK	54.12	315.4	9	24A	1								
HUNGRY HORSE	55.90	330.3	10	35	59								
SHASTA	56.26	313.6	9	37K	-1								

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BANFF	58.51	332.0	9 53	-1			
RESOLUTE	72.74	354.9	11 24	-2	20 48	1	
FOLINIÈRE	78.51	40.8	11 59	0			
KEW	79.05	38.1	12 1	0			
COLLEGE	79.84	335.7	12 6	0			
CLERMONT-FD.	80.55	44.2	12 10	0			
TAMANRASSET	81.25	67.5	12 5	-8			
DOURBES	81.97	39.9	12 17	0			
STRASBOURG	83.93	41.6					13 32
STUTT GART	84.88	41.5	12 31	-1			
BYRD STATION	85.39	186.9	12 37	3		13 1	
JENA	86.46	39.3	12 40	1			13 2
SKALSTUGAN	86.88	26.6	12 42	1			
COLLMBERG	87.35	38.9	12 44	0			
PRUHONICE	88.37	40.2	12 50A	1		13 12	
LJUBLJANA	88.51	44.2	12 50	1			
KIRUNA	89.99	22.2	12 56	0			
SOUTH POLE	92.69	180.0	13 10	1			

JULY 23 13.H 45.M 37.S EPICENTRE 38.57 140.27 DEPTH= 134.KM

DEPTH OF FOCUS= 0.016R

A=-0.60289 B= 0.50107 C= 0.62086 D= 0.6392 E= 0.7691  
G=-0.4775 H= 0.3968 K=-0.7839 HT= -1.2

SE= 2.22

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
YAMAGATA	0.32	168.7	0 17	-3	0 31	-4						
SAKATA	0.48	314.2	0 21	0	0 38	2						
SENDAI	0.58	120.7	0 18A	-3	0 32	-5						
HUKUSIMA	0.83	169.0	0 20	-2	0 35	-5						
I SINOMAKI	0.84	99.1	0 20K	-2	0 35	-5						
MIZUSAWA	0.88	49.8	0 23	0	0 39	-1						
NIIGATA	1.16	236.5	0 24	-1	0 40	-5						
AKITA	1.16	353.5	0 26	1	0 47	2						
MORIOKA	1.33	31.5	0 25K	-2	0 46	-2						
SHIRAKAWA	1.45	181.6	0 27	-1	0 47	-3						
AIKAWA	1.68	251.7	0 30	-1	0 53	-2						
ONAHAMA	1.69	162.6	0 29	-2	0 49	-6						
MIYAKO	1.71	50.2	0 30K	-1	0 51	-4						
UTUNOMIYA	2.04	189.1	0 34	-1	0 58	-4						
TAKADA	2.17	228.1	0 37	0	1 4	-1						
MITO	2.19	175.8	0 36	-1								
HATINOHE	2.19	26.0	0 38	1	1 5	0						
AOMORI	2.28	9.8	0 40K	2	1 10	3						
KAKIOKA	2.33	181.8	0 37	-2	1 3	-6						
MAEBASI	2.36	204.2	0 37K	-2	1 7	-2						
NAGANO	2.51	221.6	0 42	1	1 13	1						
KUMAGAYA	2.51	196.6	0 41	0	1 10	-3						
MATUSIRO	2.59	219.6	0 42K	0	1 8	-6						
OIWAKE	2.62	212.0	0 43	0	1 15	0						
TYOSI	2.88	170.6	0 54	8								
TOKYO C.M.O.	2.91	188.4	0 45	-1	1 17	-5						
WAZIMA	2.91	247.1	0 47	1	1 23	1						
MATUMOTO	2.95	219.1	0 49	2	1 18	-5						
YOKOHAMA	3.17	189.2	0 56	6	1 24	-4						
HAKODATE	3.23	6.0	0 54	4	1 31	2						
KOHU	3.23	205.4	0 49	-2	1 26	-3						
HUNATU	3.29	201.9	0 50	-1	1 28	-3						
TAKAYAMA	3.41	225.8	0 52	-1								
MORI	3.54	3.6	0 58	3	1 40	4						
MISIMA	3.60	197.5	0 57	2	1 33	-5						
AJIRO	3.63	195.3	0 54	-2	1 32	-7						
HERA	3.66	185.7	1 21	25								
MURORAN	3.80	7.9	1 16	18	1 42	-1						
SHIZUOKA	3.89	203.3									1 48	
HUKUI	4.06	233.0	1 3	2								
URAKAWA	4.06	27.4	1 1	0	1 48	-1						
TOMAKOMAI	4.07	13.8	1 8	6	1 51	2						
GIHU	4.22	222.6	1 4	0	1 51	-2						
SUTTSU	4.23	359.6			1 46	-7						
OMAESAKI	4.29	203.2	1 11	6								
NAGOYA	4.30	219.0	1 5	0	2 10	15						

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HIROO	4.38	31.1			1 53	-3		
SAPPORO	4.57	10.0	1 10	2	1 59	-2		
HIKONE	4.60	225.6	1 10	1	2 3	1		
KAMEYAMA	4.80	220.6	1 17	6	2 15	8		
OBIHIRO	4.88	26.2	1 11	-1	2 4	-5		
KYOTO	5.08	227.2	1 15	0	2 12	-1		
NARA	5.27	224.0	1 16	-2	2 11	-7		
ABUYAMA	5.28	227.1	1 17K	-1				
KUSIRO	5.41	34.1	1 17	-2	2 15	-6		
OSAKA	5.46	225.7	1 21	1	2 27	5		
NEMURO	6.23	38.5	1 29	-1	2 34	-7		
ABASHIRI	6.23	27.7			2 38	-3		2 16
SIOMISAKI	6.27	216.9	1 52	21	2 54	12		
VLADIVOSTOK	7.80	308.3			3 27	8		
Y.-SAKHLINSK	8.57	11.3	2 2	0	3 36	-1		
ZO-SE	17.33	250.3	3 54	-1				
NANKING	18.67	256.1	4 8	-2				
PEKING	18.70	282.1	4 8	-2	7 32	2		
YAKUTSK	24.36	347.9	5 5	-1				
SIAN	25.53	270.0	5 17	0				
HONG KONG	27.60	241.6	5 35	-1	9 58	-8		
LANCHOW	28.97	276.5	5 47	-2				
SHILLONG	42.56	267.0	7 42A	-2				
PORT MORESBY	48.15	170.9	8 33	5				
COLLEGE	48.29	32.9	8 30	1				
NORD	59.47	356.2	9 50	-1				
RESOLUTE	61.35	14.4	10 2A	-2				
SODANKYLA	63.20	336.6	10 14	-2				
KIRUNA	64.76	338.7	10 25	-1				
LILLOOET	65.71	43.7	10 23	-9				
NURMI JARVI	68.17	331.3	10 47	0			11 16	
CORVALLIS	68.19	49.9	10 49A	1				
HELSINKI	68.27	330.9	10 48	0				
BANFF	68.82	40.9	10 50	-1				
SKALSTUGAN	70.16	338.0	10 58	-2				
SHASTA	70.90	52.9	11 5	1				
UPPSALA	71.19	333.3	11 5	-1				
HUNGRY HORSE	71.28	42.7	11 6	0				
MINERAL	71.60	52.9	11 8A	0				
RENO	73.19	52.7	11 18A	0				
EUREKA	75.59	50.9	11 32	1			12 5	
PASADENA	77.49	56.3	11 43	1				
RAPID CITY	79.74	40.9	11 55	1				
TUCSON TELE.	83.43	53.7	12 14	1				
LAWRENCE	87.54	40.0	12 34	0				
BYRD STATION	129.46	167.2	18 53	0				

JULY 23 14.H 56.M 51.S EPICENTRE -24.42-176.68 DEPTH= 76.KM

DEPTH OF FOCUS= 0.007R

A=-0.91003 B=-0.05273 C=-0.41119 D=-0.0578 E= 0.9983  
G= 0.4105 H= 0.0238 K=-0.9116 HT= 3.5

SE= 2.24

	DELTA DEG.	AZ. DEG.	P		O-C S	S O-C			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
RAOUL ISLAND	4.93	192.7	1	9	-4							
SUVA	7.73	323.0	1	53	1							
APIA	11.54	24.5	2	36	-8	4	35	-16			15	42 SCS
ONERAHI	13.69	212.3	3	16	4							
KARAPIRO	15.00	204.4	3	40	11						6	55
TUAI	15.26	190.6	3	30	-2	6	7	-12			5	52
NOUMEA	15.63	274.4	3	41K	4	6	45	17				
WELLINGTON	18.26	200.9	4	1	-9	7	7	-20				
COBB RIVER	18.82	205.5	4	27	11	7	22	-18				
KAIMATA	20.56	205.7				7	59	-16				
BRISBANE	27.37	257.1	5	42	2							
RIVERVIEW	29.52	244.1	5	58	-1						11	32
CANBERRA	31.53	241.8	6	17A	0				6	35		
CHARTERS TS.	34.52	269.8	6	40	-3	12	1	-4				
MELBOURNE	35.19	238.5	6	48	-1							
RABAUL	36.10	298.9	6	53	-3	13	6	37			8	26
PORT MORESBY	37.55	287.1	7	7	-1	12	54	2	7	27	8	43 PP
ADELAIDE	39.85	244.2	7	27	-1							
CAPE HALLETT	48.46	185.3	8	36	-1	15	36	5			10	32 PP



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GUAM	53.26	310.8	9 12	-1	16 34	-3				10 15 PCP
SCOTT BASE	54.06	184.3	9 17	-2	16 54	6	9 33			
BYRD STATION	60.59	170.3	10 2	-3	18 37	24	10 20			12 18 PP
WILKES	60.97	206.3			18 13	-5				10 19 PCP
SOUTH POLE	65.72	180.0	10 35	-4			10 54			23 37 SS
MATUSIRO	74.08	323.6	11 28K	-2	20 56	1				25 52 SS
LEMBANG	74.20	269.6	11 29K	-1	20 55	-1				
ARGENTINE I.	76.90	156.4	11 44	-2						
HALLEY BAY	78.51	172.6	11 52	-3						
Y.-SAKHLINSK	79.94	333.1	12 2	0	22 4	6				
VINEYARD	80.11	42.1	12 6	3						
PETROPAVLOV	80.15	345.2	12 1	-2			12 33			
BERKELEY	80.31	40.8	12 5	1	22 11	9	12 23			
LICK	80.33	41.5	12 6K	2						13 10
PASADENA	80.50	45.8	12 5	0	22 15	11				12 24
UKIAH	80.58	39.3	12 6	0			12 25			
FRESNO	81.09	42.9	12 9A	1						
ZO-SE	81.13	309.9	12 9	0	22 14	3	12 40			
HONG KONG	81.64	299.0	12 14A	3	22 26	10				
UGLEGORSK	81.93	334.0	12 11	-1						
SHASTA	82.10	38.6	12 15	1						
VLADIVOSTOK	82.17	324.7	12 13	-1						
MINERAL	82.32	39.2	12 16A	1						13 26
CANTON	82.74	299.2	12 17K	0	22 28	1	12 51			
RENO	82.85	40.7	12 18	1						
NANKING	83.34	309.5	12 20K	0	22 35	2	12 54			
CORVALLIS	84.21	35.2	12 26	2						
TUCSON	84.40	51.0	12 27	2			12 48			
TUCSON TELE.	84.53	51.0	12 27	1						25 46 PS
EUREKA	85.14	42.6	12 29	0			12 59			31 16 PKKP
CHANGCHUN	86.23	322.0	12 35K	1	23 5	4	13 7			
ALBERNI	86.67	31.1	12 38	2						
VICTORIA	86.83	32.3	12 38	1						
PORT STANLEY	87.22	146.9	12 45	6						
HORSESHOE B.	87.48	31.7	12 39	-1						
MAGADAN	87.84	344.1	12 41	-1	23 22	5				
SALT LAKE C.	88.46	43.4	12 46	1						
LILLOOET	89.02	31.3	13 9	21						
PEKING	89.52	315.0	12 50K	0	23 35	3	13 24			23 11 SKS
BUTTE	91.01	38.8	12 55	-2						
HUNGRY HORSE	91.55	36.4	12 58	-2			13 19			16 34 PP
SIAN	91.56	307.0	12 59	-1						
BOZEMAN	91.69	39.7	13 1	1						
COLLEGE	91.77	11.9	12 59	-2	23 57	5	13 17			24 25 *PS
KUNMING	92.21	296.4	13 4	1	23 32	-24				
BANFF	92.44	33.5	13 3	-1						
CHENG TU	93.60	302.0	13 10K	1	24 11	3	13 42			23 38 SKS
PAOTOW	93.83	313.0	13 10	0						
HUANCAYO	95.18	105.6	13 19	3						
RAPID CITY	95.64	44.0	13 19	1			13 39			
LANCHOW	96.11	306.8	13 21	1	24 37	7				
YAKUTSK	96.17	337.6	13 19	-2						
TIKSI	102.82	344.7	14 22	31						
RESOLUTE	111.21	16.4	18 25	0	25 1	3				19 4 PP
GRAHAMSTOWN	118.45	202.1	18 41	2						
BERMUDA	120.54	65.6	19 21	38						30 25 PS
KHEYS	120.62	351.3	18 40	-3						
KIMBERLEY	123.25	202.6	18 49	1						
QUETTA	123.79	291.0	18 50	1						
SVERDLOVSK	127.89	324.1	18 57	0						
BULAWAYO	129.32	211.3	19 3	3						
APATITY	133.04	344.7	19 5K	-2						23 33
BROKEN HILL	134.22	215.1	19 11	2						
SODANKYLA	134.68	347.6	19 8	-2						22 34 SKP
KIRUNA	135.32	350.9	19 6	-5						22 39 PKS
ELISABTHVLE	137.13	216.0	19 11	-3			19 34			
MAKHACH-KALA	139.38	308.2	19 21	2						22 56 PKS
MOSCOW	139.91	330.3	19 13	-7						22 44 PKS
PULKOVO	139.96	339.1	19 19	-1						22 55 PKS
SKALSTUGAN	140.40	353.7	19 14	-7						
NURMI JARVI	141.02	343.4	19 15	-7						22 21 PP
HELSINKI	141.23	342.9	19 17	-5			19 39			
TIFLIS	141.61	307.0	19 19	-4						23 4 PKS
UPPSALA	143.21	348.0	19 22A	-3						23 2 PKS
LWIRO	143.73	226.6	19 25	-1						
SOTCHI	144.65	311.8	19 27	-1						
SIMFEROPOL	147.72	317.1	19 34	1						
COPENHAGEN	148.06	350.2	19 33	-1			20 2			

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LEOPOLDVILLE	149.11	203.7	19 40	5	19 59		
WARSAW	149.13	338.6	19 36	1		23 8	PKS
DURHAM	149.47	5.6	19 39K	3	20 11		
LWOW	149.94	332.8	19 38	1			
KSARA	150.16	295.8	19 36	-1	20 12	23 20	PP
RATHFARNHAM	150.27	11.6	19 37	0			
JERUSALEM	150.99	291.8	19 46	8		20 19	PKP2
POTSDAM	151.11	347.6	19 38	0	19 56	23 20	PP
KRAKOW	151.34	337.4	19 42	3		19 54	PKP2
RACIBORZ	151.89	339.4	19 47	8			
HALLE	152.16	348.4	19 39	-1		24 3	SKP
MUNSTER	152.30	354.3	19 49	9			
BUCHAREST	152.75	322.7				20 33	
JENA	152.78	348.5	19 40	-1	19 58	23 29	PP
KEW	152.85	5.0	19 39	-2		23 29	PP
PRUHONICE	153.03	343.9	19 41K	0		23 32	PP
BENSBERG	153.34	354.6	19 45	4		20 35	
UCCLE	153.66	358.5			20 4	23 39	PP
BRATISLAVA	153.91	338.7	19 42	0		23 53	PP
DOURBES	154.35	358.1	19 45	2		23 39	PP
STUTTGART	155.26	350.7	19 44	0		23 41	PP
BELGRADE	155.34	329.8	19 48K	4		21 34	
FOLINIÈRE	155.52	6.1	19 46	2			
STRASBOURG	155.64	352.8	19 46	1		23 51	PP
ZAGREB	156.33	337.5	19 55	10	20 22		
LJUBLJANA	156.61	340.1	19 48A	2		20 18	PKP2
TOLMEZZO	156.73	342.8	19 44	-2		20 17	
TRIESTE	157.20	340.9	19 47	0		20 18	PKP2
ATHENS	158.00	312.7			20 17		
PRATO	159.57	343.7	19 41	-9			
TARANTO	160.19	327.2	19 17	-33			
ROME	160.98	338.6				24 29	PP
TOLEDO	163.39	20.2	19 57	4		24 38	PP
GRANADA	165.97	23.4	21 0K	64		24 48	PP
ALGIERS UNI.	167.69	1.0	19 58	1	20 17	24 49	PP
SETIF	168.13	351.8	19 59	2	20 18	25 14	PP
TAMANRASSET	177.40	231.4	20 3	2	20 24	25 50	PP

JULY 24 1.H 23.M 10.S EPICENTRE 41.16-125.08 DEPTH= 0.KM

A=-0.43392 B=-0.61797 C= 0.65561 D=-0.8184 E= 0.5747  
G=-0.3767 H=-0.5366 K=-0.7551 HT= -2.1

SE= 2.57

	DELTA DEG.	AZ. DEG.	P			O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S		
ARCATA	0.80	109.9	0	18	0							
SHASTA	2.09	101.8	0	37	0							
UKIAH	2.47	144.3	0	39	-3							
MINERAL	2.76	105.9	0	46A	0							
CORVALLIS	3.66	20.3	0	56K	-3							
BERKELEY	3.94	145.5	1	1K	-2	1	37	-14				
SAN FRANCISCO	3.95	148.2	1	1A	-2							
RENO	4.34	110.2	1	9K	0							
BRANNER	4.36	148.0	1	6K	-3							
LICK	4.65	143.9	1	11K	-2							
VINEYARD	5.26	145.6	1	20	-2							
FRESNO	6.01	135.1	1	32K	0							
EUREKA	7.16	100.6	1	49	0	3	12	0				
VICTORIA	7.46	8.5	1	52	-1	3	8	-11				
ALBERNI	8.11	1.2	1	59	-3							
HORSESHOE B.	8.32	8.1	1	59K	-6	3	21	-20				
PASADENA	8.88	139.8	2	11	-2	3	53	-2				
LILLOET	9.79	11.9	2	10	-15							
SALT LAKE C.	10.01	87.9	2	30	2	4	2	-21				
BUTTE	10.29	57.6	2	32	0	4	30	1				
HUNGRY HORSE	10.64	43.8	2	34	-3							
BOZEMAN	11.15	61.5	2	44	0							
BANFF	11.99	30.1	2	54	-1							
TUCSON	14.46	123.4	3	31	3	6	30	20				
TUCSON TELE.	14.47	122.9	3	30	2							
RAPID CITY	16.36	72.4	3	51	-2							
SASKATOON	16.71	42.7	2	58	-59							
SITKA	17.23	340.8	4	6	2	7	36	21				
LUBBOCK	19.91	104.8	3	37	-59							
CHIHUAHUA	19.92	122.9	4	31	-5	8	17	2				

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MAZATLAN	23.81	133.1					14 50	
COLLEGE	27.10	338.8	5 45	-1	10 24	0		
GUADALAJARA	27.52	131.3					6 16 PP	
MANZANILLO	28.28	135.0					7 22	
TERRE HAUTE	28.62	80.8	5 49	-11	10 50	2		
TACUBAYA	30.93	126.7	6 28	7	12 18	53		
VERA CRUZ	32.99	122.9	6 37	-2			17 3 SCS	
HAWAII V.OB.	33.62	239.0	6 42	-2	11 59	-8		
KIPAPA	34.06	244.8	6 45	-3				
HONOLULU	34.19	244.7	6 49	0	11 58	-18		
OAXACA	34.23	126.2					13 1	
PENNSYLVANIA	35.30	74.6	6 58	-1	12 40	7		
COLUMBIA	35.33	87.1	6 59	0	12 34	1		
OTTAWA	35.73	66.3	7 2	0	12 46	6		
CHAPEL HILL	36.05	83.0	7 6	1				
MERIDA	36.10	113.1					8 32 PPP	
RESOLUTE	36.33	13.0	7 6A	-1	12 51	2	8 26 PP	
WASHINGTON	36.46	77.4	7 10	1	13 12	21		
BREBEUF	37.16	65.6	7 14A	0	13 27	26		
SHAWINIGAN	37.52	63.7	7 6	-11				
COMITAN	37.72	121.4			13 22	12	7 42	
PALISADES	38.10	72.8	7 23	1	13 19	3	8 51 PP	
FORDHAM	38.17	73.0	6 43	-40				
SEVEN FALLS	38.72	62.4	7 28A	1	13 26	1		
HALIFAX	44.24	64.1	8 12A	-1	14 52	5	18 21 SS	
BERMUDA	48.31	80.1	8 47	2	15 49	4	10 47 PP	
PETROPAVLOVK	50.86	311.0	9 5	0	16 11	-10		
NORD	52.16	10.2	9 14	0	16 44	6		
MAGADAN	52.87	320.5	9 21	1				
GALERAZAMBA	53.08	110.2			17 10	19		
SAN JUAN	54.88	95.9	9 34	-1				
TIKSI	56.25	338.5	9 42	-2				
CHINCHINA	56.94	115.4	9 50	1	17 53	10	21 47 SS	
FUQUENE	57.89	113.4	10 2	6				
BOGOTA	58.26	114.4	10 1	2	18 5	5	22 1 SS	
KHEYS	59.04	0.6	9 58	-6				
CARACAS	59.29	103.7	10 18K	12	18 32	18		
FORT FRANCE	60.87	95.8	10 15	-2				
YAKUTSK	61.01	328.6	10 20	2	18 37	1		
ST. VINCENT	61.77	97.2	10 26	3				
Y.-SAKHLINSK	62.76	309.6	10 28	-1	18 52	-6		
KIRUNA	68.26	13.4	11 3	-2	19 58	-7	13 34 PP	
SODANKYLA	69.68	11.3	11 12	-2			11 33 PCP	
HUANCAYO	70.04	127.4	11 16	0	20 39	13		
SKALSTUGAN	70.25	18.8	11 15	-2				
APATITY	70.40	8.6	11 14	-4	20 20	-10	14 0 PP	
TUKUBASAN	70.47	301.2	11 13	-5	20 28	-3	20 54 PS	
ABERDEEN	70.98	28.9			20 45	8	16 43 PP	
VLADIVOSTOK	71.22	311.1			20 43	3		
MATUSIRO	71.47	302.5	11 21	-3	20 41	-2	25 22 SS	
RATHFARNHAM	72.18	33.5	11 29A	0			14 3 PP	
DURHAM	72.97	30.4	11 33	0			14 20 PP	
CHANGCHUN	74.40	314.9	11 44	2	21 14	-2		
UPPSALA	74.77	18.5	11 43	-1	21 20	0		
NURMIJARVI	75.70	14.9	11 47	-2	21 34	4		
KEW	75.98	32.0	11 51	0	21 37	4	26 24 SS	
HELSINKI	76.07	14.9	11 49	-2	21 34	0		
COPENHAGEN	77.01	23.1	11 57	1	21 49	4		
PULKOVO	77.40	12.5	11 59	0	21 35	-14		
IRKUTSK	77.57	331.5	12 3	3	21 49	-2		
DE BILT	77.58	28.8	11 50	-10	22 2	11	27 2 SS	
LA PAZ	77.87	124.7	12 4	3	22 5	11	32 50	
FOLINIERE	78.00	33.8	12 1	-1				
UCCLE	78.32	30.0	12 23	19	21 50	-9		
MUNSTER	78.56	27.6	12 7	2				
DOURBES	78.98	30.3	12 6	-1	22 6	0		
BENSBERG	79.23	28.5	12 9	0				
SERRA PILAR	79.90	43.4	12 13K	1			12 25 PCP	
POTSDAM	80.03	24.5	12 18	5	22 24	7	12 58	
ULAN-BATOR	80.08	327.5	12 18	5				
HALLE	80.42	25.6	12 17	2	22 29	8	12 21 PCP	
COIMBRA	80.67	43.9	12 19	3				
JENA	80.79	26.1	12 18	1	22 29	4	15 22 PP	
COLLMBERG	80.93	25.1	12 18	0			15 1	
SONNESBERG	81.13	26.6	12 19	0				
LISBON	81.36	45.4	12 31K	11				
STRASBOURG	81.42	29.5	12 22	2			15 32 PP	
CHEB	81.78	26.1	11 31	-51				



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BOMBAY	21.27	260.3			8	30	13			
NANKING	22.42	63.9	4	46A	0	8	40	4		5 31 *SP
WARSAK DAM	22.73	301.1	4	52A	3	8	48	7		
PEKING	23.89	43.2	5	2	2	9	7	6		5 53 *SP
ZO-SE	24.20	67.4	5	2A	-1	9	8	2		5 48 *SP
QUETTA	25.67	289.9	5	18A	2	9	34	3		5 49 PP
NAMANGAN	25.80	316.4	5	20	2	9	36	3		
MANILA	26.22	106.3	5	23	1					
STALINABAD	26.55	309.1	5	25	0					
CHANGCHUN	31.68	44.0				11	6	0		
LEMBANG	33.08	156.6	6	19	-3					
VLADIVOSTOK	35.76	48.8				12	12	2		
MATUSIRO	39.02	61.1	7	12A	0	12	58	-1		9 36
SVERDLOVSK	41.11	331.8	7	31	2					
TIFLIS	45.03	305.6	8	2	1	14	29	3		
GUAM	48.05	93.3	7	25	-60					
KSARA	52.04	295.0	8	55	0	16	11	7	9 31	
MOSCOW	52.19	322.9	8	54	-2	16	5	-1		
JERUSALEM	52.83	292.5								9 40 PCP
SIMFEROPOL	53.04	309.1	9	3	1	16	20	2		
PULKOVO	56.81	326.9	9	29	-1	17	9	1		
APATITY	57.22	336.3	9	32	0	17	16	3		18 20 *SS
KHEYS	58.95	352.1	9	39	-6					
HELSINKI	59.53	327.0	9	49	1				10 26	10 34 PCP
NURMIJARVI	59.71	327.3	9	49	-1	17	46	0	10 25	12 4 PP
SODANKYLA	59.72	335.4	9	49	-1	17	48	2	10 26	
LWOW	59.88	314.9	9	50	-1					17 49
PORT MORESBY	60.80	116.8	9	57A	0					10 38 PCP
ATHENS	61.30	301.4	9	59K	-1					
KIRUNA	62.14	335.6	10	6A	0	18	19	3	10 43	19 24 *SS
KRAKOW	62.50	315.4	10	8	0					10 41 PCP
BELGRADE	62.74	309.5	10	12K	2					10 49 PCP
TANANARIVE	62.97	231.5	10	11	-1					10 49
UPPSALA	63.20	326.5	10	13A	0	18	30	0	10 49	19 50
RACIBORZ	63.61	315.6	10	10	-6					
BRATISLAVA	64.57	313.5	10	21K	-1					10 36 PP
SKALSTUGAN	65.52	330.8	10	28A	0				11 5	
PRUHONICE	65.96	315.8	10	31A	0				11 0	
LJUBLJANA	66.66	311.6	10	35K	0					10 53 PCP
COLLMBERG	66.71	317.4	10	34	-2				11 14	
TRIESTE	67.27	311.3	10	38	-1					
HALLE	67.32	317.7	10	39	0	19	22	2	11 17	11 6 PCP
TOLMEZZO	67.62	312.2	10	42	1					
JENA	67.66	317.2	10	41	-1				11 19	
LWIRO	69.35	257.7	10	53A	1					11 31
RAVENSBURG	69.58	314.2	10	54	1					
STUTTGART	69.62	315.3	10	54A	0				11 31	
TUBINGEN	69.76	315.0	10	55	1					
MUNSTER	69.86	318.8	10	55	0					
EBINGEN	69.91	314.7	10	55	0					
BENSBERG	70.38	317.9	10	58	0					
STRASBOURG	70.59	315.3	10	59A	0					11 26 PCP
ADELAIDE	71.83	143.3	11	7A	0					11 43
DOURBES	72.18	317.4	11	10	1					
DURHAM	74.36	323.3	11	21A	0					12 0 PCP
KEW	74.74	319.8	11	25	1				12 2	26 11 SS
ELISABTHVILLE	74.92	249.7	11	26	1				12 4	
BROKEN HILL	75.40	246.7	11	28	1					
FOLINIERE	75.75	317.2								20 50
BANGUI	75.80	268.5	11	30	0					12 16
BRISBANE	75.88	129.0								28 8
SETIF	75.91	303.5	11	30K	0					12 8
RATHFARNHAM	77.48	322.9	11	40A	1					
ALGIERS UNI.	77.49	304.7	11	36	-3					12 15
BULAWAYO	78.16	241.6	11	44	1					
COLLEGE	79.14	22.8	11	46	-2				12 29	
RELIZANE	79.75	304.5	11	50	-1					12 4
TAMANRASSET	80.58	290.7	11	57A	1					15 0 PP
RESOLUTE	81.29	2.7	11	57	-2	21	56	1		
LEOPOLDVILLE	82.45	261.8	12	7A	2					
NOUMEA	83.31	117.9								13 58
KIMBERLEY	85.55	236.0	12	22K	1					
WINDHOEK	88.72	244.7	12	38	2					
KARAPIRO	97.41	128.1	14	3	47					
SOUTH POLE	113.92	180.0	18	18	-1					
BYRD STATION	122.04	173.3	18	34	-1					19 14
PORT STANLEY	145.46	210.0	19	20	1					
LA PAZ	162.50	292.3	19	45	3					20 26 PKP2

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HUANCAYO 164.94 320.8 20 47 63 24 37 PP

JULY 24 23.H 3.M 16.S EPICENTRE -56.57 -27.14 DEPTH= 67.KM

DEPTH OF FOCUS= 0.005R

A= 0.49256 B=-0.25248 C=-0.83285 D=-0.4562 E=-0.8899  
G=-0.7412 H= 0.3799 K=-0.5535 HT= -7.8

SE= 2.76

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
PORT STANLEY	18.56	272.2	4	14	1							
ARGENTINE I.	19.74	228.8	4	29	2	8	8	8				
SOUTH POLE	33.61	180.0	6	35	-1	12	45	53			7	13 PP
BYRD STATION	35.31	197.6	6	51	1	12	17	-2			8	10 PP
HERMANUS	38.34	74.7				13	44	39				
GRAHAMSTOWN	43.14	80.7	7	49	-6							
SCOTT BASE	45.56	184.1	8	14K	-1						13	32 PCS
KIMBERLEY	45.71	74.9	8	16A	0							
WINDHOEK	46.81	62.2	8	23	-2							
PRETORIA	49.92	75.8	8	56	7							
CAPE HALLETT	50.85	186.8	8	56A	0	16	3	-2			10	50 PP
WILKES	53.47	160.1				16	38	-3			9	14 PCP
BULAWAYO	54.71	72.1	9	22	-2							
TERRE ADELIE	56.63	174.6	9	37	-1							
HUANCAYO	57.74	300.4	9	45	-1						10	57 PCP
BROKEN HILL	59.38	68.3	9	56	-1							
ELISABTHVILLE	61.23	65.6	10	9K	-1							
LEOPOLDVILLE	61.92	49.6	10	13K	-2	18	26	-6			20	2 SCS
LWIRO	69.99	61.8	11	6K	0						20	12
MBOUR	71.19	10.4	11	13	0						11	39 PCP
BANGUI	71.22	49.0	11	12	-2						21	14
BOGOTA	71.93	310.0	11	13A	-5	20	28	-4				
FUQUENE	72.55	310.7	11	24	3	20	47	8				
CHINCHINA	72.91	308.7	11	29	5	21	2	19				
CARACAS	74.49	319.2	11	41	8	21	3	2				
GEBBIES PASS	78.72	194.5	11	57	1							
COBB RIVER	81.28	195.1	12	15	5							
SAN JUAN	81.51	322.8	12	8	-3							
TONGARIRO	82.68	197.6	12	16	-1							
TAMANRASSET	83.72	30.1	12	23K	0	22	34	-4	12	49	15	22 PP
KARAPIRO	83.93	197.9	12	22	-2							
MELBOURNE	85.73	173.7	12	32	-1							
ADELAIDE	88.07	168.4	12	44A	0	23	18	-2			16	11 PP
BERMUDA	94.16	328.9				23	24	-51			17	4 PP
GRANADA	95.50	18.7	13	45K	27	24	39	13			17	39 PP
BRISBANE	96.29	180.2	13	23	1						13	51
TORTOSA	99.80	20.9				24	6	-56				
CHARTERS TS.	103.52	173.6	13	53	-1						18	1
MONACO	104.08	25.1									18	35 PP
PALISADES	104.92	325.2	14	16	15	26	17	32			18	42 PP
HALIFAX	105.37	333.9				25	15	-34			24	27 SKS
PENNSYLVANIA	106.03	322.3				24	29	-9				
BREBEUF	108.91	327.4									18	49 PP
RATHFARNHAM	110.84	13.2	15	4	777							
TUCSON	113.00	293.8	18	29	0						19	23 PP
TUCSON TELE.	113.02	293.9	18	28	-1						19	22 PP
SIMFEROPOL	113.42	42.7				25	2	-7				
QUETTA	116.79	75.4	18	36	-1							
RAPID CITY	118.77	307.1									19	58 PP
EUREKA	121.24	295.2	18	45	0						20	19 PP
UPPSALA	121.37	24.6	18	42	-3						28	44 PKKP
LICK	122.52	289.6	18	48K	0							
RENO	123.23	292.6	18	50K	1							
BERKELEY	123.24	289.5	18	49K	0							
MOSCOW	123.59	37.9									21	10 PP
SKALSTUGAN	123.61	19.9	18	47	-3						22	12
NURMI JARVI	123.67	27.9	18	48	-2						22	28 PKS
BUTTE	124.52	302.5	18	50	-2							
PULKOVO	124.59	31.2									20	54 PP
MINERAL	124.75	292.0	18	52K	0							
SHASTA	125.42	291.7	18	52	-1							
HUNGRY HORSE	126.90	303.6	18	54	-2						21	17 PP
CORVALLIS	128.68	294.5	18	59K	-1							
KIRUNA	128.96	21.1	18	57	-3						21	32 PP



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1959									PAGE 571
SODANKYLA	129.89	24.0	18 59	-3					21 34 PP
VICTORIA	131.48	298.1							22 15
MANILA	131.56	136.9							22 19 PP
APATITY	131.64	26.6	19 3	-2					22 16 PP
HORSESHOE B.	131.99	299.0	19 1A	-5					22 14 PP
THULE	135.30	347.2	19 11	-1					
NORD	138.05	2.3	19 9	-8					
RESOLUTE	138.35	338.3	19 9	-9	26 32	13			22 38 PP
KHEYS	143.34	16.6	19 27	1					
COLLEGE	150.89	311.0	19 34	-5					39 57 PKPPKP
ULAN-BATOR	151.06	87.6	19 38	-1					
MATUSIRO	157.68	147.6	19 42K	-6					23 52 PP
TIKSI	161.84	24.4	20 37	44					
PETROPAVLOVK	175.20	226.5	19 58	-4					25 33

JULY 25 19.H 23.M 56.S EPICENTRE 50.20 142.36 DEPTH= 0.KM

A=-0.50892 B= 0.39251 C= 0.76611 D= 0.6107 E= 0.7918

G=-0.6066 H= 0.4679 K=-0.6427 HT= -5.5

SE= 2.05

	DELTA DEG.	AZ. DEG.	M	P S	O-C S	M	S	O-C S	*PP M S	SUPP. M S
UGLEGORSK	1.13	189.6	0	22	-1					
Y.-SAKHLINSK	3.26	175.6	0	53	0	1	35	2		1 3 *SP
OKHA	3.38	5.8	1	2	7	1	46	10		
REIDOVoe	6.24	140.0	1	32	-3	2	43	-5		
GORNY	6.35	144.3	1	40	3	2	49	-2		
KOSMODEMANSK	6.55	157.2	1	36	-4	2	51	-5		
SEVERO-KUR.	8.79	81.6	2	10	-1	3	58	6		
KLYUCHI	12.59	53.8	3	7	4	5	44	19		
CHANGCHUN	13.25	247.8	3	14	2	5	49	8		
MATUSIRO	13.97	193.9	3	22K	1	5	58	0		3 39
PEKING	20.99	251.1	4	49	2	8	45	8		
TIKSI	22.37	348.8	5	0	-1					9 34 SS
ULAN-BATOR	23.22	278.1	5	13	4	9	30	12		
IRKUTSK	23.73	289.8	5	16	2					
ZO-SE	24.79	227.7	5	26	2	9	57	12		
NANKING	25.20	232.9	5	31A	3	10	1	9		
LANCHOW	31.08	257.9	6	22	0					
CHENG TU	34.61	250.3	6	53	1					
COLLEGE	38.05	40.6	7	20	-1					16 12 SS
SEMI PALATNSK	38.64	295.1	7	26	0					
KHEYS	41.06	344.6				13	29	-31		
SHILLONG	45.72	256.7								9 28 PP
RESOLUTE	49.75	17.0	8	56	0	15	56	-9		
TASHKENT	49.85	289.5	8	56	0					
APATITY	51.15	332.2								15 56
LAHORE	52.83	276.5	9	19	0					
WARSAK DAM	52.99	280.7	9	18	-2					
KIRUNA	54.56	336.7	9	31	-1					
MOSCOW	57.36	319.5	9	51	-1					
QUETTA	58.44	280.4	9	59	0					
NURMIJARVI	58.81	329.2	10	0	-2					10 50 PCP
HELSINKI	58.96	328.8	10	0	-3					
SKALSTUGAN	60.00	336.7	10	10	0					
UPPSALA	61.54	331.8	10	18	-3					
HUNGRY HORSE	61.98	47.3	10	22	-2					
TIFLIS	63.60	304.1	10	35	1					19 20 PS
SIMFEROPOL	66.64	312.7	11	53	59					
LWOW	67.28	321.8	10	58	0					
EUREKA	67.39	55.2	10	58	-1					
COLLMBERG	70.10	328.9	11	15	-1					
PASADENA	70.10	60.5	11	17	1					
RAPID CITY	70.16	44.2	11	16	0					
PRUHONICE	70.69	327.3	11	19	0					
JENA	70.88	329.5	11	19	-1					
STUTTGART	73.52	329.8	11	33	-3					
KEW	73.86	336.7	11	39	1					
STRASBOURG	74.15	330.6	11	39	-1					
TUCSON TELE.	75.55	56.8	11	49	1					
JERUSALEM	76.10	303.0	11	52	1					
OTTAWA	79.21	26.3	12	6	-2					
BREBEUF	79.70	24.8	12	10	-1					
PALISADES	83.76	26.8				22	57	10		

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GRANADA	87.96	333.4									31	4
TAMANRASSET	97.92	320.4									17	42 PP
SOUTH POLE	140.01	180.0	19	22	-8				24	51	-11	22 58
BYRD STATION	140.37	164.3	19	29	-2							

JULY 25 21.H 20.M 34.S EPICENTRE 36.79 140.70 DEPTH= 94.KM

DEPTH OF FOCUS= 0.010R

A=-0.62123 B= 0.50843 C= 0.59630 D= 0.6333 E= 0.7739  
G=-0.4615 H= 0.3777 K=-0.8028 HT= -0.5

SE= 2.09

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
ONAHAMA	0.22	44.8	0	15K	0	0	24	-2				
MITO	0.45	204.6	0	15	-2	0	26	-3				
SHIRAKAWA	0.51	310.6	0	16	-1	0	26	-4				
KAKIOKA	0.70	217.1	0	15K	-3	0	26	-6				
UTUNOMIYA	0.71	250.5	0	17K	-1	0	28	-4				
TUKUBASAN	0.75	220.6	0	17A	-2	0	27	-6				
TYOSI	1.07	173.6	0	21K	0	0	35	-2				
KUMAGAYA	1.24	239.5	0	22K	-2	0	39	-2				
HONGO	1.32	215.2	0	24K	0	0	41	-2				
TOKYO C.M.O.	1.35	215.1	0	24K	-1	0	40	-3				
MAEBASI	1.37	254.0	0	25K	0	0	42	-2				
YAMAGATA	1.48	349.2	0	27	0	0	48	2				
SENDAI	1.49	6.0	0	26A	-1	0	45	-1				
TITIBU	1.54	238.8	0	26	-1	0	45	-2				
YOKOHAMA	1.60	212.4	0	28	0	0	45	-4				
ISINOMAKI	1.71	16.5	0	29A	0	0	50	-1				
NIIGATA	1.73	311.1	0	30	0	0	49	-3				
OIWAKE	1.79	255.8	0	30	0	0	56	3				
TAKADA	1.99	279.7	0	34	1	0	54	-3				
NERA	2.00	201.0	0	32	-1	0	56	-1				
MATUSIRO	2.01	263.9	0	33K	0	0	52	-6				
NAGANO	2.01	267.3	0	34	1	0	55	-3				
HUNATU	2.03	231.1	0	34	1	0	57	-1				
KOHU	2.08	236.8	0	36	2	1	0	1				
AJIRO	2.17	217.3	0	35	0	0	59	-3				
MISIMA	2.19	221.0	0	35A	-1	0	58	-4				
SAKATA	2.22	342.1	0	40A	4	1	8	5				
MATUMOTO	2.27	257.0	0	36	-1	1	4	0				
AIKAWA	2.31	302.9	0	38	1	1	0	-5				
MIZUSAWA	2.36	8.1	0	39	1	1	0	-6				
SHIZUOKA	2.61	226.5	0	41A	0	1	12	0				
IIDA	2.65	242.2	0	45	3	1	15	2				
TOYAMA	2.81	269.2	0	45	1	1	18	1				
TAKAYAMA	2.86	258.1	0	46	1	1	16	-2				
MORIOKA	2.93	7.1	0	46A	0	1	20	0				
AKITA	2.96	351.0	0	48	2	1	24	3				
OMAESAKI	2.98	223.5	0	46	-1	1	18	-3				
MIYAKO	3.02	18.9	0	46	-1	1	20	-3				
WAZIMA	3.10	282.1	0	50	2							
HAMAMATU	3.19	230.5	0	52	3	1	29	2				
NAGOYA	3.43	243.0	0	53	0	1	35	2				
GIHU	3.47	247.6	0	52	-1	1	32	-2				
HUKUJ	3.65	259.6	0	57	1	1	40	2				
HATIDYOZIMA	3.75	191.3	0	58	1	1	37	-4				
HATINOHE	3.79	9.6	0	58	0	1	42	1				
HIKONE	3.91	248.5	1	0	1	1	47	2				
TU	3.97	240.1	1	5	5							
AOMORI	4.02	0.8	1	2	1	1	58	11				1 25
KYOTO	4.41	247.8	1	8	2	2	13	16				
MAIZURU	4.44	254.3	1	13	6	2	3	6				
NARA	4.49	243.5	1	6	-1	2	22	23				
OWASE	4.57	234.9	1	7	-1	1	43	-18				
ABUYAMA	4.59	246.8	1	7A	-2							
OSAKA	4.72	244.6	1	8	-2	1	56	-8				
TOYOOKA	4.92	256.9	1	24	11							
KOBE	4.96	246.5	1	21	7							
HAKODATE	4.98	0.2	1	14	0							1 40
SIOMISAKI	5.24	231.9	1	13	-5	2	10	-7				
MORI	5.30	358.9	1	19	1							
SUMOTO	5.33	244.6	1	19K	0	2	22	2				

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MURORAN	5.54	2.1	1 21	-1				
URAKAWA	5.59	16.1	1 22	0	2 25	-1		
TOKUSIMA	5.69	243.3	1 20	-4				
TOMAKOMAI	5.76	6.5	1 36	11				
HIROO	5.84	19.4	1 24	-2	2 28	-4		
OKAYAMA	5.90	251.1	1 28	1				
TAKAMATU	5.96	247.5	1 37	10	2 52	17		
SUTTSU	6.01	356.7					1 52	
YONAGO	6.10	259.3	1 28	-1				
SAPORO	6.29	4.3	1 30	-2	2 40	-3		
TORISIMA	6.30	183.2	1 33	1				
MATSUE	6.32	260.0	1 36	4				3 30
OBHIRO	6.42	16.6	1 32	-2	2 41	-5		
KOTI	6.70	243.3	1 37	-1	3 8	15		
KUSIRO	6.80	23.5	1 36	-3	2 48	-8		
MATUYAMA	7.14	247.9	1 43	-1				
HIROSIMA	7.16	252.7			3 20	16		
HAMADA	7.26	257.5	1 52	7			3 39	
SIMIDU	7.51	240.1	2 17	28	3 25	12		
NEMURO	7.53	28.3	1 47	-2	3 4	-9		
OOTA	8.25	247.2	2 2	3				4 17
HUKUOKA	9.00	252.2						4 12
KUMAMOTO	9.13	247.2	2 11	0				
VLADIVOSTOK	9.25	315.8	2 13	1				
Y.-SAKHLINSK	10.26	7.8	2 14	-12	4 19	-1		
CHANGCHUN	13.68	305.7	3 10	-1				
ZO-SE	17.16	256.4	3 58	3				
PEKING	19.48	287.0	4 19	-3	7 50	-2		
PETROPAVLOVK	20.60	31.9	4 33	-1	8 20	7		
YAKUTSK	26.17	348.2	5 11	-16				
LANCHOW	29.57	279.8	5 57	-1				
TIKSI	35.45	353.6	6 48	-1				
SHILLONG	42.84	269.2	7 50	0				
CHITTAGONG	44.42	265.1	7 59	-4				
COLLEGE	49.60	32.1	8 45	1			9 7	
LEMBANG	53.31	222.5	9 10K	-2				
KHEYS	53.79	347.6	9 7	-8				
SVERDLOVSK	54.96	318.6	9 22	-2				
WARSAK DAM	55.30	289.2	9 25	-1				
CHARTERS TS.	56.73	173.7	9 36	0				
QUETTA	60.48	287.2	10 1	-1				
RESOLUTE	62.98	14.3	10 18K	-1	18 38	-2	10 40	
KIRUNA	66.54	339.1	10 41K	-1				11 12 *SP
HORSESHOE B.	66.65	45.1	10 50	7				
MOSCOW	67.11	323.3	10 45	-1				
NURMIJARVI	69.89	331.7	11 2	-1				13 36 PP
BANFF	69.93	40.6	11 4	1				
HELSINKI	69.99	331.4	11 2	-2				
SHASTA	71.70	52.7	11 15K	1				
SKALSTUGAN	71.93	338.4	11 14	-1				
HUNGRY HORSE	72.35	42.5	11 19	1				
MINERAL	72.40	52.6	11 19K	1				
UPPSALA	72.93	333.7	11 20K	-1			11 42	
BERKELEY	73.34	55.1	11 24K	1				
RENO	73.99	52.5	11 29K	2				
LICK	74.05	55.2	11 29K	1				
BUTTE	74.53	43.8	11 32	2				
BOZEMAN	75.59	43.4	11 38	2				
EUREKA	76.44	50.8	11 43	2			12 7	
GOTEBORG	76.50	334.5	11 42K	1				12 12 *SP
COPENHAGEN	77.88	332.9	11 49K	0				
SALT LAKE C.	78.17	47.8	11 53	2				
PASADENA	78.19	56.2	11 52	1				
KRAKOW	78.98	325.6	11 55	0				
RAPID CITY	80.86	41.0	12 6	1			12 38	
COLLMBERG	81.03	329.8	12 6	0				12 29
HALLE	81.30	330.5	12 7	-1				
PRUHONICE	81.39	328.2	12 8K	0			12 31	
JENA	81.88	330.3	12 10	-1			12 32	
JERUSALEM	82.53	304.1	12 15	1			12 38	
TUCSON	84.19	53.9	12 24	2				
TUCSON TELE.	84.21	53.8	12 24	2				
LJUBLJANA	84.39	325.6	12 22K	-1				
STUTTGART	84.54	330.1	12 24K	0			12 47	
TUBINGEN	84.78	330.1	12 25	0				
EBINGEN	85.10	329.9	12 27	0				
DOORBES	85.20	333.4	12 28	1				
STRASBOURG	85.26	330.8	12 27K	-1			12 50	
KEW	85.70	336.8	12 30	0			12 52	



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ALICANTE	21.68	272.4	4 54	-1	8 49	-2			9 24 SS
RELIZANE	21.73	265.1	4 53	-2					5 16 PP
KEW	21.86	308.3	4 58	2	8 58	4			5 26 PP
DURHAM	23.75	315.6	5 12A	-3					8 55 PCP
TOLEDO	24.01	278.0	5 18	1	9 44	12			5 44 PP
GRANADA	24.39	271.4	5 40K	19	9 51	12			10 58 SS
SKALSTUGAN	24.43	343.5	5 21	-1					
ABERDEEN	25.06	320.5			10 4	14			
TAMARRASSET	25.87	232.4	5 38	3	10 19	15			6 18 PP
RATHFARNHAM	25.88	310.1	5 43A	8					
SODANKYLA	26.53	359.2	5 40	-1					
SVERDLOVSK	26.64	42.0	5 41	-1					
APATITY	26.91	5.0	5 48	3	10 21	0			6 31 PP
KIRUNA	27.27	354.1	5 47	-1					
NAMANGAN	33.08	75.0	6 38	-2					
QUETTA	33.57	95.9	6 49	5					
WARSAK DAM	35.33	86.8	7 5	6					
NORD	43.53	351.4	8 6	-1					
LEOPOLDVILLE	46.42	197.0	8 29	-1					
ELISABTHVILLE	52.26	180.1	9 14	-1					
ULAN-BATOR	54.79	54.0	8 40	-54					
SHILLONG	54.81	85.1	9 32	-2					
CHITTAGONG	56.56	88.3	10 14	27					
RESOLUTE	58.63	344.8							21 34 SS
YAKUTSK	60.03	32.1	10 14	3					
BULAWAYO	60.73	178.8	10 15	-1					
PALISADES	71.79	308.7	11 26	-1	21 12	25			25 41 SS
COLLEGE	74.51	357.9	11 42	0					
MATUSIRO	80.16	49.9	12 12	-2	22 17	-1			
RAPID CITY	84.51	326.7	12 52	16					
HUNGRY HORSE	84.85	335.4	12 38	0					
BOZEMAN	86.19	332.3	12 52	7					
EUREKA	93.36	332.5	13 13	-5					
SOUTH POLE	130.70	180.0	19 13	-1					

JULY 30 12.H 54.M 0.S EPICENTRE -31.60-177.99 DEPTH= 0.KM

A=-0.85281 B=-0.02999 C=-0.52136 D=-0.0351 E= 0.9994  
G= 0.5210 H= 0.0183 K=-0.8533 HT= 1.3

SE= 2.86

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
RAOUL ISLAND	2.34	1.4	0	38	-2	1	3	-7				
ONERAHI	7.61	234.8	1	56	1							
TUAI	8.21	207.6	2	3	0	3	32	-6				
KARAPIRO	8.26	218.4	2	4	0						3	55
WELLINGTON	11.28	209.1				4	40	-13				
COBB RIVER	12.06	215.7				4	58	-14				
KAIMATA	13.79	214.8				5	36	-18				
GEBBIES PASS	14.16	208.8	3	22	-2	5	40	-23				
NOUMEA	16.67	300.0	3	58A	2							
APIA	18.61	19.2	4	27	7	7	25	-21				
BRISBANE	25.51	271.8	5	33A	2	9	57	0				
CANBERRA	27.72	253.3	5	52	0							
MELBOURNE	30.94	248.1	6	20K	-1							
CHARTERS TS.	34.05	281.1	6	46	-2	12	14	1				
ADELAIDE	36.15	252.8	7	5K	-1						9	8
PORT MORESBY	39.15	296.7	7	29	-2							
CAPE HALLETT	41.24	185.4	7	53	5	14	15	12			17	16 SS
SCOTT BASE	46.85	184.4	8	37	4							
BYRD STATION	53.76	169.4	9	27	1							
KIPAPA	56.08	22.5	9	47	4							
SOUTH POLE	58.58	180.0	10	1	0	18	10	6			20	51 SS
MIRNY	61.08	207.2	10	15	-3							
HALLEY BAY	71.57	172.7	11	14	-11							
MATUSIRO	79.23	325.4	12	3	-5						17	3 PPP
PASADENA	86.30	45.9	12	5	-40							
LICK	86.44	41.7	12	47K	2							
BERKELEY	86.47	40.9	12	45	-1							
SHASTA	88.40	38.9	12	55	0							
RENO	89.00	41.1	12	59	1							
TUCSON	89.78	51.3	13	3	2							
EUREKA	91.16	43.1	13	7	-1							
COLLEGE	99.00	12.5	13	40	-4							

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RESOLUTE	118.38	17.5	18 54	5	
BULAWAYO	122.58	209.9	18 55	-3	
QUETTA	125.02	286.7	19 3	1	
ELISABTHVILLE	130.60	213.6	19 15	2	
SODANKYLA	141.35	345.0	19 33	0	
KIRUNA	142.15	348.7	19 36	2	
MOSCOW	145.32	324.6	20 4	24	
SIDA	145.40	15.6	19 29	-11	
PULKOVO	146.08	334.5	19 40	-1	
SKALSTUGAN	147.34	351.5	19 44	1	
NURMI JARVI	147.43	339.3	19 44	1	
HELSINKI	147.60	338.7	19 46	3	
UPPSALA	149.87	344.3	19 50K	3	
SIMFEROPOL	151.69	307.3	19 58	8	
GOTEBORG	153.01	348.2	19 55	3	20 12 PKP2
MUNSTER	159.23	350.2			22 34
PRUHONICE	159.38	336.6	20 36	36	
TAMANRASSET	170.68	200.4	20 11	2	25 38 PP

JULY 31 10.H 28.M 2.S EPICENTRE 38.83 49.38 DEPTH= 0.KM

A= 0.50852 B= 0.59279 C= 0.62451 D= 0.7590 E=-0.6511  
G= 0.4066 H= 0.4740 K=-0.7810 HT= -1.3

SE= 2.31

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S		
SHEMAKHA	1.88	342.4	0	46	13							
GORIS	2.46	286.6	0	44	2							
TIFLIS	4.53	310.9	1	9	-2						2	21 S*
KIZYL-ARVAT	5.38	85.8									3	13 SG
PIATIGORSK	7.03	319.6	1	49	3							
ASHKABAD	7.10	94.3	1	47	0	3	5	-5			3	59
SOTCHI	8.68	306.2	2	11	1	3	54	5			4	54
BAIRAM-ALI	10.11	93.0	2	24	-5						4	52
KSARA	11.98	249.4	2	56	1	5	9	-1			5	35 SSS
YALTA	12.70	301.2	3	7	3							
SIMFEROPOL	12.90	303.2	3	8	1						5	30
JERUSALEM	13.53	242.9	3	16A	1							
STALINABAD	15.15	85.0	3	42	5							
TASHKENT	15.44	74.4	3	40	0						6	52 SS
LUNACHARSKOE	15.48	74.4	3	41	0						6	52 SS
TCHIMKENT	15.75	70.9	3	47	3						6	57
KULYAB	16.03	86.9	3	48	0						10	10
QUETTA	16.84	115.5	2	51	-67							
NAMANGAN	17.23	75.8									5	18
FERGANA	17.33	77.8	4	4	-1						7	25
KHOROG	17.53	87.5	4	6	-1							
ANDI JAN	17.77	76.5	4	9	-1						7	40 SS
BUCHAREST	18.25	295.3									11	9
MOSCOW	18.64	338.9	4	18	-3	7	51	5				
FRUNSE	19.46	70.0	4	31	0	8	11	6			8	28 SS
SVERDLOVSK	19.48	18.8	4	32	1						8	8
ATHENS	20.11	275.6	4	37A	-1						5	1 PP
RYBACHE	20.55	71.3	4	44	2						5	10 PP
FABRICHNAYA	20.81	69.3	4	47	2							
LWOW	21.10	309.6				8	43	4				
ALMATA	21.22	69.1	4	49	0	8	42	1				
ALMATA-2	21.52	69.1	4	53	1							
KRAKOW	23.67	307.9	5	17	3	9	23	-3				
PULKOVO	24.19	336.2	5	17	-2	9	41	6				
BRATISLAVA	25.04	302.4	5	30	3							
HELSINKI	26.31	332.2	5	37	-2							
MESSINA	26.39	279.4	5	10	-30						10	18
LJUBLJANA	26.56	297.1	5	43	2						6	7
NURMI JARVI	26.65	332.5	5	42	0							
PRUHONICE	27.02	305.8	5	47	2							
COLLMBERG	28.25	308.1	5	54	-2							
UPPSALA	29.03	326.8	6	0	-3							
APATITY	30.11	347.9	6	7	-6						11	56
STUTTGART	30.33	302.3	6	17	2							
SODANKYLA	31.29	343.3	6	22	-2							
SKALSTUGAN	33.15	330.4	6	37	-3							
KIRUNA	33.16	340.4	6	38	-2						14	5 SS
DOURBES	33.40	304.5	6	43	1						14	31 SSS



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SETIF	34.73	279.7	6 51	-2
TAMANRASSET	40.52	259.8	7 38	-4
TIKSI	50.40	23.9	9 1	0
COLLEGE	75.75	7.5	11 48	-1
HUANCAYO	124.37	283.0	19 23	22

14 33

JULY 31 19.H 53.M 3.S EPICENTRE 38.78 70.39 DEPTH= 0.KM

A= 0.26239 B= 0.73629 C= 0.62372 D= 0.9420 E=-0.3357  
G= 0.2094 H= 0.5875 K=-0.7816 HT= -1.2

SE= 2.44

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
TABIL-DARA	0.12	142.6									0	5 PG
GARM	0.23	343.3									0	4 PG
YALMICH	0.30	9.7									0	4 PG
ISHTION	0.31	80.1									0	6 PG
CHUSAL	0.44	42.8									0	8 PG
DBI-GARM	0.54	262.1									0	13 PG
DZHAFIR	0.73	63.6									0	6 PG
DZHERGETAL	0.79	55.5									0	15 PG
NUREK	0.91	245.9									0	20 PG
CHUIAN-GARON	0.96	262.8									0	20 PG
KULYAB	1.00	208.7									0	22 PG
ZIMCHURUD	1.24	270.2									0	24 PG
STALINABAD	1.28	260.3									0	25 PG
GISSAR	1.45	258.4									0	30 PG
KHOROZ	1.61	143.1	0	34	5						1	2 SG
FERGANA	1.93	33.5	0	35	1							
NAMANGAN	2.41	23.8	0	43	2						1	17 SG
ANDI JAN	2.49	37.2	0	45	3						1	19 S*
LUNACHARSKOE	2.68	342.7	0	46	1						1	23 S*
TASHKENT	2.68	341.9				1	17	-1			0	51 P*
SAMARKAND	2.79	289.7	0	49	3						1	24 S*
MURGAB	2.81	97.2	0	53	6						1	44 SG
TCHIMKENT	3.57	350.6	0	59	2	1	41	0				
WARSAK DAM	4.86	168.5	1	18A	2							
MARYN	5.05	56.6	1	19	1						2	47 SG
FRUNSE	5.19	36.5	1	21	1						2	48
RYBACHE	5.68	47.9	1	29	2						2	49 S*
FABRICHNAYA	6.33	44.1	1	37	1							
BAIRAM-ALI	6.62	262.3	1	36	-5						3	59
ALMATA	6.69	45.8	1	42	0						3	22 S*
ALMATA-2	6.93	47.4	1	47	2						2	2
KURMENTY	7.34	52.0	1	50	-1							
LAHORE	7.90	154.7	1	58A	-1							
QUETTA	9.03	199.3	2	15A	1	3	57	-1			2	28 PPP
ASHKABAD	9.49	268.8	2	18	-3						4	59
DEHRA DUN	10.54	140.9	2	36	1	4	32	-3			4	44 SS
KIZYL-ARVAT	11.01	275.7	2	39	-2						5	46
KARACHI	13.21	193.3	3	22A	11							
AGRA	13.26	148.9	3	5	-7							
SEMI PALATNSK	13.57	27.9	3	11	-5	5	40	-8				
SEHORE	16.57	157.9				6	43	-17				
GORIS	18.67	279.8	4	19	-2	7	47	0			8	9 SS
SVERDLOVSK	19.18	343.5	4	23	-4	7	49	-9				
LHASA	19.33	111.9	4	29A	0	8	1	-1				
TIFLIS	19.73	286.7	4	32	-1						8	15 SS
BOKARO	19.84	134.2	4	34K	-1	8	14	1			4	55 PP
BOMBAY	19.92	173.2	4	37	1	8	35	20				
POONA	20.40	170.5	4	40	-1	8	35	10				
CALCUTTA	22.31	131.3	4	50	-10	9	5	3				
SHILLONG	22.38	119.7	5	0A	-1	9	10	7			5	34 PP
HYDERABAD	22.41	159.4	5	5	4	9	14	11				
TOCKLAI	23.68	113.2	5	15	1							
CHITTAGONG	24.57	125.6	5	35A	13	10	4	23			6	16 PP
LANCHOW	26.61	85.3	5	42A	1	10	18	3				
IRKUTSK	27.05	49.0	5	43A	-3						10	44
MADRAS	27.10	158.7	6	5	19	11	6	43			7	23 PPP
YALTA	27.52	293.7	5	48	-2							
MOSCOW	27.60	318.7	5	50	0	10	30	-1			10	50
ULAN-BATOR	27.86	58.9	5	51	-2							
KYAKHTA	27.91	53.6	5	51A	-2						11	0
KSARA	28.14	270.6	6	0	5	10	40	0			12	4 SS

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KABANSK	28.38	50.2	5 56A	-2				11	7
CHENG TU	28.68	96.1	6 0A	0					
JERUSALEM	29.41	267.1	6 8	1					
PAOTOW	30.39	73.9	6 15A	-1					
KUNMING	30.47	107.1	6 15A	-1	11	18	1		
PULKOVO	32.79	323.0	6 37	0				8	7 PPP
BUCHAREST	33.28	294.2						10	38
LWOW	34.46	304.1	6 52	1				7	59 PP
PEKING	35.10	73.1	6 55	-2	12	28	-1		
APATITY	35.34	336.5	7 0	1	12	30	-3	7	58
HELSINKI	35.46	322.1	6 58	-2	12	34	-1	8	18 PP
NURMI JARVI	35.71	322.6	7 1	-1				14	17 SS
ATHENS	36.29	283.7	7 6A	-1					
WARSAW	36.40	308.1	7 9	1	12	48	-1	8	33 PP
KRAKOW	37.10	304.5	7 15	2				9	5 PPP
BELGRADE	37.23	295.8	7 18	3				8	41 PP
SODANKYLA	37.48	333.9	7 14	-3				8	34 PP
RACIBORZ	38.21	304.6	7 26	3				9	30 PCP
UPPSALA	38.99	320.3	7 28	-1				8	53 PP
BRATISLAVA	39.09	301.7	7 43	13				9	5 PP
CANTON	39.60	100.5	7 33A	-1					
NANKING	39.65	84.5	7 33A	-2	13	39	0		
KIRUNA	39.83	333.0			13	36	-6	16	31 SS
PRUHONICE	40.56	304.8	7 43	1				9	18 PP
HONG KONG	40.72	100.8	7 43A	-1	14	1	6		
CHANGCHUN	40.93	64.7	7 44	-1					
LJUBLJANA	41.14	298.8	7 51K	4				9	32 PP
POTSDAM	41.28	308.5	7 48	0	14	3	0	9	21 PP
COLLMBERG	41.41	306.9	7 49	0				9	25 PP
COPENHAGEN	41.49	313.6	7 51	1	14	7	1	9	23 PP
TRIESTE	41.75	298.4	7 56	4	14	10	0		
GOTEBORG	41.75	316.6	7 56	4				9	34 PP
PLAUEN	42.03	305.8	7 55	1				9	48
HALLE	42.05	307.3	7 56	2	13	50	-24	9	34 PP
SKALSTUGAN	42.05	325.5	7 53	-2				9	31 PP
JENA	42.34	306.5	7 57	0	14	15	-4	9	30 PP
MESSINA	42.37	287.1	8 0	3	14	17	-2	17	21 SS
YAKUTSK	42.44	37.0	7 55	-3					
SONNEBERG	42.65	305.8	8 0	1				9	42 PP
ROME	43.53	293.3						15	20
TIKSI	43.86	23.0	8 6	-3				19	3 SSS
STUTTGART	44.20	303.7	8 12	0	14	45	-1	10	0 PP
TUBINGEN	44.33	303.4	8 14	1					
EBINGEN	44.46	303.0	8 16	2					
MUNSTER	44.66	308.5	8 16	0				10	4
BENSBERG	45.10	307.1	8 21	2				10	5
STRASBOURG	45.16	303.7	8 19	-1	14	57	-3	18	15 SS
BASLE	45.51	302.3	8 25	2					
DE BILT	46.12	309.0			15	15	1	18	42 SS
DOURBES	46.87	306.4	8 38	5	15	25	1		
PARIS	48.51	305.2	8 58	12				10	49 PP
CLERMONT-FD.	48.94	301.1	8 52	3					
DURHAM	49.57	313.6	8 39	-15					
KEW	49.59	309.2	8 52	-2	15	58	-5		
FOLINIERE	50.42	305.8	8 59	-2					
ABUYAMA	51.34	72.9	9 6A	-2					
MATUSIRO	52.61	69.8	9 14A	-3	16	45	1	10	25 PCP
RATHFARNHAM	52.62	312.7	9 15	-2					
SIDA	55.37	327.3	9 37	-1					
TOLEDO	55.96	296.5	9 41	-1	17	20	-9	21	6 SS
GRANADA	56.80	293.4	9 49K	1					
TAMANRASSET	56.87	273.9	9 47	-1	17	43	2	11	57 PP
BANGUI	58.02	247.4	9 58	1					
TANANARIVE	61.25	204.8	10 19	0					
THULE	62.14	349.8	10 22	-3					
ELISABTHVILLE	64.19	227.9	10 38	0					
LEOPOLDVILLE	66.53	243.1	10 55K	2					
COLLEGE	72.44	16.1	11 27	-3					
PRETORIA	75.36	218.8	11 38	-9					
KIMBERLEY	79.53	219.6	12 4	-6					
PORT MORESBY	85.68	105.6	12 42A	1					
SHAWINIGAN	88.87	335.5	13 3	6					
BANFF	90.28	3.7	13 2	-2					
HORSESHOE B.	91.39	8.9	13 8	-1					
CHARTERS TS.	91.88	114.2	13 11A	0					
VICTORIA	92.22	9.1	13 12	-1					
HUNGRY HORSE	93.16	2.9	13 17	0					
BOZEMAN	95.92	1.0	13 29	-1					
RAPID CITY	97.32	355.3	13 35	-1					

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EUREKA	101.90	5.0	13 58	1	
KARAPIRO	122.90	114.6	18 57	-1	
SOUTH POLE	128.59	180.0	19 8	-1	22 29
SCOTT BASE	128.90	164.3	19 7	-3	
CAPE HALLETT	129.42	157.0	19 10	-1	
BYRD STATION	138.46	177.4	19 23	-4	

AUGUST 4 8.H 2.M 19.5 EPICENTRE -20.79-178.33 DEPTH= 571.KM

A=-0.93529 B=-0.02723 C=-0.35282 D=-0.0291 E= 0.9996  
G= 0.3527 H= 0.0103 K=-0.9357 HT= 4.5

DEPTH OF FOCUS= 0.085R

SE= 1.47

	DELTA DEG.	AZ. DEG.	P S O-C			S O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S	M	S
SUVA	4.03	310.1	1	41	17	2	50	19			2	16
RAOUL ISLAND	8.43	177.5	2	3	0	3	44	3				
APIA	9.35	43.0	2	11	-1	3	52	-6				
NOUMEA	14.24	261.2	3	4	3	5	37	10				
ONERAHI	16.24	201.7	3	24	4	6	12	10				
KARAPIRO	17.89	196.0	3	37A	1						7	19 PCP
TUAI	18.37	191.3	3	39	-2	6	32	-6			6	53
WELLINGTON	21.25	194.5	4	5	-2	7	36	10			14	14 SCS
KAIMATA	23.32	199.4	4	23	-3	8	9	10				
GEBBIES PASS	24.05	196.2	4	30	-3	8	28	17			9	0
BRISBANE	27.14	250.3	4	58	-2	8	55	-4				
RIVERVIEW	29.94	237.9	5	25A	1	9	42	-1				
CANBERRA	32.09	236.2	5	42A	0				7	24	8	15 PCP
CHARTERS TS.	33.15	264.8	5	51K	0	10	30	-2				
PORT MORESBY	35.12	283.6	6	7K	0	10	59	-3	7	45	14	19
MACQUARIE I.	37.81	201.6	6	31	2							
ADELAIDE	40.20	240.1	6	48	-1							
GUAM	49.75	310.0	8	0	-2						12	14 SCP
CAPE HALLETT	51.95	184.4	8	19A	1	15	6	7	10	5	10	28 PP
SCOTT BASE	57.56	183.7	8	59K	2	16	21	9			10	51 PCP
WILKES	63.59	205.2	9	36	-1	17	25	-2			18	30 SCS
BYRD STATION	64.41	170.5	9	42	0						11	39 PP
SOUTH POLE	69.34	180.0	10	12	0	18	14	-20			12	10 PP
MATUSIRO	70.25	323.9	10	16K	-1	18	45	1			10	35 PCP
LEMBANG	72.72	269.1	10	31K	-1							
ZO-SE	77.64	310.2	10	59	0							
UGLEGORSK	77.98	334.6	11	1	0							
VLADIVOSTOK	78.33	325.2	11	4	1	20	21	9				
HONG KONG	78.55	299.2	11	4	0							
BERKELEY	78.60	42.1	11	5	1							
LICK	78.67	42.8	11	5	1							
PASADENA	79.11	47.1	11	6	-1	20	27	7				
FRESNO	79.52	44.1	11	10	1							
CANTON	79.59	299.5	11	11	2							
NANKING	79.88	309.8	11	10K	-1							
MINERAL	80.52	40.4	11	15	1							
ARGENTINE I.	80.83	157.1	11	16	0							
HALLEY BAY	82.29	173.1	11	21	-2							
CHANGCHUN	82.43	322.6	11	23K	-1							
TUCSON	83.34	52.0	11	30	2				13	35	29	46 PKKP
EUREKA	83.54	43.6	11	30	1				13	39		
MAGADAN	83.95	344.8	11	28	-3							
PEKING	85.87	315.5	11	41K	1							
LILLOOET	86.74	32.0	12	1	16							
SALT LAKE C.	86.90	44.2	11	46	1							
SIAN	88.15	307.7	11	51	0							
COLLEGE	88.56	12.5	11	51	-2	21	50	0	13	58	21	27 SKS
BUTTE	89.16	39.5	11	55	-1							
KUNMING	89.20	297.2	11	58	2							
HUNGRY HORSE	89.55	37.0	11	58	0						29	29 PKKP
BOZEMAN	89.90	40.3	12	0	1							
BANFF	90.27	34.1	12	1	0							
YAKUTSK	92.24	338.2	12	8	-2							
LANCHOW	92.69	307.5	12	13	1							
SHILLONG	98.54	294.0	12	40	1							
RESOLUTE	108.16	16.1	17	23	777	23	05	0			24	39 S
OTTAWA	113.22	48.4	17	33A	0							
PALISADES	114.02	53.4									29	21 PPS

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SHAWINIGAN	115.38	47.4	17 37	0	
WARSAK DAM	117.63	298.3	17 40	-1	
QUETTA	121.02	293.4	17 48	0	
APATITY	129.15	344.9			21 26 PP
SODANKYLA	130.81	347.5	18 4	-3	20 38 SKP
KIRUNA	131.51	350.6	17 55	-13	20 41 SKP
BULAWAYO	131.53	214.7	17 56	-12	20 43 PP
MOSCOW	136.00	331.4			20 56 PP
PULKOVO	136.04	339.5			20 57 PP
SKALSTUGAN	136.63	353.1	18 7	-10	20 57 SKP
NURMIJARVI	137.12	343.5	18 10	-8	21 54 PKS
HELSINKI	137.32	343.0	18 12	-7	
TIFLIS	138.17	309.9	18 14	-6	
UPPSALA	139.35	347.7	18 13	-9	21 6 SKP
GOTEBORG	142.37	350.9	18 26A	-3	21 16 SKP
SIMFEROPOL	144.01	319.6	18 32	1	
LWIRO	144.92	232.5	18 35A	2	
DURHAM	145.98	3.4	18 33	-1	
LWOW	146.03	333.8	19 22	48	21 10 PP
RATHFARNHAM	146.97	8.8	18 38A	3	18 53
KSARA	147.10	300.5	18 38	2	20 56 22 14 PP
POTSDAM	147.25	347.1	18 39	3	20 55 21 48
KRAKOW	147.41	338.0	18 39	3	
RACIBORZ	147.97	339.8	18 43	6	
JERUSALEM	148.11	297.0	18 43A	6	21 1 PKP2
COLLMBERG	148.28	346.4	18 37	-1	20 57
JENA	148.92	347.8	18 38	0	21 0 22 26 PP
PRAGUE	149.08	343.9	18 45	6	
PRUHONICE	149.13	343.7	18 40A	1	21 1 19 10 PKP2
PLAUEN	149.22	346.9	18 44	5	21 57 *SPKP
KEW	149.34	2.4	18 45	6	
SONNEBERG	149.52	347.9	18 45	6	20 59
BENSBERG	149.58	353.1	18 45	6	21 11 PP
UCCLE	149.97	356.6	18 43	3	
STUTTGART	151.42	349.4	18 44A	2	25 33 *SPP
TUBINGEN	151.69	349.6	18 50	7	
STRASBOURG	151.84	351.4	18 51	8	21 17 19 3 PKP2
FOLINIERE	152.03	3.0	18 43	0	
PARIS	152.03	358.8	18 45	2	
EBINGEN	152.04	349.5	18 51	8	
TRIESTE	153.29	340.9	18 41	-4	19 11 PKP2
MONACO	156.62	349.4	19 21	32	
ALGIERS UNI.	164.03	356.0	18 52	-5	23 42 PP
TAMANRASSET	175.91	299.7	19 5	1	21 29 24 44 PP

AUGUST 5 5.H 16.M 38.S EPICENTRE 11.90 125.33 DEPTH= 0.KM

A=-0.56605 B= 0.79851 C= 0.20485 D= 0.8158 E= 0.5783  
G=-0.1185 H= 0.1671 K=-0.9788 HT= 6.3

SE= 2.82

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	O-C S	M	S	M	S
BAGUIO CITY	6.44	314.8	1	40	2	2	45	-8				
HONG KONG	14.85	315.6	3	36	3	6	20	1				
CANTON	15.95	315.9	3	54	7	6	52	7				
GUAM	19.00	83.2	4	30	5							
ZO-SE	19.49	349.3	4	32	1	8	4	-2				
PHU-LIEN	19.99	298.7	4	34	-3	8	12	-5				
NANKING	20.95	344.3	4	51	4	8	37	1				
ABUYAMA	24.69	20.5	5	25A	1							
KUNMING	25.08	304.8	5	29	2	9	48	-2				
LEMBANG	25.62	224.3	5	36A	4	10	26	27				
SIAN	26.41	328.7	5	42	-1							
MATUSIRO	27.14	23.2	5	44	-2	10	28	4			9	8 PCP
CHENG TU	27.17	316.7	5	49	2	10	23	-2				
PEKING	29.17	345.5	6	5	0	10	50	-7				
PORT MORESBY	30.30	133.4	6	20K	5						11	40
LANCHOW	30.91	324.7	6	19	-1	11	16	-8				
CHANGCHUN	31.82	360.0	6	28	0							
CHITTAGONG	33.60	292.5	6	11	-33	11	6	-60			7	7 PP
SHILLONG	34.37	298.1	6	49K	-1							
CHARTERS TS.	37.88	146.9	7	35	15						13	21
CHATRA	38.77	298.2	7	28	0							
ULAN-BATOR	39.09	340.3	7	31	1							

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BRISBANE	47.27	146.1	8 43	6						
YAKUTSK	50.14	2.7	8 59	0	16	5	-5			
RIVERVIEW	51.69	152.5							17	2
CANBERRA	52.03	155.4	9 18K	5					11	26 PP
WARSAK DAM	53.52	303.5	9 23	-1						
STALINABAD	56.63	308.4	9 59	12						
QUETTA	56.85	298.3	9 47	-1	17	37	-4			
TIKSI	59.73	1.3	10 5	-4	18	10	-9			
SVERDLOVSK	66.36	327.1	10 50	-2	19	33	-9			
KARAPIRO	68.29	139.2	11 9	4						
TIFLIS	75.15	310.2	11 45	-1	21	20	-4			
COLLEGE	77.98	25.8	12 1	0						
MOSCOW	78.98	324.8	12 4	-3	21	56	-10			
APATITY	79.82	337.0	12 11	0	22	6	-8			
PULKOVO	82.33	329.4	12 24	-1	22	31	-9			
SODANKYLA	82.44	337.3	12 25	0						
KIRUNA	84.61	338.4	12 35	-1	22	56	-7			
NURMI JARVI	84.93	330.8	12 38	0	22	55	-11			
UPPSALA	88.48	331.2	12 53	-2	23	32	-8			
CAPE HALLETT	89.03	167.5	13 1	3						
RESOLUTE	90.07	9.9	13 1	-2	23	50	-5		30	4 SS
SCOTT BASE	92.56	171.9							18	57
HUNGRY HORSE	100.38	35.7							17	56 PP
EUREKA	103.54	44.3	14 6	2						
TAMARRASSET	111.73	300.5							18	6 PP
HUANCAYO	159.79	92.6	19 58	-2					20	49 PKP2

AUGUST 5 13.H 48.M 43.S EPICENTRE 5.31 126.21 DEPTH= 0.KM

A=-0.58829 B= 0.80341 C= 0.09191 D= 0.8068 E= 0.5908  
G=-0.0543 H= 0.0742 K=-0.9958 HT= 7.0

SE= 2.65

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S		
GUAM	19.98	64.8	4	36	-1							
HONG KONG	20.52	326.5	4	44	1	8	31	3			5	3 PP
CANTON	21.61	326.1	4	57	3	8	48	-1				
LEMBANG	22.13	237.2	5	1A	2						8	51
PORT MORESBY	25.47	124.9	5	32	0	10	38	41			11	26
NANKING	27.51	346.2	5	56K	6							
RABAU	27.59	109.5	5	54	3							
CHARTERS TS.	32.02	142.6	6	31K	0						12	58
CHENG TU	32.75	323.0	6	36	-1							
MATUSIRO	32.97	17.9	6	37	-2	12	4	7			8	8 PPP
PEKING	35.73	346.7	7	2	-1							
LANCHOW	36.87	329.0	7	12	0							
CHITTAGONG	37.31	300.4	7	12	-4	13	2	-2			8	40 PP
VLADIVOSTOK	37.99	6.8	7	22	0							
CHANGCHUN	38.37	358.9	7	25	0							
SHILLONG	38.55	305.2	7	25	-1							
BRISBANE	41.42	143.1	7	52K	2						8	19
ADELAIDE	41.76	164.5	7	53	0						8	41
CHATRA	42.92	304.2	8	4	2							
ULAN-BATOR	45.56	341.8	8	32	8							
CANBERRA	45.74	153.8	8	26A	1							
LAHORE	55.07	305.0	9	31	-5							
YAKUTSK	56.65	2.0	9	47	-1	17	30	-9				
WARSAK DAM	58.02	307.0	9	58	1							
QUETTA	60.88	301.6	10	15	-2							
KARAPIRO	62.81	137.6	10	29	-1						11	4
GEBBIES PASS	64.25	144.3	10	39	0							
TIKSI	66.26	0.9	10	49	-3	19	29	-12				
SVERDLOVSK	72.36	328.3	11	27	-3	20	39	-14				
TIFLIS	80.08	311.3	12	13	0							
KHEYS	81.29	351.1	12	19	-1							
CAPE HALLETT	82.45	167.6	12	25	-1							
COLLEGE	83.51	25.4	12	30	-1							
MOSCOW	84.85	325.4	12	33	-5							
SCOTT BASE	85.96	172.1	12	43	-1							
APATITY	86.20	337.4	12	47	2							
SODANKYLA	88.82	337.6	12	54	-3							
HELSINKI	91.00	330.6	13	5	-3							
KIRUNA	91.02	338.6	13	4	-4							
NURMI JARVI	91.08	331.0	13	6	-2							

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RESOLUTE	96.36	10.1	13 33	1	24 37 28	23 53 SKS
TAMANRASSET	115.70	298.3	18 45	0		
SHAWINIGAN	125.69	16.0	19 3	-1		
SAN JUAN	153.50	27.0	20 14	21		
HUANCAYO	157.69	108.9	20 2	4		

AUGUST 6 3.H 44.M 35.S EPICENTRE 47.85-119.98 DEPTH= 0.KM

A=-0.33659 B=-0.58350 C= 0.73908 D=-0.8662 E= 0.4997  
G=-0.3693 H=-0.6402 K=-0.6736 HT= -4.6

SE= 2.46

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
SEATTLE	1.58	263.8	0	31	1	1	43	52				
CORVALLIS	4.00	216.4	1	3	-1							
HUNGRY HORSE	4.02	80.6	1	4	0	1	53	0				
BUTTE	5.39	107.1	1	20	-4	2	18	-10				
BOZEMAN	6.51	106.2	1	38	-2	3	13	17				
SHASTA	7.35	194.5	1	54	2							
ARCATA	7.56	204.4	1	53	-1							
MINERAL	7.58	189.4	1	54	-1							
LOGAN	8.42	133.5	2	7	1							
EUREKA	8.85	159.4	2	12	0	3	40	-14				
SALT LAKE C.	9.16	137.6	2	17	0							
LICK	10.57	187.2	2	36	0							
FRESNO	11.07	179.3	2	50	7							
CHINA LAKE	12.15	170.8	2	58	0						6	28
WOODY	12.16	175.7	2	59	1							
ISABELLA	12.23	174.2	2	59	0						6	35
RAPID CITY	12.27	101.7	2	56	-3							
BOULDER CITY	12.46	160.3	3	1	-1							
PASADENA	13.75	173.7	3	35	16						7	20
RIVERSIDE	13.98	171.0	3	30	8							
TUCSON TELE.	17.01	152.3	4	1	0	7	38	28				
TUCSON	17.06	152.7	4	3	1							
COLLEGE	22.68	328.9	5	7	2							
RESOLUTE	28.99	13.4	6	3A	-1						6	40
SODANKYLA	62.37	13.9	10	26	-1							
NURMIJARVI	68.26	18.0	11	5	0							
MATUSIRO	70.91	303.5	11	20	-1						12	12
HUANCAYO	71.61	133.6	11	26	1							
PRUMONICE	74.96	28.5	11	45A	0							

AUGUST 7 10.H 43.M 31.S EPICENTRE 56.40-153.55 DEPTH= 0.KM

A=-0.49774 B=-0.24763 C= 0.83123 D=-0.4454 E= 0.8953  
G=-0.7442 H=-0.3703 K=-0.5559 HT= -7.7

SE= 2.92

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
COLLEGE	8.94	15.9	2	12	-1	4	6	10				
SITRA	10.04	78.7	2	46	17							
ALBERNI	18.66	100.3	4	21K	0							
HORSESHOE B.	19.45	98.4	4	29A	-2							
LILLOOET	19.52	93.6	4	42	10	9	43	96				
VICTORIA	19.85	100.6	4	36K	1						9	37
HUNGRY HORSE	25.13	91.8	5	28	0						9	0 PCP
UKIAH	26.41	118.0	5	42	2	10	45	33				
BUTTE	27.30	94.8	5	48	0	10	24	-3				
PETROPAVLOVK	27.38	283.3	5	46	-3	10	21	-7				
BERKELEY	27.86	118.4	5	53	0	10	36	0				
BOZEMAN	28.35	94.0	5	58	0							
RESOLUTE	28.57	28.3	5	59A	-1	11	1	14				
MAGADAN	28.94	299.7	6	2	-1							
EUREKA	29.85	108.5	6	11	0						7	5
SALT LAKE C.	31.13	102.3	6	23	0							
PASADENA	32.82	117.6	6	37	0	11	48	-6			7	50 PP
BOULDER CITY	33.07	111.6	6	40	1							
RAPID CITY	33.70	89.7	6	45	0							
TIKSI	34.29	326.7	6	49	-1							



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1959					PAGE 583				
THULE	35.06	24.2	6 57	0					
YAKUTSK	37.52	311.1	7 17	0					
TUCSON TELE.	38.03	110.9	7 22	0				8 49	PP
TUCSON	38.05	111.1	7 22	0					
Y.-SAKHLINSK	39.24	284.1	7 31	-1	13 32	-1			
KHEYS	42.07	352.6	7 56	1	14 12	-3			
DALLAS	45.15	96.7	8 19	-1					
TERRE HAUTE	45.65	82.7						13 44	PCS
CLEVELAND	47.36	76.3			15 29	-3		18 27	SS
VLADIVOSTOK	47.58	287.1	8 39	0	15 24	-11			
OTTAWA	47.74	68.5	8 39	-2	15 34	-3			
SHAWINIGAN	48.47	65.5	8 45	-1					
BREBEUF	48.76	67.1	8 47	-1	17 42	111			
SCORESBY SD.	48.79	19.5	8 49	0	15 53	1		10 42	PP
MATUSIRO	48.80	276.2	8 48	-1	15 53	1		9 59	
SEVEN FALLS	49.06	63.7	8 50	-1	15 53	-3			
PENNSYLVANIA	49.80	74.4	8 55	-2	16 4	-2			
CHANGCHUN	50.54	292.1	9 1	-1					
ABUYAMA	51.48	276.8	9 9A	0					
MOBILE	51.56	91.1	8 52	-18	16 29	-1			
WASHINGTON	51.59	75.5	9 21	11					
PALISADES	51.76	71.4	9 8	-3	16 33	0		11 18	PP
COLUMBIA	53.03	82.7	9 19	-2					
IRKUTSK	54.27	312.3	9 28	-2					
HALIFAX	54.39	61.4						17 2	PS
SCORESBY SD.	48.79	19.5	8 49	0	15 53	1		10 42	PP
MATUSIRO	48.80	276.2	8 48	-1	15 53	1		9 59	
SEVEN FALLS	49.06	63.7	8 50	-1	15 53	-3			
PENNSYLVANIA	49.80	74.4	8 55	-2	16 4	-2			
CHANGCHUN	50.54	292.1	9 1	-1					
ABUYAMA	51.48	276.8	9 9A	0					
WASHINGTON	51.59	75.5	9 21	11					
PALISADES	51.76	71.4	9 8	-3	16 33	0		11 18	PP
COLUMBIA	53.03	82.7	9 19	-2					
IRKUTSK	54.27	312.3	9 28	-2					
HALIFAX	54.39	61.4						17 2	PS
KIRUNA	56.00	2.8	9 41A	-2	17 29	-1			
APATITY	56.25	356.8	9 43A	-1	17 34	0		11 51	PP
ULAN-BATOR	56.43	307.2	9 46	0	17 40	4			
SODANKYLA	56.54	359.9	9 45	-2					
PEKING	57.97	295.1	9 55	-2	17 56	0			
SKALSTUGAN	59.85	7.3	10 8	-2					
BERMUDA	63.11	71.5			18 44	-18		25 47	SS
NURMIJARVI	63.42	1.0	10 33	-1				20 26	SCS
HELSINKI	63.77	0.8	10 36	0					
SVERDLOVSK	63.80	339.9	10 35	-1	19 12	1			
UPPSALA	63.88	4.9	10 35A	-2	19 10	-2			
PULKOVO	64.13	357.8	10 37	-1	19 14	-1			
ABERDEEN	64.46	16.8			19 20	1		23 23	SS
GOTEBORG	65.66	8.5	10 44	-4					
DURHAM	66.85	17.2	10 45	-11				13 11	PP
LANCHOW	67.13	300.9	10 57A	-1					
RATHFARNHAM	67.41	20.6	11 11	12				13 58	
COPENHAGEN	67.70	8.5	11 2	1	20 3	5			
MOSCOW	67.86	353.2	11 1	-1	20 0	0			
WITTEVEEN	69.93	12.6	11 15	0					
KEW	70.24	17.4	11 17	0	20 29	1		24 56	SS
DE BILT	70.45	13.7	11 19	1	20 35	4			
MUNSTER	70.88	12.2	11 20	-1				11 49	
CHENGTU	71.42	297.4	11 24	0					
UCCLE	71.61	14.6	11 25	0	20 46	2			
WARSAW	71.64	3.5			20 45	0			
HALLE	71.80	9.5	11 25	-1	20 49	2	11 35	11 59	PCP
COLLMBERG	72.09	8.8	11 27	-1					
DOURBES	72.33	14.6	11 30	1	20 54	1			
JENA	72.33	9.8	11 29	0	20 51	-2		14 10	PP
PLAUEN	72.82	9.5	11 40	8	20 58	0		14 14	
FOLINIERE	72.82	18.3	11 32	0					
SONNEBERG	72.83	10.2	11 32	0					
PARIS	73.27	16.3	11 36A	1					
PRAGUE	73.43	8.0			21 11	6		21 36	PS
PRUMONICE	73.53	8.0	11 37A	1	21 10	4		16 5	PPP
LWOW	74.13	1.6	11 39	-1	21 13	0			
STUTTGART	74.22	11.7	11 39	-2	21 17	3			
STRASBOURG	74.23	12.8	11 42A	1	21 17	3		14 25	PP
BRATISLAVA	75.50	6.5	11 47	-1					
CLERMONT-FD.	76.33	16.6	11 53	0	21 42	5			
LJUBLJANA	77.43	8.5	11 58A	-1					
TRIESTE	77.76	9.1	11 59	-2	21 57	4		27 4	SS

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1959		PAGE 584									
LHASA	78.39	306.6	12	5A	1						
SERRA PILAR	78.41	26.3	12	4K	0						
SIMFEROPOL	78.81	354.5	12	6	0	22	4	0			
STALINABAD	78.82	327.5	12	8	2	22	4	0			
MONACO	78.96	13.9	12	7	0						
BELGRADE	79.02	4.3	12	8K	1	22	10	4			22 40 PS
CHINCHINA	79.20	97.3	12	19	11						
PRATO	79.25	11.2	12	11	2						
MAKHACH-KALA	79.41	344.4	12	9	-1	22	9	-1			
BUCHAREST	79.55	0.3	12	15A	5						13 41
SOTCHI	79.76	350.2	12	11	0	22	14	0			
BOGOTA	80.35	96.2									23 24 SKKS
TIFLIS	81.02	346.2	12	19	1	22	5	-19			
ROME	81.36	10.5	12	19A	-1	22	34	3			27 24
SHILLONG	81.49	303.9	12	22	1						
PORT MORESBY	81.65	239.0	12	23	2	22	31	-3			15 21 PP
WARSAK DAM	82.15	323.6	12	22	-2						
ALICANTE	82.88	21.0	12	30	2	22	50	4			
DEHRA DUN	83.17	317.0									22 49
GRANADA	83.35	23.7	12	31A	1	23	1	10			15 28 PP
LAHORE	83.43	320.4	12	30A	-1	22	49	-3			
CHITTAGONG	84.27	302.3	12	8	-27	21	57	-63			
ALGIERS UNI.	85.08	18.7	12	36	-3	23	9	1			
MESSINA	85.31	8.6	12	42	2	23	8	-2			15 48 PP
RELIZANE	85.60	20.9	12	34	-8						
BOKARO	85.73	307.8									23 4
AGRA	86.04	315.6									23 2
QUETTA	87.15	325.7	12	49A	0	23	17	-11			16 10 PP
KSARA	89.78	352.2	12	59	-3	23	51	-1			16 29 PP
CHARTERS TS.	91.38	234.7	13	8	-1						18 10
BRISBANE	95.66	225.8				24	44	0			31 31
TAMANRASSET	99.16	19.5	13	39	-6						17 22
CAPE HALLETT	130.87	193.8									24 49 PPP
SCOTT BASE	136.20	191.3									22 53 PKS
BYRD STATION	137.57	171.7	19	23	-3						
BULAWAYO	143.75	356.6	19	35	-2						
SOUTH POLE	146.22	180.0	19	41	0						
PRETORIA	149.35	356.9	19	50	4						
KIMBERLEY	152.34	3.2	19	58A	7						

AUGUST 7 21.H 45.M 25.S EPICENTRE 56.42-153.69 DEPTH= 0.KM

A=-0.49809 B=-0.24631 C= 0.83141 D=-0.4433 E= 0.8964  
G=-0.7453 H=-0.3685 K=-0.5557 HT= -7.7

SE= 2.08

	DELTA DEG.	AZ. DEG.	P			O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S		
COLLEGE	8.95	16.3	2	13	0	4	6	10				
SITKA	10.11	78.8	2	24	-5	4	13	-12				
ALBERNI	18.74	100.2	4	22	0							
HORSESHOE B.	19.53	98.3	4	30K	-2							
VICTORIA	19.93	100.5	4	35	-1	8	22	7				
CORVALLIS	22.46	108.9	5	2K	0							
HUNGRY HORSE	25.21	91.8	5	28	-1	10	25	33			8 58 PCP	
SHASTA	25.70	114.4	5	34K	1							
MINERAL	26.36	113.9	5	39K	-1							
UKIAH	26.48	117.8	5	41	0							
PETROPAVLOVK	27.30	283.2	5	47	-1	10	20	-7				
BUTTE	27.37	94.7	5	48	-1							
BERKELEY	27.94	118.3	5	53	-1	10	40	3				
BOZEMAN	28.43	93.9	5	58	0							
RESOLUTE	28.59	28.4	6	0	0	10	39	-9			8 50 PCP	
LICK	28.66	118.1	5	59	-1							
MAGADAN	28.87	299.6	5	47	-15	10	20	-32				
EUREKA	29.92	108.4	6	11	-1							
FRESNO	30.01	116.5	6	12	-1							
SALT LAKE C.	31.21	102.1	6	30	7							
PASADENA	32.90	117.5	6	36	-2	11	57	1				
BOULDER CITY	33.15	111.5	6	41	1							
RAPID CITY	33.78	89.6	6	45	-1							
TIKSI	34.23	326.6	6	49	0	12	18	2				
THULE	35.07	24.2	6	55	-2							
YAKUTSK	37.45	311.0	7	16	-1	13	8	2				
TUCSON TELE.	38.11	110.8	7	22	0	13	14	-2			8 49 PP	

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TUCSON	38.13	111.0	7 22	0					8 51 PP
UGLEGORSK	38.26	287.0	7 23	-1	13 20	2			
Y.-SAKHLINSK	39.16	284.0	7 32	1	13 30	-2			
NORD	40.31	8.9	7 40	-1	13 49	0			
LAWRENCE	41.63	89.2	7 51	0					
KHEYS	42.05	352.6	7 56	1					
DALLAS	45.23	96.6	8 19	-2					
CLEVELAND	47.43	76.2			15 29	-3			
VLADIVOSTOK	47.50	286.9	8 39	0	15 35	1			
OTTAWA	47.81	68.4	8 40	-1	15 35	-3			
SHAWINIGAN	48.53	65.4	8 47	0					
MATUSIRO	48.72	276.1	8 47A	-1	15 45	-6			10 18 PP
SCORESBY SD.	48.80	19.5	8 48	-1	15 51	-1			10 41 PP
BREBEUF	48.82	67.0	8 47	-2					
SEVEN FALLS	49.12	63.7	8 50	-1					
PENNSYLVANIA	49.87	74.3	9 0	3	16 2	-5			
CHANGCHUN	50.46	292.0	9 0A	-1	16 16	1			
ABUYAMA	51.40	276.7	9 9A	0					
WASHINGTON	51.66	75.4	9 8	-3					
PALISADES	51.82	71.3	9 10	-2	16 13	-21			11 19 PP
CHAPEL HILL	52.76	79.5	9 24	5					
COLUMBIA	53.10	82.6	9 20	-1					
IRKUTSK	54.20	312.2	9 29	0					
HALIFAX	54.45	61.4	9 40A	9					19 16 SCS
KIRUNA	55.98	2.7	9 42A	0	17 27	-3			
APATITY	56.23	356.7	9 43A	-1	16 34	-59			11 53 PP
ULAN-BATOR	56.35	307.1	9 45A	0	17 39	4			
SODANKYLA	56.52	359.9	9 46	0	17 37	0			
PEKING	57.89	295.0	9 57	1	17 58	3			
SKALSTUGAN	59.84	7.2	10 9A	-1					
BERMUDA	63.18	71.4			19 0	-3			
NURMIJARVI	63.40	0.9	10 34	0	19 6	0			11 9 PCP
HELSINKI	63.75	0.7	10 36	0	19 14	4			
UPPSALA	63.87	4.9	10 36A	-1	19 9	-3			
PULKOVO	64.11	357.7	10 38	0	19 15	0			
ABERDEEN	64.47	16.7							35 25
GOTEBORG	65.65	8.4	10 54	6					
DURHAM	66.86	17.1	10 53	-3	19 15	-33			
LANCHOW	67.06	300.8	10 58	1	19 56	5			
RATHFARNHAM	67.42	20.5	10 59K	0					
COPENHAGEN	67.69	8.4	11 1	0	20 3	5			
MOSCOW	67.83	353.1	11 1	-1	19 59	-1			
WITTEVEEN	69.93	12.5	11 16	1					
KEW	70.24	17.3	11 16	-1	20 30	2			24 52 SS
DE BILT	70.45	13.7	11 17	-1	20 35	4			
MUNSTER	70.88	12.1	11 21	0					
POTSDAM	71.02	8.5	11 23	1	20 42	5			12 3
CHENGTU	71.35	297.3	11 24	0					
UCCLE	71.61	14.5	11 25	0	20 49	5			
WARSAW	71.63	3.4	11 25	0					11 46 PCP
HALLE	71.79	9.4	11 26	0	20 48	2	11 35		
BENSBERG	71.82	12.6	11 26	0					
COLLMBERG	72.08	8.7	11 28	0					16 0
JENA	72.32	9.7	11 29	0	20 53	1			14 12 PP
DOORBES	72.33	14.5	11 32	3	20 58	6			
PLAUEN	72.81	9.4	11 30	-2					
FOLINIERE	72.83	18.2	11 32	0					
SONNEBERG	72.83	10.1	11 32	0					
HONG KONG	72.88	284.4	11 33	0					
PARIS	73.27	16.2	11 36A	1					12 19
PRUHONICE	73.52	7.9	11 36A	0	21 8	2			16 5 PPP
SAN JUAN	73.56	81.6	11 40	3					
RACIBORZ	73.65	5.4	11 37	0					11 50 PCP
LWOW	74.11	1.5	11 40	0	20 44	-29			
STUTTGART	74.22	11.6	11 41	1	21 13	-1			
STRASBOURG	74.23	12.7	11 40A	0	21 16	2			14 25 PP
TUBINGEN	74.43	11.8	11 42	0					
BASLE	75.24	13.0	11 42	-4					
BRATISLAVA	75.49	6.4	11 47	-1					
NEUCHATEL	75.68	13.5	11 48	-1					
CLERMONT-FD.	76.33	16.5	11 53	0	21 42	5			
KUNMING	76.54	295.0	11 54	0					
LJUBLJANA	77.42	8.4	11 57A	-2					12 43
TRIESTE	77.75	9.0	12 1	1	21 55	2			14 59 PP
LHASA	78.31	306.5	12 5A	2					
SERRA PILAR	78.43	26.2	12 18K	14					
SIMFEROPOL	78.79	354.4	12 6	0	22 4	0			
MONACO	78.96	13.8	12 7	0					

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BELGRADE	79.01	4.2	12 18K	11							23 17
PRATO	79.25	11.1	12 9	0							
MAKHACH-KALA	79.38	344.3	12 9	0	22 13	3					
BUCHAREST	79.53	0.2	12 16K	6							
SOTCHI	79.73	350.1	12 12	1	22 15	1					
BOGOTA	80.42	96.1			22 33	12					27 39
TIFLIS	80.98	346.1	12 19	1	22 29	2					
ROME	81.35	10.4	12 21	1	22 33	3					27 50 SS
SHILLONG	81.42	303.7	12 20A	0							
PORT MORESBY	81.60	238.9	12 20	-1	22 30	-3					
WARSAK DAM	82.09	323.4	12 23	-1							
CHATRA	82.45	308.1	12 27	2							
ALICANTE	82.89	20.9	12 30	2	22 50	4					
DEHRA DUN	83.10	316.9	12 42	13	22 50	2					
GRANADA	83.36	23.6	12 34K	4	22 58	7					
LAHORE	83.36	320.3	12 32A	2	22 50	-1					
CHITTAGONG	84.19	302.1	11 58	-36							
ALGIERS UNI.	85.09	18.6	12 39	0	23 11	3					
MESSINA	85.30	8.5			23 10	0					16 6 PP
RELIZANE	85.61	20.8	12 41	-1							13 22
BOKARO	85.66	307.7									23 6
AGRA	85.97	315.5									23 2
QUETTA	87.09	325.6	12 49A	0	23 18	-9					16 13 PP
KSARA	89.75	352.0	13 2	1	23 52	0					16 35 PP
CHARTERS TS.	91.33	234.6	13 8	-1							
TAMANRASSET	99.17	19.4	13 43	-2	24 26	3					17 50 PP
LWIRO	125.95	356.9									20 59 PP
LEOPOLDVILLE	127.35	13.9	19 7	0							
CAPE HALLETT	130.87	193.8	19 25	11							22 37 PKS
ELISABTHVLE	135.32	358.4	19 25	3							21 55 PP
BYRD STATION	137.60	171.6	19 17	-9							
BROKEN HILL	138.08	356.9	19 15	-12							
BULAWAYO	143.73	356.4	19 35	-2							
WINDHOEK	145.51	15.2	19 41K	1							
SOUTH POLE	146.24	180.0	19 41	0							
PRETORIA	149.33	356.7	19 51	5							
KIMBERLEY	152.32	2.9	19 59	8							

AUGUST 8 O.H 47.M 36.S EPICENTRE 54.88 163.03 DEPTH= 0.KM

A=-0.55273 B= 0.16871 C= 0.81610 D= 0.2919 E= 0.9564  
G=-0.7806 H= 0.2382 K=-0.5779 HT= -7.2

SE= 3.10

	DELTA DEG.	AZ. DEG.	P			S			O-C			*PP		SUPP.	
			M	S	O-C	M	S	O-C	M	S	M	S			
KLYUCHI	1.89	320.6	0	38	4	1	2	3					0	56	*SP
PETROPVLOVK	3.19	236.0	0	54	1	1	30	-2					1	10	*SP
MAGADAN	8.12	310.2	2	5	3	3	50	14					2	30	
OKHA	11.84	271.8	2	55	2	5	21	13							
UGLEGORSK	14.13	254.4	3	28	4	6	14	11							
Y.-SAKHLINSK	14.98	246.7	3	38	3	6	21	-2							
MIZUSAWA	21.57	232.1	4	53	0	8	52	4							
TIKSI	22.24	331.9	5	0	0	9	4	3					5	26	PP
TUKUBASAN	24.42	229.6	5	21A	-1	9	37	-2					10	31	SS
MATUSIRO	25.01	233.1	5	27A	0	9	47	-2					7	12	
COLLEGE	25.93	47.6	5	36	0	10	3	-2					6	24	PP
ABUYAMA	27.61	234.9	5	52K	1										
SITKA	33.55	60.5	6	45	1										
IRKUTSK	34.08	290.4	6	44A	-5								8	6	PP
PEKING	34.28	264.1	6	46	-4										
ULAN-BATOR	34.86	282.3	5	59	-56										
KHEYS	38.69	345.3	7	28	0	13	20	-5					8	56	PP
RESOLUTE	41.01	23.3	7	47	0	13	54	-6							
ALBERNI	42.89	66.4	6	3	-119										
HORSESHOE B.	43.64	65.4	8	7K	-1										
GUAM	43.73	206.2	8	14	5										
NORD	43.76	359.9	8	9	0	14	38	-2					9	54	PP
VICTORIA	44.08	66.4	8	13K	1										
LANCHOW	44.11	270.0	8	10	-2										
KIPAPA	44.35	123.1	8	16	2										
HONOLULU	44.42	123.3	8	12	-3	14	56	6							
THULE	44.96	15.1	8	30	11										
CORVALLIS	46.61	70.7	8	33A	1										
CHENGTU	47.90	264.7	8	39	-3										
HONG KONG	48.70	248.2	8	44	-4	15	13	-38							

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HUNGRY HORSE	49.05	61.2	8 51	0					10 26 PCP
SHASTA	49.69	74.0	8 57K	1					
UKIAH	50.31	76.0	9 1	0					
BAGUIO CITY	50.32	237.3	9 12	11	16 11	-2			
MINERAL	50.37	73.8	9 1K	0					
BUTTE	51.35	62.6	9 5	-4					
BERKELEY	51.72	76.5	9 11	0	16 33	0			20 20 SS
SVERDLOVSK	52.15	317.2	9 13	-2	16 34	-5			
APATITY	52.26	338.0	9 14A	-2	16 35	-5			20 3 SS
BOZEMAN	52.36	62.0	9 17	1					
LICK	52.45	76.6	9 17	0					
KUNMING	52.83	261.1	9 27	7					
SODANKYLA	53.80	340.7	9 26	-1					
FRESNO	53.88	75.7	9 28	0					
EUREKA	54.07	70.7	9 30	1					39 54 PKPPKP
KIRUNA	54.49	343.5	9 30A	-2	17 7	-3			9 43
SCORESBY SD.	54.89	2.0	9 39	4	17 15	-1			12 45 PPP
SALT LAKE C.	55.38	66.9	9 39	1					
FRUNSE	55.62	297.0	9 38	-2	17 21	-5			
PASADENA	56.70	76.8	9 48	0	17 40	0			
BOULDER CITY	57.22	72.9	9 52	0					
RAPID CITY	57.43	58.6	9 53	0					
SHILLONG	58.74	270.7	10 0A	-2					
TASHKENT	59.45	299.2	10 5	-2	18 11	-5			10 54 PCP
RABAU	59.56	192.6	10 6	-2					10 19
PULKOVO	59.63	334.5	10 8	-1	18 16	-2			18 34 PS
SKALSTUGAN	59.71	345.3	10 7A	-2					10 53 PCP
NURMI JARVI	60.30	337.8	10 12	-1	18 25	-2			10 52 PCP
CHATRA	60.49	275.4	10 12	-2					
HELSINKI	60.54	337.4	10 15	0	18 27	-3			20 3 SCS
MOSCOW	61.08	328.2	10 17	-1	18 34	-3			20 4 SCS
CHITTAGONG	61.25	268.4	10 7	-13	18 14	-25			12 18 PP
REYKJAVIK	61.26	2.5	10 21	1					
STALINABAD	61.76	297.5	10 18	-5	18 42	-3			
TUCSON TELE.	62.20	72.7	10 26	0					39 38 PKPPKP
TUCSON	62.20	72.9	10 26	0					39 38 PKPPKP
UPPSALA	62.33	341.1	10 24A	-3					
DEHRA DUN	63.02	284.9	10 31	0	18 59	-2			
BOKARO	63.58	274.3	10 35	0	19 7	-1			
LAWRENCE	65.19	57.2	10 44	-2					
GOTEBORG	65.36	343.4	10 48A	1					10 57
PORT MORESBY	65.41	197.3	10 45	-2	19 30	-1	10 58		19 50 SP
AGRA	65.48	282.6			19 19	-13			
COPENHAGEN	67.20	342.4	11 5	7	19 52	-1			20 54 SCS
ASHKABAD	67.42	304.1	11 0A	0	19 53	-2			
FLORISSANT	67.65	54.1	10 59	-2	19 48	-10			
ABERDEEN	67.66	351.3	12 9A	68	20 1	3			20 54
ST. LOUIS 1	67.84	54.1	11 0	-3					
OTTAWA	68.41	40.4	11 11	5					13 36 PP
SHAWINIGAN	68.51	37.8	11 6	-1					
SEVEN FALLS	68.69	36.3	11 6	-2					
WARSAW	68.69	336.0	11 8	0	20 8	-3			11 40 PCP
QUETTA	69.19	292.9	11 9A	-2	20 9	-7			
DALLAS	69.24	62.4	11 19	8					
CLEVELAND	69.39	46.5	11 11	-1	20 31	12			
DURHAM	69.98	350.6	10 19	-57					
LWOW	70.17	333.1							12 17
POTSDAM	70.24	341.0	11 16	-1	20 28	-1			
TIFLIS	70.34	315.5	11 18	0	20 29	-1			21 3 PS
WITTEVEEN	70.89	345.1	11 24	3					
KRAKOW	70.98	335.8	11 22	0					11 43 PCP
COLLMBERG	71.28	340.7	11 22	-2					
HALLE	71.29	341.4	11 23	-1	20 40	-1	11 32		14 22
RACIBORZ	71.35	336.9	11 25	1					11 57 PCP
PENNSYLVANIA	71.47	44.4	11 22	-3	20 39	-4	11 41		
SIMFEROPOL	71.53	324.4	11 24	-1	20 41	-3			28 36 SSS
GORIS	71.57	313.2	11 26	1	20 43	-1			
MUNSTER	71.57	344.3	11 25	0					11 55
DE BILT	71.81	345.8	11 36	9	20 45	-2			
RATHFARNHAM	71.83	353.3	11 27K	0	20 56	9			
JENA	71.90	341.4	11 27	0	20 39	-9			14 18 PP
PLAUEN	72.21	340.9	11 28	-1	20 48	-4			21 32
PRUHONICE	72.23	339.2	11 30A	1	20 52	0			21 35 PS
BACAU	72.34	329.9			20 50	-3			
SONNEBERG	72.50	341.5	11 30	-1					14 39
MEDAN	72.52	250.6	11 31	0					
CHEB	72.56	340.7			20 54	-2			
BENSBERG	72.62	344.3	11 32	0					

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HYDERABAD	72.84	275.9										
PALISADES	72.85	41.6	11	31	-2	20	51	-8				
						20	48	-11			21	8 PS
FORDHAM	73.00	41.7	11	37	3							
FOCSANI	73.04	329.3	11	59	25	21	1	0				
KEW	73.12	349.2	11	34	0	20	59	-3			25	53 SS
UCCLE	73.20	346.1	11	53	18	21	2	-1				
HALIFAX	73.27	32.8	11	34K	-1	20	58	-6			24	56 SS
KARACHI	73.38	289.4	11	34A	-2							
BRATISLAVA	73.39	337.0	11	36K	0	21	6	1			11	48 PCP
WASHINGTON	73.41	44.9	11	34	-2							
DOURBES	73.84	345.7	11	36	-3	21	6	-4				
CAMPULUNG	74.06	330.6				21	18	6				
STUTTGART	74.39	342.3	11	41A	-1	21	15	-1			14	54 PP
BUCHAREST	74.53	329.5	11	46A	3	21	22	4			21	11 SKS
POONA	74.59	280.2	11	35A	-8	21	16	-2				
TIMISOARA	74.66	333.3	11	46	3							
TUBINGEN	74.66	342.4	11	43	0							
STRASBOURG	74.83	343.3	11	47	3	21	20	-1			14	38 PP
CHAPEL HILL	75.11	47.9	11	46	0						11	59
PARIS	75.40	346.8	11	49A	1						12	20
JERSEY	75.56	350.0				20	27	-62				
BELGRADE	75.72	333.5	11	48K	-1						21	56 PS
FOLINIERE	75.80	348.8	11	49	-1						12	10
COLUMBIA	75.87	50.4	11	50	0							
BASLE	75.88	343.1	11	47	-3						22	13
LJUBLJANA	75.97	338.0	11	50A	-1						12	39
CHARTERS TS.	76.03	196.2	11	50K	-1						12	23
NEUCHATEL	76.50	343.4	11	54	0	21	38	-1				
TRIESTE	76.52	338.4	11	54	0	21	40	0			12	8 PCP
SOFIA	76.91	330.7	11	56	0						15	11
PAVIA	77.88	341.4	12	53	51							
CLERMONT-FD.	78.29	345.8	12	6	2	22	1	2				
TACUBAYA	78.72	72.5	12	8	2							
PRATO	78.76	339.7	12	16	10	22	2	-2				
MONACO	79.59	342.3	12	11	0							
ROME	80.37	338.1	12	24	9	22	21	0			15	19 PP
KSARA	80.70	317.7	12	18	1	22	21	-3			23	11 PS
ATHENS	81.16	328.6	12	17A	-2							
BRISBANE	82.40	189.2	12	27	1	22	48	6				
JERUSALEM	82.76	317.3	12	27	-1	22	44	-1				
MESSINA	83.18	334.7	12	28	-2	22	49	-1			23	37 PS
BERMUDA	83.92	39.0	12	30	-3	22	56	-1			15	50 PP
SERRA PILAR	84.10	353.7	12	36A	2							
TOLEDO	84.97	350.1	12	48	9	23	8	1			13	7
ALICANTE	86.07	347.1	12	42	-2	23	13	-5				
ALGIERS UNI.	87.11	344.0	13	8	19	23	30	2			29	8 SS
GRANADA	87.59	349.3	13	17A	25	23	43	10			28	32 SS
RIVERVIEW	88.94	189.9	13	6A	8	23	12	-33				
CANBERRA	90.64	191.4	13	6K	0							
KARAPIRO	93.06	170.1	13	31	14						14	20
SAN JUAN	95.92	46.2	13	31	1							
TAMANRASSET	100.29	339.0	13	39	-11	25	11	42			17	43 PP
BOGOTA	104.34	59.7				24	48	1				
HUANCAYO	117.77	70.3	18	56	7							
LEOPOLDVILLE	123.32	320.5	19	7	7						20	38 PP
ELISABTHVILLE	124.61	303.5	19	4	2							
BROKEN HILL	126.52	300.8	19	8	2							
CAPE HALLETT	126.99	177.3	19	8	1							
BULAWAYO	131.25	296.8	19	18	3							
SCOTT BASE	132.49	178.9	19	17	0							
BYRD STATION	141.42	164.2	19	28	-5						23	8 PP
SOUTH POLE	144.70	180.0	19	36	-3						20	33

AUGUST 9 2.H 34.M 43.5 EPICENTRE 2.09 127.26 DEPTH= 0.KM

A=-0.60505 B= 0.79536 C= 0.03628 D= 0.7959 E= 0.6054  
G=-0.0220 H= 0.0289 K=-0.9993 HT= 7.2

SE= 3.00

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
MANILA	13.91	334.3	3	25	4							
BAGUIO CITY	15.68	335.6	3	47	3	6	47	8			9	22
GUAM	20.65	56.0	4	48	4	8	29	-1				
LEMBANG	21.52	245.5	4	57K	4	8	47	0				



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PORT MORESBY	22.87 120.3	5 8 2	9 15 3	10 8 SS
MEDAN	28.58 273.6	6 33 33		
CHARTERS TS.	28.87 140.7	6 4 2		9 21
KUNMING	32.91 316.2	6 39 1		
MATUSIRO	35.74 15.2	7 0A -2	12 29 -11	9 29 PCP
BRISBANE	38.25 141.8	7 23A 0		8 57
ADELAIDE	38.40 164.8	7 26 1		8 52 PP
PEKING	39.08 346.4	7 29 -1	13 22 -9	
LANCHOW	40.15 330.0	7 39 0	13 41 -6	
VLADIVOSTOK	41.06 5.2		13 50 -10	
SHILLONG	41.29 307.6	7 48 -1		
RIVERVIEW	42.23 149.9	7 59A 3		
CANBERRA	42.42 153.3	8 0A 2		9 43 PP
MELBOURNE	42.97 159.3	8 3A 1		
LHASA	43.97 312.2	8 11K 1	14 33 -10	
ULAN-BATOR	48.92 341.9	8 48 -2		
IRKUTSK	53.55 342.7	9 36 11		
KARAPIRO	59.75 136.9	10 8A -1		10 38
YAKUTSK	59.81 1.3	10 7 -2	18 7 -13	
MAGADAN	60.14 13.6	10 10 -2		
WARSAK DAM	60.80 308.2	10 15 -1		
GEBBIES PASS	61.05 143.8	10 17 -1		
QUETTA	63.46 302.8	10 33 -1		
STALINABAD	64.41 312.2	10 37 -3		
TIKSI	69.44 0.5	11 9 -3	19 56 -23	
TERRE ADELIE	69.49 174.1	11 9 -3		
SVERDLOVSK	75.63 328.6			21 13
CAPE HALLETT	79.10 167.8	11 22A -46		
TANANARIVE	80.95 250.6	12 16 -2		
MAKHACH-KALA	81.08 313.0		22 9 -19	
SCOTT BASE	82.65 172.2	12 26K 0		
TIFLIS	82.98 311.6	12 27 -1	22 32 -15	
KHEYS	84.61 351.1	12 36 0	22 47 -16	
COLLEGE	85.95 25.2	12 40 -3		
MOSCOW	88.08 325.5	12 50 -3		
APATITY	89.55 337.5		23 16 -34	
KSARA	90.00 303.7	13 37 34		24 56
PULKOVO	91.71 329.8			24 18
SOUTH POLE	92.08 180.0	13 11 -1		
SODANKYLA	92.17 337.6	13 7 -6		
KIRUNA	94.37 338.6	13 19 -4		
NURMI JARVI	94.38 331.0	13 20 -3		
NORD	94.76 355.0	13 25 1		
BYRD STATION	96.00 170.7	13 29 -1		17 23 PP
RESOLUTE	99.32 10.4	13 43 -2		31 47 SS
TAMANRASSET	118.12 297.1	18 50 1		20 17 PP
SHAWINIGAN	128.44 17.6	19 8 -1		
SEVEN FALLS	128.48 15.7	19 8 -1		
OTTAWA	128.50 20.6	19 7 -2		
BREBEUF	129.12 18.9	18 9 -61		
HUANCAYO	155.52 114.9	19 59 4		20 26 PKP2

AUGUST 9 4.H 48.M 22.S EPICENTRE -1.28 67.41 DEPTH= 0.KM

A= 0.38410 B= 0.92303 C=-0.02219 D= 0.9233 E=-0.3842  
G=-0.0085 H=-0.0205 K=-0.9998 HT= 7.2

SE= 3.77

	DELTA DEG.	AZ. DEG.	P			O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S		
KODAIKANAL	15.20	41.0	3	40K	3	6	37	10			6 58 SS	
MADRAS	19.02	41.4	4	21	-4	7	59	4			4 44 PP	
POONA	20.68	17.5	4	43K	-1	8	38	7				
BOMBAY	20.75	14.6	4	46	2	8	42	10				
HYDERABAD	21.54	29.9	4	53	0	8	49	2			9 46 SS	
QUETTA	31.29	359.2	6	21	-3	11	31	1			7 23 PP	
DEHRA DUN	33.02	17.0	6	48	9						14 5	
CHATRA	33.82	32.9	6	43	-3							
WARSAK DAM	35.31	6.0	7	33	35							
SHILLONG	35.67	39.9	7	8A	6							
LHASA	38.15	34.4	7	21	-1	13	16	0				
LWIRO	38.60	268.0	7	26	0						18 1	
STALINABAD	39.66	1.7									9 16 PP	
LEMBANG	40.47	99.0	7	39	-3							
BULAWAYO	42.29	241.0	7	55	-2							

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KUNMING	43.11	50.1	8 2	-1	14 29	-1		
JERUSALEM	44.85	320.0	8 19	2			14 17	
KSARA	45.80	322.6			13 4	-125	8 26	PP
TIFLIS	47.45	337.0	8 36	-2				
MAKHACH-KALA	47.55	340.2	8 37	-2				
LANCHOW	50.29	38.7	8 57	-3				
LEOPOLDVILLE	52.17	265.5	9 27	13	16 50	12		
SIMFEROPOL	54.70	331.5	9 36	3	17 13	0		
ULAN-BATOR	59.83	29.7	10 8	-1				
MESSINA	61.78	315.3	10 26	3	18 47	1		
MOSCOW	61.80	341.4	10 24	1				
LWOW	63.01	330.1	10 34	3				
TAMANRASSET	64.77	295.9	10 40	-2	19 30	8		
ROME	65.54	317.8			19 33	1		
LJUBLJANA	66.16	322.6	10 55	4				
CHANGCHUN	68.34	41.3	11 3	-2				
COLLMBERG	69.63	327.0	11 10	-3				
NURMIJARVI	69.88	339.0	11 13	-1				
JENA	70.23	326.2	11 21	4			11 41	
HALLE	70.30	326.8	11 7	-10			14 19	
STUTTART	70.57	323.4	11 13	-6	20 27	-5		
STRASBOURG	71.40	322.8			20 38	-4		
COPENHAGEN	72.13	330.8			20 50	0	25 14	SS
UPPSALA	72.14	336.1			20 42	-8		
APATITY	72.67	347.0	11 33	2	20 51	-5	14 9	PP
GARCHY	73.83	320.3	11 37A	-1				
KIRUNA	76.21	343.4	11 50	-2	21 55	19		
YAKUTSK	78.49	25.2	12 10	6	21 58	-2		
CHARTERS TS.	79.09	110.1	12 11	4				
PORT MORESBY	79.67	99.3	12 11	0	21 40	-33		
KHEYS	81.96	358.5	12 14	-9				
SOUTH POLE	88.73	180.0	12 58	2				
SCOTT BASE	90.73	167.9	13 52	46				
HUNGRY HORSE	133.10	1.3					21 19	PP
RAPID CITY	136.57	350.1	18 38	-46				
MINERAL	140.26	10.8	19 36	5			22 37	PP
LICK	143.16	12.1	19 50	14				
BOULDER CITY	145.41	3.2	19 44	4				
PASADENA	146.89	8.5	19 46	4				
TUCSON TELE.	149.06	356.9	19 49	3				
TUCSON	149.15	357.1	19 51	5				

AUGUST 9 20.H 29.M 28.S EPICENTRE -10.17 160.95 DEPTH= 56.KM

A=-0.93060 B= 0.32131 C=-0.17535 D= 0.3264 E= 0.9452  
G= 0.1657 H=-0.0572 K=-0.9845 HT= 6.5

DEPTH OF FOCUS= 0.004R

SE= 2.36

	DELTA DEG.	AZ. DEG.	P			O-C			*PP		SUPP.	
			M	S	O-C S	M	S	O-C S	M	S	M	S
RABAU	10.53	303.6	2	33	2	4	35	6				
PORT MORESBY	13.62	272.0	3	12K	-1	5	56	13		3	52	
CHARTERS TS.	17.26	233.4	3	57K	-2	7	21	14				
BRISBANE	18.78	203.1	4	16	-2	7	40	-2				
RIVERVIEW	25.21	199.4	5	20A	-2	9	49	8				
KARAPIRO	30.60	157.0	6	11K	0							
ADELAIDE	31.95	216.0	6	26	3							
GEBBIES PASS	34.92	165.1	6	46	-3							
MANILA	46.60	301.4	8	27	2					11	4	
PERTH	46.93	235.5								18	57 SS	
HONOLULU	50.94	51.9	8	57	-1	16	20	11				
MATUSIRO	51.15	336.4	8	58	-2	16	22	10		9	53	
LEMBANG	52.81	269.1	9	12	0	16	38	3				
TERRE ADELIE	58.11	189.0	9	49	-2							
Y.-SAKHLINSK	59.21	345.6	9	56	-2	18	4	4				
VLADIVOSTOK	59.29	335.6				18	10	9				
UGLEGORSK	61.29	346.0	10	12	0	18	34	7				
CAPE HALLETT	62.35	176.8	10	19A	0				10	32	10 59 PCP	
CHANGCHUN	62.74	331.7	10	22	0	18	46	1				
PETROPAVLOVK	62.96	358.4	10	22	-2	18	51	3				
PEKING	64.90	323.3	10	36	0	19	11	-1				
WILKES	65.57	200.0	10	39	-1	19	23	3		23	32 SS	
KUNMING	66.66	302.9	10	49	2	19	38	5				





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LWOW	62.59	313.2	11 18	50	
SKALSTUGAN	63.15	330.3	10 21	-10	
BUCHAREST	63.38	307.0	10 36K	3	
COLLEGE	63.55	27.9	10 25	-9	
CHARTERS TS.	64.01	142.9	10 37	0	
PRUHONICE	68.07	316.3	10 55	-8	
COLLMBERG	68.31	318.0	10 55	-10	
JENA	69.27	318.1	11 0	-11	11 47
STUTTGART	71.66	317.0	11 16	-9	
PARIS	75.35	319.6	11 40	-7	12 9
RATHFARNHAM	76.86	326.8	11 47A	-8	
FOLINIERE	76.94	320.8	11 47	-9	
LWIRO	84.89	263.7	12 40	2	
HUNGRY HORSE	87.99	28.2	12 45	-8	
TAMANRASSET	89.12	297.2	12 52	-6	16 9 PP
ELISABTHVLE	91.35	256.8	13 6	-2	
SOUTH POLE	124.59	180.0	18 57	-4	
BYRD STATION	130.56	169.8	19 11	-2	21 28 PP
LA PAZ	161.79	357.4	19 59	-3	

AUGUST 11 15.H 24.M 47.S EPICENTRE 44.56 147.91 DEPTH= 131.KM

A=-0.60568 B= 0.37984 C= 0.69919 D= 0.5313 E= 0.8472  
G=-0.5923 H= 0.3715 K=-0.7149 HT= -3.4

DEPTH OF FOCUS= 0.015R

SE= 4.92

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
NEMURO	2.08	234.7	0	26	-9	0	53	-9				
ABASHIRI	2.66	259.6	0	37	-6	1	16	1				
KUSIRO	2.99	239.4	0	39	-8	1	17	-6				
OBIHIRO	3.78	246.0	0	52	-6	1	43	1				
HIROO	4.04	237.3	0	54	-7	1	45	-3				
ASAHI GAWA	4.06	260.9	1	0	-1							
Y.-SAKHLINSK	4.39	306.0	0	28	-38							
URAKAWA	4.44	239.0	1	2	-4	1	57	-1				
SAPPORO	4.97	254.9	1	11	-2	2	15	5				
TOMAKOMAI	5.03	248.3	1	15	1	2	17	2				
MURORAN	5.52	248.5	1	17	-4	2	22	-2				
SUTTSU	5.84	255.2	1	46	21						2	40
MORI	5.89	247.9	1	29	3	2	31	-1				
HAKODATE	5.90	244.8	1	21	-5	2	28	-5				
UGLEGORSK	6.04	320.6	1	26	-2							
HATINOHE	6.19	231.7	1	22	-8	2	29	-11				
AOMORI	6.44	237.1	1	28	-5	2	39	-7				
MIYAKO	6.60	224.0				2	36	-14				
MORIOKA	6.97	228.2	1	32	-8	2	43	-16				
MIZUSAWA	7.41	225.3				2	59	-10				
AKITA	7.55	232.9									3	0
ISINOMAKI	7.86	221.2	1	43	-9	3	7	-13				
SENDAI	8.19	222.4	2	14	17	3	15	-13				
SAKATA	8.27	229.7									3	22
YAMAGATA	8.48	224.6	2	14	13							
HUKUSIMA	8.81	222.1	2	1	-4	3	33	-10				
ONAHAMA	9.27	217.4									3	48
SHIRAKAWA	9.43	220.7									3	40
UTUNOMIYA	10.06	220.1	3	59	97							
KAKIOKA	10.19	217.9	2	20	-3	4	4	-12				
TUKUBASAN	10.23	218.2	2	13	-11	4	0	-17				
MAEBASI	10.56	222.6				4	16	-9				
TOKYO C.M.O.	10.84	217.9									4	17
OIWAKE	10.87	224.1									2	58
MATUSIRO	10.88	225.9	2	24K	-8						4	45
PETROPAVLOVK	11.03	36.0	2	41	7							
KOHU	11.39	222.0	4	14	95							
VLADIVOSTOK	11.65	268.5	2	41	-2							
ABUYAMA	13.54	228.6	3	0K	-7							
MAGADAN	15.12	5.7	3	21	-6							
YAKUTSK	20.46	335.1	4	29	1	8	12	7				
ULAN-BATOR	28.32	291.5	5	53	10							
COLLEGE	40.11	36.7	7	19	-5							
SITKA	47.55	46.1	8	25	2							
SHILLONG	48.63	266.5	8	32A	0							
LAHORE	57.55	284.0	9	38	1							

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WARSAK DAM	58.04	287.9	9 40	-1		
SODANKYLA	59.93	337.5	9 53	-1		
SHASTA	62.81	58.7	11 9	56		
HUNGRY HORSE	63.00	47.8	10 10	-5		
QUETTA	63.45	287.1	10 19	1		
RENO	65.08	58.4	10 37	9		
NURMI JARVI	65.56	333.0	10 30	-1		
HELSINKI	65.72	332.6	10 32	0		
BOZEMAN	66.27	48.7	10 33	-3		
SKALSTUGAN	66.63	340.1	10 37	-1		
FRESNO	66.81	60.8	10 36	-3		
UPPSALA	68.27	335.5	10 46A	-2		
RAPID CITY	71.47	46.0	11 5	-3		
COLLMBERG	76.86	332.8	11 38	-1		
PRUHONICE	77.46	331.3	11 42A	0		
JENA	77.63	333.4	11 42	-1		
RATHFARNHAM	80.04	344.6	11 55	-1		
STUTTART	80.25	333.7	11 58	1		
PARIS	82.21	337.7	12 10	3		
BREBEUF	83.07	28.0	12 10	-2		
KARAPIRO	85.82	158.4	12 23	-2		
BYRD STATION	133.95	166.0	19 1	0	19 14	12 37
SOUTH POLE	134.36	180.0	19 3	1		

AUGUST 11 21.H 49.M 43.S EPICENTRE -11.29 163.15 DEPTH= 0.KM

A=-0.93880 B= 0.28433 C=-0.19445 D= 0.2899 E= 0.9571  
G= 0.1861 H=-0.0564 K=-0.9809 HT= 6.4

SE= 1.50

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
PORT MORESBY	15.85	275.3	3	50A	4	6	52	9			3	59
CHARTERS TS.	18.45	239.6	4	20A	1	7	37	-5				
BRISBANE	18.75	209.9	4	22K	0	7	56	7				
APIA	24.59	98.5	5	23	0							
RIVERVIEW	24.98	204.2	5	27A	1	9	52	4				
ONERAHI	26.41	159.2	5	42	2						5	52
KARAPIRO	28.76	159.4	6	0A	-1						9	11
GUAM	30.63	322.9	4	18	-120							
MELBOURNE	31.05	208.6	6	21	-1							
ADELAIDE	32.39	219.3	6	33	0							
HONOLULU	49.97	49.7	9	1	3	16	15	7				
BAGUIO CITY	50.31	302.5	9	0	0	16	12	-1				
MATUSIRO	53.05	334.9	9	19	-2	16	49	-1			20	23 SS
LEMBANG	54.95	269.5	9	33	-2	17	9	-7				
TERRE ADELIE	57.37	190.0	9	48	-4							
ZO-SE	58.29	317.6	9	58	-1	17	56	-4				
HONG KONG	58.48	304.9	10	0	0						19	50 SCS
CANTON	59.53	305.3	10	8	1	18	18	2				
NANKING	60.48	317.0	10	13	-1	18	28	-1				
CAPE HALLETT	61.13	177.5	10	18K	0	18	49	12	10 33		11	4 PCP
VLADIVOSTOK	61.21	334.3				18	38	0				
UGLEGORSK	62.92	344.6	10	30	0	19	1	2				
PETROPAVLOVK	64.16	357.0				19	15	0				
CHANGCHUN	64.76	330.6	10	41	-1	19	22	0				
WILKES	65.28	200.7	10	49	3	19	42	13			23	39 SS
PEKING	67.09	322.4	10	57	0	19	50	-1				
KUNMING	69.08	302.4	11	10A	0	20	15	0				
CHENG TU	70.43	308.3	11	17	-1	20	28	-3				
LANCHOW	73.04	313.2	11	34	1	20	59	-2				
BYRD STATION	76.76	169.9	11	54	-1						12	1
CHITTAGONG	77.46	296.0	11	27	-32							
YAKUTSK	77.61	344.6	12	20	21							
SHILLONG	78.41	299.2	15	4K	180							
SOUTH POLE	78.79	180.0	12	5	-1						12	12
COLLEGE	84.33	18.9	12	33	-2							
BERKELEY	84.98	50.0	12	39	1							
LICK	85.29	50.6	12	40	0							
SHASTA	85.78	47.3	12	42	0							
TIKSI	85.84	349.7	12	20	-23							
FRESNO	86.52	51.6	12	47A	1							
PASADENA	87.07	54.5	12	49	0						23	29 SS
RENO	87.32	49.0	12	51A	1							
EUREKA	90.16	49.8	13	3	0						16	35 PP
TUCSON TELE.	92.72	57.7	13	15	0							



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HUNGRY HORSE	93.62	41.5	13 19	0				16 27 PP
LAHORE	94.82	301.1	13 24	-1				
QUETTA	100.89	298.8	13 53	1				
RESOLUTE	103.97	15.5			24 43	3		25 49 S
KIRUNA	118.43	344.8	18 49	-1				
OTTAWA	119.69	44.0	18 52	0				
NURMI JARVI	122.17	337.2	18 57	0				
KIMBERLEY	123.42	224.3	19 1K	2				
SKALSTUGAN	123.86	344.8	19 0	0				
BULAWAYO	125.44	235.3	19 3	0				
KSARA	127.03	303.9						21 11 PP
ELISABTHVILLE	130.43	244.1	19 15	2				
LWIRO	132.66	256.3	19 20	3				
STUTTGART	136.76	334.8	19 27	3				
LEOPOLDVILLE	144.47	245.8	19 39A	1				
SETIF	148.07	324.6	19 46	2				20 0 PKP2
ALGIERS UNI.	148.93	328.0	19 46	0				
TOLEDO	149.34	340.5	19 53	7				
RELIZANE	150.99	329.9	19 57	8				
GRANADA	151.59	337.4						20 16 PKP2
TAMANRASSET	155.79	301.1	19 54	-1				24 17 PP

AUGUST 11 23.H 28.M 4.S EPICENTRE 41.36 22.91 DEPTH= 0.KM

A= 0.69340 B= 0.29299 C= 0.65830 D= 0.3892 E=-0.9211  
G= 0.6064 H= 0.2562 K=-0.7528 HT= -2.2

SE= 3.71

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
SOFIA	1.37	13.1									0 28	PG
ATHENS	3.45	169.2	0 56K		0						1 9	PG
BUCHAREST	3.85	36.4	1 20		18	2 6	18				1 32	P*
BELGRADE	3.90	333.3	1 4K		2						1 11	P*
CAMPULUNG	4.20	20.9	1 25		18						2 24	S*
TARANTO	4.38	260.1	1 42		33							
TIMISOARA	4.55	345.0	1 15		3	2 29	23				1 26	P*
MESSINA	6.49	243.3	1 40		1	2 46	-9				1 58	
ZAGREB	6.72	313.9	1 46		4	3 45	44				2 14	PG
LJUBLJANA	7.67	310.5	1 55		-1	3 23	-1				2 31	PG
ROME	7.83	277.4				3 20	-8				3 56	S*
TRIESTE	7.91	305.8	1 56		-3	4 2	32				2 32	PGPG
BRATISLAVA	7.96	330.7	1 53		-7	4 15	43					
LWOW	8.50	4.9	2 12		5	4 0	15					
TOLMEZZO	8.73	308.5	2 6		-5						4 56	
KRAKOW	8.93	347.6				3 43	-13				4 46	
SIMFEROPOL	8.95	62.6	2 12		-1	4 2	6					
PRATO	9.06	290.0	2 45		30	3 46	-13					
RACIBORZ	9.32	340.9	2 23		4							
PRUMONICE	10.41	328.7	2 34		0	4 30	-2					
PRAGUE	10.53	328.7	2 40		5	4 35	0				3 30	PG
WARSAW	10.95	353.9				4 57	12					
CHUR	11.07	304.2	2 39		-4	4 51	3				3 15	
CHEB	11.40	323.4										
RAVENSBURG	11.44	308.6	2 49		1							
EBINGEN	12.01	309.2	2 54		-1							
COLLMBERG	12.06	328.9	2 56		0						6 47	
TUBINGEN	12.13	310.9	2 57		0							
STUTTGART	12.14	312.2	3 5		8							
SONNEBERG	12.15	321.9									4 44	
JENA	12.36	324.5				5 24	4				6 23	
BASLE	12.56	304.5	2 15		-48	7 12	107					
HALLE	12.63	327.1	3 37		33	5 51	25				5 12	
POTSDAM	12.90	332.0									7 19	
STRASBOURG	12.91	309.1	3 18		11						4 17	
CLERMONT-FD.	15.00	293.7	3 26		-9						4 30	
DOURBES	15.45	310.6									4 15	
TIFLIS	16.40	81.5	3 57		4							
MOSCOW	17.31	28.9	4 5		0							
FOLINIERE	18.06	302.1	4 13		-1							
UPPSALA	18.80	351.7	4 22		-1						11 9	
HELSINKI	18.88	3.2	4 21		-3							
PULKOVO	19.00	11.6	4 24		-2							
NURMI JARVI	19.20	2.6	4 25		-3							
RATHFARNHAM	22.93	311.3	5 8		1							

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SKALSTUGAN	23.11	347.9	5	7	-2	5	16
TAMANRASSET	23.59	223.6	5	15	2		
SODANKYLA	26.14	3.3	5	36	-2	6	24 PP
KIRUNA	26.56	357.9	5	40	-1		
APATITY	26.87	8.9				12	14
SVERDLOVSK	28.69	44.5	5	59	-2		
HUNGRY HORSE	82.90	332.7	12	26	-2		

AUGUST 12 4.H 5.M 18.S EPICENTRE -14.90 26.54 DEPTH= 0.KM

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G=-0.2286 H=-0.1142 K=-0.9668 HT= 5.8

SE= 2.94

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
ELISABTHVILLE	3.35	15.7	0	53	-2	1	34	-2			1	0 PG
PRETORIA	10.90	172.2	2	41	1	4	47	3				
WINDHOEK	11.75	228.1	2	47	-5							
LCO. MARQUES	12.39	153.7	2	58A	-2	5	13	-7			3	4 PP
LWIRO	12.77	10.3	3	0	-5	5	12	-18				
KIMBERLEY	13.88	186.5	3	17	-3	5	32	-24				
PIETERMZBURG	15.08	167.0	3	31	-5	6	18	-7				
LEOPOLDVILLE	15.27	312.1	3	34	-4	6	24	-5				
GRAHAMSTOWN	18.34	179.9	3	45	-32							
HERMANUS	20.53	197.5	4	48	6	8	30	2			12	25 PCS
BANGUI	20.70	337.1	4	36	-8							
TAMANRASSET	42.73	330.8	7	59	-1	14	22	-3			9	40 PP
KSARA	49.26	10.3	8	54	2	16	2	4			10	48 PP
MBOUR	51.95	302.1	9	13	0						10	19 PCP
ATHENS	52.65	357.2	9	20K	2							
MESSINA	53.82	349.3									16	58
SETIF	54.61	339.0	9	35	3							
ALGIERS UNI.	55.97	337.3	9	41	-1	17	35	5				
RELIZANE	56.06	334.6	9	45	2						11	51 PP
TIFLIS	58.81	15.9	10	2	0	18	8	1				
GRANADA	59.07	332.1	10	13A	9						14	35 PPP
QUETTA	59.36	40.7	10	6	0	18	19	5				
BELGRADE	59.69	355.0	10	12K	4							
MAKHACH-KALA	60.71	17.5									20	32
TOLEDO	61.50	333.5	10	20	-1							
CLERMONT-FD.	63.99	342.0	10	41	4							
NEUCHATEL	64.08	345.2	10	37	-1							
BASLE	64.42	345.9	10	37	-3							
WARSAK DAM	64.81	40.5	10	42	-1							
STUTTGART	65.22	347.5	10	44	-1	19	27	-1				
STRASBOURG	65.37	346.4	10	49	3	19	30	0			11	19 PCP
PRUMONICE	65.46	351.5	10	48A	1						11	48
JENA	66.84	349.8	10	54	-2						11	15
HALLEY BAY	66.85	192.6	10	35	-21							
PARIS	66.93	343.0	10	56	0						12	22
COLLMBERG	66.97	350.8	10	55	-2							
MIRNY	67.12	156.5	11	18	20							
DOUBES	67.54	344.9	11	14	14	19	54	-2				
FOLINIERE	67.78	341.1	11	3	1							
MUNSTER	68.59	347.6	11	7	0							
MOSCOW	70.97	6.6	11	19	-2							
RATHFARNHAM	73.54	340.2	11	33	-3						12	0
PULKOVO	74.47	2.0	11	44	2	21	12	-5				
HELSINKI	74.82	359.2	11	46	2							
UPPSALA	74.84	355.4	11	46A	2							
NURMI JARVI	75.16	359.0	11	45	-1							
SOUTH POLE	75.20	180.0	11	48	2						12	58
SHILLONG	75.24	58.1	11	45K	-1							
ARGENTINE I.	76.94	205.6	10	37	-79							
SKALSTUGAN	79.01	353.6	12	10A	3							
SEMI PALATNSK	80.22	31.6	12	13	-1							
SODANKYLA	82.04	0.0	12	22	-1							
APATITY	82.37	2.7	12	24	-1	22	36	-5				
KIRUNA	82.62	357.7	12	29A	3							
BYRD STATION	83.59	185.6	12	34	3							
SCOTT BASE	84.70	172.2	12	39A	2						31	21 PKKP
TERRE ADELIE	85.77	158.9	12	42	0							
CAPE HALLETT	89.71	169.6	13	3	2							
LA PAZ	90.20	253.0	13	5	1							

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RESOLUTE	112.36	345.8			
RAPID CITY	128.51	314.9	19	11	2
COLLEGE	129.93	356.9	19	11	-1
HUNGRY HORSE	133.51	324.3	19	21	2
TUCSON TELE.	137.49	301.8	19	17	-9
TUCSON	137.60	301.7	19	25	-1
EUREKA	139.07	314.0	19	25	-4
RENO	141.66	316.3	19	36	3
MINERAL	142.41	318.6	19	36A	1
SHASTA	142.71	319.6	19	33	-2
FRESNO	142.99	312.3	19	41	5
LICK	144.01	314.4	19	39	2

28 12 PS

AUGUST 12 9.H 58.M 23.S EPICENTRE -16.57-177.17 DEPTH= 0.KM

A=-0.95784 B=-0.04732 C=-0.28338 D=-0.0493 E= 0.9988  
G= 0.2830 H= 0.0140 K=-0.9590 HT= 5.4

SE= 3.06

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
APIA	5.89	62.9	1	27	-4	2	29	-11				
ONERAHI	20.56	199.9	4	46	3	8	43	15			5	4
KARAPIRO	22.23	195.4	5	1	1						9	44
TUAI	22.70	191.6	5	4	0							
TONGARIRO	23.43	194.4	5	13	1						5	38
WELLINGTON	25.59	194.2	5	28	-4	9	59	0				
COBB RIVER	25.94	197.6	5	34	-2							
KAIMATA	27.65	198.4	5	53	2						6	14
GEBBIES PASS	28.39	195.6	5	37	-21							
BRISBANE	29.80	243.6	6	6K	-5	11	0	-7				
ROXBURGH	30.97	198.6	7	27	66	11	25	0				
RABAUL	32.50	288.8	6	31	-3							
RIVERVIEW	33.24	232.9	6	43A	2	12	0	-1				
CHARTERS TS.	34.85	258.5	6	51	-4	12	9	-17				
PORT MORESBY	35.45	277.1	6	58A	-2	12	40	5			8	25 PP
CANBERRA	35.45	231.7	7	2A	2	12	41	6			15	27 SS
MELBOURNE	39.41	229.9	7	37	4						10	57
FORT NELSON	40.01	221.5									16	42 SSS
HONOLULU	42.02	27.1	7	55	0	14	21	6			10	59 PP
ADELAIDE	43.35	236.4	8	6	1						18	3 SS
GUAM	48.03	306.2	8	41	-2							
CAPE HALLETT	56.22	184.6	9	46	2	17	25	-8			11	53 PP
TERRE ADELIE	56.98	198.2	9	48	-2	17	52	9				
SCOTT BASE	61.83	183.8	10	21	-2	19	37	51			12	7 PP
PERTH	62.11	242.3	10	28	3						25	52
TUKUBASAN	66.24	323.2	10	52K	0	19	49	8			11	17
MATUSIRO	67.56	322.3	10	55	-5	19	55	-2	11	24	13	20 PP
WILKES	67.86	204.5	11	4	2	20	0	0			24	12 SS
ABUYAMA	68.04	319.4	11	5K	2							
BYRD STATION	68.37	170.9	11	3	-2							
MANILA	68.41	293.5	11	5	-1	20	12	5				
BAGUIO CITY	69.58	295.0	11	12	-1	20	32	11				
TAWU	71.90	300.8	11	29	2							
HWALIEN	72.06	302.6	11	29	1							
PETROPAVLOVK	72.38	345.0	11	33	3	20	55	2				
Y.-SAKHLINSK	72.83	332.5	11	36	4							
SOUTH POLE	73.54	180.0	11	35	-1						11	57 PCP
LEMBANG	73.94	267.5	11	38	-1	21	16	5				
BERKELEY	74.75	42.2	11	46	2	21	24	4			15	2 PP
LICK	74.84	42.9	11	39	-5						14	2
MIRNY	74.88	204.5	11	41	-3						11	53 PCP
UKIAH	74.88	40.6	11	45	1							
PASADENA	75.45	47.3	11	50	2	21	32	5			12	11
VLADIVOSTOK	75.55	324.1	11	44	-4						12	1 PCP
FRESNO	75.74	44.2	1	49	0							
ZO-SE	75.82	308.9	11	49	-1	21	34	2				
SHASTA	76.33	39.7	11	53	1							
MINERAL	76.61	40.4	11	53	-1							
RENO	77.27	41.9	12	3	5							
HONG KONG	77.51	297.9	11	54	-5	21	53	3			14	8 PP
NANKING	78.07	308.7	12	1	-1	22	4	8				
CORVALLIS	78.12	36.1	12	3	1							
CANTON	78.53	298.4	12	6	1							
BOULDER CITY	78.74	47.1	12	9	3							

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EUREKA	79.74	43.6	12 10	-1							
CHANGCHUN	79.79	321.7	12 10	-2	22 14	0					
TUCSON	79.89	52.0	12 11	-1	22 27	12					
TUCSON TELE.	80.01	52.0	12 12	-1						39 8	PKPPKP
MAGADAN	80.20	344.1	12 17	3	22 19	0					
ALBERNI	80.24	31.8	12 15	1							
VICTORIA	80.48	32.9	12 14	-1	22 30	9					
HORSESHOE B.	81.09	32.3	12 16K	-2							
SITKA	81.20	21.7	12 25	6							
LILLOOET	82.59	31.8	12 21K	-5							
SALT LAKE C.	83.12	44.0	12 30	1							
PHU-LIEN	83.45	293.9	12 36A	5	22 56	4				15 50	PP
PEKING	83.67	314.8	12 32	0	22 58	4					
COLLEGE	84.22	12.1	12 31	-4	23 2	2				28 38	SS
TACUBAYA	84.54	68.0	12 47	11	22 57	-6				15 47	PP
BUTTE	85.22	39.2	12 40	0							
MEDAN	85.41	275.1	12 47	6						23 16	
HUNGRY HORSE	85.53	36.7	12 42	1						38 57	PKPPKP
BOZEMAN	85.98	40.0	12 45	2							
SIAN	86.48	307.1	12 47	1							
VERA CRUZ	87.22	69.2	12 48	-1	23 38	9				13 59	
KUNMING	88.28	296.7	12 47	-8							
CHENG TU	89.06	302.3	13 1	3	23 55	9					
COMITAN	89.95	73.1			23 43	-11					
RAPID CITY	90.32	43.8	13 5	1							
LANCHOW	91.02	307.3	13 8	1							
DALLAS	91.05	56.1	13 9	2							
ULAN-BATOR	93.03	319.2	13 17	0							
MERIDA	93.58	69.3	13 17	-2	24 35	9					
TIKSI	95.15	345.1	13 14	-12						17 10	PP
IRKUTSK	96.09	322.7	13 31	0							
HUANCAYO	97.69	105.0								17 50	PP
FLORISSANT	97.76	51.9	13 42	4							
SHILLONG	97.82	294.3			25 18	16				20 5	
ST. LOUIS 1	97.83	52.1	13 39A	1							
LHASA	99.53	298.1	13 51	5							
TERRE HAUTE	100.16	52.0			23 37	-51				16 7	
CHATRA	102.22	294.5								17 37	PP
CHINCHINA	102.46	88.5			24 46	7				18 12	PP
LA PAZ	102.72	111.6	14 3	2	24 53	13				18 17	PP
RESOLUTE	103.82	15.7			25 51	66				18 16	PP
BOGOTA	103.85	89.3								18 41	PP
COLUMBIA	104.06	58.4	18 19	-2							
COLOMBO	104.32	273.0								27 37	
CLEVELAND	104.94	50.7								26 19	
CHAPEL HILL	105.99	56.7	18 36	11							
KODAIKANAL	107.46	275.7								21 47	
PENNSYLVANIA	107.59	51.8								19 9	PP
WASHINGTON	107.97	53.9	17 9	777							
OTTAWA	109.59	47.1	16 30	777							
AGRA	110.30	293.3	19 1	27						28 38	
PALISADES	110.59	51.9	14 44	-230						20 0	PP
FORDHAM	110.60	52.1	18 21	-13						26 11	
DEHRA DUN	110.72	296.6								19 56	PP
BREBEUF	111.07	47.1	17 1	-94							
CARACAS	112.19	85.2	19 19	42						20 37	PP
POONA	112.67	283.5								20 6	PP
BOMBAY	113.70	283.7								29 17	
LAHORE	114.04	297.6	18 28	-13							
FRUNSE	114.36	309.9								19 47	PP
NORD	114.41	3.1								29 19	PS
WARSAK DAM	116.54	300.1	18 49	3							
BERMUDA	117.48	61.8								20 5	PP
HALIFAX	118.18	48.0								27 26	SKKS
TASHKENT	118.36	308.3			25 36	-8				20 10	PP
STALINABAD	118.84	305.2								24 12	PPP
QUETTA	120.28	295.6	18 53	0						20 15	PP
SVERDLOVSK	121.17	327.1	18 57	2						20 24	PP
SCORESBY SD.	124.03	9.8			26 1	-2				37 37	SS
APATITY	125.36	346.1	19 6	3	26 12	5				22 33	SKP
SODANKYLA	126.93	348.7	19 9	3							
HERMANUS	126.95	197.0								31 10	PS
ASHKABAD	127.06	305.2	19 11	5						21 11	PP
KIRUNA	127.53	351.7	19 10	3	26 38	25				20 53	PP
KIMBERLEY	130.20	205.5	19 15	3							
PULKOVO	132.45	341.5	19 20	3						21 43	SKSP
SKALSTUGAN	132.58	354.3	19 20	3							
NURMI JARVI	133.37	345.3	19 20	2						22 50	PKS

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UPPSALA	135.45	349.4	19 25	3					22 56	PKS
GORIS	135.87	310.1	19 28	5						
TIFLIS	136.19	313.7	19 23	-1					22 53	PKS
ABERDEEN	139.30	4.1							22 22	PP
COPENHAGEN	140.27	351.5	19 37	6	26 58	18			23 22	PKS
SIMFEROPOL	141.39	323.8	18 39	-54						
WARSAW	141.61	342.0	19 30	-3					22 38	PP
DURHAM	141.72	4.1	19 31K	-2					22 44	PP
RATHFARNHAM	142.66	9.0	19 45	10					20 17	
LWOW	142.66	337.3	19 34	-1					22 35	PP
ELISABTHVILLE	142.85	222.6	19 35	0					41 32	SS
POTSDAM	143.36	349.5	19 40	4					23 4	
WITTEVEEN	143.70	356.1	19 44	7						
KRAKOW	143.86	341.3	19 39	2						
RACIBORZ	144.34	343.0	19 37	-1						
HALLE	144.40	350.2	19 42	4					22 49	PP
COLLMBERG	144.41	349.0	19 36	-2	29 1	135			22 3	PP
MUNSTER	144.47	354.9	19 41	3					22 28	
DE BILT	144.50	357.5	19 53	15						
SKALNATE PL.	144.52	340.2							23 0	PP
JENA	145.01	350.3	19 40	1					22 49	PP
KEW	145.09	3.4	19 42	3						
PRAGUE	145.29	346.8	19 46	6						
PLAUEN	145.34	349.5	19 40	0					20 50	
PRUHONICE	145.35	346.7	19 39	-1					29 50	SKKS
SONNEBERG	145.60	350.5	19 40	0					20 41	
CHEB	145.69	349.1	19 46	6	26 35	-13				
KSARA	145.71	306.3	19 41K	1	26 45	-3			23 5	PP
UCCLE	145.83	358.3	19 42	1						
BUCHAREST	145.99	329.6	19 52K	11					30 5	PS
HURBANOVO	146.32	341.2	19 52	11	26 44	-5			23 14	PP
BRATISLAVA	146.38	342.7	19 42K	0					22 53	PP
DOURBES	146.52	357.9	19 45	3					23 30	PKS
TIMISOARA	147.09	336.0	19 49A	6						
PONTA DELGDA	147.23	44.4	19 47	4					20 7	PKP2
STUTTART	147.45	352.1	19 45	2					23 4	PP
TUBINGEN	147.72	352.2	19 47	3						
FOLINIERE	147.77	4.1	19 47	3						
STRASBOURG	147.82	353.8	19 50	6	26 37	-14			26 27	PPP
PARIS	147.84	0.4	19 50A	6					19 59	PKP2
EBINGEN	148.07	352.2	19 50	6						
BELGRADE	148.16	335.9	19 52K	8					24 5	PKS
LWIRO	148.26	236.3	19 50A	5						
SOFIA	148.61	330.3	19 49	4					20 11	PKP2
ZAGREB	148.83	342.1	19 49K	4						
BASLE	148.88	353.8	19 51	5	27 15	23				
LJUBLJANA	149.03	344.1	19 50A	4					20 44	
TOLMEZZO	149.07	346.2	19 56	10						
CHUR	149.30	351.0	20 5	19						
NEUCHATEL	149.46	354.4	19 54	7						
TRIESTE	149.60	344.8	19 57A	10					20 54	
CLERMONT-FD.	150.88	359.6	19 56	7					28 9	PKP2
PAVIA	150.98	350.7	19 53	4					21 25	
ATHENS	151.85	323.3	19 55K	5					20 10	PKP2
PRATO	151.88	347.2	19 59	9					23 9	PP
MONACO	152.64	352.7	20 1	10						
TARANTO	153.10	335.2	19 11	-41					29 27	
ROME	153.43	343.8	20 9	17					22 35	
SERRA PILAR	153.61	19.7	19 48A	-5					20 9	PKP2
LISBON	155.56	23.1	20 23K	28						
MESSINA	155.72	335.0	20 10	15	27 13	13			22 3	PKP2
TORTOSA	155.75	4.3	20 7	12					23 43	PP
REGGIO CALA.	155.76	334.8							22 17	
LEOPOLDVILLE	155.84	211.6	20 2	6	29 51	170			22 22	PP
TOLEDO	156.01	13.1	20 1	5					24 31	PP
ALICANTE	158.11	7.0	19 57	-2	27 2	-1			27 49	PPP
GRANADA	158.70	14.2	20 30K	31	28 36	93	20 47		25 3	PP
ALMERIA	159.26	12.1	20 5	5						
ALGIERS UNI.	159.88	359.5	20 4	3	26 48	-17			24 26	PP
SETIF	160.31	353.8	20 4	3					24 36	PP
BANGUI	160.33	233.7	20 7	6						
RELIZANE	160.79	5.6	20 7	5					24 33	PP
MBOUR	160.80	93.8	20 16	14					23 20	SKP
TAMANRASSET	173.32	338.1	20 12	1					25 32	PP

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AUGUST 13 O.H 33.M 8.S EPICENTRE 39.80 48.53 DEPTH= 0.KM

A= 0.51010 B= 0.57727 C= 0.63762 D= 0.7494 E=-0.6622  
G= 0.4222 H= 0.4778 K=-0.7704 HT= -1.6

SE= 2.89

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
SHEMAKHA	0.83	5.0									0	22 PG
BAKU	1.19	60.8									0	32 PG
GORIS	1.73	260.6									0	31 PG
KIROVOBAD	1.89	297.3									0	34 PG
NAKHICHEVAN	2.50	257.0	0	44A	2	1	12	-2				
EREVAN	3.12	278.2	0	53	2	1	27	-3			1	14
MAKHACH-KALA	3.26	346.5	0	56	3	1	35	2				
STEPANAVAN	3.39	292.0	0	57	2							
TIFLIS	3.42	305.2	0	56A	1						1	44 S*
DUZHETI	3.69	309.3	1	1	2						1	18
LENINAKAN	3.71	286.7	1	7	8							
GORI	3.99	304.4	1	5	2	1	49	-2				
BOGDANOVKA	4.03	292.9	1	7	3						2	3 S*
GROZNY	4.09	330.2	1	7	2						2	3 S*
AKHALKALAKI	4.16	294.1	1	7	1						2	6 S*
BAKURIANA	4.27	298.4	1	10	3						2	9 S*
BORZHOMI	4.40	299.0	1	11	2						1	54
ABASTUMANJ	4.75	296.0	1	16	2						1	23
GEGECHKORI	5.30	300.6	1	22	0							
ZUGDIDI	5.71	300.5	1	32	4							
PIATIGORSK	5.87	317.8	1	38	8						3	35
KRASNAYA	7.33	304.5	1	54	4						3	54
SOTCHI	7.60	302.6	2	4	10						3	9
BAIRAM-ALI	10.84	97.4	2	37	-2	4	50	8			3	1
KSARA	11.77	243.4	2	39	-13	4	57	-8				
SIMFEROPOL	11.83	300.4	2	54	1	5	7	0				
SAMARKAND	14.20	84.6	3	17	-7	6	1	-2			8	37
TASHKENT	15.84	77.8	3	45	0	6	51	9			7	27
TCHIMKENT	16.08	74.3	3	47	-2	6	56	8				
KULYAB	16.64	89.8	4	0	4	7	11	10				
BUCHAREST	17.26	292.8	4	8	5							
MOSCOW	17.50	339.2	4	5	-1	7	14	-6				
NAMANGAN	17.66	78.7	4	6	-2	7	24	0				
FERGANA	17.79	80.7	4	11	1	7	34	7				
QUETTA	17.86	116.9	4	13	2	7	38	9			4	28 PP
KHOROG	18.11	90.0	4	16	2	7	34	0				
ANDIJAN	18.20	79.3	4	15	0	7	42	6				
SVERDLOVSK	18.79	21.0	4	19	-3							
WARSAK DAM	19.27	100.3	4	27	-1	8	4	3				
ATHENS	19.39	272.5	4	30A	0							
FRUNSE	19.80	72.7	4	35	1	8	14	2				
LWOW	19.98	308.2	4	36	0	8	14	-2				
NARYN	20.88	76.6	4	47	1	8	45	10				
RYBACHE	20.96	73.8	4	48	2	8	44	8				
BELGRADE	21.31	292.8	4	49A	-1	8	38	-5			7	32 PP
ALMATA	21.51	71.5	4	53	1	8	51	5				
KARACHI	21.56	128.3	4	55	2							
SKALNATE PL.	22.14	304.4	4	57	-1	8	57	-1				
LAHORE	22.46	103.5	4	47	-15	8	41	-23				
KRAKOW	22.57	306.5	5	3	0						7	9
WARSAW	22.64	312.4	5	4	1	9	3	-4				
PULKOVO	23.04	336.2	5	6	-1	9	14	-1				
RACIBORZ	23.65	305.8	5	13	0							
BRATISLAVA	23.98	300.8	5	16	0	9	28	-3				
VIENNA-H.	24.48	300.8	5	21	0						10	10
ZAGREB	24.51	294.9	5	20	-2							
HELSINKI	25.14	331.9	5	27	-1	9	54	3			6	5 PP
NURMI JARVI	25.49	332.3	5	30	-1	10	3	6				
LJUBLJANA	25.54	295.4	5	30K	-1						6	25 PP
MESSINA	25.61	277.0									9	52
DEHRA DUN	25.85	102.3	5	41	7	10	17	14				
PRUHONICE	25.93	304.4	5	46	11	10	16	12			11	0 SS
PRAGUE	26.02	304.6	5	42	6							
TRIESTE	26.07	294.4	5	36	0	10	16	10				
TOLMEZZO	26.59	296.1	5	42	1						6	2
COLLMBERG	27.14	306.9	5	46	0							
POTSDAM	27.33	309.2	7	11	83							
HALLE	27.83	307.1	5	51	-1	10	32	-3			6	39 PP
UPPSALA	27.86	326.3	5	51	-2	10	45	10			6	10
JENA	27.96	305.8	5	52	-2						6	55 PPP



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COPENHAGEN	28.59	315.8	5 57	-2	10 46	-1	
RAVENSBURG	28.95	298.9	6 0	-3			
APATI TY	29.03	348.1	6 2K	-1	10 50	-4	6 59 PP
STUTTGART	29.22	300.9	6 3A	-2			7 24
TUBINGEN	29.34	300.4	6 4	-2			
EBINGEN	29.40	299.7	6 4	-3			
SODANKYLA	30.17	343.3	6 11	-3			6 47
STRASBOURG	30.21	300.5	6 10	-4	11 22	9	7 22
MUNSTER	30.56	307.2	6 16	-1			
BENSBERG	30.73	305.1	6 18	0			
SKALSTUGAN	31.99	330.0	6 27K	-3			
KIRUNA	32.03	340.3	6 28K	-2	11 38	-4	12 54 PCS
DOURBES	32.32	303.3	6 30	-2	11 42	-4	
GARCHY	33.40	298.2	6 19A	-23			
CLERMONT-FD.	33.50	295.4	6 42	-1			
PARIS	33.71	301.0	6 43	-1			9 24
SETIF	33.94	277.9	6 44	-2			
CHATRA	34.52	100.1	6 53	2			
KEW	35.46	305.7	6 56	-4			
SHILLONG	38.76	98.1	7 27K	0			
RATHFARNHAM	39.07	308.9	7 27A	-3			
IRKUTSK	39.72	52.7	7 36	1			
TAMANRASSET	40.06	258.0	7 36	-2			
CHITTAGONG	40.51	102.3	8 22	40	15 15	83	10 12 PP
KHEYS	41.09	2.4					14 7
ULAN-BATOR	41.96	58.9	7 55	1			
NORD	47.30	349.5	8 35	-2			
TIKSI	49.78	24.2	8 55	-1			
YAKUTSK	51.84	36.4	9 10	-1			
ELISABTHVLE	54.81	205.5	9 30	-3			
MANILA	67.41	89.5	11 0	1			
MATUSIRO	67.57	60.6	10 58	-2			
COLLEGE	74.88	7.2	11 43	-1			
SHAWINIGAN	79.33	323.1	12 9	0			
SITKA	83.46	2.1	12 31	1			
LILLODET	89.49	353.9	11 50A	-70			
HUNGRY HORSE	90.87	348.5	13 6	0			
RAPID CITY	92.69	340.0	13 15	0			
BOZEMAN	92.96	345.8	13 17	1			
CORVALLIS	95.68	354.1	13 29A	1			
SHASTA	99.45	353.0	13 45	0			
MINERAL	99.72	352.4	13 47A	0			
EUREKA	99.83	347.9	13 43	-4			
CHARTERS TS.	108.36	101.1	18 39	777			
HUANCAYO	123.52	283.0	18 59	0			
SOUTH POLE	129.61	180.0	19 9	-2			
SCOTT BASE	134.45	164.8					35 46 SKKS
KARAPIRO	139.20	104.9	19 26	-3			
BYRD STATION	139.40	183.2	19 31	2			

AUGUST 14 4.H 39.M 9.5 EPICENTRE -0.14 125.01 DEPTH= 0.KM

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SE= 2.53

	DELTA DEG.	AZ. DEG.	M	P	S	O-C S	M	S	O-C S	*PP M S	M	SUPP. S
MANILA	15.22	345.3	3	45	7		5	15	-73			
BAGUIO CITY	17.03	345.3	4	4	3		7	25	15			
LEMBANG	18.58	248.7	4	22	2		8	8	23			
DJAKARTA	19.11	251.4	4	29K	3						8	13
GUAM	23.76	54.6	5	20	6							
PORT MORESBY	23.88	113.3	5	16A	0		9	27	-2		5	48 PP
HONG KONG	24.68	335.3	5	15	-8							
CANTON	25.73	334.6	5	33	0		9	55	-6		6	26 PP
MEDAN	26.58	278.3	5	41K	0							
CHARTERS TS.	28.73	134.9	6	0K	-1		10	50	0			
ZO-SE	31.28	353.7	6	24	1							
NANKING	32.57	350.1	6	35	0							
ABUYAMA	36.20	14.8	7	6A	0							
CHENG TU	36.56	328.8	7	9	0		12	48	-4			
ADELAIDE	36.94	161.1	7	12	0						8	59
BRISBANE	38.01	137.7	7	22	1						15	55
MATUSIRO	38.50	17.2	7	24A	-1						8	33 PP
CHITTAGONG	39.31	306.9	7	38	6							

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PEKING	40.79	349.6	7	44	0	13	49	-7			
RIVERVIEW	41.52	146.4	8	9A	19						
CANBERRA	41.53	149.9	7	51A	1				8	13	
MELBOURNE	41.77	156.1	7	53	1				8	51	
CHANGCHUN	43.78	0.3	8	7	-2						
LHASA	43.89	315.4	8	10	0						
CHATRA	45.21	309.4	8	20	0						
ULAN-BATOR	50.40	344.2	9	2	1						
LAHORE	57.34	308.3	9	52	0	17	40	-8			
KARAPIRO	59.72	135.0	10	9	1				13	34	
GEBBIES PASS	60.63	142.1	10	51	36						
YAKUTSK	62.10	2.5	10	24	-1	18	44	-5			
QUETTA	62.82	304.3	10	26	-3				12	43	PP
TIKSI	71.70	1.3	11	23	-2	20	38	-7			
SVERDLOVSK	76.37	329.3	11	50	-2						
CAPE HALLETT	77.42	167.2	11	58K	0	21	44	-5	14	36	PP
TANANARIVE	78.10	250.8	12	1	-1						
SCOTT BASE	80.76	171.8	13	27K	71						
TIFLIS	82.79	312.0	12	27	0						
MOSCOW	88.64	325.6	12	54	-2						
COLLEGE	88.92	25.3	12	55	-2						
KSARA	89.36	303.6	12	58	-1						
SOUTH POLE	89.86	180.0	13	1	-1				20	12	
JERUSALEM	89.90	301.6	13	2	0				13	22	PCP
SIMFEROPOL	90.74	314.8	13	4	-2	23	29	-32			
PULKOV	92.50	329.7	13	11	-3	24	7	-9			
BYRD STATION	94.16	170.9	13	22	1				19	42	PPP
NURMIJARVI	95.23	330.7	13	25	-1	24	54	52			
KIRUNA	95.62	338.3	13	25A	-3						
LWIRO	96.20	267.7	13	28	-3				13	37	
NORD	96.77	354.7	13	30	-3						
LWOW	97.20	320.1	13	24	-11						
ELISABTHVLE	97.36	258.3	13	36	0						
UPPSALA	98.80	330.8	13	40	-3				17	46	PP
SKALSTUGAN	100.08	335.2	13	46	-2						
RESOLUTE	101.91	10.0							27	21	PS
GOTEBORG	102.25	329.6	14	2K	4						
PRUHONICE	103.16	321.6	14	2K	0				18	20	PP
COLLMBERG	103.73	323.2	14	4	-1						
JENA	104.69	323.1	14	8	-1				18	37	PP
STUTTART	106.81	321.5	18	37	777						
HUNGRY HORSE	110.18	37.6	18	34	1				29	36	PKKP
EUREKA	112.15	46.9	18	33	-4				19	39	PP
TAMANRASSET	117.09	295.5	18	48	1						
TUCSON	118.49	52.9	18	52	3				29	12	PKKP
TUCSON TELE.	118.55	52.8	18	52	2				29	11	PKKP
DALLAS	128.97	46.2	19	12	2						
SHAWINIGAN	131.22	16.3	19	14	0						
OTTAWA	131.35	19.4	19	14	0				22	36	SKP
BREBEUF	131.93	17.6	19	16K	1				22	38	PKS
PALISADES	135.85	20.6							22	54	PKS
WASHINGTON	136.44	25.2	19	23	-1				22	5	PP
COLUMBIA	138.40	33.3	19	29	2				23	0	PP
BERMUDA	146.66	15.0	19	33	-9						
HUANCAYO	156.45	121.7	20	1K	5				20	31	
SAN JUAN	158.83	30.5	20	37	38						
LA PAZ	158.99	142.5	20	3	4						

AUGUST 15 8.H 57.M 1.S EPICENTRE 22.05 120.93 DEPTH= . 0.KM

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	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
HENGCHUN	0.18	252.6	0	8	-1	0	15	0				
TAWU	0.30	354.6	0	10	-1							
TAITUNG	0.72	16.3	0	16	-1	0	29	0				
KAHSIUNG	0.83	312.9	0	21	3							
HSINKONG	1.12	21.2	0	22	0	0	39	0				
TAINAN	1.15	325.3	0	25	2	0	46	6				
YUSHAN	1.42	0.7	0	29	2	0	49	3				
ALISHAN	1.47	355.3	0	28	1	0	51	3				
PENGHU	1.95	319.4	0	38	4	1	9	9				

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1959		PAGE 603					
HWALIEN	2.01	18.3	0 35	0	0 49	-12	
TAICHUNG	2.10	353.8	0 38	1	1 10	6	
HSINCHU	2.73	0.8	0 47	1	1 27	7	
ILAN	2.81	15.4	0 47	0	1 25	3	
TAIPEI	3.01	10.2	0 50	0	1 34	7	
BAGUIO CITY	5.61	183.4	0 26	-60			
HONG KONG	6.27	273.5	1 34	-2			
CANTON	7.09	279.8	1 45A	-2			
MANILA	7.34	178.9	1 53	2	3 33	17	
ZO-SE	9.01	1.4	2 11A	-3			
NANKING	10.15	349.6	2 27A	-3			
YAKUSIMA	11.98	43.8	2 48	-7			4 48
TOMIE	12.62	31.8	3 4	1			6 38
KAGOSIMA	12.78	40.1	3 8	3	5 59	29	
NAGASAKI	13.27	34.8	3 11A	-1			5 48
PHU-LIEN	13.38	267.3	3 19	6			
UNZENDAKE	13.47	35.9	3 16	1			6 18
MIYAZAKI	13.56	41.3	3 17	1	5 47	-1	
SAGA	13.90	34.6	3 29	9			8 30
ASOSAN	14.05	37.6	3 24	2	6 8	8	
ITUHARA	14.16	29.5	3 23	-1	6 19	16	
HUKUOKA	14.19	34.0	3 29A	5	6 15	12	
OOITA	14.61	38.1	3 26A	-4	6 9	-4	3 42 PP
SIMONOSEKI	14.77	34.5	3 31	-1			6 34
UWAZIMA	15.15	40.2	3 42	5	6 34	8	
HIROSIWA	15.90	37.0	3 43	-3	6 48	4	
KOTI	15.97	41.5	3 45	-2	6 57	12	
HAMADA	16.10	34.9	3 50K	1	6 38	-10	
SIAN	16.10	321.6	3 48	-1			
MUROTO	16.18	43.6	3 55	5	7 7	17	
KUNMING	16.95	283.9	4 0A	0			
TOKUSIMA	16.96	42.2	4 4	4	7 17	9	
OKAYAMA	16.98	39.4	4 8	8			
MATSUE	17.05	35.8	4 5	4	7 44	34	
HIMEJI	17.14	40.8	4 11	9	7 43	31	
YONAGO	17.19	36.5	4 3	0	7 27	13	5 13
SIOMISAKI	17.34	45.9	4 5K	0	7 30	13	4 23 PP
SUMOTO	17.35	42.1	4 9K	4	7 33	16	4 30 PP
CHENGTU	17.40	303.0	4 3A	-2			
WAKAYAMA	17.44	42.9	4 12K	6	7 35	16	
TOTTORI	17.71	37.9	4 13	4	7 46	21	
KOBE	17.74	41.8	4 13	3	7 41	15	
SAIGO	17.75	34.7	4 13	3	7 47	21	
OSAKA	17.94	42.4	4 16K	4	7 47	17	16 3 SCS
OWASE	18.00	45.0	4 13	0	7 45	13	
TOYOOKA	18.10	39.1	4 17K	3	7 47	13	
ABUYAMA	18.10	42.0	4 8A	-6			
NARA	18.14	42.9	4 12	-3	7 57	22	5 22
KYOTO	18.30	41.9	4 20K	3	7 51	12	
PEKING	18.37	348.3	4 18A	1			
MAIZURU	18.44	40.4	4 23	5	7 56	14	
TU	18.60	44.0	4 28	8			
KAMEYAMA	18.66	43.5	4 18	-3	7 59	12	
HIKONE	18.79	42.2	4 24K	1	8 4	14	
TSURUGA	18.92	41.0	4 29	5	7 11	-42	15 43 SCS
NAGOYA	19.18	43.6	4 28A	1	7 58	-1	4 57
GIHU	19.20	42.7	4 28A	1	8 11	12	
TORISIMA	19.27	60.2	4 34	6	8 10	9	
HUKUI	19.29	40.3	4 33	5			
OMAESAKI	19.66	46.8	4 30	-3	8 15	6	
IIDA	19.95	44.0	4 40K	4	8 19	3	
TAKAYAMA	19.98	41.7	4 37A	1	8 30	14	17 15 SCS
HATIDYOZIMA	19.98	52.6	4 41	5	8 40	24	
SHIZUOKA	19.99	46.1	4 36A	-1	8 26	9	
NAGATURO	20.09	47.6	4 39	1	8 24	5	
LANCHOW	20.40	316.9	4 41A	0			
MISIMA	20.45	46.5	4 40A	-1	8 30	4	
MATUMOTO	20.49	42.6	4 33A	-9	8 34	7	
AJIRO	20.51	46.9	4 42	0	8 39	12	5 23
KOHU	20.51	44.7	4 40A	-2	8 35	8	
OSIMA	20.55	47.9	4 44A	2	8 33	5	6 31
HUNATU	20.55	45.4	4 42A	0	8 34	6	
WAZIMA	20.59	38.6	4 40A	-3	8 30	1	
PAOTOW	20.65	335.9	4 44A	1			
MATUSIRO	20.82	42.3	4 43A	-2	8 27	-6	4 58 6 26
NAGANO	20.90	42.0	4 35A	-11	8 49	14	
OIWAKE	20.90	43.2	4 43	-3	8 44	9	
MERA	20.94	48.1	4 45A	-1	8 34	-2	5 18

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TITIBU	21.03	44.7	4 48A	1	8 43	10	
YOKOHAMA	21.10	46.7	4 47	-1	3 43	4	12 4
TAKADA	21.20	41.2	4 37	-12	8 39	-2	
MAEBASI	21.28	43.8	4 49A	-1	8 47	5	5 13 PP
TOKYO C.M.O.	21.30	46.3	4 48A	-2	9 1	18	9 23
KUMAGAYA	21.33	44.8	4 53	3	8 55	12	
HONGO	21.33	46.3	4 46	-4	8 40	-3	9 2
AIKAWA	21.81	39.3	4 52	-3			
TUKUBASAN	21.84	45.5	4 51A	-5	8 44	-9	5 19 PP
UTUNOMIYA	21.88	44.5	4 54	-2	8 51	-3	5 59
KAKI OKA	21.90	45.6	4 49	-7	8 52	-2	
CHANGCHUN	22.02	8.5	4 53A	-4			
TYOSI	22.07	47.5	5 0	2			
HITO	22.18	45.6	4 56	-3	9 26	27	5 26 5 54 PP
NIIGATA	22.22	40.6	5 1	2			8 11
SHIRAKAWA	22.45	43.8	5 3	1	9 4	0	
ONAHAMA	22.79	44.9	5 5	0	9 4	-6	7 9
VLADIVOSTOK	22.91	21.0	5 5	-1	9 4	-8	5 40 PP
HUKUSIMA	22.99	42.8	5 6	-1	9 10	-4	
SAKATA	23.32	39.7	5 11	1	9 23	3	
SENDAI	23.57	42.2	5 12	-1	9 17	-7	7 0
ISINOMAKI	23.93	42.4	5 15	-1	9 26	-4	
AKITA	24.01	38.5	5 15A	-2	9 37	5	
GUAM	24.21	106.7	5 18K	-1	9 38	3	
MIZUSAWA	24.24	40.8	5 19	0	9 34	-2	
TOCKLAI	24.26	286.4	6 26	67			
MORIOKA	24.63	39.8	5 20A	-3	9 40	-2	
MIYAKO	25.08	40.8	5 23A	-4	9 50	0	
HATINOHE	25.37	38.7	5 25	-5	9 59	4	
HAKODATE	25.80	35.6	5 33A	-1	10 2	0	6 6
MORI	25.90	34.9	5 34	-1	10 16	12	
SUTTSU	26.22	33.4	5 37A	-1	10 6	-3	6 28 PP
MURORAN	26.27	35.1	5 39	1			
SHILLONG	26.79	283.3	5 43A	0	10 20	2	6 17 PP
TOMAKOMAI	26.80	35.3	5 45	2			11 16
CHITTAGONG	26.94	276.2	5 47	3	10 34	13	6 36 PP
SAPORO	26.99	34.3	5 43A	-2	10 35	13	6 53
URAKAWA	27.14	37.4	5 46	0			
HIROO	27.53	37.7	5 49	-1	10 38	8	
OBIHIRO	27.88	36.5	5 53	0	10 44	8	
LHASA	27.89	291.9	5 54A	1			
ASAHI GAWA	28.01	34.3	5 54	0			
ULAN-BATOR	28.16	339.8	5 54	-2			
MEQAN	28.34	232.8	5 58K	1			
KUSIRO	28.59	37.6	5 58	-1	10 52	5	7 11 PP
WAKKANAI	28.84	31.2	6 5	3	10 53	2	7 32
PORT BLAIR	28.85	253.7	6 4	2	11 4	12	7 6 PP
ABASHIRI	29.19	35.9	6 5A	0			11 34
NEMURO	29.48	38.2	6 7	-1	10 55	-7	
CALCUTTA	30.10	277.2	6 18A	5	11 48	37	7 35 PP
Y.-SAKHLINSK	30.50	30.0	6 15	-2	11 11	-7	
CHATRA	31.04	285.7	6 22	1	11 40	14	
DJAKARTA	31.27	207.8	6 24A	1	10 49	-41	
LEMBANG	31.53	205.9	6 26A	0	11 42	8	
BOKARO	32.35	280.0	6 42	9	12 0	13	
IRKUTSK	32.78	341.1	6 36A	-1			7 52 PP
DEHRA DUN	39.16	291.3	7 33	2	13 37	5	9 10 PP
AGRA	39.21	286.3	7 24A	-7	13 21	-11	8 53 PP
MADRAS	39.78	263.9	7 38K	2	13 46	5	9 15 PP
HYDERABAD	40.15	271.2	7 45K	6	13 52	6	9 17 PP
RABAU	40.19	126.7	7 36	-3			9 19 PP
SEHORE	40.38	280.2	7 42	1			
YAKUTSK	40.40	6.4	7 37	-4			
PORT MORESBY	40.48	137.8	7 40	-2			9 34 PPP
PETROPAVLOVK	42.20	33.4	7 54	-2	14 11	-6	10 4 PPP
COLOMBO	42.35	255.5	7 56	-1	14 27	8	
LAHORE	42.39	293.1	7 57A	0	14 19	-1	17 56 SCS
SEMI PALATNSK	42.52	321.9	7 58	0	14 19	-2	8 9
MAGADAN	43.03	21.8	8 1	-2	14 21	-8	
KODAI KANAL	43.22	261.3	8 17A	13	14 59	27	10 2 PP
FRUNSE	43.59	309.5	8 7	0	14 47	10	9 58 PP
POONA	44.17	274.3	8 11	-1	14 52	7	18 5 SS
WARSAK DAM	44.80	296.5	8 16	-1			
BOMBAY	45.04	275.1	8 23	4	15 5	7	10 14 PP
TASHKENT	47.23	306.4	8 37	1			18 53 SS
STALINABAD	47.32	302.6	8 37	0			15 40 PS
CHARTERS TS.	48.65	147.6	8 45	-2	15 44	-5	
QUETTA	48.77	291.4	8 48A	0	15 54	3	10 46 PP

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KARACHI	49.26	284.3	8 52A	0	15 3	-55	
TIKSI	49.81	3.3	8 52	-4	15 57	-9	10 51 PP
PERTH	53.92	185.4	9 25	-2	16 59	-3	11 29 PP
ASHKABAD	55.50	301.6	9 38	-1			17 36 PS
SVERDLOVSK	55.63	324.7	9 39	-1	17 22	-3	11 50 PP
BRISBANE	58.00	146.4	9 54	-3	17 50	-6	
ADELAIDE	59.17	163.0	10 3	-2	18 7	-5	12 19 PP
RIVERVIEW	62.58	151.8	10 28K	0	18 52	-3	
CANBERRA	62.96	154.4	10 29	-1	19 1	1	14 27 PPP
MELBOURNE	63.71	158.9	10 35	0	19 13	4	13 6 PP
KHEYS	64.05	350.7	10 37	0	19 7	-6	19 29 PS
GORIS	64.72	304.4	10 42	0	19 28	6	13 13 PP
TIFLIS	65.55	307.0	10 47	0	19 19	-13	13 12 PP
MOSCOW	68.34	322.8			19 59	-7	11 25 PCP
APATITY	68.89	335.7	11 7A	-1	20 6	-6	13 42 PP
SUVA	69.00	120.8	11 29	20	20 21	8	12 42
COLLEGE	70.80	26.9	11 17A	-3	20 29	-6	24 55 SS
SODANKYLA	71.50	336.0	11 22	-2	20 40	-3	11 40 PCP
PULKOVO	71.52	327.8	11 23	-1	20 37	-6	14 5 PP
SIMFEROPOL	72.57	312.0	11 29A	-2	20 53	-2	14 8 PP
KIRUNA	73.67	337.1	11 35A	-2	21 3	-4	16 9
HELSINKI	74.03	328.9	11 40	1	21 10	-1	26 3 SS
NURMIJARVI	74.08	329.2	11 39	0	21 4	-8	14 19 PP
KSARA	74.13	300.4	11 39A	-1	21 22	9	14 26 PP
HONOLULU	74.30	73.1	11 41A	0	21 14	0	26 45 SS
KIPAPA	74.34	72.9	11 42A	1			
NORD	74.43	354.1	11 39A	-2	21 8	-8	
APIA	74.96	111.9	11 47	3	21 25	3	12 9 PCP
JERUSALEM	75.24	298.6	11 47K	1	21 44	19	
ONERAHI	76.58	137.8	12 1	7			
UPPSALA	77.61	329.8	11 58A	-1	21 45	-6	15 5 PP
LWOW	77.75	318.9	12 1	1	21 50	-2	14 50 PP
SKALSTUGAN	78.40	334.4	12 2	-2	21 59	0	15 2 PP
KARAPIRO	78.68	138.9	12 6A	1			15 35
WARSAW	78.69	321.8	12 5K	0			14 59 PP
SITKA	78.92	32.7	12 6K	-1			15 16 PP
KRAKOW	80.14	320.0	12 14	1	22 15	-3	
SKALNATE PL.	80.28	319.1	12 14	0	22 18	-1	15 21 PP
ROXBURGH	80.32	147.7	12 21	7	22 18	-2	27 31 SS
WELLINGTON	80.37	141.9	12 15	1	22 15	-5	27 9 SS
SOFIA	80.69	312.2	12 17	1	22 25	2	15 47 PP
RESOLUTE	80.80	9.1	12 15A	-2	22 19	-6	15 24 PP
TIMISOARA	80.97	315.7	12 18	0	22 30	4	
RACIBORZ	81.16	320.5	12 17K	-2	22 22	-7	15 18 PP
GOTEBORG	81.19	329.1	12 19	0			
BUDAPEST	81.70	317.9	12 22	1	22 30	-4	
BELGRADE	81.83	315.0	12 21K	-1	22 35	0	15 38 PP
COPENHAGEN	81.89	327.1	12 22A	0	22 36	0	15 33 PP
HURBANOVO	82.05	318.5	12 27	4	22 37	0	15 21 PP
ATHENS	82.14	307.7	12 22K	-2	22 37	-1	15 36 PP
TANANARIVE	82.48	246.2	12 25	0	22 45	3	15 47 PP
BRATISLAVA	82.60	319.0	12 26A	0	22 40	-3	15 36 PP
BERGEN	82.83	333.2	12 28	1	22 45	0	15 38 PP
MACQUARIE I.	82.93	158.8	12 30	2			
VIENNA-H.	83.01	319.3	12 29A	1	22 49	2	15 47 PP
POTSDAM	83.08	324.0	12 28	0	22 46	-2	15 26
PRUHONICE	83.33	321.4	12 29A	-1	22 51	1	15 43 PP
PRAGUE	83.36	321.5	12 30	0	22 51	0	15 39 PP
COLLMBERG	83.61	323.1	12 29	-2	22 53	0	15 44 PP
SCORESBY SD.	84.09	348.2	12 33K	-1	22 56	-2	15 48 PP
HALLE	84.10	323.5	12 33	-1	22 53	-5	15 37 PP
KERGUELEN I.	84.23	210.7	12 52	18	23 4	5	
ZAGREB	84.29	317.2	12 33A	-2	22 58	-2	15 50 PP
PLAUEN	84.46	322.6	12 33	-2	22 53	-9	16 5 PP
CHEB	84.53	322.2	12 39	3			15 59 PP
JENA	84.58	323.1	12 35	-1	22 57	-6	15 59 PP
SONNEBERG	85.05	322.8	12 37	-1	23 0	-7	16 0 PP
LJUBLJANA	85.10	317.9	12 38A	-1			16 10 PP
TARANTO	85.76	312.0	12 44	2	23 4	-10	29 44 SS
TRIESTE	85.77	317.8	12 42	0	23 19	5	16 12 PP
TOLMEZZO	85.87	318.7	12 42	-1			13 7
MUNSTER	86.21	325.3	12 44	0			16 7
STUTTGART	86.93	322.0	12 47A	-1	23 31	5	16 21 PP
TUBINGEN	87.18	321.9	12 46	-3	23 17	-11	
RAVENSBURG	87.24	321.0	12 48	-1	23 31	2	
DE BILT	87.41	326.2	12 56	6	23 16	-14	16 27 PP
EBINGEN	87.41	321.6	12 49	-1	23 29	-1	
CHUR	87.76	320.2	12 52K	0	23 16	-17	
BOLOGNA	87.82	317.6	12 49	-3	23 29	-5	16 43 PP

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ABERDEEN	87.85 332.8	12 48	-4	23 36	2	16 21 PP	
STRASBOURG	87.89 322.3	12 51A	-1	23 41	6	16 27 PP	
REGGIO CALA.	87.91 310.4	12 52	0	23 38	3	16 14	
MESSINA	87.94 310.5	12 51	-2	23 29	-6	16 17 PP	
ALBERNI	88.14 36.7	12 54	0				
PRATO	88.27 317.1	12 55	1	23 39	1		
ROME	88.33 314.9	12 53A	-1	23 21	-18	16 19 PP	
BASLE	88.55 321.5	12 54	-2	23 38	-3		
UCCLE	88.56 325.4	12 55	-1	23 23	-18		
PAVIA	88.82 318.9	12 58A	1	23 40	-3	16 28 PP	
HORSESHOE B.	88.93 36.1	13 48	51				
EDINBURGH	89.10 332.2			23 24	-22	24 43 PS	
DURHAM	89.12 330.7	12 54	-4	23 46	0	16 36 PP	
NEUCHATEL	89.19 321.3	12 58	-1	23 46	-1	16 27 PP	
VICTORIA	89.32 36.8	12 57A	-2				
REYKJAVIK	89.36 344.6	13 1	2				
KEW	90.56 327.7			23 34	-25	25 11 PS	
MONACO	90.63 318.3	13 5	0			16 51 PP	
PARIS	90.69 324.5	13 7	1	23 36	-24		
MIRNY	90.81 190.8	13 3	-3	23 56	-5	16 53 PP	
GARCHY	91.25 323.0	13 7K	-1			25 17 PS	
CORVALLIS	91.55 40.1	13 9K	-1				
CUGLIERI	91.75 314.9	13 19	9			30 49	
CLERMONT-FD.	92.08 321.7	13 13	1	24 3	-10		
RATHFARNHAM	92.19 331.4	13 11K	-1	23 34	-40	16 57 PP	
FOLINIÈRE	92.29 325.6	13 12	-1				
LWIRO	92.81 268.7	13 19A	4	23 59	-20		
JERSEY	92.87 326.6			24 36	16	17 1	
SHASTA	94.26 42.9	13 20	-2				
HUNGRY HORSE	94.43 33.2	13 22A	-1	23 30	-63	16 53 PP	
MINERAL	94.95 42.9	13 24A	-1			16 22	
BARCELONA	95.17 318.6	13 23	-3	24 42	40	17 8 PP	
BERKELEY	95.91 45.2	13 28A	-2	24 43	37	26 3 PS	
SETIF	95.96 312.8	13 29	-1	24 32	26	17 20 PP	
BRANNER	96.21 45.6	13 32A	1				
TORTOSA	96.52 318.8	13 36	4			17 37	
RENO	96.54 42.8	13 32A	0				
LICK	96.61 45.4	13 32A	-1				
BUTTE	96.71 34.3	13 31A	-2				
ALGIERS UNI.	97.23 314.3	13 35	-1	24 57	44	17 32 PP	
ELISABTHVLLÈ	97.45 260.5	13 38	1	25 1	47	17 35 PP	
BROKEN HILL	97.54 257.5	13 37	0				
BOZEMAN	97.73 33.9	13 39A	1				
LCO. MARQUES	97.95 245.3	17 43	244	27 8	172	31 59	
FRESNO	98.15 45.0	13 37A	-3			16 44	
ALICANTE	98.60 317.3	13 43	1	25 8	48	17 44 PP	
EUREKA	98.96 41.0	13 42A	-1			30 33 PKKP	
BULAWAYO	99.38 252.1	13 45	0				
RELIZANE	99.47 314.6	13 47	1	24 42	18	17 50 PP	
BANGUI	99.72 278.7	13 50	3			18 5	
CAPE HALLETT	99.81 166.4	13 47A	0	25 29	63	14 10 17 47 PP	
TOLEDO	99.84 320.2	13 47	0	24 52	26	17 56 PP	
SALT LAKE C.	100.57 38.0	13 51	0				
PASADENA	100.75 46.4	13 50	-1	25 6	36	17 57 PP	
ALMERIA	100.76 317.0	13 50	-2	24 29	-1	18 1	
GRANADA	101.27 317.9	14 0A	6	25 30	57	18 12 PP	
SERRA PILAR	101.62 323.5	13 55K	0	25 21	46	18 6 PP	
BOULDER CITY	101.83 43.2	13 56A	0			17 5 PP	
COIMBRA	102.16 322.7			24 38	1	20 29 PPP	
RAPID CITY	102.78 31.0	14 1	1			29 35 PKKP	
TAMANRASSET	102.93 301.2	14 0	-1	24 43	2	18 15 PP	
SCOTT BASE	103.17 171.0	14 12	10	24 42	0	18 19 PP	
LISBON	103.58 322.0			25 45	61	18 17 PP	
LEOPOLDVILLE	106.16 271.8	14 21	777	24 59	4	18 43 PP	
TUCSON	106.76 44.0	14 24	777	24 55	-3	18 43 PP	
TUCSON TELE.	106.77 43.9	14 23K	777			18 40 PP	
LUANDA	109.62 268.2					28 46 PS	
LAWRENCE	110.48 29.4	14 36	777				
OTTAWA	111.18 12.5	18 4	-31				
HERMANUS	111.44 240.4			27 6	108	19 28 PP	
BREBEUF	111.48 10.9	18 46	10	25 31	13		
SOUTH POLE	111.92 180.0	17 45	-52			19 18 PP	
CHIHUAHUA	112.22 44.0			26 59	98	36 59	
FLORISSANT	112.73 26.1					19 27 PP	
PONTA DELGDA	112.75 331.8					19 32 PP	
HALIFAX	113.53 3.5	19 15A	35	25 19	-7	29 16 PS	
DALLAS	114.60 34.5	18 14	-28				
PENNSYLVANIA	115.07 15.7					19 41 PP	



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PALISADES	115.76	12.4	18 44	0	25 35	0	19 37	PP
FORDHAM	115.92	12.5					19 46	PP
BYRD STATION	116.58	170.2	18 39	-7	25 37	-1	19 39	PP
WASHINGTON	117.07	15.7	18 47A	0			19 55	PP
CHAPEL HILL	119.32	18.5	18 53	2				
COLUMBIA	120.47	21.1	18 53A	0			30 2	PS
TACUBAYA	123.11	46.6	19 13	15	26 26	26		
HALLEY BAY	123.93	189.4	18 9	-51				
MBOUR	125.09	307.4	19 7	5	26 17	11		
VERA CRUZ	125.28	44.2	17 27	-96	24 31	-95	21 3	PP
BERMUDA	125.61	5.8	19 4	1			21 1	PP
MERIDA	127.88	37.0	20 11	63			21 14	PP
COMITAN	130.02	43.2	20 9	57			22 39	
ARGENTINE I.	136.68	176.8	19 24	0				
SAN JUAN	139.23	10.3	19 35K	6			22 27	PP
BALBOA HTS.	143.21	35.3	19 35A	-1				
FORT FRANCE	143.39	3.4					22 40	PP
ST. VINCENT	144.93	3.7	19 36	-3				
BARBADOS	145.04	0.9	19 44	5				
GRENADA	146.01	4.7	19 48	7				
CARACAS	146.74	14.2	19 43A	1			23 7	PP
TRINIDAD	147.42	4.3	19 45	2			23 11	
CHINCHINA	148.63	33.0	19 47	2			42 39	SS
BOGOTA	149.70	30.8	19 53	6				
PORT STANLEY	150.39	181.5	20 19	31				
HUANCAYO	161.56	60.0	20 10	8			24 38	PP
BUENOS AIRES	167.49	182.2	20 13	6				
LA PAZ	169.82	58.7	20 12	3	27 13	2	22 55	PP

AUGUST 15 13.H 14.M 26.S EPICENTRE -21.57-174.34 DEPTH= 0.KM

A=-0.92630 B=-0.09174 C=-0.36545 D=-0.0986 E= 0.9951  
G= 0.3637 H= 0.0360 K=-0.9308 HT= 4.3

SE= 3.44

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S		
SUVA	7.60	295.3	2	1	7						3	59
APIA	8.10	18.0	1	57	-4	3	21	-14			2	15
RAOUL ISLAND	8.30	202.2	1	59	-5	3	28	-12				
ONERAHI	17.25	212.5	4	8	5							
KARAPIRO	18.50	206.0	4	18	-1							
WELLINGTON	21.70	202.6	4	50	-4	8	34	-16				
KAIMATA	24.06	206.5	5	23	6							
BRISBANE	30.42	252.4	6	11	-5							
RIVERVIEW	32.75	240.7	6	42	6							
CHARTERS TS.	36.79	265.0	7	7A	-4							
PORT MORESBY	38.92	282.1	7	26	-3							
ADELAIDE	43.07	241.5	8	4	1							
CAPE HALLETT	51.52	186.0	9	13	4	16	41	12			20	18 SCS
GUAM	53.14	307.2									11	47
SCOTT BASE	57.06	184.7	9	50A	0							
BYRD STATION	63.04	170.8	10	30	-1							
WILKES	64.49	205.6									19	16 PCP
SOUTH POLE	68.56	180.0	11	5	-1						11	43 PCP
MIRNY	71.48	204.9	11	22	-2	20	42	0				
MATUSIRO	73.12	321.7	11	31	-3	21	1	0			25	40 SS
ABUYAMA	73.55	318.9	11	35A	-1							
LEMBANG	76.42	268.0	11	50	-3							
BERKELEY	76.74	39.9	11	55	1	21	42	1				
LICK	76.77	40.6	11	56	1							
PASADENA	76.97	45.0				21	41	-3			22	26
FRESNO	77.54	42.1	12	0A	1							
PETROPVLOVK	77.89	343.7	11	58	-3							
Y.-SAKHLINSK	78.48	331.6	12	24	20							
SHASTA	78.53	37.7	12	6A	2							
MINERAL	78.76	38.3	12	5	0							
RENO	79.29	39.9	12	11A	3							
CORVALLIS	80.64	34.3	12	17	1							
TUCSON	80.93	50.2	12	21	4							
HALLEY BAY	81.05	172.2	12	15	-3							
TUCSON TELE.	81.05	50.2	12	19	1							
EUREKA	81.58	41.8	12	21	8							
SALT LAKE C.	84.91	42.6	12	40	2							
HUNGRY HORSE	87.98	35.4	12	44	-9							

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MEDAN	88.49	274.4	13	8	13					13	29
COLLEGE	88.56	11.0	12	53	-2	23	39	-2		29	41 SS
YAKUTSK	94.38	336.9								16	23
RESOLUTE	107.88	15.9				26	28	85		28	16 PS
NORD	119.22	3.7	19	12	21						
WARSAK DAM	121.28	297.5	16	40	-135						
QUETTA	124.75	292.4	17	12	-109						
APATITY	130.82	346.3	19	36	23					19	50
SODANKYLA	132.32	349.2	19	49	33						
KIRUNA	132.82	352.4	19	59	42					20	14
BROKEN HILL	137.78	214.0	19	29	3						
PULKOVO	138.01	341.6	19	45	19						
MOSCOW	138.42	333.2	19	39	12						
NURMIJARVI	138.85	345.8	20	2	34					20	17
HELSINKI	139.08	345.4	20	2	34						
UPPSALA	140.82	350.5	20	19	48					20	32
DURHAM	146.40	7.6	19	42	1						
SIMFEROPOL	146.97	321.6	19	46	4						
RATHFARNHAM	147.03	13.2	19	43K	1						
WARSAW	147.16	342.5	19	46	4						
LWIRO	147.25	226.5	19	49	7						
MUNSTER	149.61	357.6	19	54	8						
HALLE	149.72	352.2	19	54	8					20	17
JENA	150.33	352.4	19	51	4					20	51
KSARA	150.70	301.1	19	50	2					23	34 PP
PRUMONICE	150.79	348.2	19	54K	6						
UCCLE	150.81	1.7	19	56	8						
DOURBES	151.51	1.4	19	57	8						
JERUSALEM	151.77	297.3	19	57	7						
PARIS	152.70	4.6	20	3	12					21	0 PKP2
STUTTGART	152.70	354.8	19	52	1					20	1 PKP2
STRASBOURG	152.99	356.9	20	3	12					20	14 PKP2
GARCHY	154.26	4.1	20	2K	9						
LJUBLJANA	154.53	345.6	19	56	3					21	6
GRANADA	162.49	25.3	21	11K	68					24	29 PP
RELIZANE	165.18	16.4	20	6	1					21	8 PKP2
TAMANRASSET	178.79	5.9	20	13	1					26	3 PP

AUGUST 15 18.H 41.M 55.S EPICENTRE 55.13 162.95 DEPTH= 0.KM

A=-0.54910 B= 0.16840 C= 0.81862 D= 0.2932 E= 0.9560  
G=-0.7826 H= 0.2400 K=-0.5743 HT= -7.3

SE= 2.89

	DELTA DEG.	AZ. DEG.	P			O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S		
KLYUCHI	1.68	316.3	0	35	4	1	1	7				
PETROPAVLOVK	3.30	231.9	0	55	1	1	32	-3		1	15	
SEVERO-KUR.	6.09	225.7	1	36	2	2	56	11				
OKHA	11.79	270.5	2	59	6	5	20	14				
UGLEGORSK	14.16	253.3	3	29	5	6	13	10				
Y.-SAKHLINSK	15.04	245.7	3	39	3	6	27	3				
MATUSIRO	25.13	232.5	5	26A	-2	9	42	-9		5	36 PP	
COLLEGE	25.79	48.0	5	35	0	10	5	3		9	1	
ULAN-BATOR	34.77	281.9								8	31 PP	
RESOLUTE	40.80	23.4	7	46A	1	14	11	14				
ALBERNI	42.83	66.6	8	1	-1							
NORD	43.51	359.9	8	7	0							
VICTORIA	44.02	66.6	8	10	-1							
CORVALLIS	46.57	70.9	8	32	0							
HUNGRY HORSE	48.97	61.4	8	50	0					10	27 PCP	
SHASTA	49.66	74.1	8	55A	-1							
MINERAL	50.34	73.9	9	1A	0							
BERKELEY	51.71	76.7	9	19	8							
RENO	51.89	73.4	9	13A	0							
SVERDLOVSK	51.94	317.0	9	12	-1							
APATITY	52.02	337.9	9	12A	-2	16	28	-9				
LICK	52.43	76.7	9	14	-3							
SODANKYLA	53.55	340.6	9	24	-1					10	31 PCP	
EUREKA	54.03	70.9	9	28	-1					10	33 PCP	
KIRUNA	54.24	343.5	9	29K	-1							
SCORESBY SD.	54.65	2.0	9	32	-1							
SALT LAKE C.	55.32	67.0	9	37	-1							
PASADENA	56.68	76.9	9	46	-2							
BOULDER CITY	57.19	73.0	9	52	1							

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RAPID CITY	57.34	58.7	9 50	-3			
SHILLONG	58.70	270.5	9 59K	-3			
PULKOVO	59.39	334.4	10 5	-2			18 20 PS
SKALSTUGAN	59.46	345.3	10 6	-1			
NURMIJARVI	60.05	337.7	10 11	0	18 25	1	10 25
HELSINKI	60.29	337.3	10 12	-1			10 57 PCP
MOSCOW	60.84	328.1	10 15	-2			
UPPSALA	62.08	341.0	10 23	-2			
TUCSON TELE.	62.17	72.8	10 28	2			
TUCSON	62.17	73.0	10 28	2			
GOTEBORG	65.10	343.3	10 43K	-2			
OTTAWA	68.25	40.4	11 2	-3			
SHAWINIGAN	68.34	37.9	11 3	-3			
BREBEUF	68.94	39.0	11 7	-2			
TIFLIS	70.13	315.4	11 17	0	20 27	0	
COLLMBERG	71.03	340.6	11 28	6			
MUNSTER	71.32	344.2	11 15	-9			
GORIS	71.37	313.1	11 26	2	20 49	7	
RATHFARNHAM	71.57	353.2	11 27	2			
JENA	71.65	341.4	11 25	-1			
PRUHONICE	71.98	339.2	11 28	0			
DOURBES	73.59	345.7	11 39	2			
STUTTGART	74.14	342.2	11 41	1			
POONA	74.51	280.1	11 34	-8			
STRASBOURG	74.58	343.2	11 43	0			
PARIS	75.14	346.8	11 48A	2			
FOLINIERE	75.54	348.8	11 48	0			
LJUBLJANA	75.72	337.9	11 50A	1			
CHARTERS TS.	76.26	196.1	11 48	-5			
GARCHY	76.56	346.1	11 54A	0			
KSARA	80.49	317.7	12 21	5			
JERUSALEM	82.55	317.2	12 27	1			
BRISBANE	82.64	189.1	12 23	-4			
RIVERVIEW	89.18	189.8	13 12A	13			17 20
BYRD STATION	141.67	164.1	19 36	2			19 48
SOUTH POLE	144.95	180.0	19 34	-5			19 47

AUGUST 15 22.H 56.M 41.S EPICENTRE 12.90 -86.51 DEPTH= 192.KM

A= 0.05930 B=-0.97328 C= 0.22185 D=-0.9981 E=-0.0608  
G= 0.0135 H=-0.2214 K=-0.9751 HT= 6.1

DEPTH OF FOCUS= 0.025R

SE= 2.92

	DELTA DEG.	AZ. DEG.	P			O-C			*PP		SUPP.	
			M	S	O-C	M	S	S	M	S	M	S
SANTIAGO MA.	1.99	287.3	0	37A	-2	1	2	-6				
SAN SALVADOR	2.73	286.8	0	45A	-2	1	19	-4				
CARACAS	19.32	95.0	4	14A	1							
SAN JUAN	20.37	71.9	4	28	5							
COLUMBIA	21.59	12.5	4	39	4							
DALLAS	21.97	336.4	4	41	2							
CHAPEL HILL	23.89	15.1	5	1	3					5 48		
GRENADA	24.21	89.3	5	3	2							
ST. VINCENT	24.59	86.5	4	59	-5							
LAWRENCE	27.09	344.9	5	26	-1							
HUANCAYO	27.16	155.4	5	28	0							
BERMUDA	27.86	42.3	5	38	4							
TUCSON TELE.	29.43	315.1	5	50	2			6 32				
TUCSON	29.46	314.8	5	51	3					12 31		
PALISADES	30.10	19.2										
OTTAWA	33.67	13.8	6	26A	1							
RAPID CITY	34.21	338.4	6	29	0			7 12				
BREBEUF	34.29	16.2	6	32A	2					8 13 PP		
SHAWINIGAN	35.49	16.4	6	41A	1							
SEVEN FALLS	36.57	18.1	6	50A	1							
EUREKA	37.10	320.9	6	54	0			7 35				
HALIFAX	37.18	27.4	6	58K	4							
RENO	39.57	318.2	7	15	1							
MINERAL	41.16	318.1	7	27K	0							
HUNGRY HORSE	42.09	332.6	7	35	0							
VICTORIA	46.84	326.8	8	11	-2							
RESOLUTE	61.94	357.5	9	59	-3							
COLLEGE	66.39	335.9	10	28	-3							

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FOLINIÈRE	77.82	42.5	11 27	-11
SKALSTUGAN	82.43	26.5	12 1	-1
STUTTGART	84.19	41.4	12 10	-1
KIRUNA	84.41	21.4	12 12	0
TAMANRASSET	86.93	67.5	12 23	-2
BYRD STATION	94.35	185.5	12 58	-1
CHARTERS TS.	129.06	254.6	18 46A	1
ADELAIDE	133.67	233.7	18 52	-2

21 49

AUGUST 16 O.H 51.M 43.S EPICENTRE -20.98 169.10 DEPTH= 0.KM

A=-0.91761 B= 0.17676 C=-0.35600 D= 0.1892 E= 0.9819  
G= 0.3496 H=-0.0673 K=-0.9345 HT= 4.4

SE= 2.83

	DELTA DEG.	AZ. DEG.	P M S	O-C S	M S O-C	*PP M S	SUPP. M S
SUVA	9.24	73.8	2 17	0	5 5 62		2 52
BRISBANE	16.19	243.6	3 46K	-4	6 54 3		
KARAPIRO	17.79	163.1	4 8	-2			
TUAI	19.06	160.4	4 30	4			
APIA	19.59	71.7	4 32	0	8 26 18		
COBB RIVER	20.27	172.1	4 51	11	8 29 7		
RIVERVIEW	20.39	227.4	4 40K	-1	8 36 11		
WELLINGTON	20.80	167.9	4 46	1	8 38 5		
CHARTERS TS.	21.40	268.3	4 50K	-1	8 51 6		
KAIMATA	21.56	175.3	5 6	13	8 55 7		
CANBERRA	22.70	226.7	5 5A	1			
PORT MORESBY	24.07	295.3	5 19	1	9 35 2		7 48
ROXBURGH	24.43	179.6	5 24	3	9 43 4		
MELBOURNE	26.78	225.9	5 41	-2			10 17
ADELAIDE	30.09	235.9	6 10	-3	11 9 -2		14 9
GUAM	41.76	323.0	7 52	0			
MUNDARING	48.18	245.4	9 17	33			
PERTH	48.50	245.5	8 54	8			24 57
CAPE HALLETT	51.35	179.6	9 3K	-5	16 23 -4		11 11 PP
HONOLULU	52.85	39.3	9 17	-2	16 1 -47		17 17
SCOTT BASE	56.93	180.6	9 46	-3	17 46 4		12 2
WILKES	58.51	203.8	9 56	-4	17 56 -7		21 57 SS
BAGUIO CITY	60.39	304.2	10 15	2	18 31 4		
TUKUBASAN	63.16	333.9	10 31	-1	18 36 -27		12 42 PP
ABUYAMA	64.03	329.7	10 38A	0			
MATUSIRO	64.23	332.7	10 38	-1	19 16 0		20 39 SCS
BYRD STATION	66.26	169.6	10 49	-3	19 40 -1		
HONG KONG	68.72	305.6	10 37	-30	20 16 6		23 30 SS
SOUTH POLE	69.14	180.0	11 6	-4			13 52 PP
ZO-SE	69.25	317.1	11 9	-2	20 15 -2		
CANTON	69.79	305.8	11 16	2			
NANKING	71.42	316.4	11 23	-1	20 45 3		
Y.-SAKHLINSK	71.75	341.3	11 26	0			20 51
VLADIVOSTOK	72.39	332.3	11 31	1			11 44 PCP
PHU-LIEN	73.83	300.3	11 41	3	21 16 7		
PETROPAVLOVK	74.25	353.5	11 41	1			
CHANGCHUN	75.96	328.9	11 50A	0	21 35 2		
PEKING	78.20	321.3	12 3A	0	22 2 5		
KUNMING	79.08	302.2	12 9	1			
SIAN	79.31	313.0	12 10A	1			
LANCHOW	83.78	312.2	12 34	2			
BERKELEY	87.04	47.6	12 47A	-1	23 15 -12		
LICK	87.21	48.3	12 49A	0			
SHILLONG	88.06	298.2	12 55	2	23 28 -8		
PASADENA	88.22	52.4	12 53A	-1	23 24 -14		17 5 PP
ULAN-BATOR	88.29	323.5	12 54	0			
SHASTA	88.34	45.1	12 55K	0			
YAKUTSK	88.47	342.6	12 53	-2			23 19 SKKS
MINERAL	88.69	45.7	12 55	-1			
RENO	89.52	47.0	13 1K	1			
LHASA	90.39	301.6	13 6	2			
BOULDER CITY	91.48	52.0	13 11	2			
COLOMBO	91.72	276.7			23 45 -25		
COLLEGE	91.75	17.0	13 7	-4	23 8 -62		28 32 SS
EUREKA	92.15	48.4	13 10	-2			
TUCSON	93.01	56.7	13 19	3			25 40 PPS
TUCSON TELE.	93.13	56.7	13 20	3			
HYDERABAD	96.66	286.0			24 14 4		

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DEHRA DUN	101.16	298.2			23 36 -57	
BOMBAY	102.20	285.7			24 40 2	36 47
FRUNSE	107.15	309.9				18 52 PP
TASHKENT	110.74	307.5				21 17 PPP
RESOLUTE	111.66	16.5	18 23	-13	26 57 98	25 20 SKS
OTTAWA	122.19	48.9	18 55	-2		
PALISADES	123.62	54.1	15 45	777		20 39 PP
SHAWINIGAN	124.18	47.4	18 59	-2		
SEVEN FALLS	125.44	46.5	18 59	-4		
APATITY	125.83	340.7	18 59	-5	26 3 -5	20 53 PP
GORIS	128.09	304.2				22 30 SKP
TIFLIS	129.07	307.2	19 11	1		22 39 SKP
KIRUNA	129.22	345.2	18 56	-14		21 19 PP
MOSCOW	130.06	326.4	19 17	5		22 34 SKP
HALIFAX	130.82	48.6				22 37 PKS
BERMUDA	131.07	64.9				21 32 PP
PULKOVO	131.51	333.6	19 13	-2		22 40 SKP
SKALSTUGAN	134.64	345.7	19 21	0		
LWIRO	134.79	244.1	18 35	-46		40 25 PP
SIMFEROPOL	136.03	313.7	19 15	-8		
UPPSALA	136.20	339.6				22 56 PKS
KSARA	136.88	297.4	19 26	1	26 36 2	22 14 PP
JERUSALEM	137.58	294.5	19 27	1		41 12
LWOW	140.13	324.7	19 32	1		22 32 PP
COPENHAGEN	141.20	339.0	19 23	-9		22 29 PP
POTSDAM	143.58	335.2	19 32	-5		
COLLMBERG	144.44	334.1	19 36	-2		19 51
HALLE	144.70	335.2	19 37	-2		20 30
PRUHONICE	144.75	331.3	19 38A	-1		20 25
BRATISLAVA	144.76	327.0	19 39	0		
BELGRADE	144.89	319.9	19 39K	0		23 57 PKS
VIENNA-H.	145.08	327.7	19 39	0		
JENA	145.29	334.8	19 38	-2		23 4 PP
PLAUEN	145.40	333.9	19 41	1		20 3
WITTEVEEN	145.45	341.1	19 37	-3		
DURHAM	145.54	350.5	19 36	-4	26 54 7	19 52 PKP2
ATHENS	145.68	307.2	19 30K	-10		19 45 PKP2
SONNEBERG	145.87	334.6	19 41	0		19 56
MUNSTER	145.88	339.5	19 42	1		19 56
BENSBERG	146.89	339.0	19 45	3		19 56 PKP2
LJUBLJANA	147.49	326.2	19 44A	1		20 23
RATHFARNHAM	147.55	354.8	19 44K	1		
STUTTGART	147.91	334.6	19 47A	3		22 4
UCCLE	147.91	341.7	19 49	5		
TRIESTE	148.15	326.3	19 45	1		19 59 PKP2
TUBINGEN	148.19	334.5	19 48	4		
DOURBES	148.46	340.8	19 48	3		
EBINGEN	148.51	334.2	19 47	2		
RAVENSBURG	148.55	333.0	19 47	2		
STRASBOURG	148.66	335.9	19 49	4	26 45 -7	23 17 PP
PARIS	150.24	342.0	19 55K	7		20 9
NEUCHATEL	150.27	335.0	19 54	6		
FOLINIERE	151.05	345.7	19 55	6		
ROME	151.31	321.9	19 51	2		23 35
MESSINA	151.45	312.7	19 49	0	26 59 4	23 16 PKS
SETIF	159.20	320.3	20 38	38		
ALGIERS UNI.	160.12	325.3	20 0	-1		24 27 PP
TOLEDO	160.27	344.2	20 44	43		44 42 SS
ALICANTE	160.49	334.8	19 58	-3	27 2 -3	28 9 PPP
RELIZANE	162.19	328.1	19 55	-8		24 36 PP
GRANADA	162.66	340.1				24 39 PP
TAMARRASSET	164.65	279.7	20 6	1		25 4 PP
MBOUR	171.25	137.7				25 20 PP

AUGUST 16 1.H 21.M 5.S EPICENTRE 22.04 121.09 DEPTH= 0.KM

A=-0.47914 B= 0.79450 C= 0.37308 D= 0.8563 E= 0.5164  
G=-0.1927 H= 0.3195 K=-0.9278 HT= 4.2

SE= 3.19

	DELTA DEG.	AZ. DEG.	P			S			*PP		SUPP.	
			M	S	O-C	M	S	O-C	M	S	M	S
HENGCHUN	0.32	262.9	0	4	-7	0	9	-9				
TAWU	0.36	330.0	0	8	-4	0	11	-8				
TAITUNG	0.71	4.3	0	14	-3	0	28	0				

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KAHSIUNG	0.96	307.3	0	33	13	0	52	17	
HSINKONG	1.09	13.6	0	20	-2	0	34	-4	
YUSHAN	1.44	354.8	0	15	-12	0	35	-12	
ALISHAN	1.50	349.7	0	27	-1	0	51	3	
HWALIEN	1.98	14.1	0	38	3	0	50	-11	
TAICHUNG	2.13	349.8	0	37	0	1	1	-4	
HSINCHU	2.75	357.7	0	53	7	1	36	16	
ILAN	2.78	12.4	0	49	3	1	12	-9	
TAIPEI	3.00	7.4	0	55	6	1	39	12	
BAGUIO CITY	5.61	185.0	1	27	1	3	11	39	
HONG KONG	6.42	273.6	1	36K	-2	2	41	-12	
CANTON	7.24	279.8	1	50	1				
ZO-SE	9.02	0.5	2	11	-3				
NANKING	10.19	348.8	2	27	-3				
PHU-LIEN	13.53	267.4	3	16A	1				
SIAN	16.21	321.3	3	50	0				
KUNMING	17.10	283.9	4	1	-1				
ABUYAMA	18.01	41.7	4	14K	1				
PEKING	18.42	348.0	4	17A	-1	7	44	3	
LANCHOW	20.51	316.7	4	42A	0	8	19	-8	
PAOTOW	20.73	335.6	4	42	-2				
MATUSIRO	20.73	42.0	4	42	-2	8	33	1	6 10
TUKUBASAN	21.75	45.3	4	29A	-26	8	48	-3	5 18 PP
CHANGCHUN	22.01	8.2	4	59	2	8	53	-3	
GUAM	24.06	106.8	5	18	1	9	32	-1	
MIZUSAWA	24.15	40.6	5	24	6	10	8	34	
SHILLONG	26.94	283.3	5	47	3				
CHITTAGONG	27.09	276.3	6	2	16	10	51	28	6 54 PP
LHASA	28.03	291.9	5	58	4				
ULAN-BATOR	28.22	339.6	5	54	-2				
MEDAN	28.45	233.0	6	1	3				
LEMBANG	31.58	206.2	6	25K	-1				
LAHORE	42.53	293.1	8	0	1				
SEMIPALATNSK	42.62	321.8	7	59	0	14	22	-1	
POONA	44.32	274.3	8	13	0				
WARSAK DAM	44.94	296.5	8	18	0				
STALINABAD	47.45	302.6	8	43	5				15 44
CHARTERS TS.	48.56	147.8	8	45	-2				
QUETTA	48.91	291.4	8	49	0				
TIKSI	49.81	3.2	8	51	-5				19 31 SS
SVERDLOVSK	55.73	324.6	9	38	-2				
ADELAIDE	59.11	163.2	10	1	-3				
RIVERVIEW	62.50	152.0	10	37A	10				
KHEYS	64.09	350.6	10	35	-3				
TIFLIS	65.67	307.0	10	53	5				
MOSCOW	68.44	322.8	11	7	2	20	0	-7	20 35 PS
APATITY	68.96	335.7	11	12	3	20	11	-2	
COLLEGE	70.74	26.9	11	17	-3				
SODANKYLA	71.57	336.0	11	24	-1				
PULKOVO	71.61	327.8	11	22	-3				11 40 PCP
SIMFEROPOL	72.69	312.0	11	35	4				21 33 PS
KIRUNA	73.74	337.1	11	34K	-3	21	5	-3	
HELSINKI	74.12	328.9	11	39	-1	21	11	-1	
NURMI JARVI	74.17	329.3	11	41	1				
KSARA	74.27	300.5	11	45	5				
UPPSALA	77.70	329.8	11	57	-3	21	46	-6	
LWOW	77.86	318.9	12	5	4				
SKALSTUGAN	78.47	334.4	12	2	-2				
WARSAW	78.79	321.9	12	9	3				12 19 PCP
RESOLUTE	80.79	9.1	12	10	-7	22	25	1	
GOTEBORG	81.28	329.1	12	14	-5				
BELGRADE	81.94	315.1	12	25K	2				
POTSDAM	83.18	324.0	12	25	-4				
PRUHONICE	83.43	321.5	12	29	-1	23	6	15	13 5
COLLMBERG	83.71	323.1	12	31	-1				
HALLE	84.20	323.6	12	32	-2				15 11
JENA	84.68	323.2	12	34	-3				12 57
SONNEBERG	85.15	322.8	12	39	0				
LJUBLJANA	85.22	317.9	12	40	1				
TRIESTE	85.88	317.8	12	49	6	23	16	1	
MUNSTER	86.30	325.3	12	43	-2				
STUTT GART	87.04	322.0	12	47	-1				
DE BILT	87.50	326.3	12	55	5				
STRASBOURG	87.99	322.4	12	52	-1				
DORBES	88.92	324.8	12	56	-1				
DURHAM	89.21	330.8	13	3A	4				
KEW	90.65	327.7	13	7	2				
PARIS	90.78	324.5	13	6	0				



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HUNGRY HORSE	94.36	33.3	13 22	0	
EUREKA	98.87	41.1	13 43	0	
TAMANRASSET	103.06	301.3	17 43	777	18 6 PP
SOUTH POLE	111.91	180.0	19 17	40	
CLEVELAND	113.41	18.4	15 9	777	

AUGUST 16 9.H 53.M 36.S EPICENTRE -18.45-177.38 DEPTH= 322.KM

A=-0.94823 B=-0.04347 C=-0.31458 D=-0.0458 E= 0.9990  
G= 0.3143 H= 0.0144 K=-0.9492 HT= 5.0

DEPTH OF FOCUS= 0.046R

SE= 1.74

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SUVA	4.00	273.6	1 13	5				2 14
APIA	7.09	50.1	1 43	0	3 0	-5		
RAOUL ISLAND	10.76	182.6			4 27	2		
ONERAHI	18.73	201.3	4 0	3				4 40
KARAPIRO	20.37	196.3	4 15A	2				
TUAI	20.83	192.1	4 17	-1				7 45
TONGARIRO	21.57	195.1	4 23	-2				
WELLINGTON	23.73	194.8	4 43	-2	8 43	8		5 0
COBB RIVER	24.10	198.6	4 47	-1				
KAIMATA	25.81	199.3	5 3	-1				
BRISBANE	28.83	246.6	5 29A	-2				12 9
RIVERVIEW	31.98	235.1	6 1A	3				
CANBERRA	34.16	233.7	6 18A	1			7 35	8 12 PPP
CHARTERS TS.	34.33	261.2	6 18	0	11 15	-7		
PORT MORESBY	35.53	279.8	6 27A	-1	11 36	-4		14 34 SS
MELBOURNE	38.08	231.7	6 50A	0				8 5
MACQUARIE I.	40.31	201.2	7 8A	0				
ADELAIDE	42.17	238.0	7 23	0				8 10
GUAM	49.00	307.7	8 17	1				
CAPE HALLETT	54.34	184.6	8 56A	0				
SCOTT BASE	59.94	183.8	9 36K	1				
BYRD STATION	66.56	170.7	10 17	0				
MATUSIRO	68.93	322.8	10 30A	-2	19 6	-3		
SOUTH POLE	71.66	180.0	10 48	0				10 59 PCP
MIRNY	73.10	204.7	10 56	-1				
BERKELEY	76.27	41.9	11 14K	-1			12 36	
LICK	76.35	42.7	11 15K	0			12 37	14 11
ZO-SE	76.85	309.3	11 17	-1				
PASADENA	76.86	47.0	11 17K	-1	20 31	-7		23 47
SHASTA	77.89	39.6					12 46	
MINERAL	78.16	40.2	11 25A	0			12 46	
HONG KONG	78.22	298.4	11 26	1				
RENO	78.80	41.7	11 28K	-1				
NANKING	79.10	309.1	11 31	1				
CORVALLIS	79.75	36.0	11 33K	-1				
BOULDER CITY	80.16	46.9	11 37	1			12 59	
CHANGCHUN	81.15	321.9	11 42A	1	20 58	-24		
TUCSON	81.19	51.9	11 45	4			13 8	
EUREKA	81.23	43.4	11 41	0			13 4	
TUCSON TELE.	81.32	51.8	11 46	4			13 8	
VICTORIA	82.16	32.9	11 46	0				
ARGENTINE I.	82.62	157.0	11 48	0				
HORSESHOE B.	82.78	32.3	11 48K	-1				
HALLEY BAY	84.49	172.9	11 56	-2				
PEKING	84.86	315.0	12 0	0	22 2	3		
COLLEGE	86.09	12.2	12 4	-2	22 2	-9	13 28	
BUTTE	86.79	39.2	12 9	0			13 33	
HUNGRY HORSE	87.15	36.6	12 9	-2			13 33	15 37 PP
BOZEMAN	87.54	40.0	12 16	3				
KUNMING	88.95	296.8	12 22	3				
RAPID CITY	91.81	43.9	12 31	-1				
DALLAS	92.25	56.2	12 34	-1				
LAWRENCE	95.49	50.9	12 49	0				
RESOLUTE	105.68	15.9			23 36	-6		26 36 PS
PALISADES	111.89	52.5						28 0
QUETTA	120.90	294.6	18 15	1				
NURMI JARVI	135.13	344.7	18 41	0				21 38 SKP
RATHFARNHAM	144.54	9.2	19 0	2			20 27	
COLLMBERG	146.21	348.3	19 2	1				20 31
HALLE	146.21	349.5	19 2	1				

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MUNSTER	146.32	354.4	18 47	-14	20 33	
JENA	146.82	349.6	19 1	-1	20 33	19 16
KEW	146.97	3.4	19 8	6	20 34	
LWIRO	147.03	234.1	19 7	5		
PRUMONICE	147.12	345.8	19 5A	3	20 35	19 21 PKP2
BENSBERG	147.36	354.7	19 6	3	20 35	
DOURBES	148.39	357.6	19 9	5	20 41	
STUTTART	149.28	351.4	19 10	5	20 41	
FOLINIÈRE	149.65	4.1	19 6	0	20 41	
STRASBOURG	149.66	353.2	19 15	9	20 42	
PARIS	149.72	0.2	19 13	7	20 43	
LJUBLJANA	150.77	342.9	19 14K	6		20 44

AUGUST 16 18.H 41.M 59.S EPICENTRE 37.08 22.32 DEPTH= 0.KM

A= 0.73979 B= 0.30375 C= 0.60037 D= 0.3798 E=-0.9251  
G= 0.5554 H= 0.2280 K=-0.7997 HT= -0.6

SE= 4.07

	DELTA DEG.	AZ. DEG.	P		O-C		S		*PP		SUPP.	
			M	S	O	S	M	S	M	S	M	S
ATHENS	1.42	51.0	0	33K	6	0	54	7				
TARANTO	5.21	312.0	1	16	-5	3	1	38				
REGGIO CALA.	5.40	282.9	1	25	1	2	15	-13				
MESSINA	5.49	283.8	1	21	-4	2	25	-5			1	35 P*
SOFIA	5.66	7.5	1	28	0	2	28	-6				
BELGRADE	7.86	350.2	2	9	10	3	30	1			2	30 PG
TIMI SOARA	8.70	354.9	2	31	21	4	18	28				
ROME	9.00	305.3	2	15	1	3	51	-7			3	26
ZAGREB	9.94	333.4	2	30	3						5	33 SG
LJUBLJANA	10.69	329.4	2	31	-7	4	0	-39			3	50
TRIESTE	10.71	325.7	2	38	0	4	38	-2			3	26 PGPG
KSARA	11.53	102.4	2	48	-1	5	5	5				
TOLMEZZO	11.61	326.2	2	49	-1	4	49	-13			3	20
BRATISLAVA	11.73	342.6	2	55	3							
SIMFEROPOL	11.87	44.9	2	56	2	5	11	3				
JERUSALEM	11.89	112.6	2	57	3	5	7	-2				
LWOW	12.79	5.0	3	9	3	5	33	2				
KRAKOW	13.08	353.2	3	8	-2	5	57	20				
MONACO	13.14	305.0	3	15	4							
CHUR	13.62	319.8	3	21	4	5	38	-12				
SETIF	13.62	271.4	3	13	-4							
PRUMONICE	14.06	338.9	3	21	-2	6	7	6				
PRAGUE	14.17	338.8				6	7	3			3	39 PP
RAVENSBERG	14.20	322.8	3	26	1	6	10	6				
EBINGEN	14.79	322.7	3	34	1	6	44	26				
CHEB	14.84	334.3	3	46	13							
TUBINGEN	14.99	323.9	3	35	0	6	42	19				
STUTTART	15.06	324.9	3	30	-6	6	17	-8			3	41 PP
BASLE	15.07	318.5	3	40	4	6	21	-4				
NEUCHATEL	15.10	315.8	3	38	2	6	13	-12				
WARSAW	15.17	356.9	3	33	-5	6	32	5				
PLAUEN	15.26	334.6	3	41	2							
ALGIERS UNI.	15.42	274.7	3	33	-8							
SONNEBERG	15.51	332.5	3	40	-2						3	53 PP
STRASBOURG	15.65	321.8	3	45	1						6	51
COLLMBERG	15.69	337.9	3	45	1						8	43
JENA	15.83	334.4	3	46	0	6	44	1			3	59 PP
HALLE	16.19	336.2	3	51	0	6	56	5			4	9 PP
POTSDAM	16.63	339.9	3	57	1	7	3	2			4	5 PP
CLERMONT-FD.	16.78	307.1	4	5	7	8	20	75				
RELIZANE	17.57	272.2	4	18	10						5	3
BENSBERG	17.59	326.8	4	12	4							
TIFLIS	17.96	68.1	4	25	12	7	50	18				
MUNSTER	18.15	329.7	4	18	3							
DOURBES	18.22	321.2	4	20	4							
PARIS	18.60	315.3	4	20	-1							
UCCLE	18.79	322.6	4	28	5							
COPENHAGEN	19.77	343.3	4	37	2	8	9	-3				
MAKHACH-KALA	20.12	65.2	4	40	1	8	26	6				
FOLINIÈRE	20.29	312.3	4	36	-4							
TAMANRASSET	20.33	230.2	4	40A	-1						8	25
GRANADA	20.65	278.1	5	8A	24							
TOLEDO	20.81	285.8	4	42	-4	8	34	0			11	10
MOSCOW	21.34	24.2	4	48	-3							

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KEW	21.55	319.0	4 56	3	8 52	4	5 10
GOTEBORG	21.74	344.9	4 49	-6			4 53
UPPSALA	22.99	353.9	5 3	-5	9 5	-9	
HELSINKI	23.17	3.4	5 6	-3	9 10	-8	
PULKOVO	23.28	10.3	5 7	-3	9 13	-7	
NURMI JARVI	23.50	2.9	5 10	-2	9 18	-5	
DURHAM	24.08	324.9	5 22	4			
RATHFARNHAM	25.63	318.4	5 45K	12			
SKALSTUGAN	27.22	350.2	5 42	-6			
SODANKYLA	30.44	3.3	6 13	-4			7 8 PP
KIRUNA	30.82	358.6	6 16	-4			
APATITY	31.16	8.2	6 20	-3	11 19	-10	
SVERDLOVSK	32.17	39.8	6 30	-2	11 40	-4	
QUETTA	37.52	87.2	7 19	1			
LWIRO	39.59	169.8	7 38	3			
WARSAK DAM	39.82	79.3	7 19	-18			
NORD	46.75	352.7	8 28	-5			
SHAWINIGAN	67.33	311.8	11 3	4			
COLLEGE	78.09	355.7	12 9	6			
MATUSIRO	85.72	46.6	12 42	0			
HUNGRY HORSE	86.49	332.5	12 44	-2			
EUREKA	94.70	328.9	13 23	-2			

AUGUST 17 1.H 2.M 34.S EPICENTRE 22.25 121.26 DEPTH= 0.KM

A=-0.48071 B= 0.79199 C= 0.37640 D= 0.8549 E= 0.5189  
G=-0.1953 H= 0.3218 K=-0.9265 HT= 4.1

SE= 2.84

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
TAITUNG	0.51	348.9	0	13	-1	0	22	-1				
HENGCHUN	0.53	242.6	0	12	-2	0	21	-3				
HSINKONG	0.86	7.0	0	18	-1	0	27	-5				
KAOHSIUNG	0.99	292.4	0	21	0	0	31	-4				
YUSHAN	1.26	347.1	0	26	2	0	49	7				
ALISHAN	1.34	341.7	0	30	4	0	50	6				
HWALIEN	1.75	11.0	0	36	5	1	13	18				
TAICHUNG	1.97	344.5	0	36	1	0	59	-1				
PENGHU	2.03	309.4	0	28	-7	0	49	-13				
ILAN	2.55	10.1	0	48	5	1	19	4				
HSINCHU	2.56	354.2	0	48	5	1	21	6				
TAIPEI	2.78	4.9	0	50	4	1	27	6				
BAGUIO CITY	5.83	186.4	1	34	5	2	40	2				
HONG KONG	6.56	271.8	1	38	-2	2	38	-18				
CANTON	7.36	278.1	1	49	-2							
MANILA	7.54	181.3	1	58	5	3	34	13				
ZO-SE	8.82	359.6	2	9	-2	3	48	-5				
NANKING	10.02	347.8	2	24	-4							
PHU-LIEN	13.69	266.7									3 25	PP
SIAN	16.14	320.5	3	47	-2							
KUNMING	17.20	283.2	4	5	2	7	22	8				
ABUYAMA	17.76	41.8	4	13K	3							
PEKING	18.25	347.4	4	17A	1	7	42	4				
LANCHOW	20.47	316.1	4	43	1	8	28	2				
MATUSIRO	20.47	42.2	4	42A	0	8	28	2				
PAOTOW	20.60	335.1	4	41	-2							
CHANGCHUN	21.79	7.9	4	54	-1	8	54	2				
VLADIVOSTOK	22.62	20.6	5	4	1						5 32	PP
MIZUSAWA	23.90	40.7	5	20	4							
GUAM	23.97	107.4	5	20	3							
SHILLONG	27.04	282.9	5	46A	1							
CHITTAGONG	27.22	275.9	6	6	19	10	54	29			6 58	PP
ULAN-BATOR	28.09	339.3	5	53K	-2							
LHASA	28.09	291.5	5	58	3							
Y.-SAKHLINSK	30.18	29.9	6	15	1							
LEMBANG	31.83	206.3	6	32	4							
DEHRA DUN	39.38	291.1	7	40	7	13	36	1				
YAKUTSK	40.17	6.2	7	38	-1							
PETROPAVLOVSK	41.87	33.3	7	49	-4						10 6	PPP
SEMI PALATNSK	42.55	321.6	7	59	0							
LAHORE	42.59	292.9	7	59	0							
FRUNSE	43.70	309.3	8	9	1							
POONA	44.45	274.2	8	15	1							
WARSAK DAM	44.99	296.3	8	19	1							

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TASHKENT	47.36	306.2	8 38	1			10 37 PP
STALINABAD	47.47	302.5	8 42	4			
QUETTA	48.98	291.2			15 52	-2	10 41 PP
TIKSI	49.60	3.2	8 55	0	16 1	-2	
MUNDARING	54.12	185.3	9 28	-1			
SVERDLOVSK	55.65	324.5	9 39	-1			
ADELAIDE	59.27	163.3	10 7	2			
TIFLIS	65.67	307.0	10 48	0			
MOSCOW	68.37	322.8	11 3	-2			
APATITY	68.84	335.7	11 6	-2	19 58	-14	
COLLEGE	70.49	26.9	11 17	-1			
SODANKYLA	71.45	336.0	11 23	-1			11 42 PCP
PULKOVO	71.52	327.8	11 23	-1			
SIMFEROPOL	72.67	312.0	11 31K	0			
KIRUNA	73.61	337.1	11 35	-2			
HELSINKI	74.02	328.9	11 38	-1			
NURMIJARVI	74.07	329.3	11 39	0			
KSARA	74.29	300.5	11 34	-7			
JERUSALEM	75.42	298.6	11 48	1			18 47
UPPSALA	77.60	329.8	11 58	-1			
SKALSTUGAN	78.35	334.4	12 8	5			
RESOLUTE	80.56	9.1	12 13	-2	22 8	-14	23 10 PPS
GOTEBORG	81.18	329.1	12 25	6			
PRUHONICE	83.37	321.5	12 30K	0			
COLLMBERG	83.64	323.1	12 32	1			
SCORESBY SD.	83.97	348.3	12 30	-3			
HALLE	84.13	323.6	12 33	-1			
JENA	84.60	323.2	12 36	0			15 36
LJUBLJANA	85.16	318.0	12 40A	1			13 3
STUTTGART	86.97	322.1	12 49	1			
STRASBOURG	87.92	322.4	12 52	-1			
DOURBES	88.84	324.9	12 56	-1			
DURHAM	89.10	330.9	12 57A	-1			
GARCHY	91.28	323.1	13 8	0			
HUNGRY HORSE	94.10	33.3	13 28	7			
TAMANRASSET	103.08	301.4					18 7 PP
TRINIDAD	147.21	4.8	19 44	1			
LA PAZ	169.46	58.8	20 14	5			

AUGUST 17 1.H 33.M 14.S EPICENTRE 40.89 19.84 DEPTH= 0.KM

A= 0.71316 B= 0.25729 C= 0.65207 D= 0.3394 E=-0.9407  
G= 0.6134 H= 0.2213 K=-0.7582 HT= -2.0

SE= 3.30

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
TARANTO	2.01	258.8	0	32	-3	1	9	8			0	53
SOFIA	3.18	54.1	0	55	3	1	38	7			1	9 PG
BELGRADE	3.95	6.3	1	4A	1	1	54	3			1	12 P*
ATHENS	4.19	132.9	1	8A	2	1	59	3			1	15 PG
MESSINA	4.27	232.4	1	3	-4	1	48	-10			1	15 PG
REGGIO CALA.	4.27	230.7	1	7	0	1	54	-5			2	18
TIMISOARA	4.96	11.3	1	20	3	2	18	2			1	42 PG
ROME	5.63	282.7	1	25K	-1	2	40	7			1	45 P*
ZAGREB	5.67	331.6				2	28	-6			1	28 PG
CAMPULUNG	5.80	39.2	1	30	1	2	52	15			2	4 PG
BUCHAREST	5.81	50.5	1	35	6	2	56	19			2	17 PG
KECSKEMET	6.03	359.1	1	39	7	3	1	18				
LJUBLJANA	6.45	324.9	1	51	13						3	23 SG
TRIESTE	6.51	319.0	1	38K	-1	2	50	-5			2	7 PGPG
HURBANOVO	7.08	351.0	2	4	17	3	22	13			2	24 PG
PRATO	7.13	297.7	2	3	15	3	6	-4				
FOCSANI	7.21	45.7	1	54	5	3	26	14				
BOLOGNA	7.23	302.7	2	0	11	3	29	16				
TOLMEZZO	7.40	320.4	1	46	-5	3	6	-11			2	1 PP
BRATISLAVA	7.54	345.9	1	50	-3	3	11	-10			2	19 PG
BACAU	7.64	39.6	2	0	5	3	23	0			2	35 PG
VIENNA-H.	7.76	342.6	1	54	-3	3	25	-1			3	57 SG
SKALNATE PL.	8.30	1.9	2	5	1	3	30	-9			4	26 SG
CUGLIERI	8.61	269.0	1	56	-12	3	16	-31				
PAVIA	8.91	302.3	2	9	-3	3	50	-5			3	3
KRAKOW	9.16	0.4				4	15	14			2	16 PP
RACIBORZ	9.26	353.4				4	30	26			2	17 PP

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LWOW	9.40	16.8	2 22	3	4 11	4				
CHUR	9.53	312.1	2 20	-1						
MONACO	9.62	291.2	2 22	0					5 41	
PRUHONICE	9.82	339.6	2 25A	0	4 11	-6			3 18	
OROPA	9.86	302.6	2 27	1	4 5	-13			2 59	
PRAGUE	9.93	339.4	2 24K	-3	4 9	-11			3 21	
RAVENSBERG	10.05	316.7	2 26	-2	4 21	-2				
CHEB	10.57	332.9	2 46	11	4 35	-1				
EBINGEN	10.64	316.9	2 33	-3	4 34	-3				
TUBINGEN	10.81	318.5	2 34K	-5	4 29	-13				
STUTTGART	10.87	320.0	2 36	-3	4 34	-9				
PLAUEN	10.99	333.4	2 37	-4	4 22	-24			5 43	SG
BASLE	11.01	311.1	2 39	-2	4 49	2				
NEUCHATEL	11.11	307.6	2 39	-4	4 38	-11			5 7	
SIMFEROPOL	11.23	64.1	2 45	1						
SONNEBERG	11.24	330.5	2 42	-3					6 5	SG
WARSAW	11.37	3.7	2 43	-3	4 41	-14			2 54	PPP
COLLMBERG	11.44	337.9	2 44	-3	5 19	22			2 59	PP
STRASBOURG	11.51	315.9	2 45	-3	4 54	-5			2 56	PP
JENA	11.56	333.0	2 47	-2	5 12	12			3 55	PG
HALLE	11.93	335.5	2 58	4	5 16	7			3 5	PP
SETIF	12.23	252.1	2 57	-1	5 36	20			3 9	PP
POTSDAM	12.39	340.3	2 58	-2					6 45	SG
CLERMONT-FD.	13.11	297.4	3 8	-2					7 16	SG
BARCELONA	13.36	278.1	3 36	23						
BENSBERG	13.37	323.1	3 12	-1	5 30	-14				
ALGIERS UNI.	13.72	258.0	3 16	-2	6 1	9			3 30	PP
MUNSTER	13.90	327.0	3 22	2					7 49	
DOURBES	14.08	315.9	3 20	-3	5 56	-5				
KSARA	14.57	113.9	3 28	-1	6 7	-5			3 37	PP
PARIS	14.61	308.6	3 28	-1	6 3	-10				
UCCLE	14.62	317.8	3 36	6	6 8	-6				
TORTOSA	14.64	276.1	3 27	-3						
WITTEVEEN	14.92	327.5	3 40	7						
SOTCHI	14.97	73.1	3 34	0						
DE BILT	15.05	323.1	3 46	11						
JERUSALEM	15.35	121.4	3 38	-1	6 29	-2				
COPENHAGEN	15.58	344.3	3 40	-2	6 27	-9				
ALICANTE	15.86	267.4	3 51	5	6 52	9			4 4	PP
RELIZANE	15.98	257.5	3 47	0					4 0	PP
FOLINIERE	16.39	305.5	3 52	-1						
KEW	17.46	314.1	4 7	1	7 26	7			4 23	PP
JERSEY	17.54	305.5	4 7	0	7 48	27				
GOTEBORG	17.57	345.9	4 4	-3						
ALMERIA	17.82	264.2	4 10	-1	7 38	10				
TOLEDO	18.22	274.7	4 17A	2	7 41	4			8 0	SS
GRANADA	18.57	266.1	4 22	2	7 52	7			8 31	SS
TIFLIS	18.76	79.2	4 22	0						
MOSCOW	18.90	32.2	4 21	-3	7 50	-2				
UPPSALA	19.03	356.6	4 22A	-3	7 47	-8			10 56	
HELSINKI	19.57	7.7	4 29	-3	8 1	-6				
NURMI JARVI	19.87	7.0	4 33	-2	8 10	-4				
DURHAM	19.88	321.5	4 28	-7	8 31	17				
PULKOVO	20.00	15.6	4 33	-4	8 14	-3				
GORIS	20.26	85.2	4 39	0						
MAKHACH-KALA	20.65	75.1	4 43	0						
EDINBURGH	21.29	322.7			8 46	4			9 13	SS
SERRA PILAR	21.43	280.0	4 52A	1					5 18	PP
BERGEN	21.51	340.1							7 49	
RATHFARNHAM	21.54	314.0	4 52K	0						
ABERDEEN	21.58	326.4	4 43K	-10	8 54	6			10 3	SS
TAMANRASSET	21.72	218.1	4 54K	0	8 52	2			5 19	PP
LISBON	22.33	273.9	5 6A	6	9 6	4			5 44	PPP
SKALSTUGAN	23.16	351.4	5 7	-1	9 19	2			5 20	
SODANKYLA	26.80	5.8	5 41	-2	10 16	-2			6 23	PP
KIRUNA	27.00	0.5	5 42A	-3	10 17	-5			5 54	
APATITY	27.74	11.2	5 49A	-3	10 27	-6				
SVERDLOVSK	30.66	44.8	6 16	-2						
REYKJAVIK	33.47	328.0	6 42K	0						
BANGUI	36.36	182.0	7 7	0					20 2	
SCORESBY SD.	36.47	337.9	7 7	-1	12 47	-3				
QUETTA	39.38	90.5	7 32	0	13 40	5			9 7	PPP
WARSAK DAM	41.13	82.5	7 47	0						
MBOUR	41.48	241.2	8 0	10	14 10	4				
KHEYS	42.19	8.7	7 54	-2						
SEMI PALATNSK	42.22	55.9	7 56	0						
NORD	42.73	352.6	7 58	-2						
LWIRO	43.71	167.0	8 8	0					18 1	SCS

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LAHORE	44.32	84.1	8 13	0					
THULE	50.25	342.1	9 0	1					
POONA	51.05	99.2	9 5	0					
IRKUTSK	56.00	47.5	9 41	-1					
RESOLUTE	57.03	343.3	9 48K	-2	17 32	-11			
LHASA	57.76	77.0	9 54	-1					
HALIFAX	58.78	303.9	10 0A	-2	18 2	-4		19 52	SCS
ULAN-BATOR	59.43	51.3	10 5	-1					
SEVEN FALLS	61.95	309.3	10 22	-1	18 44	-3			
CHITTAGONG	62.37	83.5	10 32	6	19 4	12		12 55	PP
YAKUTSK	63.04	29.8	10 29	-2	18 57	-4			
SHAWINIGAN	63.38	309.5	10 32A	-1					
LANCHOW	63.49	64.2	10 33A	-1					
BREBEUF	64.44	308.9	10 39	-1					
OTTAWA	65.73	309.7	10 48	0					
BERMUDA	65.87	292.6	11 1	12	19 43	7		23 46	SS
CHENG TU	66.60	69.1	10 52A	-2	19 42	-3			
PALISADES	67.12	305.0	10 56	-1	19 50	-1		14 10	PP
FORDHAM	67.20	304.8	9 58	-60	18 50	-62			
SIAN	67.95	63.3	11 2A	0					
KUNMING	68.89	74.6	11 6A	-2	20 8	-4			
PEKING	69.30	54.7	11 9A	-2	20 17	0			
PENNSYLVANIA	69.68	306.7	11 13	0	20 22	1			
CLEVELAND	71.46	309.0	11 23	-1	20 43	1			
MORGANTOWN	71.66	306.7	11 24K	-1					
CHANGCHUN	72.33	47.1	11 29A	0	20 52	0			
COLLEGE	74.14	354.6	11 38	-2					
SAN JUAN	75.22	281.6	11 47	1					
NANKING	75.85	59.9	11 48	-1	21 31	-1			
VLADIVOSTOK	76.37	44.3	11 53	1					
TRINIDAD	76.51	272.4	11 58	5					
CANTON	77.78	70.1	12 1A	1	21 53	1			
ZO-SE	78.04	59.3	12 0A	-2	21 52	-3			
Y.-SAKHLINSK	78.82	35.9	12 6	0					
PETROPAVLOVK	79.92	23.8	12 8	-4					
LAWRENCE	80.92	314.4	12 17	0					
RAPID CITY	81.13	322.3	12 18	0					
HUNGRY HORSE	82.22	331.0	12 24	0					
BOZEMAN	83.29	327.7	12 43	14					
BUTTE	83.60	328.8	12 31	0					
ABUYAMA	84.23	48.1	12 35K	1					
HORSESHOE B.	84.42	336.8	12 35	0					
MATUSIRO	84.47	45.4	12 33	-2	22 49	-13		15 45	PP
VICTORIA	85.23	336.5	12 40	1					
TUKUBASAN	85.72	44.5	12 40A	-2	23 10	-4		15 42	PP
DALLAS	86.21	311.0	12 46	2					
EUREKA	90.45	327.3	13 4	0					
MINERAL	91.86	331.5	13 11K	0					
RENO	91.91	329.9	13 15A	4					
TUCSON TELE.	94.02	319.9	13 22	1					
TUCSON	94.15	319.9	13 23	2					
FRESNO	94.31	328.6	13 23	1					
LICK	94.53	330.1	13 23	0					
PASADENA	95.91	326.1						20 6	
CHARTERS TS.	130.22	82.1	19 12	0					
SOUTH POLE	130.70	180.0	19 11	-2				22 38	
BYRD STATION	137.94	189.8	19 30	4				22 22	PP
CAPE HALLETT	145.32	164.6	19 41	2				23 11	PKS

AUGUST 17 4.H 29.M 2.5 EPICENTRE 40.58 19.61 DEPTH= 0.KM

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SE= 4.69

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
SOFIA	3.50	51.5	0	53	-4	1	39	0			1	0 P*
MESSINA	3.94	234.3	1	3	0	1	47	-4			1	17 PG
REGGIO CALA.	3.95	232.4	1	7	4	1	55	4				
ATHENS	4.12	128.0	1	8	3	2	4	9				
BELGRADE	4.28	8.0	1	3K	-5						1	17 PG
TIMISOARA	5.30	12.3	1	25	3	2	41	16			2	52 SG
ROME	5.54	286.1	1	31	5	2	26	-5			2	58 S*
ZAGREB	5.87	334.3	1	38K	8						1	57 PG
BUCHAREST	6.14	49.2	1	31	-3	2	54	8			2	2 P*



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CAMPULUNG	6.15	38.5	2	4	30	2	28	-18	3 20
KECSKEMET	6.34	0.5	2	8	31				3 19
LJUBLJANA	6.61	327.5	1	36K	-5	3	10	12	2 2 PG
TRIESTE	6.64	321.7	1	38	-3	2	50	-8	2 6 PGPG
BUDAPEST	6.91	356.7	1	49	4				
PRATO	7.13	300.4	2	1	13	3	53	42	
BOLOGNA	7.26	305.4	2	28	38				4 8
HURBANOVO	7.36	352.5	2	26	35	3	12	-4	
TOLMEZZO	7.54	322.7	1	51	-3	3	13	-8	3 46 SG
FOCSANI	7.55	44.8	1	25	-29				2 18
BRATISLAVA	7.80	347.5	1	55	-2	3	17	-10	
BACAU	7.99	39.0	2	21	21				
SKALNATE PL.	8.61	2.8	1	50	-19				
PAVIA	8.94	304.4							3 8
KRAKOW	9.47	1.2	2	15	-6	3	57	-12	
RACIBORZ	9.55	354.5	2	15	-7				2 44
CHUR	9.62	314.0	2	23	0				
LWOW	9.75	17.1	2	22K	-2	4	17	1	
PRUHONICE	10.05	340.9	2	23	-6	4	17	-6	
RAVENSBURG	10.16	318.4	2	25	-5	4	19	-7	
PRAGUE	10.16	340.7	2	28	-2	4	31	5	
EBINGEN	10.75	318.5	2	32	-6	4	41	0	
CHEB	10.77	334.3				4	22	-19	
TUBINGEN	10.94	320.1	2	34	-7				
STUTTGART	11.00	321.5	2	36	-6	4	50	3	
BASLE	11.09	312.8	2	38	-5	5	8	19	
NEUCHATEL	11.17	309.2	2	49	5	4	52	1	
PLAUEN	11.20	334.7	2	48	4				5 49 SG
SONNEBERG	11.43	331.8	2	45	-3				6 22 SG
SIMFEROPOL	11.52	63.0	2	45	-4				
STRASBOURG	11.62	317.4	2	47	-3				
COLLMBERG	11.66	339.0	2	49	-2				3 0 PP
WARSAW	11.69	4.3	2	53	2	5	18	14	3 9
JENA	11.76	334.3	2	46	-6	5	3	-2	3 50 PG
SETIF	11.98	253.1	2	54	-1				3 5 PP
HALLE	12.14	336.6	3	9	12	5	50	36	4 49
POTSDAM	12.63	341.4							6 43 SG
ALGIERS UNI.	13.49	258.9	3	15	0	6	17	30	
BENSBERG	13.51	324.3	3	17	2	5	28	-19	
GARCHY	13.66	304.8	3	14	-3	5	35	-16	
DOURBES	14.19	317.1	3	25	1				
KSARA	14.60	112.4	3	30	0	6	5	-8	
PARIS	14.67	309.8	3	32	1	6	4	-11	
JERUSALEM	15.34	120.0	3	37	-2	6	22	-9	
RELIZANE	15.74	258.3	3	39	-6				
FOLINIERE	16.44	306.6	3	53	0				
KEW	17.55	315.0	4	7	-1	7	27	5	4 30
GOTEBOG	17.83	346.5	4	4	-7				
GRANADA	18.38	266.9	4	18K	0	7	52	11	
TIFLIS	18.99	78.3	4	22	-3				
MOSCOW	19.25	32.0	4	20	-8				
UPPSALA	19.33	357.0	4	21	-8	7	48	-14	
HELSINKI	19.90	7.9	4	31	-5				
DURHAM	20.02	322.3	4	38	1				
NURMIJARVI	20.20	7.2	4	32	-7	8	11	-10	
PULKOVO	20.35	15.7	4	32	-9	8	12	-12	
MAKHACH-KALA	20.90	74.2	4	43	-3				
TAMANRASSET	21.37	218.1	4	53	2	8	58	14	5 19 PP
LISBON	22.19	274.6	3	48K	-71				
SKALSTUGAN	23.44	351.7	5	6	-6				
SODANKYLA	27.12	6.0	5	40	-6				
KIRUNA	27.31	0.7	5	41	-7				
APATITY	28.07	11.2	6	9	14	10	28	-11	
SVERDLOVSK	31.00	44.5	6	14	-7				
QUETTA	39.55	89.9	7	5	-29				
NORD	43.01	352.7	7	56	-7				
SHILLONG	60.80	80.2	10	10A	-6				
CHITTAGONG	62.58	83.2	10	31	3	19	2	7	
OTTAWA	65.80	309.7	10	47	-2				
COLLEGE	74.43	354.5	11	38	-4				
LAWRENCE	81.01	314.3	12	15	-3				
HUNGRY HORSE	82.41	330.9	12	22	-3				
BUTTE	83.78	328.7	12	31	-1				
MATUSIRO	84.81	45.2	12	33A	-4				
MANILA	89.05	71.6	13	20	22				
EUREKA	90.61	327.2	12	59	-6				
CAPE HALLETT	145.07	164.8	19	38	-1				



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1959								PAGE 621	
MATUMOTO	47.12	339.6	8 35	0	15 27	-1		19	19
SHIRAKAWA	47.19	342.4	8 36	0	15 26	-3			
KUMAMOTO	47.22	330.2	8 37	1	15 31	2			
TAKAYAMA	47.28	338.9	8 35	-2					
OKAYAMA	47.29	334.7	8 37	0					
MATUJIRO	47.30	340.0	8 32	-5	15 30	-1		9	49
UNZENDAKE	47.37	329.7	8 38	1	15 37	5			
NAGANO	47.42	340.1	8 38	0	15 35	3			
NAGASAKI	47.55	329.4	8 26	-13	15 34	0			
HUKUJ	47.56	337.8	8 41	2					
TOYOOKA	47.65	336.1	8 39	-1	16 5	29			
HIROSIWA	47.68	333.0	8 39	-1	15 22	-14			
HUKUSIWA	47.70	342.9	8 42	2	15 35	-1			
SAGA	47.76	330.2	8 44K	3	16 3	26			
TOYAMA	47.79	339.1	8 39	-2	15 39	2			
TAKADA	47.79	340.4	8 41	0					
TOTTORI	47.90	335.5	8 47	5					
HUKUOKA	47.99	330.5	8 41	-1	15 41	1			
SIMONOSEKI	48.03	331.3	9 12	29					
SENDAI	48.06	343.6	8 43	0	15 40	-1		10	47
ISINOMAKI	48.09	344.1	8 44	1	15 42	0			
YONAGO	48.17	334.6	8 44	0				14	8
NIIGATA	48.28	341.6	8 45	0				11	12
HAMADA	48.29	333.1	8 44K	-1	15 42	-2			
MATSUE	48.31	334.4	8 46	1	15 49	4			
LEMBANG	48.32	267.8	8 46A	1	15 46	1			
WAZIWA	48.50	339.3	8 48	2					
AIKAWA	48.63	340.9	8 46	-1					
MIZUSAWA	48.80	344.3	8 49	0	15 23	-29			
SAIGO	48.84	335.2	8 52	3					
SAKATA	48.95	342.9	8 51	1					
ITUHARA	49.03	330.0	8 43	-7					
MIYAKO	49.07	345.3	8 49	-2	15 47	-9			
DJAKARTA	49.16	268.6	9 14	23	15 47	-10			
MORIOKA	49.32	344.5	8 50	-3	15 58	-1			
AKITA	49.63	343.5	8 53	-2	16 5	2		14	14
HATINOHE	50.01	345.3	8 52	-6	16 11	2			
AOMORI	50.48	344.7	9 2	1	16 18	3			
URAKAWA	51.25	347.1	9 8	1					
HIROO	51.26	347.6	9 16	9					
ZO-SE	51.29	320.7	9 5A	-3					
HAKODATE	51.41	345.1	9 8	-1				9	54
KUSIRO	51.71	348.8	9 10	-1	16 33	1			
MORI	51.73	345.1	9 10	-1	16 34	2			
MURORAN	51.83	345.5	9 12	0					
NEMURO	51.84	350.0	9 17	5	16 22	-12			
OBIHIRO	51.90	347.7	9 10	-2	16 47	12			
TOMAKOMAI	51.98	346.2	9 17	4	16 40	4			
SAPPORO	52.45	346.2	9 18	2	16 21	-21		12	22 PPP
SUTTSU	52.47	345.1	9 19	2	16 37	-5		20	29 SS
ABASHIRI	52.74	349.1	9 17	-2	16 20	-26			
ASAHIGAWA	52.90	347.3	9 31	11					
HONOLULU	53.25	56.2	9 24K	2	16 59	6			
KIPAPA	53.38	56.1	9 23K	0					
NANKING	53.46	319.9	9 24A	0					
WAKKANAI	54.61	347.4	9 45	13				17	19
HAWAII V.OB.	54.80	59.7	9 34	0	17 21	7			
WUHAN	55.31	315.6	9 39	2				17	33 PS
VLADIVOSTOK	55.36	338.4	9 37	-1	17 24	3		11	44 PP
PHU-LIEN	56.52	301.2	9 45	-1					
CHANGCHUN	58.59	334.1	10 0A	-1					
MEDAN	58.64	279.0	10 0	-1				10	50
PEKING	60.35	325.2	10 14	1					
PETROPAVLOVK	60.63	1.6	10 13	-2				18	34
KUMMING	61.59	303.9	10 22A	1					
CHENG TU	63.06	310.1	10 32A	1					
CAPE HALLETT	64.99	175.4	10 40A	-4	19 31	6		13	6 PP
PORT BLAIR	66.17	286.4	11 28	37	20 4	24		21	17
WILKES	66.28	198.4	10 49	-3	19 37	-4		11	11 PCP
MAGADAN	67.29	356.9	10 57	-1				14	5
TOCKLAI	68.83	302.5	11 12	4					
CHITTAGONG	69.92	297.1	11 14	-1	20 26	1		13	52 PP
SCOTT BASE	70.21	177.7	11 16	-1	20 32	4		12	16 PCP
ULAN-BATOR	70.53	327.2	11 12A	-6	20 32	0			
SHILLONG	70.88	300.4	11 24	3	20 29	-7		14	2 PP
MIRNY	72.44	202.0	11 27	-3	20 51	-3		25	29 SS
YAKUTSK	72.63	347.2	11 27	-4					
IRKUTSK	74.45	329.8	11 41A	-1				21	52 PS

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CHATRA	75.28	300.3	11 56	10	21 47	21				
BOKARO	75.65	297.0	11 51K	2	21 30	0				14 42 PP
COLOMBO	77.65	278.8	12 1	1	21 59	8				
MADRAS	78.43	285.0	12 2	-2	21 51	-9				15 1 PP
KODAIKANAL	80.55	281.7	12 15	0	22 30	8				17 15
HYDERABAD	80.91	289.0	12 19	2	22 22	-4				27 58 SS
BYRD STATION	81.33	169.9	12 17	-3	22 37	7				
KERGUELEN I.	81.71	221.3	12 27	5	22 59	25				15 40 PP
SOUTH POLE	82.23	180.0	12 21	-3	22 43	4				16 35 PP
AGRA	83.26	298.5	12 27A	-3	22 46	-4				15 53 PP
SEHORE	83.29	294.4	12 32	2	22 53	3				
COLLEGE	83.37	20.8	12 26A	-4	22 49	-2				16 24 PP
DEHRA DUN	83.92	301.6	12 37	4	22 55	-1				15 37 PP
SITKA	85.02	30.6	12 39A	1						
POONA	85.41	289.3	12 40	0	23 8	-3				28 37 SS
BOMBAY	86.43	289.5	12 47	2	23 21	0				16 6 PP
SEMIPALATNSK	87.22	321.5	12 48	-1						23 15 SKKS
LAHORE	87.30	302.2	12 48A	-2	23 28	-1				
UKIAH	87.52	50.1	12 54K	3	23 36	5				16 25 PP
BERKELEY	88.01	51.5	12 54K	1	23 21	-15				16 21 PP
LICK	88.39	52.1	12 55	0						16 28
SHASTA	88.47	48.7	12 56	1						
CORVALLIS	88.61	44.8	13 13	17						
ALBERNI	88.65	40.0	12 58	2						
MINERAL	88.99	49.2	13 OK	2						16 20
FRUNSE	89.24	313.3	12 59	0	23 17	-30				23 33 SKKS
VICTORIA	89.38	40.9	13 3	3						
HORSESHOE B.	89.65	40.1	13 2A	1						
FRESNO	89.73	53.0	13 4K	3						
WARSAK DAM	90.04	304.2	12 57	-6						
RENO	90.20	50.2	13 7K	4						
PASADENA	90.61	55.8	13 4K	-1	24 6	6				23 39 SKS
TASHKENT	92.91	311.1	13 15	-1						23 53 SKKS
STALINABAD	92.93	308.4	13 17	1	23 43	-37				
EUREKA	93.12	50.8	13 15K	-2						29 25 PKKP
QUETTA	93.36	299.8	13 17A	-1	23 48	-36				16 57 PP
BOULDER CITY	93.58	54.3	13 19K	0						
BANFF	94.84	39.2	13 31K	6						
HUNGRY HORSE	95.52	42.1	13 29K	1						17 23 PP
BUTTE	96.31	44.5	13 33A	1						
SALT LAKE C.	96.40	49.8	13 35K	3						
TUCSON	96.49	58.4	13 36K	4						17 28 PKP
TUCSON TELE.	96.59	58.3	13 36K	3						17 28
HALLEY BAY	96.79	179.3	13 36	2						
BOZEMAN	97.34	44.9	13 55A	19						
KHEYS	99.02	350.5								17 38 PP
SVERDLOVSK	99.62	326.3	13 48	1	24 19	-6				25 17 S
CHIHUAHUA	100.32	62.3			25 15	47				18 33 PP
SASKATOON	100.43	38.5	16 23	153	26 44	135				
ARGENTINE I.	101.19	163.8	13 45	-9						
MANZANILLO	101.28	72.1								20 5 PP
RESOLUTE	102.41	14.9	13 59	0	25 35	57				18 11 PP
RAPID CITY	102.90	46.6	14 3	2						18 18 PP
TANANARIVE	105.00	248.1	14 16	6						18 37 PP
TACUBAYA	106.14	72.1			26 2	67				18 32 PP
NORD	106.16	358.9			24 56	0				16 55
THULE	107.33	10.0	14 23K	777						
VERA CRUZ	109.03	72.4			26 19	71				19 5 PP
APATITY	109.36	340.0	14 27	777	25 13	4				19 16 PP
GORIS	110.37	309.2	14 35	777						19 12 PP
TIFLIS	111.23	311.7	18 25	-10	25 12	-5				19 13 PP
SODANKYLA	111.69	341.3	18 58	22						29 31 PKKP
MOSCOW	112.38	327.6	14 42	777	25 9	-13				19 24 PP
COMITAN	112.75	75.7								19 25 PP
FLORISSANT	112.97	51.2								19 27 PP
KIRUNA	113.28	343.3	18 38	-1						19 26 PP
PULKOVO	114.30	333.3	14 52	777						19 36 PP
MERIDA	115.16	70.6	15 26	777						19 41 PP
MURMI JARVI	116.33	335.7	18 46	1	25 50	13				19 53 PP
HELSINKI	116.39	335.2	18 48	2						19 57 PP
SCORESBY SD.	117.40	359.4			25 29	-12				19 53 PP
SIMFEROPOL	118.06	317.1								29 45 PS
SKALSTUGAN	118.67	342.6								19 47 PP
UPPSALA	119.51	337.5	18 53	1						20 0 PP
KSARA	119.55	304.4	18 51	-1						20 16 PP
PRETORIA	119.59	234.6	18 30	-22						
MORGANTOWN	120.69	48.3	18 50	-4						20 20 PP
KIMBERLEY	120.84	229.9	18 55	1						
COLUMBIA	121.26	54.9	18 59A	4						20 27 PP

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1959					PAGE 623				
BULAWAYO	121.57	240.7	18 57	1					
HERMANUS	121.62	221.3			26 7	12		20 42	PP
OTTAWA	121.67	40.8	18 53	-3	25 57	2		20 25	PP
PENNSYLVANIA	121.85	46.5	18 59	3	25 57	1		20 34	PP
LWOW	122.35	325.5	15 27	777				20 33	PP
WARSAW	122.68	329.1	19 0	2	26 4	5		20 28	PP
BREBEUF	122.97	39.9	18 58	0				20 52	PP
WASHINGTON	123.04	48.4	18 58	0	26 40	40		20 38	PP
SHAWINIGAN	123.05	38.5	18 58	0					
GOTEBORG	123.12	338.1	19 5	6				20 40	PP
BERGEN	123.21	343.3						27 32	PKS
BUCHAREST	123.57	319.0						20 42	
BROKEN HILL	123.77	246.9	19 3	3					
REYKJAVIK	123.77	359.1	18 56	-4					
SEVEN FALLS	123.96	37.2	19 0	0				20 26	PP
COPENHAGEN	124.39	336.1	19 2	1	25 58	-6		20 35	PP
KRAKOW	124.47	327.4	19 4	3				20 45	PP
PALISADES	124.59	45.0	19 5	3	26 8	3		20 48	PP
BALBOA HTS.	124.72	84.5			27 54	109		20 49	PP
SKALNATE PL.	124.78	326.4	19 3	1				20 51	PP
HUANCAYO	124.96	110.5	19 5K	3				21 21	PP
RACIBORZ	125.37	328.2	19 6	3				21 5	PP
ELISABTHVLE	125.60	249.7	19 5	2				20 56	PP
WESTON	125.81	42.5	19 6	2					
TIMISOARA	126.03	322.4	18 49	-15				21 15	
SOFIA	126.13	318.1	19 11	7	26 0	-9		21 7	PP
POTSDAM	126.41	332.9	17 51	-74				21 19	PP
BUENOS AIRES	126.48	144.1						21 3	PP
LWIRO	126.74	261.3	19 9K	3				22 52	
BELGRADE	126.97	321.7	19 9K	3	25 37	-35		21 13	
BRATISLAVA	127.08	326.8	19 6	0				21 0	PP
COLLMBERG	127.17	331.9	17 47	-79	24 50	-82		20 43	PP
PRUHONICE	127.29	329.9	19 10A	3	26 23	11		21 2	PP
PRAGUE	127.29	330.0	19 14	7	26 47	35		21 10	PP
HALLE	127.52	332.7	19 9	2				21 4	PP
ATHENS	127.82	312.6	19 9K	1					
ABERDEEN	127.98	345.3			26 5	-9		21 12	PP
JENA	128.08	332.4	19 7	-1				21 24	PP
PLAUEN	128.11	331.6	19 29	21				21 12	
CHEB	128.29	331.1			26 2	-13		21 14	PP
CHINCHINA	128.30	89.8	19 11	2				21 17	PP
SONNEBERG	128.64	332.1	19 10	1				21 11	PP
WITTEVEEN	128.79	336.9	19 13	3				21 27	PP
GALERAZAMBA	129.02	82.5						21 14	PP
MUNSTER	129.06	335.6	19 12	2				21 23	PP
ZAGREB	129.07	324.9	19 16	6				21 32	PP
HALI FAX	129.57	36.5	19 15K	4				21 21	PP
LJUBLJANA	129.75	326.0	19 10A	-1				21 34	PP
LA PAZ	129.80	119.0	19 15	4				21 27	PP
BOGOTA	129.80	90.5	19 16	5	26 19	0		21 31	PP
DE BILT	129.93	337.2	19 14	2				21 23	PP
DURHAM	129.96	343.5	19 13K	1				21 38	PP
WINDHOEK	129.96	231.9	19 16	4					
BENSBERG	130.00	335.0	19 14	2				21 33	PP
TOLMEZZO	130.36	327.2	19 16	3				22 40	
TRIESTE	130.42	326.0	19 17	4	26 18	-3		21 27	PP
STUTTGART	130.66	331.7	19 14	1				21 31	PP
TUBINGEN	130.93	331.6	19 15	1				21 31	PP
RAVENSBERG	131.19	330.6	19 17	3				21 32	PP
EBINGEN	131.22	331.3	19 15	1				21 32	PP
UCCLE	131.27	336.6	19 15	1				21 32	PP
STRASBOURG	131.49	332.5	19 13	-2	26 27	4		21 33	PP
DOURBES	131.72	335.9	19 21	6				22 41	PKS
CHUR	131.87	329.7	19 12K	-3				21 35	PP
BASLE	132.34	331.6	19 18	2				21 38	PP
KEW	132.42	340.4	19 16	0				21 41	PP
RATHFARNHAM	132.51	345.9	19 18	1				22 21	PP
PRATO	133.00	325.7	18 12	-66	27 11	44			
NEUCHATEL	133.02	331.5	19 21	3				21 44	PP
PAVIA	133.19	328.3	19 19	1				22 26	PP
ROME	133.42	322.7	19 19	1				21 49	PP
MESSINA	133.49	316.7	19 13	-5	26 24	-4		21 43	PP
OROPA	133.50	329.5	19 40	22					
PARIS	133.58	336.3	19 21	2				21 48	PP
BERMUDA	134.79	51.5	19 21	0				21 53	PP
MONACO	135.09	328.0	19 19	-2				22 0	PP
CLERMONT-FD.	135.70	333.2	19 21	-2				23 1	PKS
CARACAS	137.21	83.0	19 29K	4					

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SAN JUAN	137.42	71.4	19 28K	2				22 11	PP
BANGUI	137.85	267.9	20 23	57				24 5	
TORTOSA	140.73	330.6	19 39	7				23 13	PP
SETIF	141.27	321.1	19 30	-3				22 35	PP
ALGIERS UNI.	142.31	323.8	19 32	-2	26 43	0		22 43	PP
FORT FRANCE	142.63	76.0	19 31	-4				22 39	
TRINIDAD	142.65	82.7	19 27	-8				24 54	
ST. VINCENT	142.66	78.6	19 28	-7				24 51	
ALICANTE	143.10	329.0	19 31	-5	26 39	-5		22 41	PP
TOLEDO	143.57	334.2	19 35K	-2	26 51	6		22 51	PP
SERRA PILAR	144.23	340.4	19 34	-4	26 42	-4		22 50	PP
BARBADOS	144.28	78.4	19 39	1					
RELIZANE	144.46	325.0	19 36	-2	27 55	69		22 57	PP
COIMBRA	145.00	339.5	19 41	2					
ALMERIA	145.26	329.4	19 39	0	26 30	-17		22 59	PP
GRANADA	145.56	331.0	19 41K	1	26 8	-40		23 8	PP
LISBON	146.57	339.2	19 45K	3				23 1	PP
TAMANRASSET	148.27	301.2	19 46A	2	27 2	11		23 18	PP
ANGRA DO HO.	149.13	5.5	19 53	7				20 5	PKP2
PONTA DELGDA	150.17	3.2	19 58A	11				20 11	PKP2
MBOUR	170.76	315.4	20 16	7				25 22	PP

AUGUST 18 0.H 30.M 3.S EPICENTRE 0.11 123.17 DEPTH= 192.KM

A=-0.54718 B= 0.83702 C= 0.00197 D= 0.8370 E= 0.5472  
G=-0.0011 H= 0.0016 K=-1.0000 HT= 7.2

DEPTH OF FOCUS= 0.025R

SE= 1.47

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
BAGUIO CITY	16.40	351.2	3	39	-1	5	25	-71				
LEMBANG	16.98	245.7	3	45A	-2						6	51
DJAKARTA	17.47	248.7	4	23K	30						7	5
HONG KONG	23.73	338.9	4	59A	3							
MEDAN	24.72	278.3	5	6K	1							
CANTON	24.76	337.9	5	6	1							
GUAM	25.15	57.3	5	10	1							
PORT MORESBY	25.67	112.2	5	13A	-1	9	43	17	5	51		
PHU-LIEN	26.16	322.8	5	18	0	9	52	18	6	12	7	14
RABAU	29.29	98.8	5	46	0						6	26
KUNMING	31.76	323.0	6	10A	2							
CHENG TU	35.42	330.8	6	39A	0							
ABUYAMA	36.47	17.3	6	48A	0							
CHITTAGONG	37.70	308.0	6	58A	0	12	32	-2	7	41	8	34 PP
ADELAIDE	37.81	159.0	6	59	0	12	36	1			8	27 PP
MATUSIRO	38.84	19.5	7	7A	-1							
SHILLONG	39.42	312.3	7	12	-1						10	9
BRISBANE	39.45	136.3	7	16	3						8	50
LANCHOW	40.02	335.3	7	19A	1							
PEKING	40.24	351.7	7	19A	0							
MIZUSAWA	42.17	20.9	7	50	15							
LHASA	42.42	316.7	7	40A	3							
RIVERVIEW	42.77	144.9	7	39	-1							
VLADIVOSTOK	43.52	9.3	7	46	0				8	42	9	30 PP
CHANGCHUN	43.57	2.2	7	45A	-1							
Y. -SAKHLINSK	49.74	17.5	8	35	1						9	55 PCP
POONA	51.75	293.6	8	48	-2							
DEHRA DUN	52.33	309.3	8	58	4							
IRKUTSK	54.33	345.9	9	8A	-1							
LAHORE	55.74	308.9	9	20A	1							
WARSAK DAM	58.88	310.5	9	41A	0							
PETROPVLOVK	60.43	23.8	9	51	0						12	21
FRUNSE	60.77	320.8	9	53	-1						11	55
QUETTA	61.16	304.7	9	54A	-2							
YAKUTSK	61.95	3.5	10	1	0							
SEMI PALATNSK	61.96	330.4	10	1	0	17	50	-19			11	42
STALINABAD	62.77	314.2	10	4	-3						12	25 PP
MAGADAN	63.07	15.4	10	9	0				11	5	12	28 PP
TASHKENT	63.57	317.2				18	9	-20				
MIRNY	69.87	192.4	10	51	-1	19	45	1			20	27 SCS
ASHKABAD	70.27	310.5	10	54	0						13	24
TIKSI	71.50	1.9	11	0	-1	20	36	33	11	46	19	27
SVERDLOVSK	75.22	329.7	11	22	-1	20	58	14			15	20
TANANARIVE	76.44	250.6	11	29A	-1							



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1959		PAGE 625									
CAPE HALLETT	78.09	166.8	11 40	1				12 20	12 28	*PPCP	
GORIS	79.78	310.0	11 48	0					15 8	PP	
TIFLIS	81.25	312.1	11 56	0					23 9	PS	
KHEYS	85.93	351.4							14 15		
MOSCOW	87.39	325.6	12 25	-1	23 33	45		13 11	24 23	PS	
KSARA	87.68	303.7	12 30	2							
SIMFEROPOL	89.25	314.8							32 57	SSS	
COLLEGE	89.47	25.3	12 35	-1							
APATITY	89.80	337.4	12 36A	-2	22 36	-35			15 51	PP	
SOUTH POLE	90.11	180.0	12 39	0				13 20	18 6	PPP	
PULKOVO	91.35	329.6	12 44	-1					32 33	SSS	
SODANKYLA	92.42	337.4	12 48	-2							
HELSINKI	93.99	330.3	13 0	3							
NURMI JARVI	94.10	330.6	12 56	-1							
BULAWAYO	94.33	249.9	12 59	0							
BROKEN HILL	94.58	255.6	13 1	1							
KIRUNA	94.70	338.2	12 59	-1							
BYRD STATION	94.70	171.1	13 1	1				13 43			
ELISABTHVLE	95.61	258.4	13 5	1							
LWOW	95.82	320.0							25 59	PS	
NORD	96.34	354.5	13 6	-2							
SKALSTUGAN	99.08	335.0	13 18	-2							
THULE	103.28	2.8							18 8	PP	
SETIF	112.07	309.4	17 58	-14							
EUREKA	113.31	46.3	18 15	0							
PASADENA	113.37	52.4	18 15	0							
TAMANRASSET	115.31	295.3	18 21	3					19 19	PP	
RAPID CITY	119.73	36.9	18 29	2					19 55	PP	
TUCSON	119.80	52.2	18 31	4					20 4	PP	
LUBBOCK	126.09	46.9	18 42	3							
LAWRENCE	127.55	37.7	18 43	1							
DALLAS	130.11	45.0	18 49	2							
SEVEN FALLS	131.39	12.7	18 52	3							
SHAWINIGAN	131.47	14.7	18 51	1							
OTTAWA	131.70	17.8	18 51	1							
MORGANTOWN	135.15	25.5	18 58K	2					19 11	PP	
WASHINGTON	136.96	23.3	19 5	5							
COLUMBIA	139.17	31.4	18 55	-9							
HUANCAYO	158.14	123.5	19 39	6							
LA PAZ	160.27	146.2	19 41A	5	26 23	3			22 49	PKS	
CHINCHINA	160.56	74.7	19 43	7					23 29	SKP	
BOGOTA	162.14	74.5	19 46	8	26 45	23			23 31	SKP	
TRINIDAD	168.38	22.9	19 43	0							

AUGUST 18 O.H 34.M 5.S EPICENTRE 22.24 121.63 DEPTH= 190.KM

A=-0.48589 B= 0.78883 C= 0.37637 D= 0.8514 E= 0.5244  
G=-0.1974 H= 0.3205 K=-0.9265 HT= 4.1

DEPTH OF FOCUS= 0.025R

SE= 3.13

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S		
TAITUNG	0.67	318.6	0	25	-2	0	45	-4				
TAMU	0.69	279.0	0	23	-5	0	41	-8				
HENGCHUN	0.85	253.6	0	45	17							
HSINKONG	0.89	344.2	0	24	-4	0	42	-8				
KAOSIUNG	1.31	286.8	0	29	-3	0	48	-8				
YUSHAN	1.38	333.1	0	35	3	0	55	-2				
ALISHAN	1.48	329.0	0	38	5	1	1	2				
TAINAN	1.51	300.2	0	32	-1	0	55	-4				
HWALIEN	1.72	359.7	0	34	-1	1	9	6				
TAICHUNG	2.09	335.4	0	37	-2	1	7	-2				
PENGHU	2.31	304.1	0	35	-7	1	7	-7				
ILAN	2.52	2.5	0	48	4	1	23	5				
HSINCHU	2.62	346.7	0	41	-4	1	19	-1				
TAIPEI	2.77	357.9	0	45	-2							
HONG KONG	6.91	271.9	1	39	-1	2	53	-5				
CANTON	7.70	277.9	1	50A	0	3	14	-2				
ZO-SE	8.83	357.5	1	57A	-8							
YAKUSIMA	11.40	42.4	2	45	7						5 17	
TOMIE	12.12	30.0	2	47	0							
KAGOSIMA	12.22	38.7	2	47	-2	4	46	-15				
NAGASAKI	12.75	33.2	2	53K	-2	5	17	3				

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1959										PAGE 626
HIYAZAKI	12.99	40.0	2 57	-1	5 34	15				
KUMAMOTO	13.25	35.4	3 5	3						
SAGA	13.37	33.1	3 5	2						
HUKUOKA	13.68	32.5	3 5	-2	5 18	-17				
OOITA	14.06	36.8	3 11	-1	5 59	16			4 34	
KOTI	15.40	40.4	3 32	4	6 19	6				
HAMADA	15.58	33.7	3 31	1	6 21	4				
TOKUSIMA	16.39	41.2	3 41	1	6 45	9				
MATSUE	16.52	34.7	3 47	5						
YONAGO	16.65	35.4	3 44	1	7 1	20				
SIOMISAKI	16.74	45.2	3 45	0	6 56	13				
SUMOTO	16.77	41.2	3 47K	2	6 59	15			5 6	
WAKAYAMA	16.86	42.0	3 49	3	7 0	14				
KOBE	17.16	40.9	3 52	3	7 7	15				
OSAKA	17.36	41.6	3 40	-12	7 14	17			5 49	
OWASE	17.41	44.3	3 51	-1	7 10	12				
ABUYAMA	17.53	41.1	3 53K	0						
KUNMING	17.54	283.1	3 59A	5	7 13	13				
TOYOOKA	17.54	38.1	3 54	0	7 12	12				
NARA	17.56	42.1	3 56	2	7 20	19				
KYOTO	17.73	41.0	3 49	-7					4 58	
CHENG TU	17.85	301.7	4 0A	3						
KAMEYAMA	18.07	42.8	4 1	2	7 29	17				
HIKONE	18.21	41.4	4 0	-1	7 24	10				
PEKING	18.33	346.6	4 0A	-2						
NAGOYA	18.59	42.8	4 7	2	7 37	15				
GIHU	18.62	41.9	4 4	-1	7 30	8				
HUKUI	18.72	39.5	4 7	1						
OMAESAKI	19.06	46.2	4 8	-2	7 43	12				
HATIDYOZIMA	19.35	52.1	4 14	1						
IIDA	19.36	43.4	4 14	1	7 47	10				
SHIZUOKA	19.39	45.5	4 14	1	7 49	12				
TOYAMA	19.74	39.7	4 20	3	7 54	10				
MISIMA	19.85	46.0	4 18K	0	7 46	0				
MATUMOTO	19.91	41.9	4 20	2	8 13	26				
KOHU	19.92	44.1	4 19	1	8 0	13				
OSIMA	19.94	47.4	4 18	-1	8 1	14			5 3	
HUNATU	19.95	44.8	4 21	2	8 0	12				
WAZIMA	20.03	37.8	4 21	1	7 59	10				
MATUSIRO	20.24	41.6	4 21K	-1	8 0	7			4 49 PP	
OIWAKE	20.32	42.6	4 29	7	8 5	11			6 14	
NAGANO	20.32	41.3	4 23	1	8 3	9				
NERA	20.33	47.6	4 30	7						
TITIBU	20.44	44.1	4 25	1	8 16	19				
YOKOHAMA	20.49	46.2	4 21	-3	8 25	28				
TAKADA	20.63	40.5	4 25	-1						
MAEBASI	20.69	43.2	4 24	-2	8 20	19				
TOKYO C.M.O.	20.70	45.7	4 23	-3	8 11	10				
LANCHOW	20.71	315.5	4 28	2						
KUMAGAYA	20.74	44.2	4 22	-5	8 26	24				
PAOTOW	20.75	334.4	4 28	1						
TUKUBASAN	21.25	45.0	4 25	-7	8 25	14			4 50 PP	
UTUNOMIYA	21.29	43.9	4 27	-5						
MITO	21.58	45.1	4 34	-1					7 22	
NIIGATA	21.65	39.9							9 8	
CHANGCHUN	21.74	7.2	4 38A	2						
SHIRAKAWA	21.86	43.2	4 38	0	8 25	3				
ONAHAMA	22.20	44.4	4 41	0	8 36	8				
HUKUSIMA	22.41	42.2	4 47	4	8 36	5				
SAKATA	22.76	39.0	4 46	0						
SENDAI	22.99	41.7	4 49	0	8 44	3				
ISINOMAKI	23.35	41.9	4 50	-2	8 49	2			6 1	
AKITA	23.46	37.9	4 52	-1					7 46	
GUAM	23.64	107.8	5 53	58	8 53	1				
MIZUSAWA	23.68	40.3	4 54	-1	8 56	3				
MORIOKA	24.07	39.3	4 56	-3	9 9	10				
MIYAKO	24.51	40.3	5 0	-3	9 10	3				
TOCKLAI	24.83	285.8	6 17	71						
MORI	25.37	34.3	5 11	0						
MURORAN	25.74	34.5	5 13	-1						
TOMAKOMAI	26.27	34.7	5 21	2						
SAPPORO	26.46	33.7	5 19	-2	9 1	-38			11 35	
OBIIHRO	27.34	36.0	5 31	2					9 52	
ASAHI GAWA	27.49	33.8	5 34	4						
CHITTAGONG	27.56	276.0	5 26	-5	10 3	6			6 12 PP	
KUSIRO	28.04	37.2	5 34	-1						
ULAN-BATOR	28.21	338.8	4 32A	-65						
ABASHIRI	28.66	35.4	5 13	-28						
NEMURO	28.93	37.8	5 43	0						

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1959		PAGE 627									
MEDAN	28.98	233.5	5	54K	10						
Y.-SAKHLINSK	30.01	29.5	4	31	-82						
UGLEGORSK	31.31	26.2	4	44	-80						
BOKARO	32.96	279.8								11	28
RABAU	39.78	127.6	7	16	0						
PORT MORESBY	40.19	138.8	7	18	-1	13	12	1		8	1
POONA	44.80	274.3	7	57	1	14	21	3		8	39
CHARTERS TS.	48.47	148.4	8	22A	-3	15	10	0			
QUETTA	49.30	291.3	8	32K	1	15	31	9		10	21 PP
BRISBANE	57.81	147.1	9	22	-11	17	20	4			
ADELAIDE	59.17	163.7	9	40	-3	17	35	2		11	9 PP
RIVERVIEW	62.45	152.4	10	50K	45	18	36	21			
APATITY	68.98	335.7	10	45K	-1	19	37	3	11	51	15 40 PPP
COLLEGE	70.33	27.0	10	52	-3				11	37	
SODANKYLA	71.59	336.0	11	1	-1						
HONOLULU	73.62	73.3	11	15	1						
KIPAPA	73.66	73.2	11	15	1						
KIRUNA	73.75	337.2	11	13K	-2	20	32	4	12	0	
HELSINKI	74.20	328.9	11	17	0	20	38	5			21 4 SCS
NURMI JARVI	74.25	329.3	11	17	-1	20	37	3	12	4	11 39 PCP
NORD	74.30	354.2	11	14	-4						11 31 PCP
KSARA	74.59	300.6	11	21	1	20	31	-7	12	2	14 18 PP
UPPSALA	77.78	329.9	11	35K	-2	21	13	1	12	23	
SITKA	78.41	32.9	11	40	-1						
SKALSTUGAN	78.51	334.5	11	40K	-1				12	17	
BUCHAREST	78.55	313.3	11	50	9						
WARSAW	78.94	322.0	11	43	-1						14 48 PP
RESOLUTE	80.51	9.2	11	50K	-2	21	41	0			
SKALNATE PL.	80.56	319.3	11	43	-9						
SOFIA	81.04	312.4	11	55	0	21	52	6			14 54 PP
GOTEBORG	81.36	329.2	11	55K	-1				12	33	15 3 PP
THULE	81.37	2.4	11	57	1						
COPENHAGEN	82.08	327.3	12	0	0	22	2	5	12	48	
BELGRADE	82.15	315.2	12	2K	1						22 35 SCS
ATHENS	82.54	307.9	12	1A	-2						
BRATISLAVA	82.88	319.2	12	10	6						
TANANARIVE	83.15	246.5	12	6K	0				12	51	
VIENNA-H.	83.28	319.5	12	7K	1	22	15	6			
POTSDAM	83.31	324.2	12	8	2	22	15	6	13	1	15 59
PRUHONICE	83.58	321.6	12	8K	0	22	14	2			15 27 PP
PRAGUE	83.61	321.7	12	9	1	22	10	-2			23 9 PS
COLLMBERG	83.85	323.2	12	8	-1						15 26
SCORESBY SD.	84.04	348.4	12	10A	0						
HALLE	84.33	323.7	12	11	-1	22	17	-2	12	59	15 30 PP
ZAGREB	84.59	317.4	12	14	1						12 26 PCP
PLAUEN	84.70	322.8	12	12	-1						
CHEB	84.78	322.4	12	18	4	22	41	17			
JENA	84.81	323.4	12	13	-1	22	18	-6	13	2	15 32 PP
SONNEBERG	85.29	323.0	12	16	0				12	58	
LJUBLJANA	85.40	318.1	12	16K	-1						13 49
TRIESTE	86.06	318.0	12	19	-1	22	41	5	13	8	15 45 PP
MUNSTER	86.42	325.5	12	22	0						
WITTEVEEN	86.45	326.5	12	22	0						
STUTTGART	87.18	322.2	12	25	0	22	49	2			15 53 PP
BENSBERG	87.20	324.8	12	25	0						
TUBINGEN	87.43	322.1	12	25	-2						
RAVENSBERG	87.50	321.3	12	26	-1						
ALBERNI	87.60	36.9	12	27	0						
DE BILT	87.61	326.4	12	29	2	22	57	6			15 56 PP
EBINGEN	87.66	321.8	12	29	1						
CHUR	88.02	320.5	12	29	0						
STRASBOURG	88.14	322.6	12	30A	0	23	0	4			15 5 PP
MESSINA	88.30	310.8	12	34K	3	23	2	5			24 0 PS
HORSESHOE B.	88.39	36.3	12	30K	-1						
PRATO	88.57	317.4	12	30	-2	23	8	8			
ROME	88.65	315.1	12	32K	0	23	14	14			24 8 PS
UCCLE	88.77	325.7	12	34	1	23	4	3			
VICTORIA	88.78	37.1	12	39K	6						
DOURBES	89.04	325.0	12	33	-1						
DURHAM	89.27	331.0	12	24A	-11						20 19
REYKJAVIK	89.35	344.9	12	36	0						
KEW	90.75	327.9	12	42	0	23	23	4			16 22 PP
PARIS	90.91	324.7	12	43K	0						16 24 PP
MONACO	90.92	318.6	12	44	1						
CORVALLIS	90.99	40.3	12	44A	1						
BANFF	91.36	32.0	12	49A	4						
GARCHY	91.49	323.3	12	44	-2						
RATHFARNHAM	92.33	331.7	12	48A	-2						16 34

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1959		PAGE 628									
CLERMONT-FD.	92.33	322.0	12	52	2						
FOLINIÈRE	92.50	325.9	12	50	0						
SHASTA	93.67	43.2	12	56K	0						
HUNGRY HORSE	93.91	33.5	12	56	-1	13	39				
MINERAL	94.37	43.2	12	58K	-1					16	47
BERKELEY	95.31	45.5	13	3	0					16	54
RENO	95.96	43.1	13	6	0						
LICK	96.02	45.7	13	6K	0					17	0 PP
BUTTE	96.18	34.6	13	4	-3						
SETIF	96.31	313.1	13	7	-1						
BOZEMAN	97.21	34.2	13	29	17						
FRESNO	97.55	45.3	13	15	2						
ALGIERS UNI.	97.56	314.7	13	12	-1	24	13	42		17	14 PP
ELISABTHVLE	98.13	260.8	13	15	-1						
EUREKA	98.39	41.3	13	17	0					30	15 PKKP
RELIZANE	99.80	315.0	13	11	-13					17	22 PP
CAPE HALLETT	99.85	166.5	13	24	0					17	28 PP
GRANADA	101.56	318.2								17	41 PP
RAPID CITY	102.28	31.3								17	45 PP
TAMANRASSET	103.38	301.6	13	41	2	25	14	75		18	3 PP
TUCSON	106.17	44.4	18	16	777						
SEVEN FALLS	110.05	9.0	17	59	-9						
SHAWINIGAN	110.30	10.5	17	59	-10						
OTTAWA	110.85	13.0	17	59	-11						
SOUTH POLE	112.11	180.0	18	12	0					18	52 PP
BYRD STATION	116.65	170.2	18	21	0					28	49 PS
WASHINGTON	116.70	16.3	18	18	-3						
HALLEY BAY	124.23	189.2	18	34	-2						
ARGENTINE I.	136.83	176.4	19	0	0						
ST. VINCENT	144.69	4.9	19	12	-2						
BARBADOS	144.84	2.1	19	17	3						
GRENADA	145.76	5.9	19	19	3						
CARACAS	146.39	15.3	19	19K	2					19	59
TRINIDAD	147.18	5.5	19	16	-2					20	5
PORT STANLEY	150.59	180.6	19	31	8						
HUANCAYO	160.90	60.7	19	40	4					20	26 PKP2

AUGUST 18 6.H 37.M 15.S EPICENTRE 44.67-110.83 DEPTH= 0.KM  
 A=-0.25379 B=-0.66691 C= 0.70059 D=-0.9346 E= 0.3557  
 G=-0.2492 H=-0.6548 K=-0.7136 HT= -3.4  
 SE= 3.12

	DELTA DEG.	AZ. DEG.	P		O-C S	S O-C			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
BOZEMAN	1.01	351.4	0	35A	13							
BUTTE	1.82	318.5	0	28A	-5							
SALT LAKE C.	3.97	191.2	1	5A	1							
HUNGRY HORSE	4.29	330.2	1	3K	-5							
RAPID CITY	5.50	93.5	1	27K	1							
EUREKA	6.44	218.2	1	35A	-4							
RENO	8.41	235.6	2	3A	-3							
CORVALLIS	8.89	273.8	2	11K	-2							
MINERAL	9.04	245.2	2	13A	-2							
BOULDER CITY	9.20	200.7	2	18A	1							
SHASTA	9.39	249.0	2	18A	-2							
TINEMAHA	9.44	218.9	2	21	0	5	4	55		2	42	
HAIWEE	10.09	214.9	2	34	4	5	26	61				
CHINA LAKE	10.23	212.6	2	32	0							
FRESNO	10.41	223.8	2	34A	0							
ARCATA	10.45	253.4	2	35A	1							
ISABELLA	10.72	215.6	2	39	1							
UKIAH	10.76	243.3	2	37K	-2	4	51	10				
WOODY	10.85	217.1	2	39	-1							
BERKELEY	10.95	235.6	2	40A	-1							
LICK	10.96	231.8	2	40A	-1							
SAN FRANCISCO	11.13	235.8	2	47	3							
BRANNER	11.21	233.7	2	43	-2							
VINEYARD	11.24	228.9	2	48	3							
KING RANCH	11.55	219.2	2	50	0							
HAYFIELD	11.55	200.4	2	52	2					6	28	
RIVERSIDE	11.80	207.6	2	54	1					6	14	
PASADENA	11.93	210.8	2	55A	0	5	7	-3		6	7	
PALOMAR	12.23	204.5	3	1	2							
TUCSON TELE.	12.31	179.5	3	3A	3							

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TUCSON	12.40	180.0	3	3A	2				
BARRETT	12.80	202.8	3	7	1				
SAN NICOLAS	13.24	213.5	3	13	1				
FAYETTEVILLE	15.29	118.4	3	35	-4				
FLORISSANT	16.35	103.9	3	51K	-2				
CHIHUAHUA	16.45	165.1	3	43	-11	6	49	-8	3 55 PP
ST. LOUIS 1	16.52	104.2	3	53	-2				
SITKA	19.68	317.7	4	32K	-2	8	18	8	
CLEVELAND	21.59	88.2	4	53	-1	8	51	2	
MAZATLAN	21.74	168.9	4	49K	-6	8	49	-3	5 41
PENNSYLVANIA	24.42	87.5	5	22	0				
LEON	24.68	159.1	5	9	-15	9	27	-17	7 3
OTTAWA	24.71	75.8	5	25K	1	9	49	5	9 27
GUADALAJARA	24.72	163.0	5	17	-7	9	53	8	13 17
COLUMBIA	25.26	104.6	5	30A	0				
WASHINGTON	25.71	91.1	5	37A	3				
MANZANILLO	26.11	165.9	5	30	-8	10	6	-2	7 28
BREBEUF	26.14	74.9	5	37K	-1	10	17	9	
SHAWINIGAN	26.53	72.3	5	41K	0	10	13	-2	
TACUBAYA	27.00	155.2	5	47	1	10	25	3	6 18 PP
PALISADES	27.17	84.6	5	46	-1	10	30	5	7 46
PUEBLA	27.65	153.5	5	45	-7	10	45	12	6 21 PP
SEVEN FALLS	27.74	70.6	5	53	0	10	43	9	
VERA CRUZ	28.20	149.5	5	49	-8	10	37	-5	6 29 PP
COLLEGE	28.73	327.7	5	58K	-3				
MERIDA	29.45	136.5	6	14K	6	11	18	16	7 12 PPP
RESOLUTE	30.93	8.2	6	16K	-5	11	23	-2	
COMITAN	32.43	144.9	6	33	-1	11	55	6	14 27
HALIFAX	33.24	73.1	6	43A	2	12	4	3	
SAN SALVADOR	35.97	142.4	7	9	4	13	30	46	
THULE	36.39	15.6	7	13	5				
BERMUDA	37.66	92.8	7	17	-2	13	24	15	12 5
CIUD. TRUJL.	42.93	114.1	8	10	8				
BALBOA HTS.	44.69	133.2	8	17A	0	15	14	20	
KIPAPA	45.07	254.9	8	14	-6				
HONOLULU	45.21	254.8	8	24A	3	14	13	-48	
SAN JUAN	45.48	110.4	8	22K	-1	15	37	32	10 29 PP
GALERAZAMBA	45.53	126.8	8	18	-5				
NORD	46.74	11.6	8	30	-3	15	18	-5	10 23 PP
SCORESBY SD.	48.36	26.7	8	49	3	15	49	3	
CHINCHINA	50.13	131.5	8	59A	0	16	23	12	
REYKJAVIK	50.55	34.6	9	7A	4	16	35	18	11 11 PP
CARACAS	50.77	118.3	9	4K	0	16	20	0	
BOGOTA	51.25	130.1	9	9A	1	16	41	15	
FORT FRANCE	51.41	109.3	9	10	1	16	44	16	
ST. VINCENT	52.45	110.8	9	15	-2				
GRENADA	52.96	112.1	9	21	0				
BARBADOS	53.61	109.3	9	26	0				
TRINIDAD	54.21	113.0	9	25	-5	16	40	-27	
KHEYS	54.81	2.2	9	31	-3				10 15
PETROPAVLOVK	56.33	313.5	9	40	-5				17 42 PS
TIKSI	56.61	340.9	9	42	-5				17 48 PS
MAGADAN	56.63	322.9	9	44	-4				17 47 PS
ANGRA DO HO.	60.13	63.8	10	19	7	18	48	23	13 52 PPP
PONTA DELGDA	61.66	63.9	10	29A	7				10 38
KIRUNA	62.00	18.9	10	21	-4	18	45	-3	12 44 PP
ABERDEEN	62.44	35.6	10	28K	0	19	13	19	12 53 PP
EDINBURGH	62.79	37.1	10	29	-1	18	59	1	12 49 PP
RATHFARNHAM	63.08	40.7	10	34K	2	19	1	-1	12 59 PP
YAKUTSK	63.11	332.6	10	28	-4				12 54 PP
SKALSTUGAN	63.12	24.8	10	33K	1				39 36 PKPPKP
BERGEN	63.12	30.0	10	29	-3	19	10	7	23 4 SS
SODANKYLA	63.74	17.0	10	32	-4	19	18	8	12 56 PP
DURHAM	64.24	37.4	10	36K	-3	19	25	9	13 21 PP
APATITY	64.89	14.3	10	40K	-4	19	22	-2	10 44 13 7 PP
HUANCAYO	64.98	141.2	10	45	1	19	36	10	
KEW	67.03	39.5	10	56	-1	19	58	7	13 31 PP
GOTEBORG	67.46	29.2	11	1K	1				39 19 PKPPKP
UPPSALA	67.62	25.3	10	57K	-4	19	58	0	13 27 PP
JERSEY	67.77	42.2	11	2	0	19	54	-6	
Y.-SAKHLINSK	68.12	315.0	11	1	-3				13 38 PP
FOLINIERE	68.83	41.7	11	6	-3				
DE BILT	69.00	36.4	11	8K	-2	20	18	4	13 49 PP
NURMI JARVI	69.08	21.8	11	7	-3	20	20	5	25 2 SS
WITTEVEEN	69.10	35.2	11	8	-2				
NEMURO	69.10	310.6	11	11	1	20	15	0	27 55
COPENHAGEN	69.17	30.4	11	9K	-2	20	20	4	13 36 PP
HELSINKI	69.45	21.9	11	9	-3	20	16	-4	20 47 PS
UCCLE	69.59	37.8	11	12	-1	19	43	-38	

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WAKKANAI	69.74	314.3	11 18	4	20 26	3	
SERRA PILAR	69.83	51.9	11 13K	-2	20 24	0	13 50 PP
KUSIRO	69.97	310.9	11 14K	-2	20 32	6	
MUNSTER	70.12	35.3	11 15	-1			
PARIS	70.19	40.2	11 16K	-1	20 33	5	
ASAHIGAWA	70.51	312.6	11 20	1			
COIMBRA	70.55	52.5	11 21	2	20 33	1	25 9 SS
OBIHIRO	70.66	311.5	11 20	0			
BENSBERG	70.68	36.3	11 18	-2	20 55	21	
HIROO	71.03	311.0	11 31	9			
LISBON	71.13	54.1	11 21K	-2	20 45	6	11 35 PCP
PULKOVO	71.15	19.6	11 20	-3	20 44	5	13 59 PP
URAKAWA	71.42	311.2	11 26	2	20 46	4	
SAPPORO	71.54	312.6	11 19	-6	20 21	-23	13 56 PP
GARCHY	71.56	41.0	11 22	-3	20 54	10	
TOMAKOMA I	71.72	312.2	11 30	4			18 10
POTSDAM	71.97	32.3	11 26	-2	20 50	1	15 49 PPP
HALLE	72.22	33.5	11 27	-2	20 47	-5	14 17 PP
LA PAZ	72.22	136.9	11 29	0	20 55	3	14 7 PP
MURORAN	72.26	312.3	11 31	2			14 12
SUTTSU	72.31	313.1	11 29	-1	20 54	1	16 8 PPP
JENA	72.52	34.1	11 29	-2	20 56	1	14 13 PP
MORI	72.63	312.3	11 31	-1	20 59	3	
CLERMONT-FD.	72.69	42.1	11 32	0	21 8	11	
STRASBOURG	72.73	37.6	11 31	-1	21 1	4	14 15 PP
HAKODATE	72.73	312.0	11 31	-1			
COLLMBERG	72.79	33.1	11 30	-3	21 8	10	16 12 PPP
SONNEBERG	72.79	34.6	11 29	-4	21 8	10	14 15 PP
TOLEDO	73.21	50.3	11 33	-2	21 12	9	14 25 PP
HATINOHE	73.22	310.6	11 35	0	21 10	7	
STUTTGART	73.23	36.7	11 33	-2	21 16	13	14 30 PP
HATINOHE	73.22	310.6	11 35	0	21 10	7	
STUTTGART	73.23	36.7	11 33	-2	21 16	13	14 30 PP
TUBINGEN	73.33	37.0	11 37	1	21 16	12	
AOMORI	73.42	311.3	11 36	0			18 50
BASLE	73.44	38.5	11 40	4	21 10	5	
CHEB	73.50	34.2	11 39	2	21 11	5	14 26 PP
EBINGEN	73.55	37.3	11 34	-3	21 18	11	
NEUCHATEL	73.55	39.2	11 39	2	21 14	7	16 7
MIYAKO	73.60	309.7	11 36	-1	21 9	2	
MORIOKA	74.00	310.2	11 39	-1	21 15	3	
RAVENSBURG	74.14	37.2	11 39	-1	21 23	10	
PRAGUE	74.32	33.1	11 40K	-1	21 27	12	14 49 PP
MIZUSAWA	74.42	309.8	11 45	3	21 21	4	
PRUHONICE	74.44	33.1	11 35K	-7	21 22	5	14 38 PP
AKITA	74.57	310.9	11 44K	1	21 21	3	
CHUR	74.82	37.9	11 47K	3	21 29	8	14 52 PP
SINOMAKI	74.82	309.2	11 45	1	21 38	17	
WARSAW	74.96	28.3	11 44	-1	21 20	-2	14 32 PP
TORTOSA	74.98	47.0	11 48	3	21 33	10	
OROPA	75.06	39.5	11 51	5	21 34	10	
SENDAI	75.16	309.4	11 47K	1	21 27	2	
SAKATA	75.30	310.4	11 50	3	21 44	18	
GRANADA	75.36	52.0	11 50A	3	21 33	6	14 55 PP
BARCELONA	75.38	45.7	11 53	5	21 47	20	
YAMAGATA	75.48	309.7	11 49	1			
RACIBORZ	75.74	31.1	11 56	6	21 40	9	
HUKUSIMA	75.77	309.2	11 50	0	21 37	6	
PAVIA	75.94	39.2	11 54	3	21 44	11	14 45 PP
ONAHAMA	76.10	308.4	11 52	0	21 45	10	
ALMERIA	76.23	51.6	11 52A	0	21 29	-7	14 48 PP
VLADIVOSTOK	76.24	317.9	11 49	-3	21 48	11	11 57 PCP
ALICANTE	76.25	49.4	11 52	0	21 32	-5	14 42 PP
MONACO	76.25	41.1	11 54	2			
SHIRAKAWA	76.36	308.9	11 54	1			
KRAKOW	76.40	30.2	11 51	-2	21 46	8	
NIIGATA	76.43	310.2	11 56	3	21 7	-32	
MOSCOW	76.49	17.7	11 51	-3			14 48 PP
VIENNA-H.	76.54	33.2	11 53	-1	21 43	3	14 55 PP
TOLMEZZO	76.67	36.2	12 3	8			12 56
MITO	76.75	308.2	11 57	2	21 45	3	
AIKAWA	76.79	310.7	11 56	1	21 35	-8	
BRATISLAVA	76.89	32.8	11 55K	-1	21 54	10	15 3 PP
UTUNOMIYA	76.97	308.7	11 57	1	21 49	5	
KAKIOKA	77.02	308.3	11 57	0			
TUKUBASAN	77.08	308.4	11 52K	-5	21 41	-5	14 51 PP
SKALNATE PL.	77.24	30.5	12 0A	2	21 58	11	27 27 SS
BOLOGNA	77.44	38.4	12 1	2	22 5	15	



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TAKADA	77.46	310.1	12	0	1						
MAEBASI	77.52	309.1	12	OK	0	21	56	6			
HURBANOVO	77.56	32.4	11	45	-15	21	53	2		22	33 PS
TRIESTE	77.57	36.3	11	59	-1	22	0	9		15	7 PP
LJUBLJANA	77.57	35.6	12	2	2	21	34	-17		14	41 PP
HONGO	77.63	308.2	12	1	1	21	51	-1			
TOKYO C.M.O.	77.66	308.2	12	2	2	21	53	1		15	11 PP
NAGANO	77.80	309.8	12	3	2	21	59	5		15	25 PP
TITIBU	77.82	308.8	12	2A	1	21	59	5			
PRATO	77.82	38.9	12	4	3	22	0	6			
OIWAKE	77.86	309.4	12	5	4	22	5	11		14	32
MATUSIRO	77.89	309.7	11	58K	-4	21	57	3		16	51
YOKOHAMA	77.90	308.1	12	3	1					21	33
WAZIMA	77.99	311.1	12	4	2	22	1	5			
LWOW	78.01	28.0				22	2	6			
HERA	78.17	307.6	12	5	2					21	35
BUDAPEST	78.19	32.1								15	0 PP
MATUMOTO	78.23	309.7	12	5	2	22	14	16			
TOYAMA	78.33	310.4	12	4	0	22	0	1			
KOHU	78.33	308.9	12	5	1	22	3	4			
HUNATU	78.34	308.7	12	3	-1	22	14	15			
ZAGREB	78.36	34.9	12	OK	-4	21	59	-1		12	28 PCP
AJIRO	78.48	308.1	12	7	2						
MISIMA	78.52	308.3	12	5	0	22	7	6			
OSIMA	78.53	307.8	12	9	4	22	3	2			
SVERDLOVSK	78.62	4.8	12	3	-3					15	10 PP
TAKAYAMA	78.70	310.0	12	6	0						
RELIZANE	78.71	50.6	12	6	0					15	13 PP
CHANGCHUN	78.71	322.2	12	1K	-5					22	2
IRKUTSK	78.80	338.9	12	3A	-4					15	13 PP
IIDA	78.85	309.2	12	12	5						
KECSKEMET	78.92	32.1	12	16	9	22	10	5			
SHIZUOKA	78.93	308.5	12	8	1	22	16	10			
OMASAKI	79.30	308.4	12	10	1	22	14	4		19	5
ALGIERS UNI	79.31	48.3	12	7	-2	22	15	5		15	11 PP
HAMAMATU	79.50	308.8	12	25	15						
GIHU	79.52	309.8	12	12K	2	22	13	1			
CUGLIERI	79.52	42.7	13	15	64					23	25
NAGOYA	79.58	309.5	12	12	1	22	15	3			
HIKONE	79.90	310.0	12	14	1	22	21	5			
ROME	80.01	39.3	12	12	-1	22	20	3	12	21	15 24 PP
KAMEYAMA	80.09	309.6	12	15	1	22	19	1		15	9 PP
APIA	80.18	239.5	12	19	5	22	36	17		12	38 PCP
KYOTO	80.37	310.2	12	15	0	22	23	2			
TIMISOARA	80.47	31.8	12	22	6	22	34	12		27	33 SS
TOYOOKA	80.48	311.1	12	18	2	22	26	4			
NARA	80.57	309.9	12	19	3						
ABUYAMA	80.57	310.2	12	13K	-3						
OSAKA	80.75	310.1	12	20	3	22	33	8		17	48
SAIGO	80.77	312.5								12	57
OWASE	80.82	309.3	12	19	2	22	34	9			
TOTTORI	80.84	311.5	12	20	2	22	34	8			
KOBE	80.92	310.3	12	21	3	22	31	5		15	18 PP
BELGRADE	80.96	32.8	12	22K	4	22	38	11		15	37 PP
SETIF	80.98	47.3	12	20	2					15	32 PP
WAKAYAMA	81.27	310.0	12	22	2	22	35	5		15	30
SUMOTO	81.33	310.3	12	22K	2	22	36	5		15	44 PP
YONAGO	81.34	312.0	12	24	4	22	41	10		15	39 PP
MATSUE	81.47	312.1	12	24	3	22	43	11			
HIMEJI	81.48	310.7				22	39	7			
SIDIMSAKI	81.52	309.1	12	22	1	22	41	8			
TOKUSIMA	81.71	310.3	12	25	3						
BACAU	81.79	28.0	12	21	-1	22	55	20			
TAKAMATU	81.81	310.8	12	21	-2	22	40	4			
ULAN-BATOR	82.02	335.4	12	21K	-3	22	45	7			
CAMPULUNG	82.28	29.8	12	29	4	22	57	17	12	48	
MUROTO	82.54	310.0	12	29	3	22	52	9			
HIROSIWA	82.64	311.9	12	28	1	22	48	4			
FOCSANI	82.65	28.2	12	30	3	23	6	22		16	13 PP
KOTI	82.67	310.6	12	29	2	22	51	7		15	37 PP
MBOUR	82.74	77.1	12	33K	6					15	36 PP
MATUYAMA	82.85	311.3	12	32	4	22	49	3			
TARANTO	83.27	37.2	11	55	-35	22	15	-35			
BUCHAREST	83.39	29.5	12	35	4	23	4	12	12	53	15 57 PP
UWAZIMA	83.44	311.0				23	3	11			
SIMIDU	83.56	310.5	12	36	4	23	2	9			
SIMONOSEKI	83.75	312.5	12	34	1						
SOFIA	83.86	32.1	12	39	6	23	7	11		16	9 PP

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OOITA	83.94	311.6	12 31K -3				15 43
HUKUOKA	84.33	312.7	12 38K 2	23 12	11		16 14 PP
MESSINA	84.38	39.6	12 39 3	22 59	-3		15 11
ITUHARA	84.42	313.8	12 38 2				
REGGIO CALA.	84.51	39.6	12 37 1				23 10
SAGA	84.63	312.5	12 43 6				
KUMAMOTO	84.75	312.0	12 41 3				
SEMIPALATNSK	84.83	352.9	12 34 -4	22 49	-17		15 52 PP
UNZENAKE	85.06	312.2		22 47	-21		
MIYAZAKI	85.06	310.9	12 41K 2	23 14	6		16 2 PP
NAGASAKI	85.25	312.5	12 36A -4	23 10	0		
SIMFEROPOL	85.50	24.1	12 39K -2	23 23	10		15 57 PP
MAIZURU	85.60	306.0	12 18 -24				
PEKING	85.69	325.7	12 38K -4				15 56 PP
KAGOSIMA	85.80	311.3	12 44 1	23 9	-6		16 22 PP
YAKUSIMA	86.69	310.6	12 48 1	23 16	-8		15 52
PAOTOW	87.54	330.1	12 48 -3				16 15 PP
ATHENS	88.08	34.3	12 58A 4	23 30	-7		23 39 SKKS
SUVA	89.60	243.8	13 14 13				23 48
GUAM	90.62	289.6	13 3 -3	23 43	-17		
ZO-SE	90.95	317.5	13 2K -5				16 43 PP
TIFLIS	91.27	18.0	13 8 -1	23 53	-13		16 51 PP
NANKING	91.29	319.7	13 5K -4				16 35 PP
TAMARASSET	91.30	55.8	13 8 -1	24 8	2		16 51 PP
BUENOS AIRES	92.09	139.2	13 17 4				
FRUNSE	92.75	356.0	13 14 -2				23 51 SKKS
GORIS	93.73	17.5					17 8 PP
LANCHOW	93.74	332.5	13 16K -4				17 2 PP
TASHKENT	94.40	359.9	13 20 -3				17 11 PP
TAIPEI	95.77	313.8	13 34 4				
KSARA	96.23	27.4	13 32 0	24 51	43		17 25 PP
HWALIEN	96.59	313.1	13 39 6				
STALINABAD	97.14	0.3	13 36 0				
ASHKABAD	97.18	8.6	13 34 -2				17 41 PP
HSINKONG	97.43	312.8					18 45
TAINAN	98.11	313.6					17 51 PP
TAWU	98.29	312.7	14 2 21				
CHENG TU	98.58	330.1	13 43 1				17 45 PP
CANTON	101.42	319.1	13 55 0				18 4 PP
WARSAK DAM	101.67	358.0	13 57 1				
HONG KONG	101.71	318.0	14 2 6	25 49	73		18 9 PP
BAGUIO CITY	103.31	309.6	14 9 5	25 13	30		
LHASA	103.40	340.5	14 3 -1				18 23 PP
KUNMING	104.07	328.9	14 7 0				18 23 PP
DEHRA DUN	104.93	352.1		25 7	16		18 32 PP
PORT MORESBY	105.09	271.7	14 14 777				18 42 PP
TOCKLAI	105.17	336.4					18 41 PP
TUAI	105.37	230.4					28 2 PS
QUETTA	105.49	2.0	14 16 777	25 13	20		18 37 PP
KARAPIRO	105.65	232.0	18 46 777				
PORT STANLEY	106.31	148.8	18 45 777				
PHU-LIEN	106.41	323.6	14 21 777	25 5	8		18 41 PP
CHATRA	106.97	343.2	18 47 777				
SHILLONG	107.09	338.6	14 36 777	24 55	-5		18 47
AGRA	108.09	351.7	14 29 777				18 54 PP
WELLINGTON	108.41	229.9	18 15 777	25 13	7		19 4 PP
CHITTAGONG	110.16	337.7	19 17 43				
BOKARO	110.16	343.8					19 11 PP
SEHORE	112.11	352.1					19 24 PP
CHARTERS TS.	112.89	264.0	14 54 777	25 29	5		
BRISBANE	113.03	253.8	17 57 -43	25 40	15		
BANGUI	113.52	57.1	18 40 0				
ROXBURGH	114.16	229.4		25 43	14		29 29 PS
BOMBAY	116.66	356.1		25 37	-1		19 49 PP
POONA	116.97	355.0	18 53 6	25 33	-7		19 56 PP
HYDERABAD	117.63	350.0		25 51	9		20 2 PP
RIVERVIEW	118.10	249.1	19 0A 11	25 56	12		
LEOPOLDVILLE	118.17	66.1	18 57 7	25 57	13		20 13 PP
PORT BLAIR	120.00	333.1					20 21 PP
CANBERRA	120.41	249.0	19 1 7	26 8	16		20 36 PP
MADRAS	121.74	347.4					20 35 PP
MELBOURNE	124.50	248.7	19 8 6	26 19	14		20 53 PP
BYRD STATION	124.53	181.8	18 46 -16				23 27
LWIRO	124.79	52.0	15 52A 777	26 31	25		
MACQUARIE I.	124.79	225.3		26 15	9		21 13 PP
KODAI KANAL	124.85	350.0					20 34
MEDAN	125.19	323.0	19 9K 6				21 11
ADELAIDE	127.19	255.0	19 10 3	26 21	8		21 13 PP
COLOMBO	127.77	346.5	19 21 13				28 40

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CAPE HALLETT	128.70	202.6	19	8A	-2					21	26	PP
DJAKARTA	129.53	308.0	19	14A	3					22	19	
LEMBANG	129.62	306.7	19	14	2					22	24	
HALLEY BAY	131.30	160.5	19	20	5							
ELISABTHVILLE	131.49	60.5	19	19	4					21	36	PP
SCOTT BASE	131.66	196.3	19	17	1	26	19	-5		21	50	PP
WINDHOEK	132.29	80.2	19	21	4							
BROKEN HILL	134.25	61.9	19	21	1							
SOUTH POLE	134.47	180.0	19	10	-11					23	5	
BULAWAYO	138.52	67.3	19	28	0							
HERMANUS	140.70	92.6	19	42	10					28	59	PKKP
KIMBERLEY	141.54	80.9	19	22	-12							
PERTH	141.74	273.1	19	35	1					22	38	PP
PRETORIA	142.04	74.1	18	35	-59							
GRAHAMSTOWN	145.37	85.8	19	41	1							
TANANARIVE	148.63	42.1	19	53	7							
WILKES	149.00	211.2	19	50	4					23	26	PP
MIRNY	154.59	202.1	19	56	2					24	4	
KERGUELEN I.	175.27	187.2								25	57	PP

AUGUST 18 7.H 56.M 18.S EPICENTRE 45.05-110.52 DEPTH= 0.KM

A=-0.24846 B=-0.66394 C= 0.70530 D=-0.9366 E= 0.3505  
G=-0.2472 H=-0.6606 K=-0.7089 HT= -3.6

SE= 3.21

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
RENO	8.81	234.6	2	5	-7							
CORVALLIS	9.10	271.6	2	14	-2							
SHASTA	9.74	247.7	2	20A	-5							
ARCATA	10.78	252.0	2	46	7							
FRESNO	10.84	223.5	2	41K	1							
UKIAH	11.13	242.4	2	43	-1							
BERKELEY	11.35	234.9	2	47	0							
LICK	11.37	231.2	2	47	0							
SAN FRANCISCO	11.53	235.1	2	59	10	5	52	52				
BRANNER	11.62	233.1	2	55	5							
PASADENA	12.37	211.0	2	56	-4	5	25	5				
LAWRENCE	12.87	112.8	3	12	5							
LUBBOCK	13.26	146.7	3	12	0							
SITKA	19.55	316.8	4	35	3	8	1	-6				
CLEVELAND	21.36	89.3	4	50	-1							
MAZATLAN	22.07	169.9									8	52
PENNSYLVANIA	24.18	88.5	5	21	2	9	26	-9				
BREBEUF	25.83	75.7	5	35K	0							
SHAWINIGAN	26.20	73.1	5	43	5							
PALISADES	26.91	85.6	4	44	-61							
TACUBAYA	27.25	156.1	5	46	-2	10	26	0			6	38
VERA CRUZ	28.42	150.4	5	58	0	10	47	2			8	44
MERIDA	29.57	137.5	6	12	3	11	13	9				
RESOLUTE	30.52	8.1	6	17	0							
COMITAN	32.61	145.8	7	0	24						7	44
HALIFAX	32.91	73.7	6	42K	4							
SAN JUAN	45.41	111.1	8	21	-1						10	2
NORD	46.32	11.7	8	31	1							
SCORESBY SD.	47.92	26.9	8	43	1							
CARACAS	50.75	118.9	9	2K	-2							
FORT FRANCE	51.33	109.9	9	7	-1							
ST. VINCENT	52.38	111.3	9	15	-1						10	28
TRINIDAD	54.15	113.5	9	23	-6						10	32
KHEYS	54.43	2.3	10	23	52							
TIKSI	56.33	340.9	9	43	-2							
MAGADAN	56.46	322.8	9	45	-1							
KIRUNA	61.56	19.0	10	20	-2							
SKALSTUGAN	62.68	25.0	10	28	-1							
SODANKYLA	63.31	17.1	10	31	2							
APATITY	64.46	14.5	10	39	-2							
HUANCAYO	65.14	141.6	10	43	-2						12	44
KEW	66.60	39.8	10	56	2							
GOTEBORG	67.01	29.5	10	56	-1							
UPPSALA	67.18	25.5	10	56	-2						11	24
FOLINIÈRE	68.40	42.0	11	6	0							
HELSINKI	68.57	22.0	11	11	4							
NURMI JARVI	68.65	22.0	11	7	0							

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SERRA PILAR	69.42	52.1	11	12A	0						13 47 PP
PARIS	69.75	40.4	11	15	1						
PULKOVO	70.72	19.8	11	20	0	20	37	3			
LISBON	70.73	54.3	11	21A	1						
GARCHY	71.13	41.3	11	21K	-1						
POTSDAM	71.53	32.6	11	16	-9						
HALLE	71.78	33.7	11	28	2						
JENA	72.08	34.3	11	27	-1						
LA PAZ	72.35	137.3	9	42	-108						11 26
SONNEBERG	72.35	34.9	11	29	-1						
STUTT GART	72.79	36.9	11	32	0						
TOLEDO	72.79	50.6	11	32	0						
TUBINGEN	72.89	37.2	11	35	2						
EBINGEN	73.11	37.5	11	35	1						
RAVENSBURG	73.70	37.4	11	39	1						
PRUHONI CE	74.00	33.3	11	40	1						15 50
WARSAW	74.52	28.5	11	43	1						
TORTOSA	74.56	47.3	11	53	10						
GRANADA	74.95	52.3	11	44K	-1						
BRATISLAVA	76.45	33.1	11	53	0						
TUKUBASAN	77.02	308.5	11	54A	-3						25 6 SS
TRIESTE	77.13	36.5	11	59	2						
MATUSIRO	77.82	309.8	11	59	-2						
ALGIERS UNI.	78.89	48.6	12	6A	-1						
ABUYAMA	80.50	310.3	12	14K	-2						
SETIF	80.55	47.5	12	15	-1						12 47
MBOUR	82.44	77.3	12	32	6	22	50	8			
TAMANRASSET	90.90	56.0	13	8	1						16 51
CHITTAGONG	109.89	338.0									19 16 PP
LWIRO	124.38	52.1	19	3	2						
BYRD STATION	124.91	181.9	18	45	-17						
CAPE HALLETT	129.13	202.8	19	10	-1						
LEMBANG	129.57	307.3									23 31
ELISABTHVLE	131.11	60.5	19	19	5						
SCOTT BASE	132.09	196.4	19	18	2						
SOUTH POLE	134.85	180.0	19	22	1						21 54 PP
KIMBERLEY	141.25	80.7	19	30K	-3						
TANANARIVE	148.19	42.1	19	44	-1						

AUGUST 18 8.H 41.M 48.S EPICENTRE 44.95-110.84 DEPTH= 0.KM

A=-0.25261 B=-0.66364 C= 0.70411 D=-0.9346 E= 0.3557  
G=-0.2505 H=-0.6581 K=-0.7101 HT= -3.5

SE= 2.77

	DELTA DEG.	AZ. DEG.	P		O-C S	O-C			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
SALT LAKE C.	4.24	190.4	1	9	2							
RAPID CITY	5.53	96.4	1	26	0							
BANFF	6.97	334.8	1	44	-2							
SASKATOON	7.71	19.7	2	0A	4							
RENO	8.57	234.0	2	7A	-1							
CORVALLIS	8.88	272.0	2	10K	-3							
MINERAL	9.16	243.6	2	15	-1							
VICTORIA	9.35	296.9	2	14	-5							
BOULDER CITY	9.46	200.1	2	18	-3							
SHASTA	9.49	247.4	2	20A	-1							
HORSESHOE B.	9.56	302.0	2	18A	-4							
ALBERNI	10.46	299.4	2	33	-1							
ARCATA	10.53	251.9	3	18	43							
FRESNO	10.62	222.8	2	39K	3							
UKIAH	10.89	242.0	2	42	2							
BERKELEY	11.11	234.4	2	49	6							
LICK	11.13	230.7	2	45	1							
SAN FRANSCO	11.29	234.6	2	53	7							
BRANNER	11.38	232.5	2	48	1							
VINEYARD	11.43	227.9	2	50	2							
PASADENA	12.17	210.1	2	56	-2							
TUCSON TELE.	12.59	179.5	3	3	0							
TUCSON	12.68	180.0	3	5	1						3 54	
LAWRENCE	13.04	111.8	3	5	-4							
LUBBOCK	13.31	145.5	3	11	-2							
DALLAS	16.27	133.1	3	48	-3							
SITKA	19.47	317.2	4	33	2							
MORGANTOWN	23.38	92.2	5	10K	-1							

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1959		PAGE 635												
PENNSYLVANIA	24.42	88.1	5	21	0	10	2	23			5	43		
BREBEUF	26.07	75.4	5	37K	0									
SHAWINIGAN	26.45	72.9	5	43	3									
TACUBAYA	27.26	155.4	6	14	26							6	39 PPP	
VERA CRUZ	28.45	149.8				10	14	-31					6	37 PP
COLLEGE	28.49	327.4	5	58	-1									
RESOLUTE	30.65	8.2	6	22	4									
THULE	36.12	15.7	7	12	6									
SCORESBY SD.	48.11	26.8	8	43	0									
CARACAS	50.91	118.5	9	3K	-2									
TRINIDAD	54.33	113.2	9	14	-16									
KIRUNA	61.73	18.9	10	21	-1									
SKALSTUGAN	62.86	24.9	10	35	5									
SODANKYLA	63.47	17.0	10	32	-2									
HUANCAYO	65.20	141.3	10	44	-1							11	28 PP	
UPPSALA	67.37	25.4	10	57	-2									
FOLINIÈRE	68.62	41.8	10	37	-30									
NURMIJARVI	68.82	21.9	11	7	-1									
PARIS	69.98	40.2	11	21	6							11	43	
GARCHY	71.35	41.1	11	23A	-1									
LA PAZ	72.43	137.0	11	30	0									
COLLMBERG	72.55	33.1	11	30	-1									
STUTTGART	73.01	36.8	11	35	2									
PRUMONICE	74.20	33.2	11	40	0									
GRANADA	75.19	52.1	12	17K	31									
TUKUBASAN	76.90	308.3	11	52	-4	20	56	-47				14	52 PP	
MATUSIRO	77.71	309.7	11	58K	-2									
ALGIERS UNI.	79.12	48.4	12	7	-1									
TAMARASSET	91.14	55.8	13	8	0									
CHITTAGONG	109.89	337.7									19	21 PP		
BYRD STATION	124.81	181.8	19	2	0									
CAPE HALLETT	128.96	202.7	19	11	1									
SOUTH POLE	134.76	180.0	19	18	-3									
TANANARIVE	148.42	41.7	19	51	6									

AUGUST 18 11.H 3.M 49.S EPICENTRE 45.00-110.51 DEPTH= 0.KM  
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SE= 3.23

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
HUNGRY HORSE	4.14	325.4	1	5	0							
RAPID CITY	5.31	97.4	1	31	9							
BANFF	7.03	333.2	1	44	-2							
RENO	8.79	234.9	3	7A	56	4	22	30				
CORVALLIS	9.11	271.9	2	13K	-2	4	47	47				
VICTORIA	9.53	296.3	1	31	-50							
BOULDER CITY	9.59	201.5	2	19	-3							
HORSESHOE B.	9.73	301.3	1	35	-49							
ALBERNI	10.64	298.8	1	48	-48							
FRESNO	10.81	223.7	2	36	-3							
UKIAH	11.11	242.6	3	40	57							
BERKELEY	11.33	235.1	2	56	10							
LICK	11.34	231.5	2	49	3							
BRANNER	11.59	233.3	2	58	9							
TUCSON TELE.	12.64	180.8	3	3	0						4	2
TUCSON	12.73	181.2	3	6	1							
LAWRENCE	12.84	112.6	3	4	-2							
LUBBOCK	13.22	146.6	3	10	-1							
FAYETTEVILLE	15.25	120.1	3	34	-4							
DALLAS	16.14	134.0	3	46	-3							
SITKA	19.59	316.9	4	35	3							
PENNSYLVANIA	24.18	88.4	5	19	1	9	47	12				
OTTAWA	24.41	76.6	5	24A	3							
COLUMBIA	25.13	105.7	5	28	0	10	3	12				
CHAPEL HILL	25.47	99.8	5	31	0							
BREBEUF	25.84	75.7	5	36K	2						12	37
SHAWINIGAN	26.21	73.0	5	59	21							
PALISADES	26.91	85.5	5	48	4	10	30	10				
TACUBAYA	27.20	156.1	7	18	91						14	27
COLLEGE	28.57	327.2	5	58	-1							
RESOLUTE	30.57	8.1	6	16	-1	11	19	0				
HALIFAX	32.92	73.7	6	39A	1	11	59	3				

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BERMUDA	37.45	93.5	7	15	-1	
KHEYS	54.48	2.3				12 31 PPP
PETROPAVLOVK	56.27	313.4	10	3	19	
KIRUNA	61.61	19.0	10	20	-1	
RATHFARNHAM	62.68	40.9	9	51	-37	
SODANKYLA	63.35	17.1	10	33	0	
HUANCAYO	65.09	141.6	10	42	-2	
UPPSALA	67.22	25.5	10	57	-1	
NURMIJARVI	68.69	22.0	11	7	0	
HELSINKI	69.06	22.0	11	8	-1	
GARCHY	71.16	41.2	11	21	-1	
LA PAZ	72.31	137.3	11	27	-2	
STUTTART	72.83	36.9	11	34	2	
MATUSIRO	77.86	309.9	11	59	-2	
MBOUR	82.45	77.3	12	41	16	15 47 PP
TAMARRASSET	90.92	56.0	13	6	-1	
ELISABTHVLE	131.13	60.5	19	15	1	

AUGUST 18 15.H 26.M 6.S EPICENTRE 44.92-110.70 DEPTH= 0.KM

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SE= 2.03

	DELTA DEG.	AZ. DEG.	M	P S	O-C S	M	S	O-C S	*PP M S	M	SUPP. S
HUNGRY HORSE	4.12	327.4	1	7K	1						
SALT LAKE C.	4.24	191.9	1	6	-1						
RAPID CITY	5.43	96.3	1	24	0						
RENO	8.63	234.6	2	13K	4						
CORVALLIS	8.98	272.2	2	15K	1	4	37	40			
MINERAL	9.24	244.2	2	18A	0						
VICTORIA	9.45	296.9	2	18	-3						
BOULDER CITY	9.47	200.8	2	20	-1						
SHASTA	9.57	247.9	2	23	1						
HORSESHOE B.	9.66	302.0	2	33	9						
TINEMAHA	9.70	218.5	2	25	1	5	7	52			
HAIWEE	10.36	214.6	2	34	1	5	18	47			
CHINA LAKE	10.50	212.4	2	34	-1	5	6	31			
ALBERNI	10.56	299.3	2	33	-3						
ARCATA	10.61	252.3	2	35	-2					5	35
FRESNO	10.66	223.3	2	39A	2						
UKIAH	10.96	242.5	2	40	-1						
ISABELLA	10.99	215.3	2	41	-1						
WOODY	11.11	216.8	2	43	0						
BERKELEY	11.17	234.9	2	45	1						
LICK	11.19	231.2	2	45A	0						
SAN FRANCISCO	11.35	235.1	2	51	4					5	52
BRANNER	11.44	233.0	2	51	3						
VINEYARD	11.48	228.4	2	50	1					6	0
KING RANCH	11.81	218.9	2	53	0						
HAYFIELD	11.83	200.5	2	52	-1						
RIVERSIDE	12.07	207.5	2	56	0	5	37	24			
PASADENA	12.20	210.7	2	59A	1	5	29	13			
PALOMAR	12.50	204.5	3	2	0	6	6	43			
TUCSON TELE.	12.56	180.1	3	1	-2						
TUCSON	12.65	180.5	3	6	2						
BARRETT	13.08	202.8	3	10	0						
SAN NICOLAS	13.51	213.4	3	16	0						
FAYETTEVILLE	15.33	119.4	3	35	-4						
DALLAS	16.18	133.4	3	48	-3						
FLORISSANT	16.32	104.9	3	52A	0	6	57	3			
ST. LOUIS 1	16.49	105.2	3	52	-2						
CHIHUAHUA	16.67	165.7				6	56	-6			
SITKA	19.55	317.1	4	33	1	8	50	43			
MAZATLAN	21.97	169.4								5	30 PP
MORGANTOWN	23.28	92.3	5	10	0						
PENNSYLVANIA	24.32	88.1				9	44	6			
OTTAWA	24.56	76.4	5	24	1	9	44	2		9	18
GUADALAJARA	24.94	163.4	5	23	-3	9	59	11		13	15
COLUMBIA	25.24	105.3	5	30	1						
WASHINGTON	25.62	91.7	5	35A	2						
BREBEUF	25.99	75.5	5	37K	1	10	14	8			
MANZANILLO	26.34	166.3	5	40	0	10	14	3		6	2
SHAWINIGAN	26.36	72.8	5	40	0						
PALISADES	27.05	85.2	5	46	0	10	19	-4		6	35 PP



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FORDHAM	27.13	85.5	5 46	-1			
TACUBAYA	27.19	155.7	5 52	5	10 28	3	6 27 PP
SEVEN FALLS	27.57	71.1	5 52	1	10 32	1	
PUEBLA	27.84	154.0	6 14	21			
VERA CRUZ	28.37	150.0	5 55	-3	10 43	-1	6 36 PP
COLLEGE	28.57	327.4	6 OK	0			
MERIDA	29.57	137.1	6 10	1	11 13	9	6 54 PP
RESOLUTE	30.66	8.2	6 16	-3	11 22	1	
COMITAN	32.59	145.4	6 40	5	12 1	10	
HALIFAX	33.07	73.5	6 39K	-1	11 59	0	7 31 PP
THULE	36.12	15.7	7 8	2			
BERMUDA	37.58	93.3	7 15	-3	13 7	-1	8 38 PP
BALBOA HTS.	44.80	133.5	8 16A	-1	14 56	1	
KIPAPA	45.23	254.8	8 20	-1			
HONOLULU	45.37	254.7	8 23	1	15 8	5	
SAN JUAN	45.49	110.8	8 22	-1			10 2 PP
GALERAZAMBA	45.61	127.1	8 24	0	15 15	8	
NORD	46.47	11.7	8 29	-2	15 19	0	10 22 PP
SCORESBY SD.	48.09	26.8	8 44A	1	15 49	7	19 14 SS
CHINCHINA	50.22	131.8	8 59A	-1	16 23	11	
REYKJAVIK	50.29	34.8	9 1	1			11 1 PP
FLUQUENE	50.83	129.4	9 5	0	16 25	5	
BOGOTA	51.35	130.4	9 9A	1	16 31	4	
FORT FRANCE	51.41	109.6	9 8	-1			16 30
ST. VINCENT	52.46	111.1	9 19	2			
TRINIDAD	54.22	113.3	9 28	-2			
KHEYS	54.55	2.3	9 31	-1	17 11	0	11 35 PP
PETROPAVLOVK	56.22	313.4	9 43	-1			13 8 PPP
TIKSI	56.40	340.8	9 46	0			12 1 PP
KIRUNA	61.72	18.9	10 21K	-2	18 43	-2	39 35 PKPPKP
ABERDEEN	62.18	35.7	10 26A	0	19 11	20	12 56 PP
EDINBURGH	62.53	37.2			19 1	6	23 8 SS
RATHFARNHAM	62.82	40.8	10 33A	3			
SKALSTUGAN	62.84	24.9	10 29K	-1			10 52
BERGEN	62.85	30.1			18 50	-9	
YAKUTSK	62.92	332.6	10 30	-1	19 0	0	12 52 PP
SODANKYLA	63.46	17.0	10 33	-1			11 1
DURHAM	63.98	37.5	10 36K	-2			13 4 PP
APATITY	64.62	14.4	10 41K	-1	19 20	-1	13 10 PP
HUANCAYO	65.12	141.4	10 45	0	19 35	8	
KEW	66.77	39.6	10 55	-1			
GOTEBOURG	67.19	29.4	10 58	0			13 40 PP
UPPSALA	67.35	25.4	10 58K	-1	19 50	-4	
JERSEY	67.52	42.3	10 52	-8	19 54	-2	
Y.-SAKHLINSK	68.00	315.0	11 3	0	20 5	3	
FOLINIERE	68.58	41.8	11 7	0			
DE BILT	68.74	36.6	11 8	0	20 9	-2	24 24 SS
NURMI JARVI	68.81	21.9	11 9	1	20 13	1	
COPENHAGEN	68.90	30.6	11 8K	-1	20 18	5	13 42 PP
HELSINKI	69.18	21.9	11 10	-1	20 18	2	
UCCLE	69.33	37.9	11 10	-2	20 21	3	
SERRA PILAR	69.60	52.0	11 11A	-2	20 16	-5	13 47 PP
MUNSTER	69.85	35.5	11 16	1			20 58
PARIS	69.93	40.3	11 16	1	20 26	1	
DOURBES	69.95	38.3	11 17	2	20 26	1	
BENSBERG	70.42	36.4	11 18	0	20 59	28	
PULKOVO	70.88	19.7	11 20	-1	20 36	0	13 54 PP
LISBON	70.90	54.2	11 22K	1	20 40	4	11 34 PCP
GARCHY	71.31	41.1	11 33	9	20 44	3	
POTSDAM	71.70	32.5	11 25	-1	20 43	-3	14 16 PP
HALLE	71.96	33.6	11 27	0	20 53	4	14 10 PP
JENA	72.25	34.2	11 29	0	20 54	2	21 23 PS
LA PAZ	72.35	137.1	11 29	-1	20 54	1	21 22 PS
CLERMONT-FD.	72.43	42.2	11 31	1	21 9	15	
STRASBOURG	72.47	37.8	11 31	1	20 54	0	14 9 PP
COLLMBERG	72.52	33.2	11 31	0	21 1	6	14 13 PP
SONNEBERG	72.53	34.7	11 31	0			
PLAUEN	72.83	34.2	11 28	-5	21 0	2	20 24
STUTTGART	72.97	36.8	11 33	0	21 4	4	14 20 PP
TOLEDO	72.97	50.4	11 34	1	21 4	4	25 50 SS
TUBINGEN	73.06	37.1	11 34K	0			
BASLE	73.18	38.6	11 35	0	20 56	-6	
CHEB	73.24	34.3	11 37	2	21 7	4	26 0 SS
EBINGEN	73.29	37.4	11 35	0			
RAVENSBURG	73.88	37.3	11 38K	-1			
PRAGUE	74.05	33.2	11 41	1	21 18	6	29 54 SSS
PRUNONICE	74.17	33.2	11 41K	1	21 17	3	21 54 PS
CHUR	74.55	38.0	11 43	0	21 23	5	

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WARSAW	74.69	28.4	11 42	-1	21 23	4	
TORTOSA	74.73	47.2	11 46	2	21 24	4	14 33 PP
GRANADA	75.13	52.2	11 48A	2	21 30	6	14 36 PP
RACIBORZ	75.47	31.2	11 48	0			12 9 PCP
ALMERIA	76.00	51.7	11 51	0	21 47	13	
ALICANTE	76.01	49.5	11 51	0	21 34	0	14 44 PP
VLADIVOSTOK	76.12	318.0	11 50	-2			14 43 PP
KRAKOW	76.13	30.3	11 52	0	21 50	15	14 47 PP
MOSCOW	76.21	17.8	11 52	0	21 38	2	14 46 PP
VIENNA-H.	76.28	33.3	11 53K	1	21 36	-1	
BRATISLAVA	76.62	32.9	11 54	0	21 30	-11	
SKALNATE PL.	76.97	30.6	11 54	-2	21 45	1	
TUKUBASAN	76.99	308.4	11 55K	-1	21 37	-8	14 39 PP
TRIESTE	77.31	36.4	12 1	3	21 54	6	15 5 PP
LJUBLJANA	77.31	35.7	11 58K	0			14 31
PRATO	77.56	39.0	12 1	1	22 11	20	
LWOW	77.74	28.1	12 2	1			14 57 PP
MATUSIRO	77.80	309.8	12 0K	-1	21 54	1	14 59 PP
BUDAPEST	77.93	32.2	12 6	4	22 1	6	
ZAGREB	78.10	35.0	12 3A	0	22 3	6	
CHANGCHUN	78.57	322.3	12 4K	-1	22 4	2	15 3 PP
IRKUTSK	78.60	338.9	12 5	0	22 4	2	15 4 PP
ALGIERS UNI.	79.06	48.5	12 3	-5	22 10	3	15 9 PP
CUGLIERI	79.27	42.9	13 4	55	23 44	95	
ROME	79.75	39.4	12 11	-1	22 21	7	27 31 SS
TIMISOARA	80.21	31.9	12 16	2			
ABUYAMA	80.48	310.2	12 16K	1			
BELGRADE	80.70	32.9	12 19A	2	22 31	7	15 28
ABUYAMA	80.48	310.2	12 16K	1			
BELGRADE	80.70	32.9	12 19A	2	22 31	7	15 28
ABUYAMA	80.48	310.2	12 16K	1			
BELGRADE	80.70	32.9	12 19A	2	22 71	7	15 28
ABUYAMA	80.48	310.2	12 16K	1			
BELGRADE	80.70	32.9	12 19A	2	22 71	7	15 28
ABUYAMA	80.48	310.2	12 16K	1			
BELGRADE	80.70	32.9	12 19A	2	22 71	7	15 28
SETIF	80.73	47.4	12 17	0			15 20 PP
ULAN-BATOR	81.83	335.5	12 23K	0			
MBOUR	82.59	77.2	12 29K	2	20 50-114		
SOFIA	83.60	32.2	12 34	2	22 56	2	15 51
MESSINA	84.12	39.7	12 33	-1	23 1	2	15 51 PPP
SEMPALATNSK	84.58	353.0	12 36	-1	23 2	-1	15 51 PP
SIMFEROPOL	85.23	24.2	12 40K	0	23 7	-3	16 0 PP
PEKING	85.53	325.8	12 40K	-1	23 14	1	15 59 PP
GUAM	90.63	289.7	13 4	-2			
ZO-SE	90.83	317.6	13 5K	-2	23 36	-26	16 43 PP
TIFLIS	91.00	18.1	13 9	1			23 46 SKKS
TAMARRASSET	91.07	55.9	13 9K	1	24 13	9	16 47 PP
NANKING	91.16	319.8	13 8K	0	24 10	5	16 44 PP
FRUNSE	92.50	356.1	13 16	2			18 54 PPP
GORIS	93.45	17.6	13 20	1			24 2 SKKS
LANCHOW	93.55	332.6	13 20	1			24 30
TASHKENT	94.14	0.0	13 24	2			24 3 SKKS
KSARA	95.96	27.5	13 31	1	24 32	25	17 24 PP
STALINABAD	96.89	0.4	13 36	1			
CHENG TU	98.40	330.3	13 41K	0			17 41 PP
CANTON	101.29	319.2	13 56	2			18 4 PP
HONG KONG	101.58	318.2	13 46	-10	24 42	7	18 8 PP
BAGUIO CITY	103.23	309.7	14 35	32	24 51	8	
KUNMING	103.90	329.0	14 6	0			18 22 PP
DEHRA DUN	104.69	352.2			25 5	16	18 31 PP
PORT MORESBY	105.17	271.8					27 49 PS
QUETTA	105.23	2.1	17 49	777			
PHU-LIEN	106.27	323.8			25 6	10	18 36 PP
SHILLONG	106.88	338.8					
WELLINGTON	108.65	230.1	18 17	777			28 29 PS
CHITTAGONG	109.96	337.8	18 56K	777	25 8	1	19 19 PP
CHARTERS TS.	113.01	264.2	18 41	2			26 42
BRISBANE	113.19	254.0	18 21	-19			29 9
BANGUI	113.30	57.1					25 25
ROXBURGH	114.40	229.5					29 26 PS
BOMBAY	116.41	356.3	19 48	62			29 34
LEOPOLOVILLE	117.98	66.1	18 52	3			20 6 PP
RIVERVIEW	118.28	249.3	18 50	0			30 8 PS
CANBERRA	120.59	249.2	18 56	2			
LWIRO	124.56	52.0	19 6	4			37 17
MELBOURNE	124.68	248.9	19 2	0			
BYRD STATION	124.79	181.9	19 2	0			28 43 SKKS

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ADELAIDE	127.35	255.3	19 8	1	21 7	PP
CAPE HALLETT	128.97	202.7	19 11A	1	21 18	PP
ELISABTHVILLE	131.28	60.4	19 17	2	22 46	SKP
SCOTT BASE	131.93	196.4	19 16	0	32 47	PKS
BROKEN HILL	134.05	61.8	19 23	3		
SOUTH POLE	134.73	180.0	19 21	0	23 7	PKS
BULAWAYO	138.33	67.1	19 27	-1		
MUNDARING	141.56	273.2	19 32	-1		
PERTH	141.82	273.5	19 31	-3	22 40	PP
GRAHAMSTOWN	145.26	85.5			29 20	
TANANARIVE	148.37	42.0	19 48A	3		
MIRNY	154.86	202.3	19 54	-1	20 18	

AUGUST 18 22.H 4.M 2.S EPICENTRE 41.04 19.80 DEPTH= 0.KM

A= 0.71175 B= 0.25626 C= 0.65402 D= 0.3388 E=-0.9409  
G= 0.6154 H= 0.2216 K=-0.7565 HT= -2.1

SE= 3.26

	DEG.	DEG.	M	S	S	M	S	S	M	S	M	S
	DELTA	AZ.	P	O-C		S	O-C		*PP		SUPP.	
SOFIA	3.12	56.6	0 53	2		1 41	11				1 2	
BELGRADE	3.81	7.0	1 3K	2		1 50	3					
ATHENS	4.31	134.0	1 10K	2		2 3	3				2 27	SG
MESSINA	4.34	230.6	1 6	-3		1 51	-10				1 17	PG
REGGIO CALA.	4.35	228.9	1 19	10							2 15	
TIMISOARA	4.82	11.9	1 29	14								
ZAGREB	5.53	331.1	1 27	2							1 44	PG
ROME	5.57	281.3	1 25	-1		2 30	-2				2 55	S*
TRIESTE	6.38	318.3	1 38	1		2 52	0				2 5	PGPG
PRATO	7.03	296.7	1 54	7		3 16	8					
TOLMEZZO	7.27	319.8	1 51	1		3 17	3				1 58	PP
BRATISLAVA	7.39	345.8	2 0	8		3 19	2					
VIENNA-H.	7.51	342.4	1 56	1		3 25	2					
PAVIA	8.81	301.6				3 9	-44				4 48	
KRAKOW	9.01	0.5	2 15	1		3 45	-13				4 13	SS
RACIBORZ	9.11	353.5	2 18	2							5 14	
LWOW	9.27	17.2	2 21	3		4 12	8					
CHUR	9.41	311.5	2 19	-1		4 3	-5					
MONACO	9.54	290.5	2 23	1								
PRUMONICE	9.67	339.4	2 25A	2		4 10	-4				5 30	
PRAGUE	9.78	339.2	2 26	1							3 2	P*
RAVENSBERG	9.92	316.2	2 25	-2								
EBINGEN	10.51	316.4	2 33A	-2								
TUBINGEN	10.68	318.1	2 35	-2								
STUTTGART	10.74	319.6	2 35	-3		4 32	-8					
PLAUEN	10.85	333.2	2 40	0		4 35	-8				5 45	SG
BASLE	10.90	310.6	2 36	-4		4 42	-2					
SIMFEROPOL	11.19	64.8	2 44	0								
WARSAW	11.23	3.9									2 55	PP
COLLMBERG	11.29	337.7									4 16	
STRASBOURG	11.39	315.5	2 44	-3		4 52	-4				3 32	SG
JENA	11.42	332.8	2 46	-1		4 53	-4				3 39	PG
HALLE	11.78	335.3	2 53	1		5 12	6				3 11	PPP
POTSDAM	12.24	340.2									6 41	SG
SETIF	12.25	251.4	2 58	-1							3 6	PP
CLERMONT-FD.	13.02	296.9				5 50	14					
BENSBERG	13.23	322.8	3 12	0		3 30	-131					
GARCHY	13.53	303.1	3 13	-3								
ALGIERS UNI.	13.72	257.3	3 17	-1								
MUNSTER	13.76	326.7	3 33	14							7 24	
TORTOSA	14.60	275.5	3 42	12								
KSARA	14.65	114.3	3 23	-7								
ALICANTE	15.84	266.9	3 48	2		6 49	6					
KEW	17.33	313.8	4 6	1		7 26	9					
GOTEBORG	17.42	345.9	4 28	22								
TOLEDO	18.18	274.2	4 17	2		8 0	24					
GRANADA	18.55	265.6	4 26K	6		8 8	23					
TIFLIS	18.76	79.6	4 23	1								
MOSCOW	18.79	32.5	4 22	-1								
UPPSALA	18.88	356.6	4 25	1		7 54	2					
HELSINKI	19.42	7.8	4 34	4								
NURMI JARVI	19.73	7.1	4 33	-1		8 16	5					
DURHAM	19.74	321.3	4 28	-6								
PULKOVO	19.87	15.8	4 28	-7								
SERRA PILAR	21.37	279.6	4 50K	-1							5 16	PP

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RATHFARNHAM	21.42	313.7	4 51K	-1	5 34
TAMANRASSET	21.82	217.8	4 55K	-1	5 13 PP
LISBON	22.30	273.6	5 7K	7	
SKALSTUGAN	23.01	351.4	5 9	2	
SODANKYLA	26.65	5.9	5 40	-2	
KIRUNA	26.85	0.5	5 42	-2	
APATITY	27.60	11.3	5 54	3	
SVERDLOVSK	30.57	45.0	6 14	-3	
QUETTA	39.41	90.6	7 31	-2	
LWIRO	43.86	167.0	8 10	0	
LEOPOLDVILLE	45.38	186.4	8 22	0	
ELISABTHVILLE	52.90	170.6	9 24	4	
TIKSI	57.19	20.9	9 51	0	
SHILLONG	60.59	80.6	10 11K	-4	
COLLEGE	73.99	354.5	11 39	0	
MATUSIRO	84.38	45.4	12 34	-1	

AUGUST 19 4.H 4.M 2.S EPICENTRE 44.91-111.58 DEPTH= 0.KM

A=-0.26131 B=-0.66076 C= 0.70364 D=-0.9299 E= 0.3678  
G=-0.2588 H=-0.6543 K=-0.7106 HT= -3.5

SE= 2.81

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
BUTTE	1.31	328.1	0	8	-18							
HUNGRY HORSE	3.83	334.7	1	2	0							
SALT LAKE C.	4.15	182.9	1	3	-3							
RAPID CITY	6.05	95.0	1	33	0							
EUREKA	6.33	212.5	1	32	-5							
BANFF	6.80	338.4	0	52	-52							
SASKATOON	7.93	22.7	2	18	18	4	14	43				
RENO	8.13	231.5	2	2K	-1						4	10
CORVALLIS	8.35	271.8	2	4K	-2						4	21
MINERAL	8.68	241.8	2	8	-2							
VICTORIA	8.90	298.1	2	12A	-1	4	23	28				
SHASTA	8.99	245.9	2	15	0							
HORSESHOE B.	9.14	303.4	2	11	-6							
BOULDER CITY	9.26	196.6	2	16	-2							
TINEMAHA	9.32	214.9	2	19	0	4	48	42				
HAIWEE	10.01	211.1	2	30	1	5	7	44			3	5
ARCATA	10.02	250.7	2	42	13						5	28
ALBERNI	10.03	300.5	2	26	-3	5	11	48				
CHINA LAKE	10.17	208.9	2	29	-2	5	8	41				
FRESNO	10.24	220.2	2	33K	1							
ISABELLA	10.63	212.0	2	34	-3						3	14
BERKELEY	10.67	232.4	2	40	2							
LICK	10.71	228.5	2	38	0							
WOODY	10.75	213.6	2	36	-3							
BRANNER	10.94	230.5	2	48	7							
VINEYARD	11.02	225.7	2	51	9	5	1	13			5	54
KING RANCH	11.42	215.9	2	46	-2							
HAYFIELD	11.62	197.0	2	54	3							
RIVERSIDE	11.79	204.3	2	52	-1							
PASADENA	11.89	207.5	2	54A	0							
PALOMAR	12.25	201.3	2	59	0	6	10	52				
TUCSON TELE.	12.57	176.7	3	6	3							
TUCSON	12.66	177.1	3	4	-1	6	2	35				
BARRETT	12.84	199.7	3	7	0							
SAN NICOLAS	13.17	210.5	3	9	-2							
CHIHUAHUA	16.83	163.1									7	48 SS
SITKA	19.14	317.8	4	30	2						4	58 PP
MAZATLAN	22.09	167.2										
MORGANTOWN	23.90	91.6	5	17A	0							
PENNSYLVANIA	24.94	87.5	5	25	-2	9	56	8				
OTTAWA	25.17	76.1	5	30	1	9	58	6				
COLUMBIA	25.84	104.3	5	34	-1							
WASHINGTON	26.24	91.0	5	39	0	10	18	8				
BREBEUF	26.59	75.1	5	42K	0	10	24	8				
SHAWINIGAN	26.96	72.6	5	46	1							
TACUBAYA	27.45	154.0				10	29	-1			6	46 PPP
PALISADES	27.67	84.7	5	51	-1	10	33	0				
FORDHAM	27.75	85.0	4	53	-60	9	38	-57				
SEVEN FALLS	28.16	70.8	5	58	2	10	44	3				
COLLEGE	28.24	327.8	5	58	1	10	33	-10				

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VERA CRUZ	28.68	148.4							12	8	SS
MERIDA	29.99	135.6				11	16	5			
RESOLUTE	30.76	8.6	6	19	-1	11	18	-5			
HALIFAX	33.67	73.1	6	47A	2	12	9	1	13	34	
BERMUDA	38.20	92.6	7	22	-2	13	15	-3	8	43	PP
SAN JUAN	46.07	110.0	8	27	-1						
NORD	46.60	11.6	8	32	0	15	22	1			
SCORESBY SD.	48.38	26.7				15	49	3			
CHINCHINA	50.69	130.9	9	5	1	16	26	7			
FUQUENE	51.30	128.5	9	5	-3						
CARACAS	51.35	117.8	9	18	9	16	49	21			
BOGOTA	51.82	129.5	9	15	3	16	38	4			
KHEYS	54.59	2.1	9	36	3	17	14	2			
PETROPAVLOVK	55.78	313.1	9	45	4						
MAGADAN	56.12	322.5	9	44	0						
TIKSI	56.21	340.6	9	36	-9	17	14	-19			
KIRUNA	61.93	18.6	10	23	-1	18	49	1			
YAKUTSK	62.64	332.2	10	31	2	19	1	4			
SKALSTUGAN	63.11	24.6	10	31	-1						
SODANKYLA	63.65	16.7	10	35	-1						
DURHAM	64.36	37.2	10	39	-1						
APATI TY	64.78	14.1	10	42	-1	19	25	2	20	27	SCS
HUANCAYO	65.50	140.5	10	48	0				12	57	PP
UGLEGORSK	66.51	316.5				19	52	8			
KEW	67.18	39.2				19	54	1	24	20	SS
GOTEBORG	67.50	29.0	10	55	-5						
Y.-SAKHLINSK	67.57	314.6	11	0	-1						
UPPSALA	67.63	25.0	11	1	0	19	58	0			
FOLINIERE	69.00	41.4	11	8	-2						
NURMI JARVI	69.05	21.5	11	10	0						
DE BILT	69.12	36.1				20	18	2			
COPENHAGEN	69.23	30.1	11	11	0	20	20	3			
HELSINKI	69.42	21.5	11	11	-1						
SERRA PILAR	70.09	51.5	11	16K	0				13	53	PP
DOURBES	70.34	37.9	10	42	-36	20	32	2			
PARIS	70.34	39.9	11	20	2				12	20	
BENSBERG	70.80	36.0	11	22	1						
PULKOVO	71.10	19.3	11	23	0	20	38	-1			
POTSDAM	72.04	32.0	11	29	1	20	52	2			
HALLE	72.31	33.2	11	31	1						
JENA	72.61	33.7	11	32	0	20	43	-13	16	21	
STRASBOURG	72.85	37.3	11	33	0	21	3	4	25	58	SS
CLERMONT-FD.	72.86	41.7				21	5	6			
COLLMBERG	72.87	32.7	11	33	0						
SONNEBERG	72.89	34.3	11	33	0						
STUTTGART	73.35	36.4	11	36	0	21	9	4			
TOLEDO	73.46	49.9	11	37	0	22	6	60			
GRANADA	75.63	51.7	11	51K	2				21	36	SS
VLADIVOSTOK	75.71	317.5				21	36	5			
MOSCOW	76.41	17.3	12	0	7						
KRAKOW	76.45	29.8				21	40	1	22	11	PS
ALICANTE	76.49	49.0	11	52	-2	21	35	-4			
MATUSIRO	77.33	309.2	11	57	-2	21	47	-1	12	9	
LWOW	78.04	27.6	12	3	1	22	1	5			
SVERDLOVSK	78.42	4.4	12	14	9						
ALGIERS UNI.	79.54	47.9	12	9	-2	22	13	1			
ROME	80.15	38.9	12	19	5	22	28	9			
SETIF	81.20	46.8	12	20	1				13	3	
MAKHACH-KALA	90.53	15.2				23	34	-26			
TAMANRASSET	91.59	55.3	13	11	1				16	50	PP
BYRD STATION	124.76	181.7	19	4	2						
CAPE HALLETT	128.72	202.6	19	11	1				36	18	SKKS
ELISABTHVILLE	131.83	59.5	19	20	4						
SOUTH POLE	134.72	180.0	19	22	1						

AUGUST 19 15.H 32.M 7.S EPICENTRE 45.86 24.52 DEPTH= 196.KM

A= 0.63578 B= 0.29002 C= 0.71531 D= 0.4150 E=-0.9098  
G= 0.6508 H= 0.2969 K=-0.6988 HT= -3.9

DEPTH OF FOCUS= 0.026R

SE= 6.25

CAMPULUNG	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
	0.69	148.7	0	22	-6	0	41	-9				

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BACAU	1.80	65.9	0	20	-17	0	36	-29			
BUCHAREST	1.82	141.7	0	26	-11	0	47	-19			
FOCSANI	1.88	94.0	0	16	-22	0	32	-35			
RAKHOV	2.08	353.5	0	43	3	1	18	8	1	12	*SP
TIMISOARA	2.31	268.4	0	52	10	1	50	35	1	31	
CERNAUTI	2.60	21.2	0	37	-9	1	9	-12	1	10	*SP
BELGRADE	3.05	251.5	1	0	9	1	39	9	1	47	SG
UZHGOROD	3.16	332.2	0	56	4	1	41	9	1	29	*SP
KISHINEV	3.20	67.2	0	31	-21	0	57	-36			
SOFIA	3.27	195.6	0	51	-2	1	34	-1			
LWOW	3.97	355.4	1	1	-1	1	53	3	1	37	*SP
BUDAPEST	4.12	295.1	1	25	21	1	53	0			
SKALNATE PL.	4.40	320.5	1	12	4						
KRAKOW	5.20	325.3	1	13	-5	2	30	12			
BRATI SLAVA	5.57	297.1	1	32	9						
VIENNA-H.	6.06	296.1	0	42	-47	1	38	-60			
WARSAW	6.78	341.4	1	40	2				3	40	
SIMFEROPOL	6.82	94.3	1	19	-20	2	11	-45			
YALTA	6.95	97.8	1	14	-26	2	16	-43			
THEODOSIA	7.69	92.4	1	52	2						
PRUHONICE	7.86	305.2	2	3K	11				5	3	
PRAGUE	7.97	305.5	2	3	9						
COLLMBERG	9.37	309.6	2	20	8						
ROME	9.55	249.8	2	13	-1				6	10	
STUTTGART	10.75	291.2	2	55	25						
COPENHAGEN	12.43	326.6	2	55	4	5	23	17			
MOSCOW	12.87	35.2	2	39	-18	4	49	-27			
GOTEBORG	14.14	331.5	3	20A	7						
HELSINKI	14.34	0.9	3	9	-6	5	56	7			
UPPSALA	14.60	346.1	3	17A	-2	6	9	13	7	37	
NURMIJARVI	14.68	0.3	3	13	-6	5	51	-6	3	29	PP
MAKHACH-KALA	16.66	91.8	3	24	-19						
KIROVOBAD	16.70	100.4	3	25	-19						
SETIF	17.32	242.9	4	1	10						
SKALSTUGAN	19.05	343.1	4	10	1				4	27	
SODANKYLA	21.59	2.2	4	34	-1	8	25	8	8	55	PCP
KIRUNA	22.13	355.9	4	40	0				4	46	
APATITY	22.24	9.0	4	43K	2	8	36	8	5	5	
TAMANRASSET	27.73	220.2	5	37	5				6	11	
BYRD STATION	143.42	189.9	19	9	-2						

AUGUST 20 7.H 18.M 34.S EPICENTRE -6.87 -85.19 DEPTH= 0.KM

A= 0.08320 B=-0.98942 C=-0.11883 D=-0.9965 E=-0.0838  
G=-0.0100 H= 0.1184 K=-0.9929 HT= 6.9

SE= 3.01

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S		
HUANCAYO	11.00	118.6	2	41	-1	4	41	-6				
CHINCHINA	15.15	39.3	3	38	1	6	47	20				
BOGOTA	15.92	44.5	3	45	-2	7	2	17				
BALBOA HTS.	16.70	19.7	3	55A	-2	7	15	12				
FUQUENE	16.77	43.3	3	58	0	7	18	14				
LA PAZ	19.24	121.3	4	30	2	8	10	10			4	50 PP
GALERAZAMBA	20.13	29.5	4	48	10	8	40	20				
COMITAN	23.98	343.4									8	48
CARACAS	25.07	46.7	5	28A	1	10	6	16				
MERIDA	27.99	351.2				11	11	33				
VERA CRUZ	28.06	337.6									8	47
TACUBAYA	29.53	332.4	6	2	-6						6	58
SAN JUAN	31.36	36.6	6	23	-2							
CHIHUAHUA	40.64	331.2	7	32	-11							
COLUMBIA	40.84	5.3	7	45	0							
DALLAS	41.01	345.1	7	48	2							
CHAPEL HILL	42.95	7.3	8	7	5							
BERMUDA	43.65	25.4	8	11	3	14	36	-2			10	6 PP
TUCSON	45.94	329.3	8	28	2							
TUCSON TELE.	45.96	329.5	8	27	0						10	4 PCP
WASHINGTON	46.16	8.8	8	32	4						10	25 PP
MORGANTOWN	46.52	5.6	8	30	-1							
LAWRENCE	46.55	349.2	8	31	0							
PENNSYLVANIA	47.91	7.5	8	44	2	15	36	-3				
PALISADES	48.76	11.4	8	49	1	15	23	-28			18	59 SS
PORT STANLEY	50.06	158.1	9	0	2							





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TAMANRASSET	91.42	298.2	12	55	-14	23	54	-13	13	12
SIMFEROPOL	92.33	330.4							13	45
MATUSIRO	93.23	44.4	13	16	-1					
MESSINA	95.80	315.3							17	36
MBOUR	102.79	278.2							33	21 SS
GRANADA	106.61	304.4							18	50 PP
COLLEGE	142.80	30.5	15	52	777					
RESOLUTE	143.90	356.9	19	38	1				35	20 PPPS
PALISADES	158.47	284.7							34	55 SKSP
SHASTA	164.11	76.7	21	5	61					
LICK	164.36	89.2	21	10	65					
FRESNO	165.68	92.6	21	12	66					
PASADENA	166.09	104.6							38	20 PPS
HUNGRY HORSE	167.04	38.8	21	15	68					
TUCSON	170.20	129.2	21	37	88					

AUGUST 21 7.H 13.M 23.S EPICENTRE 39.28 104.24 DEPTH= 0.KM

A=-0.19090 B= 0.75232 C= 0.63054 D= 0.9693 E= 0.2460  
G=-0.1551 H= 0.6112 K=-0.7762 HT= -1.4

SE= 1.57

	DELTA DEG.	AZ. DEG.	P		O-C	S			*PP		SUPP.	
			M	S	S	M	S	S	M	S	M	S
LANCHOW	3.24	185.9	0	54	1							
PAOTOW	4.64	71.9	1	17	4							
SIAN	6.27	141.7	1	36	0							
CHENG TU	8.60	181.3	2	8	-1	4	0	12				
ULAN-BATOR	8.85	11.7	2	14	2							
PEKING	9.24	81.6	2	18	1							
NANKING	13.83	116.9	3	18	-2							
KUNMING	14.17	185.6	3	23	-1	6	18	15				
ZO-SE	16.06	115.4	3	48	-1	7	1	13				
CHANGCHUN	16.40	67.1	3	54	1	7	14	18				
SHILLONG	17.18	220.9	3	49	-14							
PHU-LIEN	18.53	172.9				7	59	15				
CHATRA	18.90	234.1	4	29	5	8	7	14				
HONG KONG	18.93	150.5	3	42	-43	7	57	4				
SEMI PALATNSK	20.23	311.2	4	39	0							
VLADIVOSTOK	21.12	70.6	4	48	-1							
WARSAK DAM	26.68	268.9	5	54	11	10	42	25			6	47 PP
MATUSIRO	26.85	85.1	5	42	-2	10	49	29				
YAKUTSK	27.57	26.0	5	52	1							
UGLE GORSK	28.58	57.5									9	0 PCP
QUETTA	31.78	265.0	6	28	0							
TIKSI	34.74	13.4									8	17 PP
GUAM	43.94	114.4	8	11	1							
TIFLIS	44.48	293.1	8	17	2							
SODANKYLA	49.77	330.3	8	55	-1						10	11 PCP
HELSINKI	51.81	321.3	9	11	-1							
NURMI JARVI	51.87	321.8	9	12	0							
KIRUNA	52.04	331.4	9	13	-1							
UPPSALA	55.43	322.3	9	37A	-1							
JERUSALEM	55.45	285.1	9	39	0							
LWOW	55.54	309.3	9	40	1							
SKALSTUGAN	56.49	327.6	9	46	0							
GOTEBORG	58.97	321.2	10	1	-3							
PRUHONICE	61.04	312.4	7	17	-181							
COLLEGE	62.09	27.4	10	24	-1							
JENA	62.26	314.4	10	25	-1							
RESOLUTE	65.61	5.5	10	46	-2							
CHARTERS TS.	70.93	138.3	11	20	-1							
MUNDARING	71.75	169.3	11	25	-1							
TAMANRASSET	82.29	293.0	12	25	0						13	31
CANBERRA	84.96	144.7	12	38	0							
ELISABTHYLLE	87.28	252.7	12	52	2							
SCOTT BASE	122.71	167.1	18	58	0							
SOUTH POLE	129.09	180.0	19	9	-1							
HUANCAYO	152.88	359.1	19	56	4						20	59 PKP2

AUGUST 21

8.H 3.M 15.S EPICENTRE -50.47 139.63 DEPTH= 0.KM

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A=-0.48691 B= 0.41394 C=-0.76914 D= 0.6477 E= 0.7619  
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SE= 2.84

	DELTA DEG.	AZ. DEG.	M	P	S	O-C S	M	S	O-C S	*PP M S	M	S	SUPP.
FORT NELSON	9.21	38.0	2	16		-1	4	24	22				
MACQUARIE I.	12.44	116.4	3	0		-1	5	23	2		15	27	SCS
MELBOURNE	13.20	18.8	3	10K		-1	5	39	-1		3	30	
ADELAIDE	15.50	357.2	3	40		-1	6	33	-1		6	48	
TERRE ADELIE	16.43	177.5	3	50		-3	6	57	1				
CANBERRA	16.60	27.8	3	55K		0					4	14	PP
RIVERVIEW	18.65	31.3	4	21A		0	7	50	3				
WILKES	21.71	212.1	4	52		-2	8	59	9		7	12	
KAIMATA	23.14	82.3	5	21		13	9	51	34		7	34	
COBB RIVER	24.74	80.5	5	36		12							
BRISBANE	25.14	28.4	5	27		-1	9	35	-16				
MUNDARING	25.35	307.9	5	28		-2	9	53	-1				
PERTH	25.56	307.3	5	33		1	9	53	-5				
CAPE HALLETT	25.78	159.0	5	37K		3	10	9	7	5 55	6	0	PP
WELLINGTON	25.92	82.9					10	10	6				
TONGARIRO	27.58	79.8	5	58		8					8	41	
SCOTT BASE	29.29	168.6	6	6		0	11	26	27		7	4	PP
CHARTERS TS.	30.76	12.2	6	17		-2	11	15	-7				
SOUTH POLE	39.72	180.0	7	36		1					9	9	PP
PORT MORESBY	41.41	11.3	7	50K		1	14	7	2		17	13	SS
BYRD STATION	42.58	165.3	7	59		0					9	46	PP
RABAUL	47.30	17.1	8	37		0					10	56	
DJAKARTA	51.95	316.8	9	12K		0	16	40	5				
HALLEY BAY	53.97	184.2	9	25		-2							
ARGENTINE I.	63.15	169.0	10	50		18							
GUAM	63.81	5.5	10	35		-1							
MANILA	66.87	340.4	10	29		-27					12	34	PP
HONG KONG	75.87	335.8					21	31	-1				
PHU-LIEN	76.71	328.4	12	5		11	21	37	-4		24	7	
COLOMBO	76.83	298.2	12	11		16	21	46	4				
CANTON	76.84	335.2	11	55		0							
TANANARIVE	76.94	256.2	11	57		1					14	58	PP
PORT STANLEY	77.13	168.9	13	57		120							
GRAHAMSTOWN	77.82	232.0	12	1		1							
HERMANUS	80.48	226.3					22	26	5		23	7	PS
KUNMING	82.03	326.7	12	25		2	22	40	3				
KIMBERLEY	82.40	233.5	12	20K		-5							
ZO-SE	82.84	344.1	12	26		-1	22	43	-2				
CHITTAGONG	83.89	316.4	12	17		-16	22	25	-31		15	23	PP
NANKING	84.21	342.3	12	35K		1	23	0	1				
HYDERABAD	86.27	303.0					23	20	1				
TUKUBASAM	86.31	0.4	12	43A		-2	23	7	-13		16	0	PP
MATUSIRO	86.64	358.9	12	45A		-1	23	13	-10		28	39	SS
SHILLONG	86.68	317.9	12	46		-1	23	27	4				
CHENG TU	86.71	329.8	12	48		1	23	26	3		23	15	SKS
BULAWAYO	87.26	241.4	12	49		0							
BOKARO	87.91	312.3									18	39	PPP
SIAN	88.61	335.0	12	57K		1							
POONA	89.67	300.1	13	0		-1							
CHATRA	89.85	314.9	13	1		-1							
HONOLULU	90.03	55.6					24	2	8		15	59	
BOMBAY	90.54	299.5					23	57	-2		30	18	
WINDHOEK	91.38	231.2	13	9		0							
LANCHOW	91.75	331.7	13	10		0							
PEKING	92.44	342.2	13	14		0							
ELISABTHVILLE	94.70	245.6	13	33		9	24	52	17		27	11	
CHANGCHUN	94.74	349.7	13	26		2							
DEHRA DUN	97.08	310.0	12	52		-43							
ULAN-BATOR	101.98	338.2									16	20	
QUETTA	102.71	302.1					24	29	-11		28	10	PPS
PETROPAYLOVK	104.35	11.7	18	7		777							
LEOPOLDVILLE	107.56	239.7									28	15	PS
MAGADAN	110.03	6.0	17	10		777							
YAKUTSK	112.41	355.0									19	24	PP
TIKSI	122.03	356.0	18	56		0							
JERUSALEM	122.59	281.8									20	50	PP
MAKHACH-KALA	122.67	299.4									21	14	PP
BERKELEY	122.79	68.7									37	34	SS
PASADENA	122.80	74.7									20	39	PP
LICK	122.81	69.6	19	5		7							
TIFLIS	123.38	296.7	19	1		2							
FRESNO	123.54	71.3	19	7		8							

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1959					PAGE 646		
KSARA	123.54	284.0	19 3	4			20 50 PP
SHASTA	124.55	66.1	19 14	13			
MINERAL	124.78	66.9	19 4	2			21 22 PP
CHINCHINA	125.88	134.8	19 12	8			
TUCSON TELE.	126.25	81.3	19 5	1			21 17 PP
BOGOTA	126.26	136.7					24 4 PPP
FUQUENE	127.17	136.6			26 15	3	24 2 PPP
SOTCHI	127.46	295.6					21 14 PP
EUREKA	127.59	71.1	19 8	1			20 49 PP
COLLEGE	127.85	31.1	19 3	-5			21 19 PP
GALERAZAMBA	131.14	131.7					22 56 SKP
SIMFEROPOL	131.52	293.8					21 29 PP
HUNGRY HORSE	133.86	62.6					21 53
CARACAS	134.54	141.9					22 35 PP
TAMANRASSET	134.96	249.5	19 17	-4	26 25	-5	
MOSCOW	135.19	308.3	19 56	35			
KHEYS	138.02	346.0	19 49	22			
RAPID CITY	138.03	73.5	19 35	8			
MESSINA	139.10	274.7					21 2
LWOW	139.89	294.9	19 30	0	25 54	-45	
PULKOVO	140.38	311.5	19 33	2			
WARSAW	142.62	297.2	19 38	3	26 42	-1	22 42 PP
HELSINKI	143.08	310.9	19 34	-1			
ROME	143.12	277.5	19 31	-5			21 52 PP
BRATISLAVA	143.27	289.3	19 45	9			
NURMIJARVI	143.31	311.3	19 34	-2			
SODANKYLA	143.69	323.0	19 34	-3			
LJUBLJANA	143.89	284.8	19 31A	-6			21 58 PP
TRIESTE	144.19	283.8	19 38	1			
SETIF	144.37	264.3	19 39	1			
TOLMEZZO	144.98	284.5	19 43	4			22 0
PRATO	145.00	279.5	19 45	6			22 5 PP
PRUMONICE	145.54	291.0	19 40A	0			23 15 PKS
PRAGUE	145.64	291.1	19 46	6			
KIRUNA	146.09	323.6	19 42A	1			20 5
COLUMBIA	146.19	103.4	19 43	2			
ALGIERS UNI.	146.22	263.0	19 42	1			19 53 PKP2
UPPSALA	146.61	308.9	19 43	1			
PAVIA	146.83	280.4	19 51	9			22 21 PP
COLLMBERG	146.94	292.6	19 44	2			
RESOLUTE	147.15	23.5	19 43A	1			42 15 SS
PLAUEN	147.15	290.8	19 47	4			22 9
RELI ZANE	147.16	259.3	19 45	2			23 22 PP
POTSDAM	147.25	294.5	19 45	2			22 5
CHUR	147.34	283.4	19 48	5			
HALLE	147.62	292.5	19 45	2			25 8 PP
JENA	147.65	291.4	19 47	4			22 55 PP
RAVENSBURG	147.67	285.0	19 48	5			
SONNEBERG	147.69	290.2	19 47	4			22 8
NORD	147.87	353.6	19 44	0			
EBINGEN	148.23	285.4	19 48	4			
STUTTGART	148.27	286.5	19 48	4			23 10 PP
TUBINGEN	148.30	286.0	19 48	4			
COPENHAGEN	148.50	300.3	19 49	4			23 37 PP
CHAPEL HILL	148.67	102.7	19 51	6			22 16 PP
BASLE	148.83	283.5	19 54	9			
NEUCHATEL	149.01	282.2	19 51	6			
STRASBOURG	149.12	285.5	19 51	5	26 45	-7	23 32 PP
GOTEBORG	149.15	304.0	19 52	6			20 27
ALICANTE	149.41	262.2	19 46	0	26 53	0	23 25 PP
SKALSTUGAN	149.47	315.6	19 50A	4			
BENSBERG	150.30	289.7	19 58	10			22 21 PP
MUNSTER	150.33	291.8	20 54	66			22 50 PP
MORGANTOWN	150.34	96.0	19 52	4			22 11 PP
GRANADA	150.66	257.3	20 9A	21	27 23	29	44 51 SS
CLERMONT-FD.	150.91	277.8	19 58	10			
THULE	151.74	13.5	19 45	-5			22 18
DE BILT	151.82	291.2	19 45	-5			
UCCLE	151.96	288.2	19 59	9			22 35 PP
PARIS	152.47	283.4	19 59	8			20 16 PKP2
TOLEDO	152.55	261.4	20 1	10			
BERMUDA	154.52	125.9	20 8	14			
PALISADES	154.94	99.2					43 21 SS
KEW	154.97	287.9	20 17	23			
OTTAWA	155.93	88.4	20 2	7			
SERRA PILAR	156.12	259.3	19 57A	1	27 1	1	20 26 PCP2
DURHAM	156.28	295.5	20 27	31	27 10	9	
BREBEUF	157.32	89.7	20 4	7			



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MORGANTOWN	150.31	96.2	19 52	4
DOURBES	151.65	286.7	19 56	6
TOLEDO	152.56	261.2	20 12	21
BERMUDA	154.43	126.1	20 26	32
SERRA PILAR	156.13	259.0	21 11	75
DURHAM	156.35	295.3	20 20K	24
SCORESBY SD.	158.27	343.4	20 33	34
RATHFARNHAM	158.95	290.7	20 21	22

AUGUST 21 9.H 37.M 49.S EPICENTRE -50.37 139.44 DEPTH= 0.KM

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SE= 2.92

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
FORT NELSON	9.21	39.1	2	17	0	4	23	20				
MACQUARIE I.	12.59	116.7				5	27	2			3	17 PPP
MELBOURNE	13.15	19.6	3	8A	-2	5	41	2			3	24
ADELAIDE	15.40	357.8	3	39	-1	6	34	2			6	47
TERRE ADELIE	16.53	177.3	3	53	-2	6	59	1				
CANBERRA	16.57	28.4	3	55	0	7	11	12			4	17 PP
RIVERVIEW	18.63	31.9	4	20A	-1	7	49	3				
WILKES	21.73	211.8	4	53	-2	9	3	12				
COBB RIVER	24.84	80.9	5	31	6							
MUNDARING	25.20	308.1	5	28	0	9	57	5				
CAPE HALLETT	25.91	159.0	5	36	1	10	11	7	5	43	6	23 PP
WELLINGTON	26.03	83.3				10	8	2				
TONGARIRO	27.68	80.2	5	59	8							
SCOTT BASE	29.40	168.6	6	6	-1						7	24 PPP
CHARTERS TS.	30.70	12.6	6	17	-1	11	22	1				
SOUTH POLE	39.82	180.0	7	36	0						9	11 PP
PORT MORESBY	41.34	11.6	7	49	0	14	7	3			9	29 PP
BYRD STATION	42.70	165.4	8	0	0						9	45 PP
RABAUL	47.25	17.4	8	36	0						10	17
DJAKARTA	51.80	317.0	9	11K	0	16	42	9				
HALLEY BAY	54.06	184.3	9	26	-2							
ARGENTINE I.	63.27	169.1	10	27	-5							
GUAM	63.72	5.7	10	35	0							
COLOMBO	76.68	298.4									21	44
TANANARIVE	76.85	256.3	11	51	-4							
GRAHAMSTOWN	77.79	232.1	12	1A	1							
HERMANUS	80.46	226.4				22	32	11			30	20
KUNMING	81.89	326.8	12	25	3	22	41	5				
KIMBERLEY	82.36	233.6	12	24	-1							
ZO-SE	82.71	344.3	12	27	0	22	44	0				
CHITTAGONG	83.74	316.5	12	30	-2							
NANKING	84.09	342.5	12	32	-2	22	57	-1				
TUKUBASAN	86.22	0.5	12	42	-2	23	13	-6			15	57 PP
SHILLONG	86.53	318.1	12	45	-1							
MATUSIRO	86.54	359.0	12	45A	-1	23	19	-3			28	50 SS
CHENG TU	86.57	330.0	12	47	1							
BULAWAYO	87.20	241.5	12	50	1							
SIAN	88.47	335.1	12	55	0							
POONA	89.52	300.2	13	10	10							
CHATRA	89.69	315.0	13	3	2							
WINDHOEK	91.35	231.4	13	11	2							
LANCHOW	91.61	331.8	13	11K	1	24	11	2				
BROKEN HILL	91.81	244.8	13	13	2							
PEKING	92.31	342.3	13	13	0	23	51	-24				
CHANGCHUN	94.62	349.8	13	24	0							
ELISABTHVLE	94.63	245.7	13	31	7	24	51	16				
QUETTA	102.55	302.2	13	54	-6	24	46	7			28	13 PPS
PETROPALOVK	104.28	11.8									18	8 PP
YAKUTSK	112.31	355.1									19	24
BERKELEY	122.86	68.8	19	1	3							
LICK	122.89	69.7	19	0	2							
KSARA	123.40	284.2	19	17	18						21	5 PP
FRESNO	123.62	71.3	19	3	3							
SHASTA	124.62	66.1	19	5	4							
MINERAL	124.86	66.9	19	4	2							
TUCSON	126.23	81.4	19	6	1							
TUCSON TELE.	126.36	81.4	19	7	2							
EUREKA	127.68	71.1	19	10	3							



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1959					PAGE 649				
COLLEGE	127.83	31.1	19 7	-1					21 21 PP
SIMFEROPOL	131.37	294.1	19 23	9					
HUNGRY HORSE	133.93	62.6	19 22	3					
TAMANRASSET	134.88	249.8	19 23	2					21 47 PP
MOSCOW	135.03	308.4	19 22	1					
RAPID CITY	138.12	73.5	19 35	8					21 43 PP
MESSINA	138.97	275.0							21 49
LWOW	139.74	295.1	19 28	-2					22 57 PP
ROME	142.99	277.8	19 39	4					
BRATISLAVA	143.12	289.5	19 46	10					
NURMIJARVI	143.16	311.5	19 35	-1					
SODANKYLA	143.54	323.1	19 34	-2					22 55 PP
LJUBLJANA	143.75	285.0	19 35A	-2					20 57
TRIESTE	144.05	284.0	19 39	2					24 47
SETIF	144.26	264.6	19 38	0					20 49
TOLMEZZO	144.84	284.8	19 41	2					
PRATO	144.86	279.8	19 35	-4					24 21 PP
PRUHONICE	145.39	291.2	19 40K	0					
PRAGUE	145.50	291.3	19 42	2					23 26 PKS
KIRUNA	145.94	323.7	19 43	2					19 50
ALGIERS UNI.	146.11	263.3	19 44	3					19 54 PKP2
COLUMBIA	146.33	103.5	19 45	4					
UPPSALA	146.45	309.1	19 44	3					19 52
COLLMBERG	146.79	292.8	19 38	-4					21 27
PLAUE	147.01	291.0	19 44	2					20 15
RELI ZANE	147.06	259.6	19 46	3					23 18 PP
POTSDAM	147.10	294.7	19 51	8					20 37
RESOLUTE	147.11	23.4	19 43A	0					
MONACO	147.12	277.2	19 47	4					
CHUR	147.20	283.6	19 47	4					
HALLE	147.48	292.7	19 48	5					19 54 PKP2
JENA	147.50	291.6	19 47	4					22 29
RAVENSBURG	147.53	285.2	19 48	5					
SONNEBERG	147.54	290.5	19 48	5					19 56
NORD	147.76	353.6	19 44	0					
EBINGEN	148.09	285.6	19 49	5					22 46
STUTTGART	148.12	286.8	19 49	5					
TUBINGEN	148.16	286.3	19 49	5					
COPENHAGEN	148.35	300.5	19 50	5					23 11 PP
BASLE	148.69	283.8	19 58	13	26 44	-8			
CHAPEL HILL	148.81	102.7	19 53	8					
NEUCHATEL	148.87	282.5	19 52	7					
STRASBOURG	148.98	285.7	19 51	5					
GOTEBORG	148.99	304.2	19 51	5					20 0
ALICANTE	149.30	262.5	19 46	0	26 53	0			23 25 PP
SKALSTUGAN	149.31	315.7	19 50	4					19 59
BENSBERG	150.16	289.9	20 2	15					
MORGANTOWN	150.47	96.0	19 55A	7					
GRANADA	150.56	257.7	19 54A	6					24 12 PP
CLERMONT-FD.	150.78	278.1	20 2	14					
DOURBES	151.45	287.2	19 58	9					
THULE	151.67	13.4	20 2	12					
UCCLE	151.81	288.5	20 7	17					
PARIS	152.33	283.6	20 2	11					
TOLEDO	152.45	261.8	20 1	10					
FOLINIÈRE	154.17	282.1	20 4	11					
SERRA PILAR	156.02	259.7	20 36K	40					
OTTAWA	156.05	88.3	19 58	2					
DURHAM	156.13	295.8	20 20	24					
BREBEUF	157.44	89.6	20 4	6					
SCORESBY SD.	158.03	343.3	20 34	36					
SEVEN FALLS	159.84	87.5	20 9	9					

AUGUST 23 22.H 21.M 29.S EPICENTRE 35.73 -3.23 DEPTH= 0.KM

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	DELTA DEG.	AZ. DEG.	P		O-C		S			*PP		SUPP.	
			M	S	S	M	S	S	M	S	M	S	
ALMERIA	1.28	28.6	0	25A	0							0	42 SG
GRANADA	1.48	348.5				0	54	6				0	30 PG
RELI ZANE	3.08	88.5	0	48	-2	1	24	-5				1	3 PG
ALICANTE	3.42	39.3	0	56	1	1	52	15					

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1959								PAGE 650	
TOLEDO	4.19	351.4	1	6	0				1 21 PG
ALGIERS UNI.	5.18	76.6	1	19	-1	2	17	-5	
LISBON	5.59	304.0	1	25A	-1	2	23	-9	1 35 PP
TORTOSA	5.87	28.9	1	34	4	2	59	20	
COIMBRA	6.06	318.9	1	32	-1	2	37	-7	
SERRA PILAR	6.84	323.6	1	47K	3	3	8	5	1 57 PP
SETIF	7.02	83.7	1	44	-2	3	8	0	2 5 PG
BARCELONA	7.06	34.9	2	2	15	3	59	50	
CLERMONT-FD.	11.12	23.7	2	43	0				6 2 SG
MONACO	11.45	42.5	2	55	8				9 7
GARCHY	12.46	20.3	2	58K	-3	5	54	32	
FOLINIERE	13.19	8.0	3	9	-2				
NEUCHATEL	13.60	31.0	3	18	2				
PRATO	13.68	49.2	3	29	12	6	3	12	
ROME	13.71	58.6	3	21	3	6	6	14	
PARIS	13.73	16.1	3	17	-1				3 29 PP
BASLE	14.28	31.0	3	27	2				
CHUR	14.66	36.8	3	33	3				
TAMANRASSET	14.98	147.1	3	32K	-2	6	16	-6	3 42 PP
STRASBOURG	15.19	28.9	3	38	1	6	39	12	6 53 SS
MESSINA	15.22	75.1	3	38	0	6	36	8	6 11
RAVENSBURG	15.37	34.5	3	38	-1				
EBINGEN	15.37	32.2	3	39	-1	6	56	25	
DOURBES	15.45	19.2	3	44	3	6	49	16	
TUBINGEN	15.68	31.6	3	44	0				
KEW	15.87	6.7	3	47	1	7	4	21	
STUTTGART	15.96	31.4	3	46	-1	7	1	16	
UCCLE	16.03	17.7	3	49	1	7	0	13	
TOLMEZZO	16.21	43.9	3	54	4				
TRIESTE	16.22	47.2	3	49	-2	6	57	6	5 18 PGPG
LJUBLJANA	16.89	47.0	3	58A	-1	4	48		4 48
BENSBERG	16.97	23.0	4	1	1				
DE BILT	17.43	17.5	4	7	1	7	41	22	
ZAGREB	17.66	49.3	4	8	-1	7	26	2	4 13 PP
RATHFARNHAM	17.70	354.0	4	12K	3				
MUNSTER	17.99	22.2	4	14	1				9 53
SONNEBERG	18.00	31.1	4	11	-2				4 50
WITTEVEEN	18.47	19.2	4	18	-1				
PLAUEN	18.49	32.3	4	14	-5				5 21
JENA	18.57	30.5	4	19	-1	7	35	-10	4 52
DURHAM	19.07	2.9	4	18K	-8				4 54 PPP
HALLE	19.15	29.9	4	27	0	8	13	15	4 41 PP
PRUHONICE	19.24	36.8	4	27	-1	8	11	11	
PRAGUE	19.24	36.4	4	28	0	8	15	15	
COLLMBERG	19.44	31.8	4	30	0				5 44 PP
BRATISLAVA	19.50	44.2	4	31	0	7	57	-9	
HURBANOVO	19.98	46.0	4	35	-2				
BELGRADE	20.16	56.0	4	37K	-1	8	27	7	8 51 PCP
POTSDAM	20.27	29.8	4	39	-1	8	35	13	5 10 PP
TIMI SOARA	20.98	54.0	4	53	6				9 16
RACIBORZ	21.16	40.7	4	48	-1				
ABERDEEN	21.46	1.7	4	31A	-21				8 54
ATHENS	21.66	76.1	4	53A	-1				
SOFIA	21.67	63.2	4	53	-1				7 1
SKALNATE PL.	21.81	44.7	4	51	-4				
KRAKOW	22.08	42.4	4	57	-1				
COPENHAGEN	22.66	23.4	5	3	-1				
WARSAW	23.84	38.7	4	10	-65				
BUCHAREST	23.96	59.8	5	21K	5				6 11
GOTEBORG	24.21	20.1	5	22	3				
LWOW	24.30	46.1	5	21K	1	9	50	13	
MBOUR	24.58	213.6	5	4	-18				
UPPSALA	27.67	22.8	5	48	-3	10	52	19	
SKALSTUGAN	29.46	14.1	6	6A	-1				
SIMFEROPOL	29.70	60.4	6	8	-2				
NURMI JARVI	30.57	27.1	6	20	3				9 14 PCP
KSARA	32.04	81.9	6	32	2				
JERUSALEM	32.07	85.8	6	33	3				
PULKOVO	32.37	31.5	6	24	-9				
MOSCOW	34.16	41.2	6	46	-3				
KIRUNA	34.84	15.5	6	54	0	12	32	7	
SODANKYLA	35.99	19.1	7	3	-1				9 29 PCP
SCORESBY SD.	36.24	349.5	7	8	2				
BANGUI	37.15	142.1	7	14	0				20 58
TIFLIS	37.56	66.0	7	16	-1				
APATITY	38.05	21.8	7	25	3				8 52 PP
LEOPOLDVILLE	43.49	152.7	8	8	2	14	43	7	
NORD	46.26	357.3	8	28	-1				

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SVERDLOVSK	46.95	42.5	8 33	-1			
LWIRO	48.20	134.7	8 45A	1		26 28	
KHEYS	50.38	10.8	9 1	0			
SEVEN FALLS	50.47	305.1	9 1	0			
SHAWINIGAN	51.90	304.7	9 12K	0			
BREBEUF	52.75	303.7	9 18A	0		12 38 PPP	
OTTAWA	54.19	304.1	9 29	0			
PALISADES	54.28	298.4			17 48 41		21 38 SS
ELISABTHVILLE	55.34	142.5	9 40	2			
RESOLUTE	56.35	341.4	9 43	-2	17 37 3		21 37 SS
SAN JUAN	57.70	270.2	9 54	0			
BROKEN HILL	58.23	143.2	9 59	1			
MORGANTOWN	59.09	298.8	10 5K	1			
CLEVELAND	59.49	301.4	10 3	-4			
SEMI PALATNSK	59.61	47.5	10 6	-2	18 20 3		
CHAPEL HILL	59.91	294.6	10 11	1			
COLUMBIA	62.19	293.4	10 26	1			
CARACAS	62.62	263.1	10 29	1	19 1 5		
BULAWAYO	63.23	146.3	10 32	0			
KIMBERLEY	69.36	153.9	11 10A	-1			
RAPID CITY	72.45	311.9	11 28	-2			
GRAHAMSTOWN	74.14	154.4	11 40A	0			
DALLAS	74.25	299.2	11 40	0			
BANFF	75.09	322.9	11 44	-1			
YAKUTSK	75.45	20.9	11 45	-2			
COLLEGE	75.96	345.2	11 50	0			
HUNGRY HORSE	76.09	320.0	11 50	-1			
BOZEMAN	76.12	316.6	11 52	1			
BUTTE	76.75	317.5	11 54	-1			
SHILLONG	79.39	66.2	12 8A	-1			
LANCHOW	81.54	51.6	12 21A	1			
EUREKA	82.83	314.0	12 27	0			
HUANCAYO	82.87	249.7	12 30	3			
CORVALLIS	83.38	321.5					14 17
TUCSON TELE.	84.11	305.7	12 35	1			
TUCSON	84.24	305.7	12 36	2			
CHENGTU	85.00	55.7	12 39	1	23 6 -1		
RENO	85.00	316.0	12 39	1			
MINERAL	85.44	317.6					13 45
SHASTA	85.63	318.2	12 41	0			
SIAN	85.90	50.3	12 45A	2			
PEKING	86.23	42.1	12 44	0	22 55 -24		
KUNMING	87.57	60.7	12 52	1			
CHANGCHUN	88.03	34.5	12 52	-1			
SOUTH POLE	125.55	180.0	19 2	-1			
BYRD STATION	129.44	191.7	19 11	0			21 21 PP
CAPE HALLETT	143.19	176.7	19 33	-3			
CHARTERS TS.	149.02	68.0	19 50	4			
ADELAIDE	149.08	99.9	19 51A	5			

AUGUST 24 1.H 26.M 4.S EPICENTRE -4.20 35.14 DEPTH= 0.KM

A= 0.81562 B= 0.57400 C=-0.07268 D= 0.5755 E=-0.8178  
G=-0.0594 H=-0.0418 K=-0.9974 HT= 7.1

SE= 1.92

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S		
LWIRO	6.61	286.8	1	40	0	2	50	-7				
ELISABTHVILLE	10.60	225.3	2	36	0	4	33	-3				
BROKEN HILL	12.12	212.4	2	54	-2							
BULAWAYO	17.08	201.3	4	1	0	7	1	-10				
BANGUI	18.57	297.1	4	19	-1	7	40	-5				
LEOPOLDVILLE	19.83	268.8	4	35	0	8	9	-4				
WINDHOEK	25.27	222.1	5	32	3							
PIETERMZBURG	25.68	189.5	5	52	19							
KIMBERLEY	26.33	200.9	5	38A	-1							
GRAHAMSTOWN	30.06	194.4	5	54	-19							
TAMANRASSET	39.44	314.1	7	34	1							
HELSINKI	64.67	354.4	10	40	-1							
NURMIJARVI	65.03	354.3	10	43	-1							
UPPSALA	65.33	350.4	10	44	-2							
SKALSTUGAN	69.75	349.3	11	19	6							
SODANKYLA	71.66	356.5	11	24	-1							
KIRUNA	72.61	354.2	11	29	-2							

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SOUTH POLE 85.83 180.0 12 43 1

AUGUST 24 12.H 29.M 18.S EPICENTRE 53.13 159.84 DEPTH= 0.KM

A=-0.56562 B= 0.20768 C= 0.79809 D= 0.3447 E= 0.9387  
G=-0.7492 H= 0.2751 K=-0.6025 HT= -6.6

SE= 2.36

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
PETROPAVLOVK	0.73	261.5	0	24	7							
MAGADAN	8.15	325.7	2	9	6							
UGLEGORSK	11.88	257.2									4	0
YAKUTSK	18.28	311.0	4	18	1							
MATUSIRO	22.45	231.0	5	2A	0	9	11	6				
TIKSI	22.97	335.3	5	25	18							
ABUYAMA	25.06	232.9	5	28A	1							
COLLEGE	28.49	45.1	5	59	0							
RESOLUTE	43.35	21.9	8	6K	0						9	53 PCP
ALBERNI	45.34	63.0	8	23	1							
NORD	45.50	359.3	8	22	-1							
VICTORIA	46.53	63.1	8	31K	0							
BANFF	49.03	56.1	8	53	2							
HUNGRY HORSE	51.56	58.2	9	10	0							
SHASTA	52.02	70.5	9	13	0							
MINERAL	52.70	70.3	9	19	0							
LICK	54.72	73.1	9	33	0							
SODANKYLA	54.81	339.8	9	32	-2							
KIRUNA	55.62	342.6	9	38	-2							
EUREKA	56.46	67.5	9	46	0							
SHILLONG	56.86	269.2	9	46	-3							
CHITTAGONG	59.29	266.8	10	11	5							
RAPID CITY	59.96	55.7	10	10	-1							
SKALSTUGAN	60.90	344.1	10	16	-1							
NURMIJARVI	61.18	336.5	10	13	-6						11	0 PCP
HELSINKI	61.40	336.2	10	20	0							
UPPSALA	63.35	339.8	10	31	-2							
TUCSON TELE.	64.54	69.6	10	41	0							
TUCSON	64.55	69.8	10	41	0							
QUETTA	68.11	291.2	11	4	0							
OTTAWA	70.96	37.9	11	17	-4							
SHAWINIGAN	71.03	35.4	11	21	-1							
DURHAM	71.37	348.8	11	28	4							
BREBEUF	71.64	36.5	11	24A	-1							
JENA	72.92	339.6	11	33	0						11	58
PRUHONICE	73.16	337.4	11	35K	1							
CHARTERS TS.	73.86	193.3	11	37	-2							
DOURBES	75.04	343.8	11	47	2							
PALISADES	75.40	39.1									23	41
STUTTGART	75.45	340.4	11	48	0							
STRASBOURG	75.93	341.3	11	51	1							
LJUBLJANA	76.84	336.0	11	55A	-1							
FOLINIERE	77.11	346.8	11	4	-53							
NEUCHATEL	77.60	341.4	15	0	180							
ATHENS	81.62	326.4	12	20K	-1							
TAMANRASSET	101.18	335.9	13	52	-2							
ELISABTHVLL	123.91	299.3	19	3	3							
BYRD STATION	140.24	164.4	19	24	-7						23	2 PP
SOUTH POLE	142.95	180.0	19	30	-6							

AUGUST 24 15.H 41.M 40.S EPICENTRE -10.53 161.28 DEPTH= 0.KM

A=-0.93132 B= 0.31568 C=-0.18162 D= 0.3210 E= 0.9471  
G= 0.1720 H=-0.0583 K=-0.9834 HT= 6.5

SE= 1.84

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
PORT MORESBY	13.96	273.4	3	25K	4	6	10	12			3	35 PP
CHARTERS TS.	17.31	234.9	4	4	-1	7	27	10				
SUVA	18.25	116.4	4	17	1							
BRISBANE	18.58	204.3	4	20	0	7	53	8				
RIVERVIEW	24.98	200.3	5	31A	4	9	50	1				

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APIA	26.53	99.8	5 38	-3				
CANBERRA	27.09	202.4	5 46	0			6 38	PP
ONERAHI	27.80	156.7	5 59	6				
KARAPIRO	30.14	157.2	6 12A	-2			9 22	
TONGARIRO	31.25	158.4	6 23A	-1				
ADELAIDE	31.85	216.7	6 28	-1				
GEBBIES PASS	34.49	165.4	6 49	-3				
BAGUIO CITY	48.35	303.1	8 46	1	15 41	-5		
HONOLULU	50.92	51.5	9 8	3				
KIPAPA	51.05	51.4	9 6	0				
ABUYAMA	51.30	332.8	9 8K	0				
MATUSIRO	51.61	336.3	9 9A	-1	16 22	-9	10 51	
HAWAII V.OB.	52.15	55.3	9 14	0				
ZO-SE	56.50	318.5	9 44	-2	17 36	-1		
CANTON	57.60	305.9	9 55	1	17 53	2		
NANKING	58.69	317.8	10 1	-1	18 6	0		
Y.-SAKHLINSK	59.64	345.4	10 8	0				
VLADIVOSTOK	59.75	335.4	10 11	2				
UGLEGORSK	61.72	345.8	10 26	4				
CAPE HALLETT	61.97	176.9	10 23K	-1	18 47	-1	10 31	12 40 PP
CHANGCHUN	63.21	331.6	10 32	0	19 6	3		
PETROPAVLOVK	63.34	358.2	10 54	21				
PEKING	65.38	323.2	10 44	-2	19 27	-3		
KUNMING	67.13	302.9	10 57	-1	19 54	3		
SCOTT BASE	67.37	178.7	10 57	-2				
CHENGDU	68.53	308.8	11 5	-1	20 6	-2		
MAGADAN	70.35	354.4	11 16	-2				
LANCHOW	71.19	313.8	11 23	0	20 38	-1		
MIRNY	71.81	203.0	11 0	-26	20 45	-2		
ULAN-BATOR	75.47	325.6	11 48A	0				
YAKUTSK	76.40	345.3	11 51	-2				
SHILLONG	76.44	299.6	11 53A	0				
BYRD STATION	77.82	169.9	12 0	-1				
IRKUTSK	79.27	328.4	12 7	-2	22 7	-2		
SOUTH POLE	79.54	180.0	12 9	-1				
COLLEGE	84.23	19.5	12 33	-2	22 58	-2	28 8	SS
TIKSI	84.78	350.2	12 36	-1	23 2	-3		
UKIAH	85.57	49.1	12 42	1				
BERKELEY	85.92	50.5	12 44	1	23 25	9		
LICK	86.24	51.1	12 45A	0				
SHASTA	86.64	47.7	12 47A	0				
MINERAL	87.11	48.2	12 49A	0				
FRESNO	87.51	52.1	12 52	1				
PASADENA	88.15	54.9	12 54	0	23 28	-9		
RENO	88.22	49.4	12 57K	3				
VICTORIA	88.27	40.0	12 54	0				
EUREKA	91.09	50.2	13 9	1				
BANFF	93.88	38.8	13 23	2				
HUNGRY HORSE	94.28	41.8	13 23	1				
QUETTA	98.92	299.1	13 54	11				
RESOLUTE	103.74	15.4			24 42	-3	25 52	S
TIFLIS	116.65	311.4					20 31	
OTTAWA	120.42	43.2	18 53	-1				
PALISADES	122.93	47.8					19 47	PP
ELISABTHVILLE	129.08	245.6	19 13	3				
COLLMBERG	131.80	333.7					22 41	PKS
STUTTART	135.28	333.8	19 22	0				
LEOPOLDVILLE	143.07	248.0	19 34	-2				
SETIF	146.38	323.3	19 43	1				
TOLEDO	148.00	338.4	19 48	4				
TAMANRASSET	153.82	300.8	19 51	-2			23 57	PP

AUGUST 24 21.H 30.M 48.S EPICENTRE -10.74 161.43 DEPTH= 0.KM

A=-0.93158 B= 0.31290 C=-0.18506 D= 0.3184 E= 0.9480  
G= 0.1754 H=-0.0589 K=-0.9827 HT= 6.4

SE= 4.61

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S		
PORT MORESBY	14.13	274.1	3	22K	-2	6	6	3			3	38 PP
CHARTERS TS.	17.32	235.7	4	2	-3	7	18	1				
SUVA	18.02	116.1	4	22	8	7	53	20			5	50
BRISBANE	18.46	205.0	4	16	-3	7	50	7				
RIVERVIEW	24.84	200.7	4	29K	-57	9	54	7				

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APIA	26.34	99.4	5 38	-2	10 24	12	6 37 PP
RAOUL ISLAND	26.67	136.6	5 49	6			
CANBERRA	26.96	202.9	5 44	-1	10 30	8	8 56 PCP
ONERAHI	27.55	156.8	5 58	7	10 36	5	7 40
GUAM	29.19	325.0	6 2	-4			
KARAPIRO	29.89	157.3	6 11A	-1			9 14
MELBOURNE	30.76	206.0	6 17	-3	11 21	-2	7 22 PP
TONGARIRO	31.01	158.4	6 21	-1			
TUAI	31.28	155.9	6 25	1			12 36
ADELAIDE	31.78	217.0	6 25	-3	11 45	7	7 31
COBB RIVER	31.82	163.7	6 34	5	11 39	0	
WELLINGTON	32.61	161.2	6 35A	-1			
KAIMATA	32.84	166.3	6 41	3	12 2	7	
GEBBIES PASS	34.25	165.5	6 52	2	12 12	-5	12 25
FORT NELSON	34.34	198.5	6 56	5	12 25	7	
ROXBURGH	35.28	170.4	6 58A	-1	12 38	5	
MUNDARING	46.70	236.0	8 28	-5	15 26	3	
PERTH	47.01	236.1	8 37	2	15 36	9	19 15 SS
MANILA	47.30	301.5	8 49	12	16 1	30	
BAGUIO CITY	48.59	303.2	8 44	-3	15 47	-2	
HERA	49.81	336.7	8 54	-3	16 10	4	
OSIMA	49.85	336.1	9 0	3	16 8	1	
OMAESAKI	50.18	335.0	9 0	0	16 7	-4	
AJIRO	50.21	336.1			16 11	0	
SIOMISAKI	50.28	331.9	8 54	-6	16 5	-8	
YOKOHAMA	50.32	336.8	8 55	-6	16 12	-1	
MISIMA	50.33	336.0	8 46	-15	16 8	-5	
SHIZUOKA	50.42	335.4	9 13	11	16 18	3	
TOKYO C.M.O.	50.51	337.1	9 5A	3	16 20	4	11 35
HONGO	50.52	337.1	9 10	8	16 16	0	
OWASE	50.60	332.7	9 12	9	16 19	2	
YAKUSIMA	50.61	324.9	9 3	0	16 18	1	
HUNATU	50.73	336.0	9 7	3	16 17	-2	
KAKI OKA	50.83	337.8	9 10	5			
TUKUBASAN	50.85	337.7	8 55	-10	16 11	-10	10 55 PP
MITO	50.86	338.1	9 5	0	16 21	0	
MUROTO	50.87	330.4	9 14	9			16 0
HONOLULU	50.92	51.2	8 55	-10	16 34	12	12 26
KOHU	50.96	336.0	9 4	-2	16 27	5	
TITIBU	51.03	336.6	9 13	7			
KIPAPA	51.05	51.2	9 5	-1			
KUMAGAYA	51.06	337.0	9 12	6	16 26	2	
SIMIDU	51.09	328.9	9 7	0	16 18	-6	12 54
IIDA	51.13	335.2	9 17	10			
KAMEYAMA	51.14	333.5	9 6	-1	16 26	1	
NAGOYA	51.19	334.2	9 10	3	16 23	-2	
ONAHAMA	51.21	338.9	9 18	11	16 21	-5	10 0
MIYAZAKI	51.23	326.9	9 8	0	16 28	2	
UTUNOMIYA	51.23	337.7	9 6	-2	16 23	-3	
NARA	51.28	332.8	9 1	-7			
OSAKA	51.39	332.6	9 16	7	16 31	3	
MAEBASI	51.40	336.9	9 9	0	16 32	4	10 32
SUMOTO	51.41	331.8	9 14K	5	16 29	1	
KAGOSIMA	51.43	325.9	9 15	6	16 35	6	
KOTI	51.43	330.0	9 6	-3	16 19	-10	10 2
GIHU	51.47	334.2	9 6	-3	16 25	-4	
OIWAKE	51.54	336.4	9 13	3			13 4
ABUYAMA	51.55	332.7	9 5K	-5			
KOBE	51.57	332.3	9 13	3	16 33	2	10 34
TAWU	51.58	309.8	10 12	62			
HIKONE	51.59	333.6	9 8	-2	16 28	-3	
SHIRAKAWA	51.60	338.3	9 17	7	16 22	-9	
KYOTO	51.61	333.0	9 13	2	16 31	0	
MATUMOTO	51.70	335.8	9 16	5	16 28	-4	
HIMEJI	51.78	331.5					14 44
TAKAMATU	51.80	331.0	9 12	0	16 26	-8	
MATUSIRO	51.86	336.2	9 5	-7	16 31	-4	11 11 PP
TAKAYAMA	51.91	335.1	9 11	-2			
NAGANO	51.97	336.3	9 14	1	16 31	-5	
HWALIEN	51.99	312.0	9 20	7			
MATUYAMA	52.03	329.6	9 17	3	16 32	-5	
HUKUSIMA	52.08	338.9	9 16	2	16 35	-3	
MAIZURU	52.10	333.1	9 13A	-1	16 43	5	18 18
HAWAII V.OB.	52.13	55.1	9 12	-3	16 53	15	
OOITA	52.14	328.1	9 12A	-3	16 42	4	13 18
HUKUI	52.26	334.1			16 48	8	
KUMAMOTO	52.31	327.1	9 17	1	16 44	3	
ILAN	52.38	312.9	9 23	7			



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SENDAI	52.39	339.6	9 13	-3	16 39 -3	
ISINOMAKI	52.40	340.1	9 11	-5		
TOYAMA	52.40	335.4	9 12	-5	16 26 -16	
TOYOOKA	52.44	332.6	9 18	1	16 38 -5	
UNZENDAKE	52.48	326.6				22 4
HIROSIMA	52.63	329.7	9 24	6	16 46 1	
TAIPEI	52.70	313.0	9 24	5		
TOTTORI	52.72	332.0	9 20	1		
NIIGATA	52.74	337.8	9 16	-3		17 18
SAGA	52.85	327.1	9 33	13		
YONAGO	53.04	331.2	9 7	-14	16 58 7	10 22
SIMONOSEKI	53.06	328.1	9 21	0		
HUKUOKA	53.06	327.4	9 28	7	16 56 5	20 13 SS
MIZUSAWA	53.09	340.3	9 29	7	16 49 -2	
WAZIMA	53.11	335.6	9 11	-11		
AIKAWA	53.13	337.1	9 24	2		
MATSUE	53.19	331.0	9 22	0	16 51 -2	
TOMIE	53.21	325.3	9 26	3		
HAMADA	53.23	329.8	9 25	2	16 52 -1	
LEMBANG	53.27	269.5	9 19A	-4	16 44 -10	
MIYAKO	53.29	341.3	9 25	2	16 55 1	
MORIOKA	53.59	340.6	9 21	-4	16 58 0	
SAIGO	53.68	331.8	9 34	8	17 0 1	
AKITA	53.97	339.7	9 36	8	17 1 -2	
ITUHARA	54.12	327.0	10 14	45		
HATINOHE	54.23	341.3	9 29	-1	17 12 5	
AOMORI	54.73	340.9	9 30	-4	17 14 0	
URAKAWA	55.34	343.2	9 38	0	17 39 17	
HAKODATE	55.64	341.4	9 35	-5	17 28 2	
KUSIRO	55.68	344.9	9 35	-6	17 0 -26	
NEMURO	55.72	346.0	9 49	8	17 24 -3	
OBHIRO	55.94	343.9	9 58	16	18 18 48	
MORI	55.96	341.3	9 40	-3	17 18 -12	
MURORAN	56.03	341.8	9 45	2		
TOMAKOMAI	56.13	342.4	9 53	9		
SAPPORO	56.60	342.5	9 45	-2	17 16 -22	11 20
ABASHIRI	56.68	345.2	9 46	-2	17 30 -10	
SUTTSU	56.70	341.4	9 49	1	17 32 -8	
ZO-SE	56.75	318.5	9 44	-4	17 42 2	
TERRE ADELIE	57.63	189.2	9 57	3	17 56 4	
CANTON	57.84	306.0	9 55	-1	18 1 6	12 11 PP
WAKKANAI	58.67	343.8	10 31	29	18 18 12	
NANKING	58.94	317.8	10 2	-2	18 15 6	12 17 PP
Y.-SAKHLINSK	59.88	345.3	10 7	-3		18 23 PS
VLADIVOSTOK	60.00	335.4	10 7	-4		12 26 PP
CAPE HALLETT	61.76	177.0	10 21A	-2	18 47 2	11 9 PCP
PHU-LIEN	62.31	300.3	10 27A	0		18 58 PS
CHANGCHUN	63.46	331.5	10 28	-6	19 6 -1	
PETROPVLOVK	63.54	358.1	10 33	-2		12 52 PP
WILKES	65.20	200.2	10 49	3	19 24 -4	13 15 PP
PEKING	65.64	323.2	10 45	-3	19 36 2	
SIAN	66.94	314.4	10 55	-2		
SCOTT BASE	67.16	178.8	10 55	-3	19 57 5	15 6 PPP
KUNMING	67.37	303.0	10 57	-2		
CHENG TU	68.77	308.8	11 5	-3	20 14 3	
PAOTOW	69.69	320.6	11 12	-2		
MAGADAN	70.57	354.3	11 17	-2		20 36
LANCHOW	71.44	313.8	11 20	-4	20 47 4	
MIRNY	71.69	203.1	11 22	-4		11 40 PCP
PORT BLAIR	71.80	286.1	11 34	7	20 48 1	14 9 PP
CHITTAGONG	75.71	296.4	11 51	2	21 29 -2	14 42 PP
ULAN-BATOR	75.72	325.6	11 45	-4	21 37 6	
YAKUTSK	76.64	345.2	11 48	-7		14 40 PP
SHILLONG	76.68	299.6	11 51	-4	21 43 2	14 47 PP
BYRD STATION	77.60	169.9	11 56	-4	21 54 3	20 31
LHASA	78.70	303.2	12 5	-1		
SOUTH POLE	79.34	180.0	12 4	-5		13 6
IRKUTSK	79.52	328.3	12 7	-3		12 14 PCP
BOKARO	81.43	296.2	12 26	5	22 41 9	15 41 PP
KERGUELEN I.	82.84	221.2	12 36	8	22 43 -3	
MADRAS	84.01	284.4	12 34	0	23 5 7	
COLLEGE	84.36	19.4	12 30A	-6	23 5 4	28 0 SS
TIKSI	85.00	350.1	12 39	0	22 50 -18	15 44 PP
SITKA	85.02	29.3	12 39	0		
ARCATA	85.49	47.1	12 50	9		
UKIAH	85.58	49.0	12 44A	2	24 16 63	13 32
BERKELEY	85.93	50.4	12 42A	-1	23 17 0	16 7 PP
KODAIKANAL	86.04	281.1	12 53	9		22 51

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LICK	86.25	51.1	12 38K	-7					
HYDERABAD	86.59	288.3	12 51K	4	23 16	-7		29	1 SS
SHASTA	86.66	47.7	12 46A	-1					
MINERAL	87.13	48.2	12 48A	-1					
CORVALLIS	87.18	43.8	12 50	0					
FRESNO	87.51	52.0	12 50	-1					
ALBERNI	87.69	39.0	12 48	-4					
PASADENA	88.13	54.9	12 52	-2	23 24	-14		30	0 SS
RENO	88.23	49.4	12 54	-1					
VICTORIA	88.32	40.0	12 10	-45	23 33	-6			
HORSESHOE B.	88.68	39.2	12 19	-38					
AGRA	89.05	297.7	12 56	-3	23 40	-6		16	26 PP
DEHRA DUN	89.72	300.8	13 20	18				16	53 PP
POONA	91.10	288.5	13 8	0	24 10	5		15	32 PP
EUREKA	91.10	50.1	13 6A	-2				16	48 PP
BOMBAY	92.12	288.7	13 43	30	24 17	3			
SEMI PALATNSK	92.63	320.7	13 9	-6				23	49 SKKS
LAHORE	93.09	301.4	13 17	0	24 20	-2		24	12 SKKS
TUCSON	93.75	58.0	13 21K	1	23 44	-44		17	14 PP
HALLEY BAY	93.77	178.0	13 18	-2					
TUCSON TELE.	93.86	58.0	13 19K	-2	24 45	16		17	24 PP
BANFF	93.94	38.8	11 6	-135				12	18
HUNGRY HORSE	94.33	41.8	13 25	2	24 49	16		17	23 PP
SALT LAKE C.	94.45	49.5	13 25	2	24 12	-1		30	29 SS
FRUNSE	94.89	312.5	13 29	4				24	42
WARSAK DAM	95.82	303.4	13 24	-6					
BOZEMAN	95.86	44.8	13 40A	10					
CHIHUAHUA	97.22	62.3						17	22 PP
TASHKENT	98.60	310.4	13 47	5				17	49 PP
STALINABAD	98.67	307.6	13 44	1				25	21 SKKKS
QUETTA	99.15	299.0	13 40	-5	24 55	32		19	49 PPP
SASKATOON	99.57	38.7			24 30	5			
RAPID CITY	101.22	47.0	13 56A	2				18	17 PP
TACUBAYA	102.24	72.4			24 49	11		25	36 S
KHEYS	102.70	350.6						32	30 SS
RESOLUTE	103.89	15.4	14 2	-4	25 56	3		18	22 PP
SVERDLOVSK	104.82	326.0	14 10	0	25 58	-2		18	36 PP
VERA CRUZ	105.10	72.9						20	24 PP
ASHKABAD	106.81	306.4	14 22	777				28	14 PS
LAWRENCE	107.00	52.5	14 34	777					
TANANARIVE	108.48	245.9						18	54 PP
FLORISSANT	110.81	52.6						19	23 PP
ST. LOUIS 1	110.93	52.7						27	12
MERIDA	111.34	71.7			25 21	3		26	45 S
TERRE HAUTE	113.10	51.8	18 32	-8				27	42
APATITY	113.78	340.7	14 31	777	25 34	6		19	29 PP
SODANKYLA	116.02	342.2	18 52	7				19	29 PP
GORIS	116.09	308.7						19	51 PP
TIFLIS	116.90	311.4	15 3	777	25 29	-10		19	51 PP
CLEVELAND	117.24	48.8						19	53 PP
KIRUNA	117.46	344.4	18 57	9				20	2 PP
MOSCOW	117.51	328.0						20	2 PP
LCD, MARQUES	118.30	232.8						17	51 PP
COLUMBIA	118.71	57.1	18 52A	1	25 52	6		30	2 SP
MORGANTOWN	118.75	50.7						19	57 PP
PULKOVO	119.12	334.1						20	8 PP
HUANCAYO	119.24	110.3	18 57	5				20	28 PP
BALBOA HTS.	119.96	85.8						20	31 PP
PENNSYLVANIA	120.09	49.0			26 4	13		20	18 PP
SCORESBY SD.	120.27	1.3			25 54	3		20	15 PP
OTTAWA	120.46	43.4	18 49	-5				20	20 PP
NURMI JARVI	121.01	336.7	18 53	-2					
WASHINGTON	121.09	51.0						20	26 PP
GEORGETOWN	121.09	51.0	19 1	6	25 48	-6			
HELSINKI	121.09	336.3	18 56	1	26 9	15		27	37
BUENOS AIRES	121.14	141.8						20	21 PP
PRETORIA	121.83	230.6	19 33	36					
BREBEUF	121.83	42.7	18 54	-3				20	38 PP
HERMANUS	122.54	216.9						20	42 PP
KIMBERLEY	122.61	225.7	17 56	-62					
SKALSTUGAN	122.88	344.1	19 1	2					
PALISADES	122.95	47.9	15 35	777	25 57	-3		20	35 PP
FORDHAM	123.01	48.1	18 6	-53					
CHINCHINA	123.26	91.1	19 4	5	26 15	14		20	49 PP
SIMFEROPOL	123.59	317.3						20	48 PP
LA PAZ	124.00	118.3	19 6	5				20	52 PP
UPPSALA	124.06	338.9						20	50 PP
BULAWAYO	124.35	236.6	19 0	-1					
BOGOTA	124.72	91.8						20	54 PP

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FUQUENE	125.20	90.9	19 13	10	26 21	14	20 59	PP
KSARA	125.33	303.9	19 1	-2	26 21	14	21 0	PP
JERUSALEM	126.26	301.6	19 1	-4			21 10	PP
BROKEN HILL	127.08	242.7	19 7	0				
BERGEN	127.36	345.4					21 29	PP
LWOW	127.56	326.4	19 10	2			21 17	PP
WARSAW	127.72	330.3	19 11	3			21 20	PP
HALIFAX	128.72	40.4	19 9	-1			21 17	PP
COPENHAGEN	129.02	337.9	19 11	1			21 23	PP
BUCHAREST	129.04	319.6	19 16	6			28 52	PS
ELISABTHVLE	129.14	245.4	19 13	2	26 34	16	21 25	PP
KRAKOW	129.59	328.6					21 23	PP
SKALNATE PL.	129.95	327.6					22 42	PP
RACIBORZ	130.45	329.6	19 17	4				
LWIRO	131.14	257.5	19 13	-1			39 37	
POTSDAM	131.23	334.7	19 16	1			21 39	PP
TIMI SOARA	131.37	323.3	19 36	21			22 49	
SOFIA	131.63	318.8	19 39	24	26 46	22	21 52	
HURBANOVO	131.83	327.3			26 42	17	22 28	PP
ABERDEEN	131.96	348.0	20 19	63			22 16	SKP
COLLMBERG	132.05	333.7	19 15	-1			38 42	SS
BRATISLAVA	132.22	328.2	19 17K	0			22 47	PP
PRAGUE	132.27	331.7					21 46	PP
PRUHONICE	132.28	331.5	19 16	-1	26 24	-2	21 40	PP
BELGRADE	132.33	322.7	19 19K	2			34 4	PPS
HALLE	132.35	334.6	19 20	3			21 44	PP
BERMUDA	132.46	55.8	18 58	-19	26 44	18	21 44	PP
JENA	132.93	334.3	19 19	1			21 30	PP
PLAUEN	133.00	333.5	19 44	26			21 52	PP
WITTEVEEN	133.36	339.2	19 16	-3				
SAN JUAN	133.46	74.9	19 25K	6				
SONNEBERG	133.50	334.0	19 20	1			22 52	SKP
MUNSTER	133.71	337.8	19 24	5			21 50	
DURHAM	134.06	346.4	19 20	0			22 3	PP
ZAGREB	134.29	326.4	19 28	8			21 57	PP
DE BILT	134.47	339.6	19 25	4			22 0	PP
BENSBERG	134.68	337.3	19 24	3			21 56	PP
LJUBLJANA	134.93	327.5	19 23	1	25 41	-50	23 7	
TOLMEZZO	135.47	328.9					20 4	
STUTTGART	135.53	333.8	19 23	0			22 0	PP
TRIESTE	135.60	327.6	19 21	-2	26 27	-5	22 40	PKS
TUBINGEN	135.81	333.7	19 26	3			22 13	PP
UCCLE	135.84	339.2	19 28	5			21 58	PP
EBINGEN	136.11	333.5	19 22	-2				
RAVENSBERG	136.12	332.6	19 25	1				
STRASBOURG	136.32	334.7	19 26	2	26 30	-3	22 18	PP
DOURBES	136.34	338.5	19 24	0			22 8	PP
RATHFARNHAM	136.42	349.3					22 0	
KEW	136.73	343.4	19 22	-3	25 35	-59	22 17	PKS
CHUR	136.85	331.8	19 36K	11			22 21	PP
BASLE	137.22	333.9	19 35	9			27 24	SKKS
NEUCHATEL	137.90	333.9	19 28	1			23 25	
PARIS	138.17	339.1	19 30	2	26 50	14		
PRATO	138.19	327.5	19 40	12			22 31	PP
PAVIA	138.25	330.4	19 32	4			22 49	PP
FORT FRANCE	138.32	79.9	19 43	15			23 0	
ROME	138.74	324.3	19 30	1			22 50	PP
MESSINA	139.02	317.6	19 29	0	26 37	-1	22 27	PP
FOLINIERE	139.18	341.7	19 29	0				
JERSEY	139.29	343.4					22 12	
MONACO	140.16	330.3					22 42	
CLERMONT-FD.	140.47	336.0	19 33	1	26 45	5		
CUGLIERI	142.09	325.3	20 22	48				
BANGUI	142.63	263.1					23 26	PKS
LUANDA	142.86	239.6	19 33	-3			22 46	PP
LEOPOLDVILLE	143.14	247.7	19 32	-4			22 49	PP
TORTOSA	145.63	333.9	19 44	3			22 31	PP
SETIF	146.63	323.3	19 40	-2			23 16	PP
ALGIERS UNI.	147.56	326.5	19 47K	3			23 32	PP
ALICANTE	148.09	332.5	19 43	-2	26 50	-2	23 19	PP
TOLEDO	148.24	338.5	19 48	3	26 29	-23	22 55	PP
SERRA PILAR	148.48	345.5	19 39K	-6			23 15	PP
RELIZANE	149.65	328.2	19 54K	7			23 28	PP
ALMERIA	150.21	333.4	19 54	6				
GRANADA	150.42	335.3	20 8K	20	28 3	68	23 39	PP
LISBON	150.89	344.7	19 58K	9				
TAMANRASSET	154.06	300.6	19 52	-2			24 0	PP
MBOUR	176.06	336.9	20 21K	9			22 7	PKP2

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AUGUST 25 13.H 40.M 6.S EPICENTRE -6.35 155.13 DEPTH= 0.KM

A=-0.90178 B= 0.41801 C=-0.10986 D= 0.4206 E= 0.9073  
G= 0.0997 H=-0.0462 K=-0.9939 HT= 6.9

SE= 1.86

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
PORT MORESBY	8.47	248.5	2	7	1	3	40	-4				
CHARTERS TS.	16.15	211.4	3	51	1	6	51	1				
BRISBANE	21.04	185.8	4	49K	1	8	40	2				
RIVERVIEW	27.59	187.2	5	51	1						6	7
CANBERRA	29.38	190.3	6	6	-1							
ADELAIDE	32.25	205.8	6	31	-1						9	19 PCP
MELBOURNE	32.67	195.0	6	36K	0							
KARAPIRO	36.50	152.4	7	9	1						9	31
BAGUIO CITY	40.99	303.9	7	46	0	13	56	-3				
MUNDARING	44.35	229.8	8	12	-1							
MATUSIRO	45.52	340.8	8	21	-2	14	55	-10			8	41
LEMBANG	47.18	266.6	8	34A	-2	15	55	26				
TERRE ADELIE	61.11	186.2	10	36	18							
CAPE HALLETT	66.55	175.0	10	53	-1				11	6		
CHITTAGONG	68.18	297.0	11	10	6	20	15	11			13	45 PP
SHILLONG	69.10	300.3	11	8	-2							
MIRNY	73.34	201.7	11	33	-2							
CHATRA	73.50	300.3	11	35	-1							
COLLEGE	82.44	21.2	12	24	-1							
BYRD STATION	82.98	169.9	12	27	-1							
SOUTH POLE	83.69	180.0	12	31	-1						12	54
BERKELEY	88.05	51.7	12	51	-2							
WARSAK DAM	88.21	304.3	12	53	-1							
SHASTA	88.42	48.9	12	52	-3							
LICK	88.45	52.3	12	57K	2							
FRESNO	89.82	53.1	13	18	16							
RENO	90.20	50.4	13	6K	3							
PASADENA	90.80	55.9	13	8	2							
QUETTA	91.58	300.0	13	22	12							
EUREKA	93.14	50.8	13	18	1							
BOULDER CITY	93.72	54.4	13	36	17							
HUNGRY HORSE	95.25	42.1	13	41	14							
RESOLUTE	101.31	14.8									27	18 PS
OTTAWA	121.34	39.8	18	55K	0							
BREBEUF	122.62	38.9	19	11A	14							
SHAWINIGAN	122.64	37.5	18	57A	-1							
ELISABTHVLE	124.95	251.1	19	5	3							
STUTTGART	128.80	331.5	19	8	-1							
TAMANRASSET	146.47	302.3	19	43	2						23	19 PP

AUGUST 26 8.H 25.M 31.S EPICENTRE 18.26 -94.43 DEPTH= 0.KM

A=-0.07344 B=-0.94742 C= 0.31145 D=-0.9970 E= 0.0773  
G=-0.0241 H=-0.3105 K=-0.9503 HT= 5.1

SE= 1.99

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
VERA CRUZ	1.86	300.4	0	31K	-2	0	55	-3			0	36 PG
OAXACA	2.55	241.4	0	43K	0	1	13	-2				
COMITAN	2.97	131.9	0	48	-1	1	26	0				
PUEBLA	3.65	282.7	1	0	1							
TACUBAYA	4.66	284.8	1	15K	2	2	13	4				
MERIDA	5.27	58.7	1	22K	0	2	25	1				
LEON	7.39	293.8	1	53	1	3	20	3				
SANTIAGO MA.	7.44	128.7	1	57	4	3	4	-15				
GUADALAJARA	8.72	287.5	2	13A	3	3	58	7				
MANZANILLO	9.42	276.3	2	23A	3	4	18	10				
MAZATLAN	12.22	295.6	2	55	-3	5	23	7				
CHIHUAHUA	14.85	316.2	3	29K	-4	6	25	6				
BALBOA HTS.	17.15	120.7	4	2A	-1	7	23	10				
FAYETTEVILLE	17.76	0.6	4	15A	5	7	14	-13				
COLUMBIA	19.73	34.8	4	34K	0							

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GALERAZAMBA	19.97	109.2	4 37	0	8 29	12					
TUCSON TELE.	20.29	316.8	4 41A	1						38 57	PKPPKP
TUCSON	20.31	316.4	4 41A	1	8 36	13					
ST. LOUIS 1	20.63	9.4	4 43A	-1							
FLORISSANT	20.77	9.0	4 46A	1							
CHAPEL HILL	22.24	34.7	5 2	2						6 4	PP
FUQUENE	23.88	119.6	5 16	0							
BOGOTA	24.08	121.8	5 21A	3	9 37	4					
BOULDER CITY	25.23	318.5	5 31A	2						9 16	
GEORGETOWN	25.51	32.7	5 32A	0							
WASHINGTON	25.51	32.7	5 37K	5	10 8	11					
PASADENA	26.44	311.4	5 41A	1	10 17	4				9 6	PCP
PENNSYLVANIA	26.59	28.9	5 41	-1	10 14	-1					
RAPID CITY	26.78	345.9	5 44A	1	10 51	33					
SAN JUAN	26.87	85.2	5 44K	0	10 45	25					
SALT LAKE C.	26.97	329.9	5 47A	2	10 45	23					
CARACAS	27.71	102.4	5 50	-2	11 3	30					
EUREKA	28.20	323.0	5 57A	1							
FORDHAM	28.61	33.8	6 1	1	9 25	-83					
PALISADES	28.71	33.5	6 0A	-1	11 0	10	6 10			6 44	PP
FRESNO	28.94	314.7	6 3A	0							
VINEYARD	30.01	313.3	6 13	0							
BERMUDA	30.23	56.5	6 14	0	11 9	-5				7 3	PP
LICK	30.49	314.1	6 18A	1							
BOZEMAN	30.62	336.8	6 19A	1						7 34	PP
BRANNER	30.90	313.8	6 21	1							
BERKELEY	31.19	314.5	6 24A	1	11 32	3				9 18	PCP
OTTAWA	31.22	25.9	6 23A	0	11 19	-11				13 29	SS
BUTTE	31.50	335.5	6 26A	0							
FORT FRANCE	32.08	91.3	6 30	-1	11 42	-1					
MINERAL	32.12	319.0	6 32A	1							
GRENADA	32.13	96.4	6 31	0							
BREBEUF	32.21	28.0	6 31A	-1	11 46	1					
ST. VINCENT	32.29	94.2	6 32	-1							
UKIAH	32.49	315.8	6 35A	1						8 6	PP
SHASTA	32.81	318.9	6 36A	-1							
TRINIDAD	32.83	98.7	6 35	-2							
SHAWINIGAN	33.39	27.6	6 43A	1	12 2	-1				15 15	SS
BARBADOS	33.89	93.6	6 46	-1							
ARCATA	33.98	317.8	6 47A	0							
HUNGRY HORSE	33.98	336.4	6 47A	0	12 37	25				9 18	PCP
SEVEN FALLS	34.70	28.7	6 53A	0	12 20	-3					
SASKATOON	35.13	346.9	5 56K	-61						6 58	PP
HUANCAYO	35.53	146.6	7 3K	2	12 41	5					
CORVALLIS	35.65	323.7	7 2A	0							
HALIFAX	36.80	37.7	7 12A	1	12 55	-1				8 39	PP
BANFF	36.86	337.8	7 12K	0						8 41	PP
VICTORIA	38.25	328.6	7 24A	0							
HORSESHOE B.	38.77	329.8	7 25A	-3						7 42	PP
LILLOOET	39.06	332.2	7 27A	-3							
ALBERNI	39.44	328.6	7 34A	1							
LA PAZ	43.17	141.6	8 2A	-2	14 30	-1				9 48	PP
SITKA	49.20	331.8	8 53A	1							
RESOLUTE	56.44	359.9	9 43A	-3	17 33	-3				11 53	PP
HAWAII V.OB.	57.32	281.7	9 52	0	17 52	4					
COLLEGE	58.42	336.3	9 58A	-2	18 12	10				20 7	SCS
KIPAPA	59.54	284.5	10 7A	-1							
HONOLULU	59.63	284.4	10 5A	-3	18 17	-1				22 25	SS
PONTA DELGDA	62.43	56.5	10 28K	1						10 39	11 3 PCP
REYKJAVIK	66.11	27.2	10 51	0							
SCORESBY SD.	67.08	20.4	10 56A	-1	19 47	-4				19 59	PS
NORD	70.26	8.8	11 16	-1	20 22	-7				13 38	PP
MBOUR	73.93	79.9	11 38A	-1	22 11	60					
RATHFARNHAM	74.48	38.5	11 41A	-1	21 14	-3				22 59	
SERRA PILAR	75.15	51.2	11 46K	0	21 26	2				14 38	PP
LISBON	75.22	53.7	11 46A	0	21 25	0	12 57				
ABERDEEN	76.11	34.1			21 32	-3				22 3	PS
DURHAM	76.91	36.5	11 54K	-2						14 47	PP
JERSEY	77.90	42.1	12 1	0	21 44	-10					
KEW	78.44	39.6	12 4A	0	21 56	-4				15 1	PP
TOLEDO	78.81	51.7	12 5	-1	22 4	0				14 57	PP
BERGEN	79.01	29.9								22 9	PPS
FOLINIERE	79.03	42.2	12 7	0							
GRANADA	79.84	54.2	12 13K	1	22 13	-2				15 31	PP
KHEYS	80.27	4.4	12 5	-9	22 19	0				15 15	PP
ALMERIA	80.80	54.3	12 15	-2	22 21	-4					
PARIS	80.91	41.7	12 19A	1	22 26	0					
SKALSTUGAN	81.01	25.7	12 18A	0						12 29	
UCCLE	81.45	39.4	12 20	0	22 29	-3					

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DE BILT	81.53	37.9	12 21A	0	22 33	1						27 54	SS
GARCHY	81.74	43.0	12 20	-2	22 33	-2							
DOURBES	81.83	40.0	12 16	-6	22 35	0							
ALICANTE	81.90	52.4	12 23	0	22 39	3						15 30	PP
KIRUNA	82.15	20.3	12 24A	0	22 39	0	12 35						
WITTEVEEN	82.16	37.0	12 25A	1									
CLERMONT-FD.	82.24	44.5	12 26A	2	22 40	0							
MUNSTER	83.00	37.6	12 29	1	23 7	20							
BENSBERG	83.09	38.6	12 29A	0	22 49	1							
GOTEBORG	83.19	31.2	12 28	-1			13 39						
RELIZANE	83.45	54.7	12 30A	-1	22 59	7						15 40	PP
COPENHAGEN	84.24	33.0	12 38	3	23 2	2						15 47	PP
STRASBOURG	84.29	40.7	12 37A	2	23 5	5						16 1	PP
NEUCHATEL	84.34	42.4	12 35	0	23 0	-1							
SODANKYLA	84.41	19.5	12 34	-2	23 4	3						15 48	PP
BASLE	84.55	41.7	12 37	1	23 4	1							
UPPSALA	84.91	28.0	12 38A	0	23 5	-1	12 48					15 54	PP
ALGIERS UNI.	85.05	53.0	12 39K	0	23 6	-2						15 57	PP
TUBINGEN	85.11	40.4	12 38A	-1									
STUTTGART	85.15	40.2	12 39	0	23 8	-1						15 56	PP
EBINGEN	85.18	40.8	12 40A	1									
PETROPAVLOV	85.35	324.6	12 31	-9	22 58	-13						15 50	PP
OROPA	85.49	43.4	12 43	2	23 21	9							
TIKSI	85.63	347.4	12 39	-3	22 57	-16						15 55	PP
HALLE	85.67	37.0	12 55	13	23 13	-1						16 1	PP
SONNEBERG	85.68	38.2	12 42	0	23 15	1						23 35	PS
JENA	85.68	37.6	12 42	0	23 36	22						16 0	PP
RAVENSBERG	85.74	41.0	12 42A	0									
MONACO	85.82	45.3	12 43A	0									
POTSDAM	85.94	35.9	12 41	-2	23 13	-3						15 52	PP
CHUR	86.04	41.9	12 44	0	23 3	-14							
PLAUEN	86.20	37.8	12 43	-1	23 19	0						16 2	PP
MAGADAN	86.26	332.4	12 46	1	23 27	8						16 10	PP
COLLMBERG	86.35	36.9	12 45	0								16 3	PP
APATITY	86.36	17.7	12 43	-2	23 15	-5						16 4	PP
ARGENTINE I.	86.37	167.8	12 45	0									
PAVIA	86.44	43.5	12 49A	3	23 28	7						32 58	SSS
SETIF	87.03	52.9	12 49K	0								16 6	PP
NURMI JARVI	87.59	25.6	12 52	1	23 35	3							
PRAGUE	87.70	37.6	12 51	-1	23 34	1						16 14	PP
PRUMONICE	87.81	37.7	12 53A	1	23 37	3						28 51	SS
HELSINKI	87.91	25.8	12 53	0	23 29	-6						24 43	PS
BOLOGNA	88.12	43.6	13 13	19	23 27	-10							
PRATO	88.22	44.2	12 51	-3	23 38	0							
TOLMEZZO	88.42	41.3	12 53	-2								16 33	
TRIESTE	89.20	41.8	13 0A	1	23 49	2						16 34	PP
LJUBLJANA	89.51	41.2	13 1A	1								16 31	
VIENNA-H.	89.65	38.7	13 1	0	23 54	3						18 27	PPP
RACIBORZ	89.85	36.5	13 2	0									
ROME	89.95	45.6	13 2A	0	23 54	0	13 14					25 5	PS
BRATISLAVA	90.12	38.5	13 4K	1	23 58	2						16 29	PP
PULKOVO	90.31	24.6	13 3	-1								16 36	PP
WARSAW	90.32	33.7	13 5	1	23 54	-3						29 30	PKKP
ZAGREB	90.52	41.0	13 5A	0	24 1	2						23 29	SKS
KRAKOW	90.84	36.0	13 6	-1	23 55	-7							
HURBANOVO	90.91	38.4	13 13	6	23 51	-12						16 43	PP
TAMANRASSET	91.82	65.4	13 12A	1	24 16	5						17 2	PP
YAKUTSK	92.69	340.8	13 16	1								23 43	SKKS
LWOW	93.21	34.8	13 17	0								17 0	PP
TIMISOARA	93.77	39.2	13 22	2									
BELGRADE	93.77	40.3	13 21K	1	23 54	-34						23 42	SKS
MOSCOW	95.93	25.0	13 29	-1	24 43	37						17 23	PP
SOFIA	96.65	41.1	13 34	1	24 12	2						15 19	
Y.-SAKHLINSK	97.21	324.6	13 36	0								19 29	
BUCHAREST	97.39	38.5										21 59	
BYRD STATION	99.01	184.3	13 44	0	24 45	23						17 54	PP
SIMFEROPOL	101.61	34.5	13 57	1	24 32	-3						18 9	PP
SVERDLOVSK	102.33	13.7	13 59	0								18 9	PP
TUKUBASAN	105.23	317.0	14 12A	777	26 1	69						18 31	PP
VLADIVOSTOK	105.56	326.6	14 14	777								18 35	PP
MATUSIRO	106.25	318.2	14 15	777	25 4	8						18 40	PP
ROXBURGH	107.10	227.0										28 9	PPS
IRKUTSK	107.89	348.0	14 23	777	25 10	7						27 59	PS
SOUTH POLE	108.15	180.0	18 22	-8								20 29	PP
CAPE HALLET	108.88	198.8	14 42	777	25 5	-3						19 1	PP
ABUYAMA	108.96	318.2	14 30A	777									
TIFLIS	109.41	31.2	14 31	777								19 1	PP
SCOTT BASE	109.59	192.8	18 23	-9								18 56	PP



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KSARA	109.83	42.4	14 32	777				19 3	PP
LEOPOLDVILLE	110.04	88.0			25 17	5		19 2	PP
BANGUI	110.33	78.1	17 33	-61				26 12	PP
JERUSALEM	110.68	44.5	14 33	777				19 10	PP
ULAN-BATOR	111.40	344.8	14 41	777					
SEMI PALATNSK	111.48	3.7						19 17	PP
GORIS	111.85	31.8						19 23	PP
BRISBANE	118.02	248.2			25 53	10		30 17	PS
FRUNSE	118.38	9.1	18 40	-10				20 11	
ASHKABAD	118.51	24.3	18 45	-5				20 17	PP
TASHKENT	118.83	14.0	18 53	3				20 10	PP
HERMANUS	119.38	119.7			25 54	6		30 5	PS
PORT MORESBY	119.79	269.5	18 54	2	25 58	9		20 16	PP
TERRE ADELIE	119.82	202.2	18 53	1					
RIVERVIEW	119.97	241.0			26 4	14		19 52	
ZO-SE	120.17	324.7	18 54A	1	25 58	7		30 23	PS
NANKING	120.70	327.3	18 54A	0				20 36	PP
STALINABAD	121.31	15.4	18 57	2				20 22	PP
CANBERRA	121.79	239.4	18 57	1					
CHARTERS TS.	122.93	257.5	18 59	1				20 37	PP
SIAN	123.24	336.9	19 0A	1					
LANCHOW	123.29	342.3	19 1A	2					
ELISABTHVLE	123.67	92.0	19 4	4	26 17	15		37 49	SS
KIMBERLEY	123.80	112.7	19 1K	1					
BROKEN HILL	125.26	95.0	19 5	2					
GRAHAMSTOWN	125.46	118.2	19 4K	1					
WARSAK DAM	126.34	14.5	19 6A	1					
BULAWAYO	126.40	101.9	19 6	1					
QUETTA	128.61	20.7	19 11A	2	26 21	5		21 16	PP
WILKES	129.25	192.7	19 13	2				21 21	PP
LAHORE	129.31	12.4	19 7	-4	26 23	5		21 21	PP
ADELAIDE	130.22	239.4	19 14	2				22 37	PKS
LCD. MARQUES	130.60	108.8						22 40	PKS
CANTON	130.75	325.5	19 15A	2					
HONG KONG	130.93	324.1	19 15	1	26 32	10		21 30	PP
BAGUIO CITY	131.26	312.9	19 15	1				21 31	PP
MIRNY	131.49	184.0	19 14	-1				22 39	SKP
MANILA	132.08	310.8	19 24	8				26 46	PKS
LHASA	132.09	353.6	19 17A	1					
KARACHI	133.52	23.5	19 21	2					
KUNMING	133.75	338.3	19 20A	1					
AGRA	134.29	9.4	19 21A	1				21 50	
TOCKLAI	134.37	348.5	19 25	5					
CHATRA	135.15	358.0	19 24	2				22 52	
SHILLONG	136.00	351.8	19 25	2				22 9	
PHU-LIEN	136.03	331.0	19 25	2				22 4	PP
BOKARO	138.17	359.7	19 30	3				23 4	
CHITTAGONG	139.17	351.1	19 31	2	26 40	2		22 36	PP
BOMBAY	141.01	19.4	19 35	3				42 53	
POONA	141.67	18.1	19 28	-5				22 36	
TANANARIVE	144.01	97.2	19 37K	0				22 54	PP
KERGUELEN I.	146.56	161.5	19 58	16				22 13	
MADRAS	148.49	10.1	19 55	10					
MUNDARING	149.20	237.8	19 47	1				19 51	PP
PORT BLAIR	149.43	346.1	19 53	7					
PERTH	149.51	237.6	19 52	5				36 36	
MEDAN	154.74	328.0	20 29	35					
DJAKARTA	156.04	297.4	19 50A	-6				21 44	PP

AUGUST 26 10.H 27.M 40.S EPICENTRE 50.61-130.72 DEPTH= 0.KM

A=-0.41569 B=-0.48290 C= 0.77072 D=-0.7579 E= 0.6524  
G=-0.5028 H=-0.5841 K=-0.6372 HT= -5.6

SE= 3.28

	DELTA DEG.	AZ. DEG.	P			O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S		
SITKA	7.00	338.9	1	43	-3	2	59	-9				
CORVALLIS	7.84	137.4	1	55A	-3							
ARCATA	10.77	152.0	2	40K	1							
HUNGRY HORSE	11.09	95.3	2	36	-7							
SHASTA	11.49	146.4	2	48A	0							
MINERAL	12.08	144.6	2	56A	0	6	38	85				
UKIAH	12.64	152.4	3	4	0							
BUTTE	12.92	103.8	3	2	-6							

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BOZEMAN	14.02	103.0	3 19	-3							
BERKELEY	14.09	151.4	3 24K	1	6	5	4			4	34
BRANNER	14.53	151.9	3 29A	0							
LICK	14.77	150.4	3 31A	-1	6	28	10				
EUREKA	15.22	131.3	3 35	-3							
VINEYARD	15.39	150.6	3 41	1							
FRESNO	15.90	146.3	3 47	0							
SALT LAKE C.	16.41	119.6	3 51	-2							
COLLEGE	16.87	334.4	3 59	0	7	22	16			5	4
BOULDER CITY	18.58	135.8	4 19	-1							
PASADENA	18.84	146.1	4 24A	0	7	54	3				
RAPID CITY	19.69	98.7	4 29	-4	8	15	5				
TUCSON TELE.	23.49	133.4	5 12	0							
TUCSON	23.51	133.7	5 12	0	9	33	10				
LAWRENCE	27.47	101.3	5 47	-3							
RESOLUTE	28.32	19.2	5 55K	-2	10	56	13				
CHIHUAHUA	28.78	130.4	5 58	-4	11	2	11			7	2 PPP
FAYETTEVILLE	29.92	104.9	6 9A	-3	9	53	-76			6	41 PP
DALLAS	30.57	112.5	6 14	-4							
TERRE HAUTE	32.22	93.4	5 15	-77	10	20	-85				
KIPAPA	36.16	226.4	7 6	0							
HONOLULU	36.30	226.4	7 6	-1	12	52	4				
OTTAWA	36.45	76.3	7 5	-3	12	40	-11				
MORGANTOWN	36.79	87.3	7 5	-6							
PENNSYLVANIA	37.46	84.2	7 13	-4	13	1	-5				
BREBEUF	37.69	75.0	7 16K	-3	13	9	-1				
SHAWINIGAN	37.71	73.0	7 17	-2							
SEVEN FALLS	38.62	71.2	7 25	-2	13	21	-3				
WASHINGTON	39.04	86.2	7 26	-4							
COLUMBIA	39.52	95.4	7 32	-2							
CHAPEL HILL	39.57	91.4	7 31	-4							
PALISADES	39.85	81.3	7 39	2	13	35	-7			9	7 PP
TACUBAYA	39.90	129.7	7 38	1	13	40	-3			9	26 PCP
FORDHAM	39.96	81.5	7 26	-12	13	32	-12				
PETROPAVLOVK	42.11	301.8	7 55	0						9	45 PCP
OAXACA	43.12	128.6	8 5	1							
MAGADAN	43.27	313.3	8 4	-1						9	54 PCP
NORD	43.60	11.2	8 5	-3	14	35	-3			18	3 SCS
MERIDA	43.72	117.2	8 16	7	14	36	-3				
HALIFAX	44.24	70.6	8 20	7	14	44	-3			10	56 PPP
TIKSI	46.02	334.3	8 29	2						10	21 PP
KHEYS	48.93	358.1	8 47	-3	15	47	-7			10	45 PP
SCORESBY SD.	48.93	25.0	8 50A	0	15	48	-6			18	56 SS
YAKUTSK	50.97	323.2	9 4	-1	16	20	-2			11	4 PP
BERMUDA	50.97	84.5	9 0	-5	16	20	-2			10	56 PP
REYKJAVIK	52.96	31.3	9 19	-1							
Y.-SAKHLINSK	53.97	302.4	9 27	-1	17	2	-1				
KIRUNA	59.92	12.2	10 7	-3	18	21	-1			10	17
SAN JUAN	59.93	97.6	10 7	-3							
SODANKYLA	61.11	9.8	10 16	-2	18	46	9			10	58 PCP
APATITY	61.56	6.9	10 21K	0	18	42	-1			22	43 SS
VLADIVOSTOK	62.29	304.9	10 24	-2	18	48	-4			12	47 PP
SKALSTUGAN	62.51	17.7	10 28A	0							
TUKUBASAN	62.56	294.3	10 12	-16	18	32	-23			12	43 PP
MATUSIRO	63.43	295.8	10 32A	-2	19	11	5			12	50 PP
BERGEN	63.81	22.6			19	16	5				
ABERDEEN	64.55	28.1			19	18	-2			13	0 PP
CHANGCHUN	65.13	309.3	10 43A	-2	19	29	2			13	8 PP
FUQUENE	65.26	113.2	10 40	-6							
CARACAS	65.40	104.0	10 43	-4						13	8 PP
BOGOTA	65.74	114.0	10 49	0							
FORT FRANCE	65.80	96.2	11 1	12							
ABUYAMA	66.12	296.2	10 50A	-1							
RATHFARNHAM	66.41	32.7	11 0	7	19	53	10			32	20
DURHAM	66.73	29.3	10 55A	0							
UPPSALA	66.95	16.7	10 53	-4	19	49	0			20	55 SCS
IRKUTSK	67.44	326.9	10 58	-2							
NURMIJARVI	67.47	12.9	10 59	-1	20	0	4			21	8 SCS
GOTEBORG	67.79	20.6	11 2A	0							
HELSINKI	67.84	12.8	11 1	-1	20	8	8			21	7 SCS
PULKOVO	68.91	10.1	11 6	-3	20	2	-11			15	30 PCS
COPENHAGEN	69.74	21.2	11 20	6	20	26	3			21	17 SCS
KEW	69.94	30.5	11 15	0	20	25	0			21	19 SCS
ULAN-BATOR	70.08	322.8	11 15	-1	20	28	1				
WITTEVEEN	70.86	25.8	11 24	3							
DE BILT	71.07	27.0	11 28	6	20	31	-7				
JERSEY	71.30	32.8	10 20	-63	20	23	-18				
MUNSTER	71.88	25.6	11 28	1							

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UCCLE	71.98	28.1	11 27	0	20 52	3	
PEKING	72.44	312.2	11 29	-1	20 57	3	
SVERDLOVSK	72.52	353.5	11 29	-2			
BENSBERG	72.66	26.4	11 32	1	21 7	11	
DOURBES	72.67	28.3	11 31	-1			
POTSDAM	72.92	22.3	11 33	0	21 5	6	21 48 PS
PARIS	73.15	30.2	11 36	2	21 5	3	
HALLE	73.45	23.3	11 37	1	21 15	10	11 52 PCP
MOSCOW	73.59	6.8	11 37	0			14 22 PP
JENA	73.88	23.8	11 37	-2	21 1	-9	14 23 PP
COLLMBERG	73.89	22.7	11 37	-2	21 11	1	25 50 SS
SONNEBERG	74.28	24.2	11 41	0	21 20	5	
PLAUEN	74.43	23.6	11 41	-1			12 33
WARSAW	74.78	17.6	11 43	-1	21 24	4	14 30 PP
STRASBOURG	74.97	27.1	11 47	2	21 30	8	21 58 PS
STUTTGART	75.23	26.1	11 42	-4	21 25	0	11 55 PCP
PRAGUE	75.38	22.4	11 48K	1	21 29	2	14 45 PP
TUBINGEN	75.39	26.3	11 48	1			
PRUHONICE	75.49	22.3	11 49K	1	21 30	2	14 37 PP
SERRA PILAR	75.58	41.3	11 46A	-2			14 38 PP
EBINGEN	75.67	26.5	11 48	-1			
BASLE	75.86	27.7	11 52	2			23 20 PPS
SEMI PALATNSK	75.96	340.2	11 51	0	21 32	-1	
CLERMONT-FD.	76.02	31.3	12 2	11	21 38	4	
NEUCHATEL	76.14	28.3	11 51	-1	21 56	21	
RAVENSBURG	76.22	26.3	11 54	2			
RACIBORZ	76.24	20.0	11 49	-3			
COIMBRA	76.42	41.8			21 38	0	
COIMBRA	76.42	41.8			21 38	0	
KRAKOW	76.64	19.0	11 55	1	21 43	2	14 48 PP
ZO-SE	76.92	303.2	11 55A	-1	21 47	3	
CHUR	77.04	26.8	11 58	1	21 47	2	
LISBON	77.34	43.1	12 OK	2	21 48	0	
NANKING	77.43	305.4	11 58	-1	21 52	3	
LWOW	77.65	16.4	11 59	-1	21 59	7	15 1 PP
BRATISLAVA	77.79	21.4	12 3A	2	21 55	2	14 54 PP
PAVIA	78.45	27.7	12 13K	9	22 9	9	28 11 SS
TOLEDO	78.50	39.0	12 5	0	22 1	0	27 10 SS
HUANCAYO	78.81	124.8	12 8K	2	22 12	8	
LJUBLJANA	79.14	23.8	12 9K	1			
MONACO	79.23	29.5	12 8	-1			
TRIESTE	79.31	24.5	12 10	1	22 12	3	15 15 PP
ZAGREB	79.72	23.0	12 14	3	22 20	6	
PRATO	80.20	27.0	12 15	1	22 20	1	
GRANADA	80.99	40.2	12 23K	5	22 35	8	15 59 PP
ALICANTE	81.22	37.4	12 18	-1	22 27	-2	22 33 SKS
LANCHOW	81.25	318.1	12 18	-1	22 28	-2	
BELGRADE	81.71	20.3	12 25	3	22 41	7	23 56 PPS
ALMERIA	81.73	39.5	12 16	-6	22 33	-1	
ROME	82.42	26.8	12 26K	1	22 49	7	12 39 15 35 PP
BUCHAREST	83.23	16.5			23 0	10	15 36 PP
RELI ZANE	83.89	37.9	12 33	0			
SIMFEROPOL	83.92	10.8	12 33A	0	22 52	-5	15 57 PP
ALGIERS UNI.	83.95	35.7	12 33	0			23 30 PS
FRUNSE	84.35	341.6	12 36	1			15 49 PP
SOFIA	84.35	18.9	12 38	3	23 5	4	23 54
RABAU	85.08	257.4	12 40	1			
SETIF	85.31	34.2	12 40	0			15 58 PP
LA PAZ	86.34	121.4	12 45A	0	23 21	1	16 17 PP
MESSINA	86.73	26.0	11 42	-65	21 16-128		14 30 PP
TASHKENT	86.79	345.0	12 50	3			29 8 SS
CANTON	87.48	304.0	12 52	1	23 39	8	16 26 PP
HONG KONG	87.69	302.9	12 50	-2	23 23	-10	
TIFLIS	87.97	3.4					12 52 PCP
BAGUIO CITY	88.83	294.6	13 8	11	23 50	6	
STALINABAD	89.56	344.8	13 2	1			
MANILA	89.92	293.2	13 16	14	23 52	-2	
GORIS	90.23	2.3	13 6	2			
KUNMING	91.06	313.2	13 13	5	23 45	-19	
ASHKABAD	91.46	352.8	13 12	3			23 49 SKKS
LHASA	91.98	324.5	13 16K	4	23 48	-24	
PHU-LIEN	92.84	307.9			23 44	-36	
MBOUR	93.35	62.7	13 21	3	24 35	11	
WARSAK DAM	93.49	341.6	12 46	-33			
KSARA	95.11	11.2	13 27	1	24 39	37	19 23 PPP
LAHORE	95.25	338.7	13 28	1	24 0	-2	
TAMANRASSET	97.36	40.1	13 14	-22			17 28
QUETTA	98.06	344.6	13 42K	2	25 8	51	24 16 SKS
CHARTERS TS.	100.97	251.9	16 21	777			

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BOMBAY	107.75	336.6	18 47	777	
POONA	107.84	335.5	18 49	777	
CAPE HALLETT	129.32	199.8	19 24	13	39 10 SS
BYRD STATION	130.53	177.4	19 17	4	21 34 PP
SCOTT BASE	133.71	195.1	19 25	6	23 0 SKP
TERRE ADELIE	134.30	213.6	19 7	-13	
ELISABTHVILLE	137.24	32.4	19 33	8	22 24 PP
SOUTH POLE	140.42	180.0	19 31	0	19 39
BULAWAYO	145.48	35.8	19 41	1	
TANANARIVE	148.35	3.1	19 50A	5	20 59
PRETORIA	150.36	41.0	20 22	34	
KIMBERLEY	151.39	49.5	19 57	7	
MIRNY	152.95	217.5	19 56	4	
GRAHAMSTOWN	156.00	52.6	20 25	29	

AUGUST 27 7.H 50.M 38.S EPICENTRE 0.11 122.87 DEPTH= 234.KM

A=-0.54272 B= 0.83991 C= 0.00196 D= 0.8399 E= 0.5427  
G=-0.0011 H= 0.0016 K=-1.0000 HT= 7.2

DEPTH OF FOCUS= 0.032R

SE= 2.49

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
BAGUIO CITY	16.36	352.2	3	38	0	6	41	9				
LEMBANG	16.70	245.3	3	41	-1	6	43	4				
DJAKARTA	17.19	248.4										
HONG KONG	23.63	339.5	4	53A	2	8	50	4	5	32	5	43
MEDAN	24.42	278.4	5	1K	2							
PORT MORESBY	25.95	112.0	5	54	41							
CHARTERS TS.	30.46	132.6	5	53	0							
MUNDARING	32.52	190.6	6	9	-2							
ADELAIDE	37.92	158.6	6	57	1	12	33	3	7	37	8	27 PP
MATUSIRO	38.94	19.8	7	4K	-1	12	45	0	7	47	9	12 PCP
SHILLONG	39.19	312.6	7	2	-5							
BRISBANE	39.66	136.0	6	15	-56							
CANBERRA	42.86	148.0	7	38A	1				8	21		10 22
CHATRA	43.40	310.6	7	43	2							
WARSAK DAM	58.65	310.6	9	35	0							
QUETTA	60.91	304.8	9	50	0							10 58 PP
KARAPIRO	61.42	134.3	9	55	2							
YAKUTSK	61.97	3.7	9	56	-1	18	2	1				
MAGADAN	63.15	15.5	10	6	1							
TERRE ADELIE	68.07	172.2	10	26	-10							
MIRNY	69.80	192.3	10	46	-1							
TIKSI	71.51	2.0	10	55	-2	19	55	0				
SVERDLOVSK	75.07	329.8	11	17	-1							
CAPE HALLETT	78.15	166.7	11	35	0				12	23		
TIFLIS	81.02	312.1	11	51	1							
SCOTT BASE	81.33	171.5	11	52	0				13	9		
KSARA	87.43	303.7	12	37	15							
COLLEGE	89.60	25.3	12	32	0							
SOUTH POLE	90.11	180.0	12	36	2				13	24	14	22
BULAWAYO	94.04	249.9	12	53	0							
BYRD STATION	94.75	171.1	12	58	2				13	46		
NORD	96.31	354.5	13	2	-1							
RESOLUTE	102.02	9.6									27	40 *SPS
SHASTA	108.48	46.7	15	24K	777							
MINERAL	109.16	46.9	15	26A	777							
LICK	109.99	50.0	15	17A	777							
EUREKA	113.53	46.2	18	14	4							
PASADENA	113.61	52.4	18	15	5							
TAMARRASSET	115.04	295.2	18	15	2						19	20 PP
TUCSON	120.04	52.1	18	28	5							
TUCSON TELE.	120.09	51.9	18	28	5							
SEVEN FALLS	131.46	12.5	18	48	3							
OTTAWA	131.79	17.5	18	48	3							
COLUMBIA	139.33	31.1	18	54	-5							
HUANCAYO	158.39	123.9	19	36	7							
LA PAZ	160.44	146.9	19	37	6							



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STRASBOURG	70.59	315.3	11 24	5						
LWIRO	70.61	257.9	11 17	-2						11 43 PCP
DOURBES	72.13	317.4	11 31	2						
PARIS	73.84	316.6	11 37	-2						
GARCHY	73.99	315.0	11 38	-2						
FOLINIERE	75.70	317.3	11 51	2						
SETIF	76.21	303.6	11 50	-2						
ELISABTHVLE	76.24	250.0	11 53	1						
BROKEN HILL	76.79	247.0	11 53	-3						
COLLEGE	77.76	23.1	11 59	-2						
BULAWAYO	79.59	242.0	12 9	-2						
RESOLUTE	80.19	3.0					22 13	-6		27 19 SS
TAMANRASSET	81.20	291.0	12 18	-1						15 27 PP
PRETORIA	82.88	237.4	12 15	-13						
KIMBERLEY	87.02	236.4	12 52	3						
BYRD STATION	122.96	173.0	18 58	-1						
HUANCAYO	164.72	326.7								21 9 PKP2

AUGUST 28 1.H 56.M 57.S EPICENTRE 48.34 154.98 DEPTH= 0.KM

A=-0.60456 B= 0.28221 C= 0.74489 D= 0.4230 E= 0.9061  
G=-0.6750 H= 0.3151 K=-0.6672 HT= -4.8

SE= 2.16

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
PETROPAVLOV	5.23	25.1	1	24	2	2	24	0				
Y.-SAKHLINSK	8.38	265.5	2	11	5							
MAGADAN	11.49	349.3	2	51	2							
MATUSIRO	17.05	232.4	3	59A	-3	7	10	-1				
YAKUTSK	19.71	323.4	4	33	-1	8	9	-2				
ABUYAMA	19.72	234.1	4	34A	0							
TIKSI	26.31	341.7	5	38	-1							
COLLEGE	34.12	39.8	6	48	-1							
RESOLUTE	48.92	19.3	8	49	-1	15	39	-15				
SHILLONG	53.68	268.7	9	25K	-1							
SHASTA	56.71	64.4	9	49	1							
HUNGRY HORSE	56.82	52.8	9	50	1							
SODANKYLA	58.22	339.1	9	59	0							
KIRUNA	59.23	341.7	10	3	-3							
BOZEMAN	60.09	53.8	10	14	2							
FRESNO	60.75	66.5	10	17	1							
EUREKA	61.30	61.9	10	20	0							
PASADENA	63.47	67.7	10	34	0							
BOULDER CITY	64.29	64.2	10	32	-8							
NURMIJARVI	64.30	335.2	10	38	-2							
HELSINKI	64.49	334.9	10	39	-2							
RAPID CITY	65.30	50.9	10	47	1						10 48	
UPPSALA	66.71	338.1	10	52	-3							
CHARTERS TS.	68.56	188.8	11	7	0							
TUCSON	69.25	64.6	11	12	1							
JENA	76.24	337.1	11	51	-1						12 8	
PRUHONICE	76.30	335.0	11	53K	0						12 8 PCP	
OTTAWA	76.65	34.1	11	54K	-1							
BREBEUF	77.34	32.7	11	59K	1							
STUTTGART	78.82	337.7	12	6	-1							
STRASBOURG	79.37	338.5	12	15	5							
PARIS	80.34	342.0	12	16	1							
FOLINIERE	80.96	343.8	12	18	0							
NEUCHATEL	81.04	338.5	12	18	-1							
CANBERRA	83.46	184.9	12	33	2							
ATHENS	83.76	323.3	12	31K	-2							
JERUSALEM	83.78	311.9	12	33	0							
MONACO	83.97	337.0	12	34	0							
COLUMBIA	83.99	43.8	12	35	1							
ADELAIDE	84.20	193.4	12	35	0							
KARAPIRO	87.82	163.9	12	53K	0							
ELISABTHVLE	123.19	291.8	19	3	4							
BYRD STATION	136.41	165.4	19	24	0							
SOUTH POLE	138.15	180.0	19	16	-11						22 53	

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12.H 7.M 41.S EPICENTRE 63.48-148.80 DEPTH= 0.KM



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A=-0.38393 B=-0.23256 C= 0.89360 D=-0.5181 E= 0.8553  
G=-0.7643 H=-0.4630 K=-0.4489 HT=-10.0

SE= 2.33

	DELTA DEG.	AZ. DEG.	M	P	S	O-C S	M	S	O-C S	*PP M S	SUPP. M S
COLLEGE	1.46	16.6	0	32		4	0	53	5		
SITKA	9.28	127.9	2	19		1					
LILLOOET	19.22	119.2	4	56		28					
ALBERNI	19.29	126.3	4	31		2					
HORSESHOE B.	19.78	123.7	4	34K		-1					
VICTORIA	20.43	125.3	4	43A		2					
RESOLUTE	21.29	36.3	4	51		1	8	51	8		
CORVALLIS	23.85	130.5	5	19K		3					
HUNGRY HORSE	24.26	112.2	5	23		3					
SASKATOON	24.67	97.6					9	49	5		
BUTTE	26.72	113.7	5	45		2					
ARCATA	26.90	135.5	5	47		2					
SHASTA	27.61	133.1	5	52A		1					
BOZEMAN	27.63	112.2	5	51		0					
MAGADAN	28.13	290.0					10	41	1		
MINERAL	28.19	132.3	5	57A		1					9 19
PETROPAVLOV	28.72	273.5	6	16		15	10	42	-8		
TIKSI	29.95	321.0	6	14A		2	11	8	-1		9 9 PCP
BERKELEY	30.22	135.4	6	15A		1	11	42	28		
LICK	30.91	134.9	6	23A		3					9 19
EUREKA	30.93	125.3	6	22		1					9 16 PCP
SALT LAKE C.	31.38	118.7	6	27		2					
FRESNO	32.02	132.8	6	32A		2					
RAPID CITY	32.24	105.2	6	34		2					
NORD	32.90	11.6	6	38		0					
BOULDER CITY	34.45	126.8	6	54		3					9 27 PCP
PASADENA	34.95	132.5	6	56		0	12	49	22		
YAKUTSK	34.98	305.6	6	59		3	12	23	-5		
TUCSON	39.25	124.5	7	34		2					9 41 PCP
LAWRENCE	39.86	102.0	7	38		1					
SCORESBY SD.	41.31	24.0	7	50		1					
KIPAPA	42.50	192.8	7	58		-1					9 51 PCP
FAYETTEVILLE	42.72	103.3	8	2A		2					
OTTAWA	43.43	78.7	8	7A		1					
SEVEN FALLS	44.22	73.3	8	13		0					
HAWAII V.OB.	44.24	188.8	8	11		-2					
BREBEUF	44.27	76.9	8	14A		1					9 57 PCP
DALLAS	44.36	108.4	8	10		-4					
PENNSYLVANIA	46.13	84.4	8	30		2					
MORGANTOWN	46.15	87.1	8	30A		2					
PALISADES	47.72	80.9	8	38		-2	15	42	5		10 38 PP
WASHINGTON	48.03	85.2	8	44		1					
KIRUNA	48.75	5.4	8	48A		0					
APATITY	49.25	358.9	8	52		0					
HALIFAX	49.28	69.9	8	53A		1					
SODANKYLA	49.40	2.3	8	53		0					
CHAPEL HILL	49.61	89.2	8	56		1					
COLUMBIA	50.32	92.3	9	1		1					
MATUSIRO	50.55	274.1	8	59K		-3	16	5	-11		18 46
KABANSK	50.71	309.4	9	7		4					
SKALSTUGAN	52.47	10.5	9	16		-1					
ULAN-BATOR	54.08	306.4	9	32		3					
TACUBAYA	55.27	119.0	9	46		9					10 7
NURMIJARVI	56.23	3.9	9	44		0					
UPPSALA	56.56	8.2	9	45A		-2					
HELSINKI	56.58	3.7	9	45		-2					
PULKOVO	57.07	0.5	9	49		-1					
GOTEBORG	58.24	12.0	9	57		-2					
BERMUDA	58.99	79.1	10	3		-1					13 35
MOSCOW	61.02	355.8	10	19		1					
BENSBERG	64.35	16.6	10	39		-1					
HALLE	64.37	13.2	10	43		3					11 23
COLLMBERG	64.67	12.5	10	41		-1					
DOURBES	64.84	18.6	10	44		1					
JENA	64.89	13.6	10	43		0					13 6
FOLINIERE	65.33	22.5	10	46		0					
PRUHONICE	66.12	11.7	10	52A		1					
RACIBORZ	66.32	9.1	10	51		-1					
STRASBOURG	66.76	16.7	11	1		6					
STUTTGART	66.76	15.6	10	54		-1					
FABRICHNAYA	67.84	325.9	11	0		-2					
NEUCHATEL	68.20	17.6	11	10		6					

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RAKHOV	68.79	5.1	11 7	-1			
LJUBLJANA	70.01	12.3	11 15	-1			
TCHIMKENT	70.23	330.7	11 14	-3			
ANDIJAN	71.08	328.1	11 21	-1			
THEODOSIA	71.79	356.9	11 25	-1			
SIMFEROPOL	71.89	357.8	11 32	5			
ALUSHTA	72.13	357.6	11 32	4			
YALTA	72.34	357.8	11 28	-2			
PIATIGORSK	72.42	351.0	11 27	-3			
HONG KONG	73.37	286.4	11 33	-3	21	4	0
KHOROG	74.38	327.7	11 41	0			
KULYAB	74.40	329.2	11 39	-3			
TIFLIS	74.58	349.5	11 42	-1			
KIROVOBAD	75.51	348.2	11 47	-1			
KIZYL-ARVAT	75.73	340.1	11 50	1			
ATHENS	78.71	6.0	12 4	-2			
SHILLONG	79.34	306.8	12 5A	-4			
CHATRA	79.82	311.2	12 10	-2			
CHITTAGONG	82.29	305.5	12 20	-5			
QUETTA	82.44	329.3	12 25	-1			
TAMANRASSET	91.68	23.6	13 10	0			16 50 PP
HUANCAYO	93.46	110.0	13 20A	1			
MEDAN	96.67	291.8			24	16	6
BRISBANE	101.53	230.6			26	27	113
RIVERVIEW	107.98	229.3			27	53	169
MUNDARING	120.27	258.6			28	13	142
ELISABTHVLE	128.18	4.7	19 11	2			
BULAWAYO	136.65	3.6	19 21	-3			
TERRE ADELIE	139.40	214.8	19 26	-3			
SCOTT BASE	143.65	194.5	19 33A	-4			
BYRD STATION	144.25	171.6	19 34	-4			
KIMBERLEY	145.01	9.9	19 38	-1			
SOUTH POLE	153.33	180.0	19 48	-4			20 28

AUGUST 28 15.H 52.M 12.S EPICENTRE -17.27 167.17 DEPTH= 0.KM

A=-0.93163 B= 0.21221 C=-0.29502 D= 0.2221 E= 0.9750  
G= 0.2876 H=-0.0655 K=-0.9555 HT= 5.3

SE= 2.76

	DELTA DEG.	AZ. DEG.	M	S	O-C S	M	S	O-C S	*PP M S	SUPP. M S
SUVA	10.77	96.4	2	58	20					
BRISBANE	16.68	230.3	3	55	-1	7	11	9		
ONERAHI	19.51	162.2	4	33	2	8	29	23		
RABAUL	19.62	309.8	4	33	1				5	4
CHARTERS TS.	20.00	258.7	4	38	1	8	25	8		
PORT MORESBY	20.97	289.3	4	49K	2	8	46	9		5 12 PP
KARAPIRO	21.86	162.0	4	57	1					
RIVERVIEW	21.88	218.1	4	59A	3	9	2	8		
TONGARIRO	23.04	163.2	5	11	3					
TUAI	23.16	159.9	5	12	3					
CANBERRA	24.19	218.5	5	20K	1	9	54	19		6 3 PP
GEBBIES PASS	26.75	171.1	5	41	-2					
MELBOURNE	28.27	219.2	5	57A	0	10	41	-1		6 52 PP
ADELAIDE	30.88	229.7	6	20	0	11	24	0		
MUNDARING	48.17	242.4	8	43	-1					
TERRE ADELIE	52.30	192.6	9	15	0					
CAPE HALLETT	55.07	178.9	9	36A	0	17	17	-1	10	6
MATUSIRO	60.10	333.3	10	10K	-1	18	23	-1		22 42 SS
SCOTT BASE	60.61	180.1	10	14	-1					10 59 PCP
WILKES	61.19	202.6	10	17	-2	18	37	-1		22 32 SS
ZO-SE	65.30	317.2	10	46	0					11 24
CANTON	66.16	305.6	10	54	3					
NANKING	67.48	316.6	10	59K	-1					
MIRNY	68.00	204.5	11	2	-1	20	3	1		
VLADIVOSTOK	68.27	332.9	11	5	0					
BYRD STATION	70.22	169.8	11	9	-8					
PETROPVLOVK	70.38	354.5	11	16	-2	20	30	0		
MEDAN	70.65	280.2	11	18	-1					
CHANGCHUN	71.85	329.5	11	26K	0					
SOUTH POLE	72.84	180.0	11	26	-6					11 49 PCP
PEKING	74.17	321.7	11	40K	0	21	22	9		21 52 PS
SIAN	75.45	313.3	11	48	1					
KUNMING	75.56	302.4	11	50K	2					

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CHENGTU	77.17	307.9	11 57K	0				
LANCHOW	79.94	312.6	12 14K	2	22 25	9		
CHITTAGONG	83.56	295.7	12 33A	2	22 59	6	15 50	PP
ULAN-BATOR	84.23	324.1	12 35K	1				
YAKUTSK	84.40	343.3	12 35	0	22 59	-2		
UKIAH	85.79	47.0	12 46	4				
BERKELEY	85.92	48.4	12 43	0				
LICK	86.14	49.1	12 44K	0				
LHASA	86.89	302.2	12 40	-8				
HALLEY BAY	87.02	176.6	11 4	-104				
FRESNO	87.24	50.3	12 50	1				
PASADENA	87.43	53.2	12 49	-1	23 32	1	23 17	SKS
MINERAL	87.44	46.4	12 51K	1				
IRKUTSK	87.98	326.8	12 53	0				
COLLEGE	88.76	17.6	12 55	-2				
BOULDER CITY	90.66	52.5	13 6	0				
EUREKA	91.07	48.9	13 4	-3				
TIKSI	92.41	348.7	13 12	-2				
TUCSON	92.52	57.1	13 24	10				
QUETTA	107.12	296.9					18 36	PP
RESOLUTE	108.63	16.1			26 30	84	28 18	PS
HUANCAYO	111.74	110.9					22 5	PP
PALISADES	122.86	52.0	17 10	777			20 38	PP
SODANKYLA	123.88	342.8	19 0	0				
KIRUNA	125.18	345.2	19 3	0				
TIFLIS	125.35	309.2	19 6	3				
NURMIJARVI	129.16	337.1	19 12	2				
HELSINKI	129.27	336.7	19 13	3				
SAN JUAN	129.41	80.2	19 12	1				
ELISABTHVILLE	130.90	237.0	19 19	5				
BERMUDA	131.05	61.9					22 38	PKS
KSARA	133.50	300.4	19 21	3	27 32	64	21 53	PP
COLLMBERG	140.31	334.6	19 31	0				
JENA	141.17	335.3	19 33	1			19 41	
BENSBERG	142.78	339.0	19 33	-2				
LJUBLJANA	143.39	327.5	19 35A	-1			20 16	
STUTTGART	143.79	335.1	19 36A	-1			22 56	PP
UCCLE	143.83	341.5	19 36	-1				
TRIESTE	144.06	327.7	19 37	0				
DOURBES	144.37	340.7	19 39	1				
ESINGEN	144.39	334.7	19 38	0				
RAVENSBERG	144.43	333.7	19 38	0				
KEW	144.45	346.5	19 37	-1			20 10	
STRASBOURG	144.54	336.2	19 44	6			23 4	PP
LEOPOLDVILLE	144.91	234.7	19 40K	1				
BASLE	145.47	335.4	19 39	-1			28 37	
NEUCHATEL	146.15	335.4	19 43	2				
PARIS	146.16	341.7	19 45	4			22 55	
BANGUI	146.63	251.1	19 45	3			23 45	
FOLINIERE	147.01	344.9	19 46	4				
ROME	147.26	323.8	19 45	2			28 21	
MESSINA	147.57	315.7	19 49	6			20 48	
MONACO	148.54	331.2	19 50	5				
CLERMONT-FD.	148.62	338.3	19 53	8				
SETIF	155.17	322.9	19 56	1				
SERRA PILAR	155.94	352.1	19 53A	-3			20 22	
ALGIERS UNI.	156.03	327.3	19 56	0			24 0	PP
TAMANRASSET	161.91	290.6	20 5	2			24 36	PP
MBOUR	175.09	125.2			26 5	-68	47 21	SS

AUGUST 29 17.H 3.M 11.S EPICENTRE 52.71 106.84 DEPTH= 0.KM

A=-0.17620 B= 0.58230 C= 0.79365 D= 0.9571 E= 0.2896  
G=-0.2299 H= 0.7596 K=-0.6084 HT= -6.4

SE= 2.92

	DELTA DEG.	AZ. DEG.	P			S			*PP		SUPP.	
			M	S	S	M	S	S	M	S		
KABANSK	0.68	189.8								0 15	PG	
IRKUTSK	1.60	254.8	0 32		2					0 52	SG	
KYAKHTA	2.36	186.0	0 41		1					1 13	SG	
ULAN-BATOR	4.80	179.5	1 16		1							
PAOTOW	12.33	168.5	2 59K		-1	5 18		-1				
PEKING	14.21	149.5	3 21		-4	6 7		3				
CHANGCHUN	15.14	118.6	3 34		-3							

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YAKUTSK	15.38	43.7	3 36	-4	6 27	-5	
SEMI PALATNSK	16.66	272.6	3 57	1	7 1	-1	
LANCHOW	16.80	188.5	3 57K	-1			
SIAN	18.52	174.6	4 21	1	7 56	12	
VLADIVOSTOK	19.26	109.9	4 28	0	7 55	-6	4 40 PP
TIKSI	21.33	19.1			8 39	-5	5 20
OKHA	21.53	73.3			8 49	2	4 57
PRZHEVALSK	21.60	253.1	4 54	1			
ALMATA	21.98	256.5	4 59	2	9 5	9	
CHENG TU	22.13	186.5	4 58K	-1	9 10	11	
FABRICHNAYA	22.37	256.8	5 3	2			11 43
UGLEGORSK	22.38	85.2	5 2	1	9 1	-2	
NANKING	22.39	152.5	5 1K	0	9 11	8	
RYBACHE	22.92	255.7	5 10	3	9 18	5	9 36
FRUNSE	23.62	258.2	5 16	3	9 34	9	5 48 PP
Y.-SAKHLINSK	23.64	89.5	5 14	0	9 26	0	6 9 PPP
NARYN	23.65	253.9	5 17	3	9 35	9	
WAKKANAI	23.78	93.8	5 17	2	9 38	10	6 51
ZO-SE	24.00	148.5	5 17K	0	9 33	1	
SUTTSU	24.34	100.6	5 17	-3			9 40
SAPPORO	24.85	98.9	5 21	-4	9 28	-18	
SAIGO	24.90	121.0	5 26	0	10 5	18	13 18
MORI	24.96	101.6	5 19	-7	9 38	-10	12 44
MAGADAN	25.04	56.7	5 29	2	9 49	0	5 37 *SP
HAKODATE	25.24	101.9	5 26	-3			8 42
TOMAKOMA I	25.25	99.6					6 42
HAMADA	25.26	124.8	5 31A	2	10 6	13	13 16
MATSUE	25.34	122.5	5 25	-5	10 8	14	
SIMONOSEKI	25.47	127.9	5 27	-4			
YONAGO	25.50	122.1	5 34	3	10 10	13	6 25 PP
HUKUOKA	25.51	129.3	5 31K	-1	9 58	1	12 5
TOMIE	25.57	133.1	5 32	0	10 8	10	13 27
SAGA	25.74	129.8	5 35	1			13 51
LHASA	25.82	213.0	5 37K	3	10 12	9	
HIROSIMA	25.86	125.0	5 34	-1	10 18	15	
ADMORI	25.86	103.7	5 38	3			13 56
WAZIMA	25.95	114.2	5 36	0	10 23	18	
NAGASAKI	25.98	131.1	5 33K	-3	10 17	12	13 23
OBIHIRO	26.05	97.4	5 50	13			13 38
AKITA	26.17	106.4	5 36	-2	10 14	6	8 45
TOYOOKA	26.19	119.9	5 33	-5	9 51	-18	13 15
ANDI JAN	26.22	256.7	5 40	2			10 32
URAKAWA	26.25	99.2	5 40	2	10 19	9	14 4
AIKAWA	26.25	111.5	5 39	1			
KUMAMOTO	26.29	129.7	5 41	2	10 32	22	
OKAYAMA	26.37	122.4	6 0	20			
OOITA	26.39	127.8	5 39	-1	10 27	15	7 38
ASOSAN	26.39	129.0	5 42	2			14 4
MATUYAMA	26.46	125.2	5 40	0	10 4	-9	13 28
HATINOHE	26.49	103.4	5 35	-6	10 24	10	
HUKUJ	26.55	117.1	6 5	24			
SAKATA	26.56	108.1	5 41	0	10 48	33	
SVERDLOVSK	26.56	297.5	5 43	2	10 11	-4	11 13 SS
MAIZURU	26.60	119.0	5 26	-16	10 33	18	
TOYAMA	26.60	114.9	5 40	-2	10 23	8	
TAKAMATU	26.72	122.7	5 34	-9	9 57	-20	
KUSIRO	26.75	96.2	5 36	-7	10 13	-5	
HIMEJI	26.76	121.9	5 48	5	10 22	4	
TSURUGA	26.76	118.0	5 21	-22			
NIIGATA	26.78	110.6	5 37	-6	10 31	13	14 20
FERGANA	26.80	256.7	5 45	2	10 33	14	14 26
MORIOKA	26.81	105.2	5 39	-5	10 19	0	
UWAZIMA	26.84	126.3	6 9	25	10 39	20	
TAKADA	26.90	112.9	5 38	-6			
TCHIMKENT	26.94	262.3	5 44	-1	9 26	-55	6 11
KOBE	27.03	120.6	5 46	0	10 38	16	14 29
TAKAYAMA	27.03	115.6	6 0	14			
KYOTO	27.06	119.3	5 48	2	10 31	8	
KOTI	27.07	124.5	5 46	0	10 36	13	6 30
ABUYAMA	27.09	119.8	5 44K	-2			
HIKONE	27.14	118.3	5 50	3	10 39	15	
SUMOTO	27.15	121.4	5 46	-1	10 46	22	7 3
MIZUSAWA	27.16	106.2	5 45	-2	10 23	-2	
NAGANO	27.18	113.6	5 48	1	10 41	16	9 5
TOKUSIMA	27.19	122.3	5 46	-1			14 49
OSAKA	27.23	120.1	5 50	3			11 43
KAGOSIMA	27.26	131.5	5 50	2			14 22
NEMURO	27.26	94.5	5 50	2	10 37	11	13 54

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MATUSIRO	27.28	113.8	5 44K	-4	10 30	3				6 40 PP
MIYAKO	27.31	104.4	5 44	-4	10 17	-10				
GIHU	27.33	117.4	5 51	3	10 43	16				12 49
MATUMOTO	27.36	114.6	6 3	14						
NARA	27.37	119.7	5 47	-2						11 46
WAKAYAMA	27.37	121.2	5 51	2	10 50	22				14 46
MIYAZAKI	27.37	129.7	5 53	4	10 49	21				
SIMIDU	27.41	126.3	6 0	11	10 42	13				14 21
TOCKLAI	27.47	203.9	5 59	9						
KAMEYAMA	27.58	118.6	5 44	-7	10 38	7				
SENDAI	27.60	107.9	5 47	-4	10 29	-3				
NAGOYA	27.61	117.4	5 57	6						12 57
OIWAKE	27.62	113.7	5 55	4						10 25
MUROTO	27.63	123.9	5 49	-2	10 54	22				14 33
KURILSK	27.64	89.1	6 6	15	10 54	22				6 51 PP
HUKUSIMA	27.71	109.2	5 54	2	10 42	9				
TASHKENT	27.71	260.9	5 54	2	10 54	21				6 46 PP
KUNMING	27.73	188.0	5 51K	-1						
ISINOMAKI	27.73	107.2	5 50	-2						14 41
IIDA	27.81	115.8	6 0	7						
MAEBASI	27.86	112.9	5 56	3						15 25
SHIRAKAWA	28.00	110.5	5 54	0						14 21
OWASE	28.03	120.0	5 53	-2	11 0	21				
KOHU	28.11	114.7	5 50	-5	10 42	2				9 0
TITIBU	28.17	113.6	6 1	5						15 34
YAKUSIMA	28.19	132.8	5 51	-5	10 57	16				
UTUNOMIYA	28.20	111.7	5 53	-3						8 47
KUMAGAYA	28.21	112.9	6 9	13						12 11
SIOMISAKI	28.29	121.4	6 5	8	10 53	10				
HUNATU	28.35	114.6	5 51	-7						12 37
ONAHAMA	28.51	109.9			10 53	7				12 13
SHIZUOKA	28.53	115.8	6 13	14						15 31
TUKUBASAN	28.57	111.9	5 46A	-14	10 26	-21				6 44 PP
KAKIOKA	28.61	111.8	5 57	-3						
MITO	28.66	111.3	5 43	-17						13 18
OMAESAKI	28.71	116.6	6 1	0	11 0	10				
MISIMA	28.73	114.9	5 50	-11						12 39
HONGO	28.75	113.1	5 53	-8	10 56	6				13 33
TOKYO C.H.O.	28.76	113.2	6 16	15	10 49	-1				12 37
KHOROG	28.86	252.3	6 3	1						
AJIRO	28.86	114.8	6 16	14						
YOKOHAMA	28.89	113.6	6 38	36						14 11
OSIMA	29.22	114.9	6 16	11						10 1
MERA	29.36	114.1								7 10
SHILLONG	29.37	208.4	6 7	0	11 9	9				7 7 PP
KULYAB	29.61	254.9	6 8	-1	11 29	25				
STALINABAD	29.75	256.9	6 9	-1	11 27	21				
CHATRA	29.75	217.3	6 11	1	11 19	13				
CANTON	29.99	168.0	6 11K	-1						
SAMARKAND	30.11	260.4	6 12	-1						13 49 SSS
DEHRA DUN	30.72	234.6	6 18	-1						
PETROPAVLOVK	30.72	68.4	6 18	-1	11 14	-8				7 13 PP
HONG KONG	30.88	166.7	6 19	-1	11 27	3				7 10 PP
WARSAK DAM	31.32	247.4	6 24	0						
LAHORE	31.65	241.0	6 27K	0						
PHU-LIEN	31.86	180.4	6 26	-3	11 24	-15				
KHEYS	31.93	346.5	6 29	0	11 31	-9				7 28 PP
CHITTAGONG	32.42	206.6	6 35K	1	11 51	3				7 44 PP
BOKARO	32.98	217.1	6 39K	0	12 5	8				7 57 PP
CALCUTTA	33.29	212.2	6 42	1	12 12	10				13 4 PCS
AGRA	33.38	231.3	6 42K	0	12 2	-1				7 52 PP
BAIRAM-ALI	34.35	262.0	6 49	-1						9 53
ASHKABAD	36.41	265.8	7 9	1	12 50	0				8 17
QUETTA	36.76	248.1	7 11K	0	12 56	1				8 56 PPP
KIZYL-ARVAT	36.88	269.2	7 15	3	13 5	8				8 42 PP
BAGUIO CITY	37.80	158.2	7 11	-9	13 25	14				17 27 SSS
MOSCOW	39.05	302.9	7 31	1	13 30	0				9 3 PP
VIZIANAGRAM	39.07	216.8	7 5K	-25						
SODANKYLA	39.48	323.1	7 34	0	13 33	-4				9 8 PP
MANILA	39.61	158.1	7 34	-1						8 21
PULKOVO	40.86	311.2	7 45	0	13 58	1				9 23 PP
KIRUNA	41.52	325.1	7 50	0	14 8	1				9 32 PP
HYDERABAD	41.65	223.1	7 49K	-3	14 10	1				9 33 PP
TIFLIS	42.29	280.7	7 59	2	14 23	5				9 17 PP
PORT BLAIR	42.48	200.7	8 1	3	14 28	7				9 46 PP
NORD	42.64	349.6	7 59A	-1	14 22	-2				9 49 PP
POONA	42.70	229.6	8 OK	0	14 28	4				9 45 PP
GORIS	42.73	277.0	8 2	2	14 31	6				9 47 PP
BOMBAY	42.87	231.1	8 3	1	14 31	4				9 46 PP

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NURMI JARVI	43.06	314.1	8 4	1	14 13	-17	9 46	PP
HELSINKI	43.08	313.6	8 5	2	14 33	3	9 49	PP
BOGDANOVKA	43.28	281.0					0 21	PG
MADRAS	44.98	218.2	8 19K	0	15 6	8	10 8	PP
UPPSALA	46.42	315.8	8 29	-1	15 15	-3	10 22	PP
SKALSTUGAN	46.51	322.1	8 30	-1				
SIMFEROPOL	46.59	291.0	8 31K	0	15 23	2	10 14	PP
KODAIKANAL	48.55	220.1	8 52	5	15 52	4		
LWOW	49.16	301.8	8 51	0	15 54	-3	10 45	PP
WARSAW	49.23	305.9	8 50	-2	16 14	16		
GUAM	49.42	128.1	8 52	-1			12 3	
MEDAN	49.44	190.7	8 54	0			10 46	
COLLEGE	49.54	32.8	8 54	0	16 2	0	10 50	PP
BACAU	49.62	296.9	9 3	8				
GOTEBORG	50.07	315.8	9 0	2			11 40	
COLOMBO	50.72	215.6	9 9	6	16 27	8		
BERGEN	51.06	321.3	9 9	3	16 21	-2	20 0	SS
KRAKOW	51.11	304.2	9 8	2	16 26	2		
COPENHAGEN	51.12	313.5	9 9A	3	16 28	4	11 8	PP
BUCHAREST	51.41	295.2	9 13	4			11 15	PP
SKALNATE PL.	51.49	303.2	9 11	2	16 27	-2		
SCORESBY SD.	51.73	340.5	9 12	1	16 36	4	20 22	SS
RACIBORZ	51.95	305.1	9 13	0			12 42	
RESOLUTE	52.06	7.2	9 13K	-1	16 39	2	11 5	PP
KSARA	52.78	278.8	9 19	0	16 57	10	19 8	SCS
POTSDAM	52.95	310.0	9 20	0	16 53	4	11 29	PP
TIMI SOARA	53.19	299.3	9 25	3	16 57	5		
BUDAPEST	53.21	302.2	9 24	2	16 53	0		
KECSKEMET	53.22	301.3					22 51	
HURBANOVO	53.38	303.0			17 21	26	11 41	PP
COLLMBERG	53.69	309.0	9 25	-1	17 3	4	11 31	PP
BRATISLAVA	53.74	303.9	9 30	4	17 3	3	11 33	PP
PRAGUE	53.81	307.1	9 21A	-6	16 54	-7	11 46	PP
PRUHONICE	53.81	306.9	9 26K	-1	16 57	-4	11 37	PP
HALLE	54.05	309.7	9 27	-1			11 39	PP
VIENNA-H.	54.05	304.4	9 30	2	17 12	8	12 51	PPP
SOFIA	54.06	295.2	9 27	-1	17 11	7	11 48	PP
BELGRADE	54.21	298.9	9 29A	0	17 8	2	12 46	PPP
JERUSALEM	54.59	277.4	9 32A	0	17 47	36		
JENA	54.60	309.4	9 32	0	17 15	4	11 46	PP
PLAUEN	54.62	308.7	9 29	-4	17 11	-1	12 9	
SONNEBERG	55.15	309.1	9 35	-1			11 49	PP
WITTEVEEN	55.56	313.6	9 40	1				
MUNSTER	55.72	312.3	9 39	-1			14 26	
ZAGREB	55.88	302.4	9 43A	1	17 31	3	21 33	SS
ABERDEEN	56.08	321.6	9 43A	0	17 50	19	11 59	PP
LJUBLJANA	56.47	303.4	9 46K	0			13 26	
BENSBERG	56.62	311.7	9 46	-1			11 59	PP
DE BILT	56.71	313.7	9 47	-1	17 46	6	12 3	PP
REYKJAVIK	56.89	335.9	9 49	0				
TOLMEZZO	56.98	304.6	9 53	3				
ATHENS	57.05	290.8	9 50A	0			18 6	PS
TRIESTE	57.13	303.5	9 49	-2	17 47	2	11 59	PP
STUTTGART	57.17	308.7	9 51	0	17 44	-2	12 3	PP
TUBINGEN	57.43	308.6	9 55	2				
DURHAM	57.62	319.4	9 55A	1			13 29	PPP
RAVENSBURG	57.70	307.7	9 55	0				
EBINGEN	57.73	308.4	9 55	0			12 11	PP
UCCLE	58.00	313.1	9 57	0	17 47	-10		
STRASBOURG	58.01	309.4	9 58K	1	18 2	5	12 14	PP
DOURBES	58.39	312.4	10 0	1	18 3	1		
CHUR	58.39	306.9	9 59K	0			13 11	
DJAKARTA	58.67	180.0	9 59K	-2	18 7	2		
BASLE	58.85	308.6	10 1	-2	18 4	-4	20 55	
LEMBANG	59.32	179.1	10 3K	-3				
SITKA	59.38	34.2	10 8	2				
NEUCHATEL	59.53	308.5	10 7	0	18 17	1		
KEW	59.54	316.1	10 6	-1	18 18	1	12 20	PP
PRATO	59.72	303.6	10 15	6	18 21	2		
PAVIA	59.76	305.8					11 35	
OROPA	60.03	306.8	10 13	2	18 6	-17	24 56	
PARIS	60.27	312.5	10 13K	1	18 31	5		
ROME	60.43	301.1	10 12K	-2	18 34	6	12 28	PP
RATHFARNHAM	60.56	320.7	10 15K	1	18 35	5	22 29	SS
GARCHY	61.14	311.0	10 18K	0	18 38	1		
MESSINA	61.45	296.3	10 18	-2	18 41	0	12 46	PP
FOLINIÈRE	61.62	314.1	9 50	-32				
MONACO	61.67	305.7	10 23A	1				



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JERSEY	62.01	315.3	10 30	6	19 49	61	
CLERMONT-FD.	62.23	309.8	10 29	3	18 56	5	
BARCELONA	65.99	307.2	10 55	5			
TORTOSA	67.24	307.8	10 58	0	20 0	7	
SETIF	68.34	301.5	11 4A	-1			13 33 PP
RABAU	68.36	130.3	11 4	-1			13 3
LILLOOET	69.06	30.8	11 39	29			
ALGIERS UNI.	69.11	303.4	11 7	-3	20 19	4	13 37 PP
ALBERNI	69.36	33.3	11 12	1			
ALICANTE	69.63	306.8	11 12	-1	20 20	-1	24 50 SS
HORSESHOE B.	69.77	32.3	11 12	-2			
TOLEDO	70.13	310.1	11 17K	1	20 31	4	13 49 PP
VICTORIA	70.47	32.8	11 18K	0			
BANFF	70.51	26.8	11 23A	5			
PORT MORESBY	70.79	137.5	11 19K	-1	20 30	-5	15 40 PPP
RELIZANE	71.16	304.4	11 22	0	20 39	0	
SERRA PILAR	71.18	313.9	11 21A	-1	20 38	-1	14 1 PP
ALMERIA	71.79	307.2	11 17	-9			25 28 SS
SASKATOON	71.82	21.0	11 23	-3	21 40	53	
COIMBRA	71.86	313.2	11 31	4	20 52	5	
GRANADA	72.07	308.1	11 28K	0	20 53	4	14 11 PP
LISBON	73.39	312.8	11 37K	1	21 18	14	
HUNGRY HORSE	73.48	27.1	11 35	-1	21 10	4	14 26 PP
CORVALLIS	73.95	34.8	11 40K	1			
BUTTE	76.01	27.1	11 50	-1			
KIPAPA	76.27	72.8	11 52	0			
HONOLULU	76.32	72.9	11 52	0	21 41	4	14 40 PP
BOZEMAN	76.75	26.3	11 55	0			
ARCATA	76.90	37.2	11 56K	0			
MINERAL	78.27	35.7	12 3K	0			
TAMANRASSET	78.73	292.7	12 6K	0	22 10	7	15 11 PP
UKIAH	78.75	37.4	12 6	0			
CHARTERS TS.	80.17	142.7	12 12K	-2	22 18	0	
RAPID CITY	80.18	21.5	12 13	-1			
BERKELEY	80.22	37.4	12 14K	0	22 22	3	15 19 PP
SEVEN FALLS	80.52	358.4	12 15	0	22 23	1	
LICK	80.92	37.2	12 18K	1			15 24 PP
PONTA DELGDA	80.93	323.7	12 19A	1			12 24
EUREKA	80.96	32.2	12 18	0			12 30 PCP
SALT LAKE C.	81.05	28.7	12 19	1			38 45 PKPPKP
VINEYARD	81.53	37.3	12 22	1			
FRESNO	82.09	36.1	12 24	0			
BREBEUF	82.16	0.3	12 24K	0	23 3	24	
OTTAWA	82.24	1.8	12 24K	0	22 37	-3	12 59
HALIFAX	82.70	353.1	12 27K	0	22 46	2	28 9 SS
BOULDER CITY	84.51	32.8	12 37	1			27 49 SS
LWIRO	84.54	259.1	12 37	1	23 8	5	
PERTH	84.67	172.3	12 38	1			15 53 PP
MUNDARING	84.72	172.0	12 34	-3			
PASADENA	85.02	36.1	12 39K	0	23 3	-4	16 5 PP
BANGUI	85.46	271.2	12 40	-1			
CLEVELAND	85.90	6.3	12 41	-2	23 6	-10	28 57 SS
PALISADES	86.65	0.6	12 47K	0	23 25	2	16 13 PP
LAWRENCE	86.70	17.1	12 42	-5			
PENNSYLVANIA	86.77	3.6	12 48	1	23 27	3	16 20 PP
FLORISSANT	87.64	13.4	12 51K	0	23 26	-7	
TANANARIVE	87.80	234.5	12 52	0			15 51 PP
ST. LOUIS 1	87.82	13.3	12 52K	0	23 26	-8	
MORGANTOWN	87.84	5.2	12 53K	1			15 17
GEORGETOWN	88.70	3.0	12 56	0	23 22	-20	16 32 PP
WASHINGTON	88.70	3.0	12 55	-1	23 46	4	16 29 PP
TUCSON TELE.	89.18	31.1	13 1	2			16 27 PP
TUCSON	89.23	31.2	13 1	2	23 59	12	16 30 PP
BRISBANE	89.26	140.3	13 0	1	23 25	-23	
FAYETTEVILLE	89.69	16.9	13 0K	-1	23 23	-29	
CHAPEL HILL	91.59	4.8	13 11	1			
ADELAIDE	91.64	154.3	13 9	-1			
DALLAS	92.34	19.7	13 14	1			
ELISABTHVLE	92.82	254.6	13 17	1			25 43 PS
COLUMBIA	93.38	6.5	13 17	-1			
CHIHUAHUA	94.05	28.6	13 25	4			19 21 PPP
RIVERVIEW	94.44	144.3	13 24K	1	24 5	-28	
BROKEN HILL	94.47	252.1	13 22	-1			
BERMUDA	94.94	352.8	13 28	3	24 1	-37	17 17 PP
CANBERRA	95.05	146.6	13 25	-1			
MBOUR	97.59	305.7	15 40A	123			17 36 PP
BULAWAYO	98.92	248.6	13 43	0			
TACUBAYA	104.71	25.4					18 42 PP

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SAN JUAN	108.94	352.9									18 57 PP
ROXBURGH	111.48	137.9									28 55 PS
GALERAZAMBA	116.74	2.3									20 11 PP
CARACAS	116.81	353.1	20	0	74	26	59	80			
WILKES	118.76	178.3				25	46	0			20 17 PP
MIRNY	119.40	186.3	18	50	-1						30 6 PS
FUQUENE	122.04	0.7									20 31 PP
TERRE ADELIE	122.04	164.6	18	54	-3						
CHINCHINA	122.50	2.9	19	3	6						20 37 PP
BOGOTA	122.88	1.1									20 38 PP
CAPE HALLETT	132.25	158.3	19	16K	0						21 47 PP
SCOTT BASE	135.32	164.9	19	8	-14						22 2 PP
HUANCAYO	139.41	3.3	19	33	4						22 24 PP
SOUTH POLE	142.53	180.0	19	31	-4						22 35 PP
LA PAZ	143.65	351.8	19	37	0	26	9	-36			22 49 PP
BYRD STATION	148.73	165.9	19	46	1						23 30 PP
HALLEY BAY	150.85	202.0	19	47	-2						

AUGUST 30 3.H 24.M 53.S EPICENTRE 35.68 -3.14 DEPTH= 0.KM

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SE= 2.88

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
ALMERIA	1.29	24.5	0	26A	0	0	44	0				
GRANADA	1.55	346.2	0	31K	2						1	3 SG
RELIZANE	3.00	87.5	0	49K	-1	1	24	-3			1	1 PG
ALICANTE	3.41	37.8	0	56	0	1	54	16				
TOLEDO	4.26	350.5	1	8K	0	1	55	-4			1	27 PG
ALGIERS UNI.	5.12	75.9	1	18	-2	2	16	-5			1	44 PG
LISBON	5.68	304.1	1	26	-2	2	45	10			1	34 PP
TORTOSA	5.88	28.0	1	30	-1	3	3	23				
COIMBRA	6.15	318.8	1	31	-4	3	1	14				
SERRA PILAR	6.93	323.4	1	44A	-2	3	14	8			1	56 PP
SETIF	6.95	83.2	1	45	-1	3	8	1			2	24 PG
BARCELONA	7.07	34.2	2	56	68	4	2	52				
CLERMONT-FD.	11.14	23.3	2	41	-3						6	5 SG
MONACO	11.44	42.1	2	49	1						7	4
GARCHY	12.49	19.9	2	59	-3							
FOLINIERE	13.23	7.7	3	11	-1							
PAVIA	13.33	40.8	3	14	1							
NEUCHATEL	13.60	30.6	3	19	2							
PRATO	13.66	48.8	3	29	11	6	17	26				
ROME	13.67	58.3	3	10	-8						6	12
PARIS	13.77	15.8	3	18	-1						3	59 PP
BASLE	14.28	30.7	3	24	-2							
CHUR	14.65	36.5	3	33	2							
TAMANRASSET	14.90	147.3	3	31K	-3	6	16	-5			3	41 PP
MESSINA	15.16	74.9	3	40	3	6	43	16				
STRASBOURG	15.20	28.6	3	39	1	6	43	15				
RAVENSBURG	15.37	34.2	3	41	1							
EBINGEN	15.38	32.0	3	41	1							
DOURBES	15.48	19.0	3	41	-1	6	49	15				
TUBINGEN	15.69	31.3	3	45	1							
KEW	15.92	6.4	3	50	3	7	3	18				
STUTTGART	15.97	31.1	3	47	-1	6	41	-5			7	1 SS
UCCLE	16.06	17.4	3	50	1	7	10	22				
TOLMEZZO	16.20	43.7	3	55	4						4	13
TRIESTE	16.20	46.9	3	52	1						7	33
LJUBLJANA	16.87	46.7	4	0	1						4	22
DE BILT	17.46	17.3	4	7	0	7	42	22				
ZAGREB	17.64	49.1	4	10K	1	7	46	22				
RATHFARNHAM	17.76	353.8	4	14A	3						4	53
SONNEBERG	18.00	30.9	4	14	0						4	50
MUNSTER	18.01	21.9	4	15	1						10	10
PLAUEN	18.49	32.1	4	16	-4							
JENA	18.58	30.3	4	21	0	8	1	15			4	35 PP
DURHAM	19.13	2.8	4	25	-2							
HALLE	19.16	29.7	4	28	0						9	0 PCP
PRUMONICE	19.23	36.5	4	28K	-1	8	13	13				
PRAGUE	19.24	36.2	4	28	-1	8	16	15				
COLLMBERG	19.45	31.6	4	31	0							
BRATISLAVA	19.49	44.0	4	33	2						10	45
BELGRADE	20.13	55.8	4	38K	-1	8	34	14				

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POTSDAM	20.28	29.6	4 40	0	8 32	9	4 48	PP
TIMI SOARA	20.95	53.9	4 58	11				
RACIBORZ	21.15	40.5	4 50	1			5 23	
ABERDEEN	21.51	1.5			8 57	10		
ATHENS	21.60	75.9	4 53A	-1			5 20	PP
SOFIA	21.63	63.1	4 54	0				
KRAKOW	22.07	42.3	4 58	-1	9 4	6		
COPENHAGEN	22.68	23.3	5 6K	1	9 16	7		
BUCHAREST	23.93	59.7	5 24	7				
GOTEBORG	24.24	19.9	5 29K	9				
LWOW	24.28	46.0	5 21	1			10 6	
UPPSALA	27.69	22.7			11 0	26		
SKALSTUGAN	29.50	14.0	6 7	-1				
SIMFEROPOL	29.66	60.3	6 7	-3				
KSARA	31.97	81.8	6 15	-15				
PULKOVO	32.38	31.4					9 59	
MOSCOW	34.15	41.2	6 45	-4				
KIRUNA	34.88	15.4	6 54	-1				
SODANKYLA	36.01	19.1	7 5	0				
SCORESBY SD.	36.30	349.5	7 10	2				
APATITY	38.07	21.8	6 43	-39				
SVERDLOVSK	46.93	42.4	8 33	-2				
LWIRO	48.10	134.8	8 47	3				
SEVEN FALLS	50.57	305.1	9 3	0				
BREBEUF	52.84	303.7	9 19	-1				
OTTAWA	54.29	304.1	9 30	0				
PALISADES	54.38	298.5			17 15	6		
RESOLUTE	56.42	341.4			17 39	3		
SAN JUAN	57.78	270.3	9 54	-2				
QUETTA	57.96	73.8	9 56	-1				
MORGANTOWN	59.18	298.9	10 6K	1				
COLUMBIA	62.29	293.4	10 26	-1				
BULAWAYO	63.14	146.3	10 33	1				
LAWRENCE	70.11	304.1	11 15	-1				
RAPID CITY	72.54	311.9	11 30	-1				
YAKUTSK	75.48	20.9	11 47	-1				
COLLEGE	76.04	345.3	11 51	0				
HUNGRY HORSE	76.18	320.1	11 50	-2				
HUANCAYO	82.93	249.8	12 31	3				
EUREKA	82.93	314.0	12 28	0				
CORVALLIS	83.47	321.5	12 34	3				
TUCSON TELE.	84.21	305.8	12 36	1				
TUCSON	84.34	305.8	12 37	1				
BOULDER CITY	84.52	310.8	12 44	8				
MINERAL	85.53	317.6	12 41	-1				
SHASTA	85.72	318.3	12 42	0				
FRESNO	86.98	314.1	13 4	15				
CHARTERS TS.	148.97	68.2	19 52	6				
ADELAIDE	149.00	100.0	19 52	6				

AUGUST 30 21.H 45.M 9.5 EPICENTRE -36.73 78.40 DEPTH= 0.KM

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	DELTA DEG.	AZ. DEG.	M	P	O-C S	M	S	O-C S	*PP M S	SUPP. M S
MIRNY	31.03	168.7	6 18		-3	11 23		-3		
TANANARIVE	32.35	294.9	6 33		0				8 13	PPP
WILKES	34.97	158.0							8 7	PPP
LEMBANG	39.95	49.0	7 36K		-2				9 6	
COLOMBO	43.42	2.1							18 26	SSS
PRETORIA	43.88	269.7	8 8		-2					
MEDAN	44.34	29.7	8 15		2				9 45	
BULAWAYO	46.28	276.9	8 28		-1					
KODAIKANAL	46.72	358.7				15 23		1		
HERMANUS	47.52	254.3				15 39		5		
ADELAIDE	48.20	106.9	8 47		3				10 19	PCP
BROKEN HILL	49.56	283.1	8 54		-1					
ELISABTHVILLE	52.01	285.2	9 16		3	16 40		4	20 39	SS
SOUTH POLE	53.45	180.0	9 21		-3				11 29	PP
HYDERABAD	53.87	0.1				16 56		-6		
SCOTT BASE	54.06	164.8	9 30		2					
POONA	55.13	354.7	9 35		-1	17 19		1	20 56	SS

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BOMBAY	55.58	353.6	9 58	18	17 30	5	
CANBERRA	55.87	111.3	9 37	-5			
CAPE HALLETT	56.00	158.4	9 46	3	17 57	27	11 24 PCP
LWIRO	57.08	295.0	9 50A	0			27 0
RIVERVIEW	58.11	110.6			18 14	16	
CHARTERS TS.	60.79	94.2	10 13	-3			29 12
BRISBANE	62.30	104.7	10 27	1	18 57	5	
BYRD STATION	63.06	176.5	10 30	-1			
SHILLONG	63.26	13.6	10 30	-2	19 6	2	19 29
AGRA	63.52	359.6	10 31K	-3	19 9	2	
CHATRA	63.76	8.7	10 35	-1			
ROXBURGH	65.53	129.4					27 9 SSS
KUNMING	65.66	24.2	10 50	2	19 37	3	
DEHRA DUN	66.70	359.7					12 18
LHASA	67.08	11.9	10 57	0	19 53	2	
PORT MORESBY	67.42	84.9	11 1	2	20 4	9	12 29
QUETTA	67.42	349.3	10 57	-2	19 55	0	11 24 PCP
LAHORE	68.03	356.2	11 8	5			21 5 SCS
BANGUI	69.03	292.7	11 9	0			16 26
WARSAK DAM	70.66	354.0	11 18	-1			
CHENG TU	71.21	23.2	11 22	-1	20 44	4	
KARAPIRO	73.40	125.0	11 41	5			
LANCHOW	76.17	21.0	11 51	-1			
JERUSALEM	79.24	323.6	12 10	2			13 41
KSARA	80.62	325.2	12 16	0	22 19	-4	15 19 PP
TIFLIS	83.91	335.4	12 33	0	22 59	3	
MAKHACH-KALA	84.17	337.7	12 37	3	23 1	2	
SEMI PALATNSK	86.77	1.2	12 47	0			
SOTCHI	87.33	333.0	12 51	1			
ULAN-BATOR	88.04	18.7	12 53	0	23 26	-10	
SIMFEROPOL	90.63	330.3	13 7	2	24 6	6	
TAMANRASSET	90.63	298.1	13 8	2	24 10	10	16 44 PP
MATUSIRO	91.58	44.1	13 8	-2	24 6	-2	16 43 PP
MESSINA	94.47	315.3					23 35
ROME	98.72	316.4					21 31
ALGIERS UNI.	101.06	307.7	14 11	18	25 38	66	18 7 PP
MBOUR	102.70	278.5					24 54 SKKS
STUTT GART	104.90	320.2					20 40 PPP
STRASBOURG	105.57	319.4	14 12	777	26 9	76	18 38 PP
YAKUTSK	106.76	22.6					19 1 PP
LA PAZ	118.35	216.9	19 15	26			
BOGOTA	139.27	224.9			26 47	9	22 41 PP
COLLEGE	140.88	29.3	19 40	8			21 1
RESOLUTE	141.83	357.1	19 46	12	27 3	21	23 15 PKS
SAN JUAN	143.89	249.3	19 34	-3			21 19
GALERAZAMBA	144.90	229.3	19 40	1			23 47
BERMUDA	149.41	272.8	19 55	9			21 15 PKP2
HALI FAX	150.34	297.3	20 0	12			42 58 SS
BREBEUF	157.27	301.4	20 3	6			
PALISADES	158.07	289.7	20 35	37			23 55 PP
WASHINGTON	160.52	283.8	20 22	21			
SHASTA	163.30	69.9	20 56	52			22 25 PP
LICK	163.98	81.8			25 35	-93	22 31
HUNGRY HORSE	165.23	34.3	21 11	65			25 2 PP
FRESNO	165.40	84.4	20 14	8			
EUREKA	168.35	72.0	20 13	5			21 18
TUCSON	171.16	117.7	20 16	6			21 52
TUCSON TELE.	171.29	117.6	20 15	5			
RAPID CITY	172.56	9.0	20 17	6			25 33 PP
LAWRENCE	174.50	295.9	20 12	1			

AUGUST 30 22.H 56.M 60.S EPICENTRE 36.47 68.21 DEPTH= 0.KM

A= 0.29925 B= 0.74848 C= 0.59180 D= 0.9285 E=-0.3712  
G= 0.2197 H= 0.5495 K=-0.8061 HT= -0.4

SE= 3.66

	DELTA DEG.	AZ. DEG.	P		O-C S	S O-C			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
KULYAB	1.89	40.3	0	34	1						1	10 SG
STALINABAD	2.14	11.9	0	38	1						1	10 S*
ZIMCHURUD	2.34	11.4	0	40	0						1	16
OBI-GARM	2.52	27.6	0	43	0							
KHOROG	2.85	68.2	0	50	3						1	46 SG
GARM	3.02	32.7	0	51	1							

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SAMARKAND	3.34	343.5	0 53	-1					1 53
DZERGETAL	3.64	40.1	1 0	1					
WARSAK DAM	3.68	131.0	0 59K	0	1 47	3			
FERGANA	4.81	34.6	1 16	1					2 44 SG
TASHKENT	4.92	9.5							1 32 P*
LUNACHARSKOE	4.93	9.9	1 17	6					
MURGAB	4.93	65.7	1 22	5					
BAIRAM-ALI	5.00	284.9	1 11	-7					1 35
ANDI JAN	5.37	36.1	2 23	0					3 8 SG
TCHIMKENT	5.92	10.1	1 30	-1					3 21 SG
QUETTA	6.36	189.9	1 38	1	2 52	1			1 53
LAHORE	7.06	132.2	1 44	-3					
NARYN	7.83	48.4	1 54	-4					4 35
ASHKABAD	8.00	283.6	2 1	1					
FRUNSE	8.05	35.9	2 1	0	3 32	-2			4 44
RYBACHE	8.58	43.5	2 7	-1					4 36
FABRICHNAYA	9.18	41.0							2 29
ALMATA	9.55	42.0							3 14
KIZYL-ARVAT	9.83	289.7	2 18	-7					
PRZHEVALSK	9.90	49.6	2 24	-2					
ILI	10.08	39.7	2 40	11					
KURMENTY	10.13	46.8	2 25	-4					
DEHRA DUN	10.26	123.9	2 23	-8	4 17	-11			
SEMPALATNSK	16.41	28.2	3 50	-3	7 5	9			
GORIS	17.51	286.6	4 2	-5					7 24 SS
CHATRA	18.76	115.5	4 20	-2					8 8
TIFLIS	18.89	293.3	4 20	-4					8 20
BOKARO	19.71	124.9	4 35	2	7 59	-11			
LHASA	20.29	103.0	4 42	2					
SVERDLOVSK	21.00	348.3	4 45	-2					8 43
HYDERABAD	21.02	151.8	4 50	3	8 44	7			
CALCUTTA	22.32	122.9	5 31	31	9 1	-1			
SOTCHI	22.87	296.9	5 6	0					16 32 SCS
SHILLONG	22.95	111.6	5 5	-2	9 17	4			5 40 PP
TOCKLAI	24.54	105.7	5 25	3					
MADRAS	25.73	152.2							13 19
KSARA	26.50	273.9	5 44	3	10 42	28			6 54 PPP
SIMFEROPOL	27.03	298.9	5 48	3					11 12 SS
JERUSALEM	27.63	270.0	5 54	3					
MOSCOW	28.29	322.6	6 0	3					11 20
LANCHOW	28.63	80.1	6 21	21					
IRKUTSK	29.88	46.6	6 12A	1					
ULAN-BATOR	30.56	55.8	6 18	1					
PULKOVO	33.66	325.9	6 48	4					13 21
LWOW	34.38	306.9							14 12 SS
ATHENS	35.21	286.1	6 57A	-1					
HELSINKI	36.28	324.6	7 4	-3					14 57
WARSAW	36.53	310.7							14 50
NURMI JARVI	36.55	325.1	7 7	-2	12 39	-13			8 29 PP
APATITY	36.80	338.5	7 13	2					
KRAKOW	37.04	307.0	7 30	17	13 8	9			
RACIBORZ	38.15	307.0	8 18	56					10 42
SODANKYLA	38.83	335.8	7 30	2					8 56 PP
UPPSALA	39.71	322.4	7 34	-1					9 24 PP
PRUHONICE	40.51	306.8	7 44K	2					
PRAGUE	40.58	307.0	7 48	5					9 15 PCP
LJUBLJANA	40.79	300.8	8 6	22					
KIRUNA	41.14	334.7	7 45	-2					9 28 PP
COLLMBERG	41.46	308.9	7 53	3					9 28 PP
HALLE	42.11	309.2	7 59	4	14 19	3			8 31 PP
GOTEBORG	42.28	318.4	8 8	11					9 56 PP
JENA	42.37	308.4	7 58	1					9 37 PP
SKALSTUGAN	43.00	327.1	8 3	1					9 49 PP
STUTTGART	44.03	305.4	8 10	-1					10 34 PPP
MUNSTER	44.78	310.1							10 14 PP
STRASBOURG	45.04	305.3	8 23	4					
YAKUTSK	45.32	35.7	8 18	-3					
TIKSI	46.65	22.3							15 19 PS
GARCHY	48.38	304.3	8 48	3					
FOLINIERE	50.39	306.9	9 1	0					
LWIRO	53.18	232.4							19 32
MATUSIRO	55.05	67.4	9 34	-1					10 25
TAMANRASSET	55.31	274.2	9 36	-1					
PETROPAVLOVK	62.11	43.1	10 13	-12					
BROKEN HILL	63.01	224.0	10 30	-1					
BULAWAYO	67.60	220.4	11 58	58					
RESOLUTE	68.57	355.2	11 6	0					
COLLEGE	75.12	15.1	11 43	-2					
SOUTH POLE	126.28	180.0	19 7	2					

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AUGUST 30 23.H 36.M 41.S EPICENTRE 52.69 106.92 DEPTH= 0.KM

A=-0.17719 B= 0.58237 C= 0.79338 D= 0.9567 E= 0.2911  
G=-0.2309 H= 0.7590 K=-0.6087 HT= -6.4

SE= 2.93

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.		
			M	S		M	S	S	M	S	M	S	
KABANSK	0.66	194.8									0	16	PG
BAYANDAI	.93	294.7									0	21	PG
IRKUTSK	1.65	256.3	0	23	-7						0	57	SG
KYAKHTA	2.34	187.4	0	42	2						1	15	SG
PEKING	14.16	149.7	3	22	-2	6	22	19					
YAKUTSK	15.36	43.6	3	34	-6	6	27	-4					
TIKSI	21.34	19.0	4	48	-3	8	37	-7			11	7	
PRZHEVALSK	21.64	253.3	4	54	0						12	28	
ALMATA	22.02	256.7	5	0	2	9	7	10			11	45	
CHENGTU	22.11	186.7	5	2	3								
FABRICHNAYA	22.41	257.0	5	3	2								
RYBACHE	22.97	255.9	5	9	2	9	27	13			10	30	
FRUNSE	23.66	258.4	5	17	3						12	37	PCS
NARYN	23.70	254.0	5	7	-7	9	31	4			12	47	
ANDI JAN	26.26	256.9	5	45	6	10	37	27			13	45	
FERGANA	26.84	256.8	5	45	1						14	21	
TCHIMKENT	26.99	262.4	5	47	2								
MATUSIRO	27.22	113.9	5	43	-4	10	37	11			7	23	
KUNMING	27.71	188.2	5	51	-1	10	55	22					
KULYAB	29.65	255.0	6	8	-1						15	16	
QUETTA	36.79	248.2	7	12	1								
APATITY	36.97	322.2	7	19	6								
SODANKYLA	39.53	323.2	7	33	-1								
KIRUNA	41.57	325.2	7	50	-1								
NURMI JARVI	43.11	314.2	8	5	1								
HELSINKI	43.14	313.6	8	12	8								
UPPSALA	46.48	315.9	8	30	0								
SKALSTUGAN	46.57	322.1	8	30	-1								
COLLEGE	49.53	32.8	8	54	0								
RESOLUTE	52.08	7.2	9	13A	-1								
COLLMBERG	53.74	309.0	9	24	-2						12	42	PP
PRUHONICE	53.87	307.0	9	29	2								
JENA	54.66	309.4	9	32	-1								
STUTTGART	57.22	308.8	9	51	0								
STRASBOURG	58.07	309.4									10	42	PCP
HUNGRY HORSE	73.48	27.1	11	36	0								
CORVALLIS	73.94	34.9	11	40A	1								
ARCATA	76.89	37.2	11	57	1								
SHASTA	77.67	36.2	12	OK	0								
TAMANRASSET	78.79	292.7	12	6	0								
RAPID CITY	80.18	21.5	12	13	-1								
SEVEN FALLS	80.55	358.4	12	16	0								
EUREKA	80.95	32.2	12	18	0								
OTTAWA	82.26	1.9	12	24	0								
BOULDER CITY	84.51	32.9	12	38	2								
LWIRO	84.59	259.2	12	37	1								
TUCSON TELE.	89.18	31.1	13	0	1								
TUCSON	89.23	31.3	13	0	1								
SCOTT BASE	135.28	164.9	19	24	2								
HUANCAYO	139.43	3.4	19	33	4								
SOUTH POLE	142.50	180.0	19	29	-6								
BYRD STATION	148.69	165.9	19	48	3								

SEPTEMBER 1 0.H 52.M 3.S EPICENTRE -11.29 -74.54 DEPTH= 0.KM

A= 0.26154 B=-0.94538 C=-0.19455 D=-0.9638 E=-0.2666  
G=-0.0519 H= 0.1875 K=-0.9809 HT= 6.4

SE= 2.67

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.		
			M	S		M	S	S	M	S	M	S	
HUANCAYO	1.08	225.9	0	23K	0	0	37	-1					
LA PAZ	8.09	130.5	2	3	1	3	53	18			2	27	PP



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BALBOA HTS.	20.73	345.9	4 53A	8	8 42	10	
CARACAS	22.93	19.5	5 4	-3	9 17	4	
GRENADA	26.45	29.1	5 38	-3			
ST. VINCENT	27.64	28.8	5 59	7			
BERMUDA	44.44	11.9	8 14	-1			18 17
COLUMBIA	45.46	352.4	8 15	2			
WASHINGTON	49.99	357.4	8 57	-1			
MORGANTOWN	50.91	354.6	9 6	1			
LAWRENCE	53.60	340.0	9 23	-2			
TUCSON TELE.	55.49	322.7	9 38	-1			
TUCSON	55.49	322.5	9 39	0			
OTTAWA	56.44	359.0	9 45	-1			
HALIFAX	56.52	9.3	9 47	0	17 37	0	
BREBEUF	56.53	0.8	9 45A	-2			
SEVEN FALLS	58.24	3.0	9 58	-1			
BOULDER CITY	60.46	322.9	10 15	1			
RAPID CITY	60.96	336.7	10 18	0			
EUREKA	63.52	325.1	10 35A	0			
FRESNO	64.00	320.6	10 37	-1			
LICK	65.50	320.1	10 47A	-1			
BERKELEY	66.22	320.2	10 50	-2			
MINERAL	67.35	322.7	11 18A	19			
SHASTA	68.03	322.6	11 7	3			
HUNGRY HORSE	68.90	333.0	11 7	-2			
ARCATA	69.16	321.9	11 10	-1			
BYRD STATION	71.78	187.5	11 26	-1			11 34
LILLOOET	74.20	330.9	11 43	2			
SOUTH POLE	78.78	180.0	12 6	0			
SERRA PILAR	79.94	44.5	12 10K	-3			12 19 PCP
TOLEDO	82.65	47.0	12 40	13	22 51	7	
RELIZANE	84.71	52.1	12 35	-2			
TAMANRASSET	85.33	65.8	12 39	-1	23 10	-1	23 0 SKS
RESOLUTE	86.74	354.7	12 52	5	23 23	-1	24 47 PS
ALGIERS UNI.	86.94	51.8	12 54	6			
FOLINIERE	88.14	39.5	12 55	1			
GARCHY	89.95	41.7	13 2	0			
COLLEGE	93.18	335.8	13 15	-3			
STUTTGART	94.36	41.3	13 22	-1			
PRUHONICE	97.96	40.7	13 40	1			14 36
MATUSIRO	141.24	315.9	19 28	-5			
SHILLONG	160.84	40.3	20 46	44			
CHITTAGONG	162.94	48.1	19 35	-29			

SEPTEMBER 1 7.H 28.M 23.S EPICENTRE 54.03 -35.39 DEPTH= 0.KM

A= 0.48088 B=-0.34167 C= 0.80748 D=-0.5792 E=-0.8152  
G= 0.6582 H=-0.4677 K=-0.5899 HT= -6.9

SE= 2.93

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SCORESBY SD.	17.57	15.0	4 10A	2	7 44	22		
ABERDEEN	18.96	67.0	4 21	-4			9 3	
HALIFAX	20.53	254.2	4 41	-1			8 31	
KEW	21.25	82.6	4 52	2	8 37	-5		
SEVEN FALLS	23.35	267.3	5 10	0				
UCCLE	24.23	81.3	5 20	1	9 42	6		
DOURBES	24.66	82.7	5 23K	0	9 50	7		
GARCHY	25.06	89.8	5 26A	-1				
SKALSTUGAN	25.86	49.3	5 35	0				
CLERMONT-FD.	25.87	92.8	5 20	-15				
OTTAWA	27.14	268.1	5 46	0				
COPENHAGEN	27.16	66.9	5 46	-1				
STRASBOURG	27.20	83.7	5 50	3	10 19	-6		
STUTTGART	27.99	82.4	5 50	-4	10 47	9		
JENA	28.37	76.8	5 56	-1			6 47	
POTSDAM	28.63	73.3	6 4	4				
PALISADES	28.70	258.9	6 1	1			10 53	
COLLMBERG	29.02	75.4	6 2	-1				
KIRUNA	29.21	40.0	6 4	-1				
PRUHONICE	30.49	76.9	6 14	-2			11 55	
RESOLUTE	30.91	333.5	6 12	-8	11 23	-1		
SODANKYLA	31.61	40.7	6 24	-2				
NURMI JARVI	32.07	53.9	6 29	-1				
TRIESTE	32.20	84.6	6 31	-1				
BRATISLAVA	32.83	78.4	6 37	0			6 52 PP	

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ROME	33.63	91.2	5 48	-56	11 18	-49	6 43
APATITY	34.12	39.6	6 50	2			
PULKOVO	34.99	53.5	6 55	-1			
MESSINA	37.80	93.5					8 44 PP
MOSCOW	40.24	56.9	7 51	11			
TAMARASSET	43.76	119.1	8 6	-3			9 9
RAPID CITY	43.91	285.8	8 11	1			
HUNGRY HORSE	47.23	297.0	8 35	-1			
TIFLIS	52.37	68.7	9 16	0			
KSARA	52.77	82.0	9 17	-2	16 41	-5	
MAKHACH-KALA	52.99	65.8					20 32 SS
EUREKA	54.12	289.6	9 29	0			
TUCSON TELE.	56.19	279.8	9 44	0			
TUCSON	56.32	279.8	9 47	2			
MINERAL	56.59	294.0	9 47A	0			
FRESNO	58.17	289.8	9 59	1			
LICK	58.77	291.6	10 6K	4			
HUANCAYO	74.04	220.8	11 41	2			
BYRD STATION	141.68	196.3	19 27	-6			
SOUTH POLE	143.85	180.0	19 32	-5			

SEPTEMBER 1 10.H 49.M 45.S EPICENTRE 19.94 -65.16 DEPTH= 0.KM

A= 0.39523 B=-0.85374 C= 0.33901 D=-0.9075 E=-0.4201  
G= 0.1424 H=-0.3076 K=-0.9408 HT= 4.7

SE= 3.09

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
SAN JUAN	1.80	210.5	0	32	-1	0	53	-4				
FORT FRANCE	6.44	142.9	1	37	-2	3	49	55				
ST. VINCENT	7.69	150.4	1	55	-1							
GRENADA	8.51	156.7	2	6	-2							
BARBADOS	8.62	141.0	2	11	2							
CARACAS	9.54	190.6	2	26	4	4	7	-4				
BERMUDA	12.40	1.9	2	55	-6	5	5	-16				
BALBOA HTS.	17.69	234.0	4	8A	-2	7	25	-1				
COLUMBIA	19.87	318.0	4	35	-1	8	5	-9				
CHAPEL HILL	20.06	325.4	4	36	-2	8	22	3				
WASHINGTON	21.52	334.0	4	51	-2	8	44	-3				
FORDHAM	22.13	342.2	3	41	-78	7	47	-72				
PALISADES	22.29	342.3	5	1	0	9	7	5			5 37 PP	
MORGANTOWN	23.39	330.2	5	1 K	0	9	30	9				
PENNSYLVANIA	23.46	335.2	5	14	2	9	33	10			6 36	
SAN SALVADOR	23.83	258.6	5	20	4							
HALIFAX	24.64	2.7	5	25	1	9	48	5				
CLEVELAND	25.59	330.6	5	34	1	10	1	2				
OTTAWA	26.85	343.4	5	44	0							
SEVEN FALLS	27.50	351.6	5	51	1							
FAYETTEVILLE	30.11	308.4	6	12A	-2							
HUANCAYO	33.33	198.3	6	40	-2	11	52	-11				
LA PAZ	36.33	184.8	7	3	-5	12	45	-4			8 33 PP	
RAPID CITY	39.74	316.0	7	35	-1							
TUCSON TELE.	42.43	296.4	8	0	2							
TUCSON	42.52	296.2	8	1	2							
SALT LAKE C.	44.71	308.2	8	19	2							
BOZEMAN	45.50	315.1	8	24	1							
BOULDER CITY	46.20	301.1	8	29	0							
MBOUR	46.25	89.0	8	30	1	15	21	5				
BUTTE	46.62	315.1	8	33	1							
EUREKA	47.56	305.6	8	39	0							
HUNGRY HORSE	48.29	317.7	8	44	-1							
PASADENA	48.79	298.3	8	48	-1	15	55	3				
BANFF	50.13	320.8	8	57	-2							
FRESNO	50.27	301.6	9	1	1							
LICK	51.77	302.2	9	13K	1							
MINERAL	51.97	306.0	9	14	1							
SERRA PILAR	52.14	53.0	9	3K	-11							
BERKELEY	52.29	302.9	9	27	11							
SHASTA	52.60	306.4	9	15	-3							
LILLOOET	53.87	318.8	9	26K	-1							
VICTORIA	54.39	315.9	9	38K	7							
ALBERNI	55.43	316.6	9	37	-2							
TOLEDO	55.51	54.8	9	57	18	17	41	17				

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GRANADA	55.82	58.1	9 45A	3				10 33 PCP
RESOLUTE	57.04	351.0	9 49	-1	17 29	-15		11 48 PP
FOLINIÈRE	58.64	44.5	10 1	-1				
DURHAM	58.74	37.4	10 4K	2				
KEW	59.02	41.3			18 11	1		
PARIS	60.60	44.6	10 33	18				
GARCHY	60.93	46.3	10 17	0				
ALGIERS UNI.	61.15	58.3	10 5	-14				
DOURBES	62.03	43.2	10 27	2	18 51	2		
STRASBOURG	64.10	44.9	10 41	3	19 15	0		
NORD	64.72	7.0	10 41	-1				
STUTT GART	65.09	44.6	10 43	-2	19 30	3		
TAMANRASSET	65.30	73.5	10 47K	1	19 36	6		13 17 PP
JENA	66.48	42.2	10 52	-2				13 23 PP
GOTEBORG	66.52	34.8	10 54	0				11 19 PCP
SKALSTUGAN	66.75	28.4	11 56	61			11 7	
POTSDAM	67.33	40.6	10 58	-1				
COLLMBERG	67.35	41.7	10 58	-1				
TRIESTE	68.37	47.8	11 8	2				
PRUHONICE	68.44	43.1	11 6A	0				
LJUBLJANA	68.86	47.3	12 9A	60				12 20
COLLEGE	69.03	333.0	11 8	-2	20 13	-1		11 21 PCP
UPPSALA	69.37	32.4	11 12	0	20 18	0		
ZAGREB	69.90	47.4	11 21	6				
KIRUNA	70.06	23.7	11 16	0	20 28	1	11 28	
BRATISLAVA	70.33	44.8	11 18	0				
SODANKYLA	72.47	23.9	11 30	-1				
NURMIJARVI	72.78	31.2	11 33	1				
HELSINKI	72.99	31.5	11 32	-2				
BELGRADE	73.18	47.8	11 36K	1				11 46
KSARA	87.83	54.9	12 43	-10				
BYRD STATION	103.78	188.4	18 24	9				
SOUTH POLE	109.82	180.0	18 33	5				
MATUSIRO	119.64	338.4	18 53	1				
BRISBANE	144.57	250.6	19 38K	-1				
CAMBERRA	146.28	235.8	19 44K	2				
PORT MORESBY	147.10	283.9	20 0	17				
CHARTERS TS.	150.50	264.3	19 52	4				
ADELAIDE	154.15	229.7	20 3	9				25 40

SEPTEMBER 1 11.H 37.M 40.S EPICENTRE 40.92 19.76 DEPTH= 0.KM

A= 0.71315 B= 0.25616 C= 0.65254 D= 0.3380 E=-0.9411  
G= 0.6141 H= 0.2206 K=-0.7578 HT= -2.0

SE= 2.54

	DELTA DEG.	AZ. DEG.	P S O-C			S O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S	M	S
SKOPJE	1.64	49.9	0 32K	2							0 40	
SOFIA	3.21	55.2	0 56	3	1 36	4					1 13 PG	
BELGRADE	3.93	7.2	1 4A	1	1 56	6					1 12 P*	
MESSINA	4.24	231.4	1 6K	-1	1 51	-7					1 19 PG	
REGGIO CALA.	4.25	229.7	1 6	-2							1 13 P*	
ATHENS	4.26	132.6	1 17K	9	2 0	1						
TIMISOARA	4.94	12.0	1 19	2	2 15	-1					1 40 PG	
ROME	5.56	282.5	1 26K	0	2 37	5					1 30 P*	
ZAGREB	5.61	331.9	1 31K	4							1 57	
CAMPULUNG	5.81	39.9	1 32	2	2 40	2					1 46 P*	
BUCHAREST	5.84	51.1	1 38	8	2 39	0					1 49 P*	
LJUBLJANA	6.38	325.1	1 37K	-1	2 51	-1					3 27 SG	
TRIESTE	6.44	319.1	1 39	0	2 51	-3					2 4 PG	
BUDAPEST	6.58	355.6	1 40	0	2 52	-5						
ISTANBUL UN.	6.99	86.0	1 49A	3								
HURBANOVO	7.03	351.4	1 50	3	3 10	1					2 26 PG	
PRATO	7.06	297.6	1 52	5	2 50	-19						
BOLOGNA	7.16	302.7	1 50	1	3 6	-6					2 30	
FOCSANI	7.23	46.2	2 8	18	3 8	-5						
TOLMEZZO	7.33	320.5	1 48	-3	3 8	-8					2 23	
BRATISLAVA	7.49	346.2	1 52	-1	3 18	-2					2 26 PG	
BACAU	7.65	40.1	2 2	6	3 1	-23					2 14 P*	
VIENNA-H.	7.71	342.9	1 58	2	3 30	4					2 27 PG	
SKALNATE PL.	8.26	2.2	2 7A	3	3 35	-4					2 40 PG	
IASI	8.42	39.3	2 9	3	3 18	-25					2 23 P*	
PAVIA	8.84	302.3	2 15	3	3 53	-1					2 39 PPP	
KRAKOW	9.13	0.7			3 56	-5					2 18 PP	
RACIBORZ	9.22	353.7			3 49	-14					2 19 PP	

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CHORZOW	9.38	357.0				3	54	-13		2	20	PP
LWOW	9.39	17.2	2	23	3	4	12	5		2	41	
DABROWA	9.41	357.9								2	32	PPP
BYTOM	9.45	356.7								2	23	PP
CHUR	9.46	312.2	2	21	0	4	4	-5				
MONACO	9.55	291.1	2	35	13	4	33	22				
PRUMONICE	9.76	339.8	2	24A	-1	4	16	0		3	18	PG
OROPA	9.79	302.5	2	24	-1	4	4	-13		2	42	
PRAGUE	9.88	339.6	2	29	3	4	18	-1				
RAVENSBURG	9.98	316.8	2	26	-2	4	35	13				
CHEB	10.51	333.0	2	33	-2	4	37	2				
EBINGEN	10.57	316.9	2	33	-3	4	46	10				
TUBINGEN	10.75	318.6	2	36	-2	4	44	3				
STUTTGART	10.80	320.1	2	36	-3	4	53	11				
PLAUEN	10.94	333.6	2	37	-4	4	38	-7		6	20	
BASLE	10.95	311.2	2	31	-10	4	46	1				
NEUCHATEL	11.04	307.6	2	40	-2	4	37	-11				
SONNEBERG	11.18	330.6	2	42	-2	4	45	-6		5	54	SG
SIMFEROPOL	11.27	64.3	2	46A	1					5	53	
WARSAW	11.34	3.9	2	41	-5	4	37	-18		2	55	PPP
COLLMBERG	11.38	338.0	2	46	-1	6	34	98		3	0	PP
STRASBOURG	11.45	316.0	2	47	-1	4	56	-2		3	28	
JENA	11.50	333.2	2	45	-4	5	12	13		3	55	PG
HALLE	11.87	335.6	2	56	2	5	15	7		3	8	PP
SETIF	12.19	251.9	2	55	-3	5	12	-4		3	9	PP
POTSDAM	12.34	340.5	3	0	0					6	22	
CLERMONT-FD.	13.04	297.3	3	14	5					7	29	SG
BARCELONA	13.29	277.9	3	55	42							
BENSBERG	13.30	323.2	3	13	0	5	31	-12				
GARCHY	13.56	303.5	3	13	-3	5	40	-9				
ALGIERS UNI.	13.67	257.7	3	16	-2	5	56	5		3	28	PP
MUNSTER	13.84	327.0	3	18	-2					4	31	
DOURBES	14.02	316.0	3	22	0	6	31	31				
HAMBURG	14.19	335.4	3	24	-1							
PARIS	14.54	308.6	3	33	4	6	36	24				
UCCLE	14.56	317.9	3	33	4	6	35	22				
TORTOSA	14.58	275.9	3	30	0	6	23	10				
KSARA	14.64	113.8	3	31	1	6	15	1				
WITTEVEEN	14.86	327.6	3	36	3							
DE BILT	14.99	323.1	3	46	11	6	35	12				
JERUSALEM	15.42	121.4	3	39K	-2	5	33	-60				
COPENHAGEN	15.53	344.4	3	41K	-1	5	43	-52				
ALICANTE	15.80	267.2	3	47	1	6	43	1		4	0	PP
RELI ZANE	15.92	257.3	3	46	-1	6	2	-43		3	58	PP
FOLINIERE	16.32	305.5	3	52	0							
KEW	17.39	314.1	4	9	3	7	26	8				
JERSEY	17.47	305.5	4	8	1	6	47	-33				
GOTEBORG	17.52	346.0	4	6	-1					4	19	
ALMERIA	17.77	264.0	4	13	3	7	32	5				
TOLEDO	18.16	274.5	4	31	16	7	52	16		9	2	SS
GRANADA	18.51	265.9	4	20A	0	7	56	12		4	35	PP
TIFLIS	18.81	79.3	4	25	2					4	59	PPP
MOSCOW	18.90	32.4	4	22	-2	7	54	1				
UPPSALA	19.00	356.7	4	24	-2	7	55	0				
HELSINKI	19.54	7.8	4	29	-3	8	12	5		4	33	
DURHAM	19.81	321.5	4	33A	-2	8	2	-11		5	0	PP
NURMIJARVI	19.84	7.2	4	33	-2	8	16	2				
PULKOVO	19.99	15.7	4	34	-3	8	17	0		4	58	PP
GORIS	20.32	85.3	4	44	4	8	38	14				
EDINBURGH	21.23	322.7				8	50	8				
SERRA PILAR	21.36	279.9	4	50A	-1	8	41	-3		5	15	PP
BERGEN	21.45	340.2	4	53	1	8	50	4				
RATHFARNHAM	21.47	314.0	4	52A	0	8	57	11		5	48	
ABERDEEN	21.51	326.4	4	51K	-2	8	51	4		9	20	
TAMANRASSET	21.71	217.9	4	55	0	8	50	-1		5	26	PPP
LISBON	22.27	273.8	5	OK	0	9	4	3		5	28	PP
SKALSTUGAN	23.12	351.5	5	8	-1					5	22	
SODANKYLA	26.77	5.9	5	42	-1	10	25	7		6	19	PP
KIRUNA	26.96	0.6	5	41	-4	10	22	0				
APATITY	27.71	11.3	5	54K	2	10	36	2		6	33	PP
ASHKABAD	29.79	83.0	6	11	0	10	38	-29		7	21	PPP
SVERDLOVSK	30.67	44.8	6	18	-1	11	21	0				
REYKJAVIK	33.41	328.0	6	44	2							
BANGUI	36.40	181.9	8	10	62	12	46	-4				
SCORESBY SD.	36.42	337.9	7	9	1	12	54	4				
TASHKENT	36.90	72.6	7	12	0	13	0	2		8	38	PP
STALINABAD	37.37	77.1	7	16	0	13	6	1				
QUETTA	39.44	90.4	7	32A	-2	13	24	-12		9	4	PP

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FRUNSE	40.29	68.5	7 40	-1	13 43	-6			9 12 PP
WARSAK DAM	41.19	82.5	7 47	-1					
MBOUR	41.45	241.1	7 54	4	14 8	2			
KHEYS	42.16	8.7	7 55	-1					9 41 PP
SEMI PALATNSK	42.25	55.9	7 57	0					9 35 PP
NORD	42.68	352.6	7 59A	-1	14 19	-5			
LWIRO	43.75	166.9	8 9A	0	14 40	0			
LAHORE	44.37	84.1	8 12A	-2	14 41	-8			
LEOPOLDVILLE	45.26	186.3	8 20	-1	14 57	-5			10 12 PP
DEHRA DUN	47.77	83.5	8 40	-1					15 10
AGRA	49.37	87.1	8 47A	-6	15 49	-11			10 48 PP
BOMBAY	50.12	99.5							16 4 PP
THULE	50.20	342.1	8 59	-1					10 51 PP
POONA	51.11	99.1	9 6	-1					11 6
ELISABTHVILLE	52.79	170.5	9 20	1	16 48	1			
HYDERABAD	55.24	96.9							17 19 PP
BROKEN HILL	55.68	169.8	9 41	1					
IRKUTSK	56.02	47.5	9 41A	-2					17 31 PS
RESOLUTE	56.98	343.3	9 49A	-1	17 44	1			11 34 PP
BOKARO	57.05	85.8	9 49	-1					13 32
TIKSI	57.30	20.9	9 49	-3					11 53 PP
LHASA	57.81	77.0	9 56A	0					
HALIFAX	58.71	303.9	10 0A	-2	18 3	-3			
ULAN-BATOR	59.45	51.3	10 7	0					
SHILLONG	60.64	80.5	10 12A	-3	18 25	-6			
BULAWAYO	61.30	170.5	10 20	0					
SEVEN FALLS	61.88	309.3	10 22A	-2					
CHITTAGONG	62.43	83.5	10 24	-3					
YAKUTSK	63.04	29.8	10 29	-2					19 3 PS
WINDHOEK	63.21	182.8	10 32	0					
LANCHOW	63.53	64.2	10 34A	0					
BREBEUF	64.38	308.9	10 39	-1					13 10 PP
TANANARIVE	64.90	150.8	10 44	1					
PAOTOW	65.16	57.1	10 45	0					
OTTAWA	65.66	309.7	10 48	0					
CHENG TU	66.64	69.1	10 52A	-3	19 42	-4			
PRETORIA	66.79	171.7	10 56	0					
PALISADES	67.05	304.9	10 57	0	19 50	-1			
SIAN	67.99	63.3	11 3A	0	20 5	3			
KUNMING	68.94	74.6	11 8A	-1	20 11	-2			
PEKING	69.33	54.6	11 11A	0	20 19	1			
KIMBERLEY	69.48	175.3	11 12	0					
PENNSYLVANIA	69.61	306.6	11 13	0					
WASHINGTON	70.26	304.6	11 16	-1					13 59 PP
MORGANTOWN	71.59	306.6	11 26K	1					14 20 PP
MAGADAN	72.05	23.8	11 28	0	20 54	4			
CHANGCHUN	72.35	47.0	11 30	0	20 56	3			
COLLEGE	74.10	354.5	11 39	-1	21 22	9			
GRAHAMSTOWN	74.14	174.1	11 41K	1					
ST. VINCENT	74.76	274.3	11 4	-40					
HERMANUS	74.97	180.5			21 28	6			
COLUMBIA	75.80	302.7	11 50	0					13 50
NANKING	75.89	59.8	11 50	0	21 35	3			
VLADIVOSTOK	76.39	44.3	11 55	2	21 55	17			
CANTON	77.83	70.1	12 1	0	21 56	2			
HONG KONG	78.92	70.2	12 8	1	22 33	28			
MEDAN	79.29	94.6	12 8K	-1					
PETROPVLOVK	79.92	23.8	12 11	-1	22 18	2			17 0 PPP
BANFF	80.33	333.3	12 17K	2					
CARACAS	80.72	275.8	11 39	-38					22 34 PS
LAWRENCE	80.85	314.3	12 19	2					
RAPID CITY	81.07	322.3	12 18	0					16 44
HUNGRY HORSE	82.16	330.9	12 24	0					
LILLOET	82.79	336.6	12 47A	20					
BOZEMAN	83.22	327.7	12 31	1					
BUTTE	83.54	328.8	12 31	0					
ABUYAMA	84.26	48.1	12 35A	0					
HORSESHOE B.	84.37	336.7	12 34K	-1					
MATUSIRO	84.49	45.3	12 35K	-1	22 58	-4			29 12 SS
ALBERNI	84.92	337.6	12 39	1					
VICTORIA	85.17	336.4	12 41A	2					
TUKUBASAN	85.74	44.4	12 39A	-3	23 11	-4			29 4 SS
BAGUIO CITY	87.32	70.7	12 50	0	23 20	-10			
SALT LAKE C.	87.58	325.4	12 52	1					
CORVALLIS	88.65	334.6	12 58	2					
EUREKA	90.38	327.3	13 5	0					
SHASTA	91.78	332.2	13 11	0					
MINERAL	91.80	331.5	13 12	1					
BOULDER CITY	92.85	324.7	13 17	1					13 45

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TUCSON TELE.	93.96	319.8	13 22	1				17 7 PP
TUCSON	94.08	319.8	13 23	1				17 4 PP
BERKELEY	94.23	330.8	13 31	9	24 37	5		
FRESNO	94.25	328.5	13 22	0				
LICK	94.47	330.1	13 25A	2				
PASADENA	95.85	326.0			24 48	42		17 26 PP
LA PAZ	99.06	256.1			23 40	-42		17 52 PP
HUANCAYO	101.60	264.1						17 21 PP
CHARTERS TS.	130.28	82.0	19 13	0				
SOUTH POLE	130.73	180.0	19 12	-1				21 38 PP
ADELAIDE	132.35	103.5	19 10	-7				
BYRD STATION	137.96	189.8	19 20	-7				22 21 PP
BRISBANE	139.31	85.7	19 33	4				34 32
CAPE HALLETT	145.37	164.6	19 40	0				
KARAPIRO	161.07	88.8	20 46	44				

SEPTEMBER 2 9.H 31.M 38.S EPICENTRE 20.01 -65.03 DEPTH= 0.KM

A= 0.39694 B=-0.85250 C= 0.34013 D=-0.9065 E=-0.4221  
G= 0.1436 H=-0.3083 K=-0.9404 HT= 4.7

SE= 1.84

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
SAN JUAN	1.92	212.6	0	33	-1	0	53	-6				
ST. VINCENT	7.70	151.5	1	54	-2						2	1 PP
GRENADA	8.53	157.7	2	3	-4							
BARBADOS	8.60	141.9	2	10	2							
CARACAS	9.63	191.2	2	22	-1						5	22
TRINIDAD	9.94	158.9	2	28	1						2	31 PP
BERMUDA	12.32	1.4	2	56	-3	4	57	-22				
BOGOTA	17.65	211.1	4	14	6							
CHINCHINA	18.16	216.0	4	17	2	7	33	-3				
COLUMBIA	19.90	317.7	4	34	-2							
CHAPEL HILL	20.08	325.1	4	37	0						8	27
WASHINGTON	21.51	333.6	4	51	-1							
FORDHAM	22.10	341.9	4	39	-19						7	34
PALISADES	22.26	342.0	5	2	2	9	7	6				
MORGANTOWN	23.39	329.9	5	13A	2	9	33	12				
PENNSYLVANIA	23.44	334.9	5	14	3							
HALIFAX	24.57	2.5	5	23	1							
BREBEUF	26.39	346.3	5	41A	1						6	32 PP
OTTAWA	26.82	343.2	5	44	1							
SEVEN FALLS	27.45	351.4	5	50	1							
LAWRENCE	32.17	312.5	6	30	-1							
HUANCAYO	33.43	198.5	6	41K	-1							
LA PAZ	36.41	185.0	7	6	-2							
RAPID CITY	39.77	315.9	7	34	-2							
TUCSON TELE.	42.51	296.3	7	59	1							
TUCSON	42.59	296.2	7	59	0							
BOULDER CITY	46.27	301.0	8	29	0							
EUREKA	47.62	305.6	8	39	0						10	9
HUNGRY HORSE	48.32	317.6	8	44	-1							
LICK	51.84	302.2	9	12A	0							
MINERAL	52.03	306.0	9	12A	-1							
SHASTA	52.66	306.4	9	16	-2							
RESOLUTE	57.00	350.9				17	46	3				
FOLINIERE	58.51	44.5	10	0	0							
TAMANRASSET	65.17	73.5	10	47K	2							
SKALSTUGAN	66.63	28.4	10	54	0							
PRUHONICE	68.31	43.1	11	6	1							
COLLEGE	69.02	333.0	11	6	-3							
KIRUNA	69.95	23.8	11	15	0							
SODANKYLA	72.36	23.9	11	29	0							
NURMI JARVI	72.66	31.2	11	33	2							
CAPE HALLETT	119.19	196.7	17	54	-57							
CHARTERS TS.	150.62	264.4	19	55	7							

SEPTEMBER 3 2.H 39.M 6.S EPICENTRE -20.29-178.19 DEPTH= 511.KM

A=-0.93824 B=-0.02967 C=-0.34471 D=-0.0316 E= 0.9995  
G= 0.3445 H= 0.0109 K=-0.9387 HT= 4.6



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DEPTH OF FOCUS= 0.075R

SE= 0.75

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
SUVA	3.84	303.1	1	19	0	2	34	13				
APIA	8.90	44.5	2	7	0	3	45	-4				
RAOUL ISLAND	8.92	178.5				3	48	-1				
KARAPIRO	18.40	195.9	3	44	0							
CANBERRA	32.48	235.6	5	50	1							
CHARTERS TS.	33.33	264.1	5	57K	1							
PORT MORESBY	35.13	282.8	6	12	0						8	28 *SP
GUAM	49.54	309.6	8	5	0							
SCOTT BASE	58.07	183.7	9	6	0							
BYRD STATION	64.88	170.5	9	50	0				11	38		
SOUTH POLE	69.84	180.0	10	19	-2				12	15		
MATUSIRO	69.93	323.8	10	20K	-1						10	49 PCP
BERKELEY	78.14	42.1	11	7	0							
LICK	78.22	42.8	11	8A	0							
SHASTA	79.79	39.7	11	17	1							
MINERAL	80.05	40.4	11	18	1							
TUCSON	82.93	52.0	11	33	1							
TUCSON TELE.	83.05	52.0	11	33	0							
EUREKA	83.09	43.6	11	33	0							
COLLEGE	88.04	12.5	11	55	-2				13	55		
BREBEUF	114.28	48.3	18	14	33							
SODANKYLA	130.36	347.7									20	46 SKP
LWIRO	145.33	232.9	18	41K	1							
RACIBORZ	147.55	340.2	18	46	3							
COLLMBERG	147.83	346.8	18	46	3							
HALLE	147.85	348.1	18	47	4							
JENA	148.47	348.2	18	44	0						18	57
PRUHONICE	148.69	344.1	18	49K	4							
SONNEBERG	149.06	348.3	18	49	4							
BRATISLAVA	149.57	339.6	18	45	-1				19	54		
STUTTGART	150.96	349.8	18	48	0							
STRASBOURG	151.37	351.7	18	56	7						19	6 PKP2
LJUBLJANA	152.27	340.8	18	58	8						19	10
TAMANRASSET	175.75	306.3	19	12A	1						20	54 PKP2

SEPTEMBER 3 4.H 2.M 2.S EPICENTRE 40.75 19.71 DEPTH= 0.KM

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SE= 2.77

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
SKOPJE	1.78	46.4									0	34 PG
SOFIA	3.33	53.1	0	56	2	1	36	1			1	8 PG
BELGRADE	4.10	7.4	1	6K	1	2	17	23			1	24 PP
MESSINA	4.11	232.9	1	5	0	1	58	4			1	23 PG
REGGIO CALA.	4.11	231.2	1	10	5	2	5	10			2	24
ATHENS	4.17	130.5	1	7K	1	2	1	5			2	14 S*
TIMI SOARA	5.11	11.9	1	43	24						2	17
ROME	5.56	284.2	1	28	2	2	46	15			1	48 P*
ZAGREB	5.75	333.0	1	28	0	3	9	33			2	14
CAMPULUNG	5.96	39.1	1	54	23						2	5 P*
BUCHAREST	5.97	50.1	1	37K	6	3	8	27			2	0 P*
LJUBLJANA	6.50	326.2	1	38A	-1	2	52	-3			2	9 PG
TRIESTE	6.55	320.3	1	39	0	2	51	-5			3	31 SG
PRATO	7.10	298.9	1	52	5	3	4	-6				
HURBANOVO	7.20	351.8	2	29	40	3	23	10			3	57 SG
TOLMEZZO	7.44	321.5	1	50	-2	2	9	-69			2	1
BRATISLAVA	7.65	346.7	2	2	7	3	27	4			2	36 PG
BACAU	7.80	39.5				3	51	24				
VIENNA-H.	7.86	343.5	2	4	6						4	13 SG
IASI	8.58	38.7	2	10	2						2	25
PAVIA	8.90	303.3				3	49	-6			4	32
KRAKOW	9.30	0.9	2	18	0						2	36 PPP
RACIBORZ	9.39	354.0	2	18	-1							
CHORZOW	9.55	357.2				4	33	22			2	25 PP
CHUR	9.55	313.0	2	21	0						3	5
LWOW	9.56	17.1	2	24	3	4	35	24				

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PRUMONICE	9.91	340.3	2 26K	0	4 13	-7	
PRAGUE	10.02	340.1	2 28	0			5 30 SG
RAVENSBURG	10.08	317.5	2 27	-2			
EBINGEN	10.67	317.6	2 34	-3			
TUBINGEN	10.85	319.3	2 36	-3			
STUTTGART	10.91	320.7	2 38	-2	4 34	-10	
NEUCHATEL	11.12	308.4	2 41	-2	4 36	-13	
SONNEBERG	11.32	331.1	2 45	-1			
SIMFEROPOL	11.38	63.6	2 47	1			
WARSAW	11.51	4.0					2 56 PP
COLLMBERG	11.53	338.5	2 49	1			5 46
STRASBOURG	11.54	316.6	2 52	3			
JENA	11.64	333.7	2 49	-1	5 17	15	3 44 PG
HALLE	12.01	336.1	2 50	-5	5 7	-4	4 39
SETIF	12.10	252.5	2 48	-8			
POTSDAM	12.49	340.9					6 29 SG
CLERMONT-FD.	13.08	298.0			6 6	29	
BENSBERG	13.42	323.7	3 13	-1	5 31	-14	
ALGIERS UNI.	13.60	258.4	3 19	3	5 46	-3	3 31 PP
DOUBES	14.11	316.5	3 45	22			
KSARA	14.60	113.1	3 28	-1			
RELIZANE	15.85	257.8	3 46	0			3 55
FOLINIERE	16.39	306.0	3 51	-2			
GOTEBORG	17.68	346.2	4 11	2			
TOLEDO	18.13	275.0	4 16	2	7 37	2	4 27 PP
MOSCOW	19.07	32.2	4 24	-2			
UPPSALA	19.16	356.8	4 26	-1	8 6	8	
HELSINKI	19.71	7.8	4 32	-1			
DURHAM	19.92	321.9	4 38	2			
NURMIJARVI	20.02	7.2	4 35	-2	8 17	0	
PULKOVO	20.16	15.7	4 36	-2			
SERRA PILAR	21.36	280.3	4 46A	-5			4 11 PP
TAMANRASSET	21.55	218.0	4 52K	0	8 56	9	5 19 PP
RATHFARNHAM	21.57	314.3	4 56	3			
SKALSTUGAN	23.28	351.6	5 8	-2			
SODANKYLA	26.94	5.9	5 42	-2			
KIRUNA	27.13	0.6	5 44	-2			
APATITY	27.89	11.2					10 54
SVERDLOVSK	30.82	44.6	6 6	-13			
NORD	42.85	352.6	7 59	-2			
RESOLUTE	57.13	343.3	10 14	24	17 46	1	
SHILLONG	60.70	80.4	10 11K	-4			
COLLEGE	74.26	354.5	11 40	0			
HUNGRY HORSE	82.29	330.9	12 24	0			
MATUSIRO	84.63	45.3	12 35	-1			

SEPTEMBER 3 6.H 27.M 31.S EPICENTRE -4.50 122.68 DEPTH= 0.KM

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G= 0.0421 H=-0.0656 K=-0.9970 HT= 7.1

SE= 2.07

	DELTA DEG.	AZ. DEG.	P			S			*PP		SUPP.	
			M	S	O-C	M	S	O-C	M	S	M	S
LEMBANG	15.16	260.5	3 35		-2	6 21		-5				
DJAKARTA	15.87	263.3	3 48A		2	6 25		-18				
MANILA	19.11	355.3	4 27		1	7 32		-25				
BAGUIO CITY	20.89	354.3	4 45		-1	8 47		12				
PORT MORESBY	24.77	102.7	5 25K		1	9 48		3			7 45	
MEDAN	25.28	288.1	5 32A		3	10 2		9				
CHARTERS TS.	27.70	126.0	5 50		-1	10 30		-3				
HONG KONG	27.90	343.0	5 54A		1	10 36		0				
MUNDARING	27.99	191.8	5 55		1							
PERTH	28.05	192.4	5 54		-1	10 50		11			6 42 PP	
CANTON	28.90	342.0	6 2		0						6 55 PP	
RABAU	29.41	90.6	6 6		-1						6 27	
PHU-LIEN	29.67	328.5	6 11A		2						7 2 PP	
ADELAIDE	33.76	155.9	6 44		-1	12 9		0			8 2 PP	
PORT BLAIR	33.85	298.6	6 50		4	12 10		0			7 56 PP	
KUNMING	35.24	327.6	7 0		2	12 35		3			8 21 PP	
ZO-SE	35.43	357.8	7 1		2	12 25		-9			8 17 PP	
NANKING	36.54	354.4	7 10		1	12 54		2			8 41 PP	
BRISBANE	36.63	131.6	7 13		4	12 41		-12				
MELBOURNE	38.92	151.4	7 29K		0	13 27		-1			8 13 PP	
CANBERRA	39.14	144.9	7 31		0	13 33		2			9 13 PP	

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CHENG TU	39.25	334.2	7 31	0	13 33	0				9 9	PP
RIVERVIEW	39.40	141.3	7 37A	4	13 28	-7					
CHITTAGONG	40.29	312.8	7 43	3	13 52	4				9 19	PP
ABUYAMA	41.00	16.2	7 47A	1							
SHILLONG	42.27	316.6	7 57K	1	14 15	-3				9 37	PP
MATUSIRO	43.33	18.3	8 4	-1	14 18	-15				9 42	PP
TUKUBASAN	43.67	20.5	8 6	-2	14 31	-7				9 57	PCP
LANCHOW	44.03	337.9	8 11	0							
FORT NELSON	44.09	153.9								17 50	SCS
COLOMBO	44.20	284.6	8 9	-3	14 43	-3					
PERTING	44.71	352.9	8 16	0	14 52	-1				10 1	PP
LHASA	45.52	320.2	8 24K	1							
MADRAS	45.65	293.0	8 24K	0	15 8	1				10 12	PP
BOKARO	45.65	309.8	8 23K	-1	15 6	-1				10 12	PP
PAOTOW	46.34	346.7	8 29	0							
CHATRA	46.35	314.2	8 30	1	15 19	2					
MIZUSAWA	46.64	19.8	8 34	3	15 26	5					
KODAIKANAL	47.34	288.2	8 32A	-5						14 2	
CHANGCHUM	48.16	2.6	8 43	0	15 43	1				10 32	PP
HYDERABAD	48.79	297.7			15 56	5					
POONA	53.26	297.0	9 21A	-1							
AGRA	53.37	308.7	9 18K	-5	16 50	-4				11 31	PP
ULAN-BATOR	54.01	346.9	9 30	2	17 4	1					
Y.-SAKHLINSK	54.27	16.8	9 21	-9							
BOMBAY	54.31	297.0	9 29	-1	17 7	0				11 29	PP
DEHRA DUN	54.94	312.1	9 36	1	17 19	3				12 48	PPP
ROXBURGH	57.53	142.7			18 19	29					
LAHORE	58.32	311.4	9 58	-1	18 2	2					
KARAPIRO	58.42	132.3	9 59	0						12 18	PP
IRKUTSK	58.67	346.9	10 1	0	18 1	-4					
WARSAK DAM	61.55	312.6	10 19	-2							
WILKES	62.31	185.5	10 23	-3	18 56	4				12 57	PP
DUMONT	63.23	172.4	10 14	-18	19 38	35					
QUETTA	63.44	306.9	10 32	-1	19 1	-5				12 48	PP
TERRE ADELIE	63.56	171.8	10 14	-20	19 38	31					
PETROPAVLOVK	64.83	23.1	10 42	0	19 25	2					
YAKUTSK	66.55	3.6	10 53	-1	19 43	-1					
MAGADAN	67.62	15.0	11 2	2	20 0	3					
CAPE HALLETT	73.74	166.4	11 37	0	21 19	11				13 57	PP
TANANARIVE	74.49	251.7	11 42	0							
TIKSI	76.09	2.0	11 48	-3	21 30	-4				14 18	PP
SCOTT BASE	76.83	171.3	11 54A	-1							
SVERDLOVSK	78.94	330.3	12 6	-1	22 2	-3					
MAKHACH-KALA	82.28	314.3	12 22	-2							
GORIS	82.37	310.7	12 25	0							
TIFLIS	83.97	312.6	12 34	1	22 58	1					
SOUTH POLE	85.53	180.0	12 39	-2	22 41	-31				17 52	
SOTCHI	87.98	313.8	12 53	0							
KSARA	89.82	303.8	13 0A	-1	23 52	0				16 36	PP
JERUSALEM	90.18	301.7	13 5	2	23 29	-27					
BYRD STATION	90.25	171.1	13 4	1						15 25	
KHEYS	90.39	351.5	13 2	-2							
MOSCOW	90.89	325.7	13 8	2	24 4	2					
PRETORIA	92.11	244.1	13 26	14							
SIMFEROPOL	92.12	314.7	13 13	1	24 15	2					
BULAWAYO	92.28	249.7	13 12	-1						15 38	
BROKEN HILL	92.95	255.3	13 16	0							
LWIRO	93.69	267.5	13 17	-2	24 33	6					
COLLEGE	93.83	25.3	13 20	0	23 56	-32				17 15	PP
APATITY	93.84	337.4	13 18A	-2	23 50	-38				17 2	PP
ELISABTHVILLE	94.19	258.0	13 25	3	24 36	5					
KIMBERLEY	94.76	240.8	13 26	2							
PULKOVO	95.05	329.5	13 25	0	24 36	35					
SODANKYLA	96.46	337.2	13 31	-1							
NURMI JARVI	97.85	330.4	13 38	0	24 14	-2				26 16	PS
KIRUNA	98.76	338.0	13 40	-2	25 9	49				17 47	PP
LWOW	99.00	319.6	13 44	1						17 50	
WARSAW	100.68	322.2	13 54	3	24 32	2				18 2	PP
NORD	100.85	354.4			24 33	2				17 55	PP
UPPSALA	101.41	330.2	13 53	-1	24 23	-10				27 0	PS
KRAKOW	101.62	320.1			24 35	1				18 9	PP
SKALSTUGAN	103.01	334.5	14 1	0						18 18	PP
VIENNA-H.	104.18	318.6			26 3	77				18 26	PP
GOTEBORG	104.77	328.7	14 14	5							
COPENHAGEN	105.04	326.6	17 59	777	24 54	4				27 41	PS
PRUHONICE	105.05	320.6	14 13A	777	24 54	4				18 36	PP
PRAGUE	105.11	320.7			24 52	1				18 39	PP
COLLMBERG	105.75	322.1								15 14	
MESSINA	106.22	308.4			24 55	-1				17 33	PP

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TRIESTE	106.40	316.2				24 56 0	18 39 PP
CHEB	106.40	321.0	14 6	777		25 1 5	18 52 PP
RESOLUTE	106.57	9.7				26 11 74	18 41 PP
JENA	106.70	321.9	17 52	777		25 47 49	18 30 PP
ROME	107.99	312.6					18 56 PP
STUTTGART	108.68	320.1	18 3	777		25 7 1	18 58 PP
BENSBERG	109.38	322.8					19 8
PAVIA	109.65	316.5					19 5 PP
STRASBOURG	109.70	320.2				25 9 -2	19 9 PP
DE BILT	110.20	324.3				26 59 106	19 13 PP
SCORESBY SD.	110.28	348.0				25 16 3	19 11 PP
OROPA	110.36	317.2					19 52 PP
DOURBES	111.21	322.4	19 1	26			28 44 SCS
SHASTA	111.73	47.9					18 52 PP
MINERAL	112.39	48.1					18 40 PP
BERKELEY	112.45	50.9					19 18 PP
PARIS	112.94	321.6					19 32 PP
LICK	113.04	51.3	15 48A	777			19 33 PP
CLERMONT-FD.	113.57	318.4					19 37
KEW	113.60	325.1					19 28 PP
HUNGRY HORSE	115.03	38.0	18 42	-1			
ALGIERS UNI.	116.24	308.9				25 23 -13	19 47 PP
PASADENA	116.51	54.0	18 47	1			29 47 PS
TAMANRASSET	116.74	293.1	18 50	4			19 52 PP
EUREKA	116.80	47.8	18 48	2			
BUTTE	116.87	39.9	18 47	1			
BOULDER CITY	118.68	51.2	19 13	23			
TOLEDO	120.57	314.3					20 26 PP
TUCSON	122.94	54.3	19 0	2			20 39 PP
TUCSON TELE.	123.00	54.1	19 0	2			20 39 PP
RAPID CITY	123.66	38.4	19 12	13			20 56 PP
LAWRENCE	131.44	39.7	19 15	1			
OTTAWA	136.20	18.7	19 26	3			
BREBEUF	136.75	16.7	19 21	-3			
MBOUR	139.07	286.7	19 33	5			40 40 SS
PENNSYLVANIA	139.41	24.2	19 33	4			23 9
HALIFAX	139.66	6.9					22 31 PP
PALISADES	140.72	19.9	19 25	-6	26 24 -16		22 12 PP
WASHINGTON	141.34	25.0	19 29	-3			
CHAPEL HILL	142.87	29.9	19 35	0			
COLUMBIA	143.30	34.0	19 37	1			
BERMUDA	151.42	13.1	19 53	-4			23 19 PKS
HUANCAYO	155.69	132.7	20 3	8			23 59 PP
LA PAZ	156.56	153.1	20 1A	5	27 7 6		24 7 PP
CHINCHINA	161.76	87.8	20 3	1			
BOGOTA	163.31	88.9	20 0	-4			24 33 PP
FUQUENE	163.63	85.9	20 5	1			24 45 PP
SAN JUAN	163.74	31.2	21 0	56			25 0
CARACAS	168.77	57.4	20 9	1	27 19 9		

SEPTEMBER 4 18.H 26.M 41.S EPICENTRE -1.04 -23.85 DEPTH= 0.KM

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	DELTA DEG.	AZ. DEG.	M	P	S	O-C	M	S	O-C	*PP	M	S	SUPP.
MBOUR	16.77	23.7	3	57		-1	7	14	10				
TAMANRASSET	37.13	48.6	7	14K		0	13	5	4				8 41 PP
LEOPOLDVILLE	39.19	95.6	7	32K		1	13	30	-2				9 6 PP
ST. VINCENT	39.70	292.1	7	31		-5							
GRANADA	42.41	24.2	8	4A		6	14	25	5				9 40 PP
BANGUI	42.78	82.5	8	1		0							9 51
RELIZANE	43.10	29.5	8	5		2							9 45 PP
SERRA PILAR	44.20	16.6	8	14A		2							9 59 PP
CARACAS	44.36	286.1	8	15		1	15	29	40				
TOLEDO	44.57	21.8	8	18		3	14	55	3				10 0 PP
ALICANTE	44.72	26.3	8	19		2	14	58	4				
ALGIERS UNI.	45.15	30.8	8	20		0	14	58	-2				10 5 PP
SAN JUAN	45.82	297.0	8	25		0							
SETIF	45.97	33.3	8	26		-1							10 11 PP
LA PAZ	46.23	248.1	8	30K		1	15	29	14				19 11 SS
FUQUENE	50.23	277.9	9	2		2	16	15	3				
BOGOTA	50.49	276.8	9	3		1	16	22	7				

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BERMUDA	50.91	314.5	9 21	16	16 31	10	
ELISABTHVLE	51.99	103.9	9 13K	0	16 43	7	10 26 PCP
CHINCHINA	52.06	277.1	9 13	-1	16 36	-1	
HUANCAYO	52.20	255.6	9 15	0			10 28 PCP
CLERMONT-FD.	52.35	23.6	9 18	2	16 50	9	
MONACO	52.62	28.3					11 46 PP
LWIRO	52.64	92.0	9 17	-1			
MESSINA	53.30	38.6	9 25	2	17 4	10	11 27 PP
BROKEN HILL	53.38	107.2	9 23	0			
ROME	53.89	33.2	9 29K	2	17 4	2	20 45 SS
KIMBERLEY	53.93	125.4	9 26	-1			
BULAWAYO	54.65	114.0	9 31	-2			
TARANTO	55.73	37.4			16 57	-30	
PRETORIA	55.77	120.7	9 42	1			
KEW	55.99	17.5	9 44	2			
RATHFARNHAM	56.10	12.6	9 41	-2			
DOURBES	56.47	21.6	9 46	0	17 51	15	
STRASBOURG	56.50	24.7	9 46	0	17 40	3	19 44 SCS
GRAHAMSTOWN	57.10	129.8	9 49A	-1			
TRIESTE	57.12	30.6	9 52	1			12 0 PP
TOLMEZZO	57.28	29.6	9 51	-1			
STUTTGART	57.29	25.5	9 51	-1	17 55	8	
LJUBLJANA	57.79	30.7	9 55K	0			12 8
BENSBERG	58.13	22.6	9 57	-1			
DE BILT	58.32	20.6	9 54	-5	18 9	8	
ZAGREB	58.39	31.7	10 2	2			
PIETERMZBURG	58.84	124.3	10 3	0			
SONNEBERG	59.32	25.3	10 4	-2			
JENA	59.89	25.1	10 9	-1	18 23	2	10 56
BELGRADE	60.22	34.9	10 13A	1	18 30	5	10 23
HALLE	60.47	24.9	10 12	-2			10 29
BRATISLAVA	60.52	30.3	10 14	0			10 56 PCP
PRUHONICE	60.52	27.4	10 14K	0	18 34	5	11 0 PCP
PRAGUE	60.53	27.3	10 14	0			10 33
ABERDEEN	60.61	13.4					20 11
COLLMBERG	60.77	25.6	10 15	-1			
PALISADES	61.70	318.8	10 23	1	18 49	5	11 3 PCP
RACIBORZ	62.32	29.2	10 26	0			
SEVEN FALLS	63.08	325.9	10 27	-4			
CHAPEL HILL	63.08	311.6	10 32	1			
COPENHAGEN	63.80	21.9	10 39	3	19 13	2	23 43 SS
COLUMBIA	63.88	309.0	10 36	-1			
PENNSYLVANIA	64.26	317.0	10 40	1	19 18	2	
JERUSALEM	64.65	53.9	10 41A	-1			
OTTAWA	65.03	322.3	10 43	-1			
LWOW	65.13	32.0	10 43	-2			
GOTEBORG	65.16	20.3	10 47	2			
KSARA	65.82	52.0	10 50K	1	19 44	8	13 17 PP
SIMFEROPOL	68.66	40.3	11 4	-3	20 7	-3	
UPPSALA	68.74	21.0	11 7	-1			
SKALSTUGAN	69.81	16.3	11 14A	0			
ARGENTINE I.	70.32	196.9	11 17	0			
HELSINKI	71.73	23.3	11 25	-1			
NURMIJARVI	71.81	23.0	11 26	0			
SOTCHI	71.88	43.2	11 26	-1			
TANANARIVE	72.08	109.4	11 30	2			11 43 PCP
PULKOVO	73.70	25.3	11 37	0	21 9	1	
FAYETTEVILLE	74.81	307.8	11 44K	0			
TIFLIS	74.90	46.2	11 45	1	21 24	3	
KIRUNA	75.22	15.9	11 42	-4			
SODANKYLA	76.72	17.9	11 54	-1			12 21
MAKHACH-KALA	77.15	45.5	11 56	-1			
APATITY	78.99	19.2	12 8K	1	22 9	3	15 15 PP
RAPID CITY	83.07	314.5	12 29	0			14 50
RESOLUTE	86.04	345.4	12 43K	-1			
SVERDLOVSK	87.83	33.2	12 52	0			
TUCSON TELE.	87.90	302.2	12 54	1			16 22 PP
SOUTH POLE	88.97	180.0	12 58	0			13 54
BYRD STATION	89.97	190.0	13 4	1			
HUNGRY HORSE	90.89	318.2	13 6	-1			16 33 PP
QUETTA	91.21	60.0	13 9K	1	24 7	2	
BOULDER CITY	91.40	305.8	13 10	1			
EUREKA	92.29	309.3	13 14	1			
ADELAIDE	140.64	157.2	19 29	-3			
MATUSIRO	140.96	23.2	19 30	-2			41 1 SS
CANBERRA	143.22	170.2	19 37	1			
RIVERVIEW	145.00	172.7	19 41A	2			
CHARTERS TS.	156.87	155.7	20 11	14			20 29

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SEPTEMBER 5 6.H 7.M 39.S EPICENTRE 0.74 128.99 DEPTH= 0.KM

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SE= 4.06

	DELTA DEG.	AZ. DEG.	P			O-C			*PP		SUPP.	
			M	S	O-C S	M	S	O-C S	M	S	M	S
MANILA	15.90	330.9	3	47	0	6	35	-9				
BAGUIO CITY	17.65	332.4	4	9	0	7	33	9				
GUAM	20.07	50.3	4	36	-2	8	21	2				
PORT MORESBY	20.70	119.5	4	47	3	8	31	-1			5	6 PP
HENGCHUN	22.60	339.8	5	6	2							
LEMBANG	22.61	250.2	7	5	121	9	12	4				
TAWU	22.88	340.4	5	11	5							
DJAKARTA	23.17	252.4	5	0A	-9	9	45	27				
RABAUL	23.68	102.1	5	15	1							
HWALIEN	24.17	343.3	5	30	11							
HONG KONG	25.83	327.1	5	36	1	9	57	-6				
CHARTERS TS.	26.74	141.7	5	43	0	10	19	1				
CANTON	26.92	326.7	5	46	1	10	18	-3			7	31 PP
PHU-LIEN	29.57	313.8	6	6	-3	10	57	-7			7	7 PP
YAKUSIMA	29.58	2.6	6	11	2	11	3	-1			7	3
MEDAN	30.42	275.8	6	17	1	11	20	3				
ZO-SE	31.09	347.0	6	22	0	11	23	-5				
MIYAZAKI	31.10	4.0	6	22	0	11	40	12				
KUMAMOTO	31.95	2.7	6	29	-1	11	28	-13				
SIMIDU	32.09	6.3	6	28	-3	11	49	6				
SAGA	32.36	2.1	6	41	8	11	55	8				
OOITA	32.41	4.1	6	31	-3	11	51	3				
NANKING	32.61	343.8	6	40A	4	11	54	3				
HUKUOKA	32.69	2.1	6	39	3	11	58	5				
KOTI	32.91	7.0	6	35	-3	13	4	68			7	48
TAKAMATU	33.74	7.6	6	39	-6	12	8	-1				
SUMOTO	33.88	8.8	6	46	-1	12	17	6			7	36
HAMADA	34.10	4.5	6	56	7	13	10	55				
KOBE	34.26	9.1	6	52	2	12	7	-10			7	46
OSAKA	34.28	9.6	6	53	3	12	25	8			8	54
NARA	34.36	10.0	6	45	-6							
ABUYAMA	34.51	9.6	6	50A	-2							
KAMEYAMA	34.65	10.9	6	37	-16	12	29	6			8	20 PP
KYOTO	34.68	9.7	6	42	-12	12	20	-3				
MUNDAR ING	34.71	199.3	6	54	0							
OMAESAKI	34.77	13.4									15	26
HIKONE	35.01	10.4	7	1	5	12	35	6			8	12 PP
TOYOOKA	35.04	8.3	7	0	3	12	34	5				
NAGOYA	35.05	11.4	6	53	-4	12	36	7				
KUNMING	35.08	315.8	6	58K	1	12	29	-1			8	12 PP
GIHU	35.24	11.1	6	56	-2	12	36	4				
KOHU	35.87	13.4	7	8	4							
BRISBANE	36.13	142.5	7	7K	1	12	47	1				
MATUMOTO	36.30	12.3	7	1	-6	12	52	3				
OIWAKE	36.50	13.0	6	44	-25						8	38 PP
KUMAGAYA	36.53	14.2	7	31	22							
TOYAMA	36.58	11.1	7	0	-10	12	53	0				
MATUJI RO	36.63	12.5	7	7A	-3	12	49	-5			8	32 PP
ADELAI DE	36.67	166.6	7	11	1	12	53	-1			8	33 PP
NAGANO	36.75	12.4	7	11	0	12	51	-4			8	51 PP
TUKUBASAN	36.78	15.1	7	8A	-3	12	50	-6			8	48 PPP
UTUNOMIYA	37.03	14.6	7	18	5	13	7	7				
WAZIMA	37.18	10.5	7	15	0	13	8	6				
SHIRAKAWA	37.66	14.8	7	22	3							
CHENGTU	38.04	323.8	7	21	-1	13	8	-7				
NIIGATA	38.14	12.9	7	12	-11							
HUKUSIMA	38.32	14.7	7	25	1	13	25	6				
SENDAI	38.92	15.0	7	28	-1	13	33	5				
SAKATA	39.25	13.4	7	41	9	13	43	10				
MIZUSAWA	39.79	14.8	7	43	6	13	49	7				
AKITA	40.10	13.3	7	38	-1	13	52	6				
CANBERRA	40.45	154.5	7	43A	1	13	53	2	7	59	10	1
PEKING	40.81	344.9	7	44	-1	13	51	-6				
MELBOURNE	41.12	160.6	7	49A	2				7	55		
CHITTAGONG	42.06	303.4	7	57	2	14	17	2			9	37 PP
LANCHOW	42.19	329.1	7	57	1	14	15	-2				



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MORI	42.47	12.8	8 22	23	14 29	8					
CHANGCHUN	43.03	356.1	8 1	-2							
PAOTOW	43.23	338.8	8 9	4	14 29	-3					
SHILLONG	43.48	307.6	7 38K	-29	14 31	-5				8 25	
SAPPORO	43.57	13.2	7 55	-13	14 32	-5				9 26	PP
KUSIRO	44.26	16.2	8 10	-3	14 50	3					
NEMURO	44.92	17.2	7 58	-20	15 4	7					
LHASA	46.15	312.1	8 30K	2	15 14	-1					
Y.-SAKHLINSK	47.63	12.7	8 37	-3							
BOKARO	47.72	302.1	8 39	-2	15 35	-2					
CHATRA	47.81	306.5	8 42	1	15 47	9					
COLOMBO	49.36	278.4								15 47	
UGLEGORSK	49.45	11.3	8 53	-1							
MADRAS	49.86	286.4	8 56	-1	16 6	-1				10 52	PP
ULAN-BATOR	50.75	340.9	9 8	4							
HYDERABAD	52.38	291.5								16 43	
IRKUTSK	55.35	341.8	9 35	-3							
AGRA	55.46	302.8	9 32	-7	17 16	-7				17 25	PS
DEHRA DUN	56.55	306.4	9 55	8	17 36	-2				21 12	
POONA	56.89	291.6	9 48A	-1	17 37	-5					
KARAPIRO	57.59	137.2	9 54	0							
PETROPAVLOVK	57.65	20.7	9 55	0	18 0	8					
BOMBAY	57.92	291.8			18 1	5					
GEBBIES PASS	58.95	144.2	10 21	17							
LAHORE	59.97	306.4	10 15K	4							
MAGADAN	61.06	12.5	10 17	-1							
YAKUTSK	61.13	0.4	10 17	-2	18 31	-6					
WARSAK DAM	62.99	308.2	10 31K	0	19 8	7					
KARACHI	64.37	297.2	10 40	0							
QUETTA	65.65	302.9	10 47K	-1	19 31	-3				13 11	PP
WILKES	68.22	187.9			20 4	-1				24 41	SS
TIKSI	70.78	360.0	11 13	-7	20 26	-9					
CAPE HALLETT	77.43	168.1	11 58	-1	21 51	2	12 5			14 52	PP
SVERDLOVSK	77.68	328.5	11 59	-1	21 46	-6					
SCOTT BASE	81.09	172.5	12 19	0							
TANANARIVE	82.14	250.9	12 24A	0						12 34	PCP
MAKHACH-KALA	83.26	313.0	12 29	-1	22 47	-3					
TIFLIS	85.17	311.6	12 51	11							
KHEYS	86.20	351.1	12 45	0							
COLLEGE	86.43	25.1	12 45	-1	23 11	-10				28 39	SS
SOTCHI	88.96	313.4	12 58	0							
MOSCOW	90.16	325.6	13 6	2							
SOUTH POLE	90.74	180.0	13 6	0	23 55	-6				16 44	PP
APATITY	91.45	337.5	13 3	-7	23 51	-17				16 48	PP
KSARA	92.18	303.7	13 29	16	24 32	18				17 10	PP
SIMFEROPOL	92.94	314.9	13 20	4	24 28	7					
PULKOVO	93.74	329.9	13 24	4	24 31	3					
SODANKYLA	94.07	337.7	13 19	-3							
BYRD STATION	94.39	170.6	13 24	1						14 33	
KIRUNA	96.25	338.8	13 30	-2	24 38	30				24 16	SKS
NURMIJARVI	96.39	331.2	13 37	5	24 54	45					
LWOW	99.06	320.7	17 51	777						25 20	
UPPSALA	99.95	331.5	13 50	2	25 21	54				24 32	SKS
LWIRO	100.21	267.9	17 49	777						28 3	
RESOLUTE	100.32	10.8	13 53	3	25 33	64				17 55	PP
WARSAW	100.35	323.5			24 22	-7				27 47	PPS
SKALSTUGAN	100.93	336.0	13 52	-1						18 2	PP
KRAKOW	101.58	321.5			24 39	4					
GOTEBORG	103.47	330.5	14 19	15							
SHASTA	103.56	47.8								18 26	PP
COPENHAGEN	104.03	328.5			25 0	14				33 23	SS
BERKELEY	104.27	50.6			24 53	6				35 0	SS
PRUHONICE	104.91	322.5								18 51	PP
COLLMBERG	105.37	324.2	17 52	777						18 44	
RENO	105.75	48.5								18 38	PP
JENA	106.34	324.2	18 25	777						19 10	PP
FRESNO	106.43	51.3								18 50	PP
TRIESTE	106.85	318.5			25 2	3					
MESSINA	107.79	310.6	18 52	777						26 1	
PASADENA	108.34	53.6			26 23	78				24 45	SKS
STUTTGART	108.56	322.7	14 13	777	26 43	97				18 55	PP
EUREKA	108.63	47.7	17 14	777							
ROME	108.95	315.1	19 4	777	25 51	43				33 16	SS
DE BILT	109.46	327.1								19 21	PP
STRASBOURG	109.55	322.9			26 54	103				19 10	PP
PAVIA	110.04	319.2	19 8	35						29 8	
TUCSON	114.78	53.8	18 51	8							
TUCSON TELE.	114.84	53.7	18 46	3							
ALGIERS UNI.	117.62	312.8	19 11	23	25 53	11				20 9	PP

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TAMANRASSET	120.27	297.0	18 58K	5	20 46 PP
OTTAWA	129.11	22.3	19 9	-2	
SEVEN FALLS	129.27	17.4			21 19 PP
BREBEUF	129.80	20.6	19 20	8	
HALIFAX	133.47	12.4			22 53 PKS
PALISADES	133.53	24.0			21 43 PP
WASHINGTON	133.86	28.4	19 17	-2	
BERMUDA	144.61	20.2	19 42	3	22 49 PP
HUANCAYO	153.38	115.9	20 3	10	23 43 PP
CHINCHINA	154.77	76.8	19 57	3	
SAN JUAN	155.88	37.3	20 5	9	
BOGOTA	156.35	76.8	20 8	11	24 8 PP
FUQUENE	156.49	74.5	20 6	9	
LA PAZ	156.98	133.8	20 7	10	24 41 PP
CARACAS	160.62	54.4	19 49	-13	23 51 PP

SEPTEMBER 5 7.H 0.M 27.S EPICENTRE -61.88 155.22 DEPTH= 0.KM

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	DELTA DEG.	AZ. DEG.	P S O-C			M S O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S	M	S
MACQUARIE I.	7.66	16.6	1 53		-3						2 2 PP	
TERRE ADELIE	7.77	224.4	2 0		3						2 9 PP	
DUMONT	8.16	227.4	2 0		-3	4 1	24				2 9 PP	
CAPE HALLETT	11.93	157.5	2 53A		-2	5 3	-7				3 36 PP	
SCOTT BASE	16.47	171.4	3 54A		0							
ROXBURGH	18.36	33.0	4 24		6	8 5	24					
WILKES	19.67	237.5	4 33		-1	8 11	1					
GEBBIES PASS	20.91	37.5	4 48		1							
KAIMATA	21.66	34.0	5 3		8							
WELLINGTON	23.75	38.8	5 15		0	9 41	13				10 19 SS	
MELBOURNE	24.90	340.5	5 25		-1							
CANBERRA	26.87	348.7	5 43A		-2							
KARAPIRO	27.08	37.1	5 48		2							
RIVERVIEW	28.19	352.8	5 56A		-1	10 44	2					
SOUTH POLE	28.28	180.0	5 59		2	10 40	-3				9 15 PCP	
ADELAIDE	28.89	331.1	6 4		1							
BYRD STATION	29.08	159.0	6 7		2						6 34	
BRISBANE	34.52	356.2	6 51		-1							
CHARTERS TS.	42.22	347.4	7 55		-2							
HALLEY BAY	42.85	179.3	8 2		0							
ARGENTINE I.	49.85	159.5	8 58		1							
PORT MORESBY	52.71	350.0	9 16		-3						9 55	
GUAM	75.55	349.5	11 47		-2							
KIMBERLEY	81.28	222.5	12 21		1							
LA PAZ	94.70	138.6	13 16		-9						30 57 SS	
S. FRAN. CGS	119.16	64.1	20 22		91							
TUCSON TELE.	119.82	76.7	18 55		2							
BOULDER CITY	120.98	71.1	18 57		2							
HUNGRY HORSE	131.32	62.6	19 17		2							
LAWRENCE	132.46	84.8	19 18		1							
KSARA	132.93	262.4	19 9		-9							
COLLEGE	133.31	29.5	19 17		-2							
TAMANRASSET	135.77	221.9	19 23A		0							
OTTAWA	146.65	95.7	19 46		4							
BREBEUF	147.71	97.6	19 47		3							
SETIF	148.11	230.3	19 49		4						20 14 PKP2	
GRANADA	151.98	217.9	20 34K		43							
RESOLUTE	153.10	33.5	20 13		21							
STUTTART	156.93	251.0	20 29		32							
COLLMBERG	157.01	260.0	20 39		41							
STRASBOURG	157.46	248.8	20 14		16						20 31 PKP2	
KIRUNA	160.29	307.0									20 38 PKP2	

SEPTEMBER 5 15.H 34.M 45.S EPICENTRE 0.93 129.01 DEPTH= 0.KM

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SE= 2.45

	DELTA DEG.	AZ. DEG.	P			O-C			*PP			SUPP.	
			M	S	S	M	S	S	M	S	M	S	
MANILA	15.74	330.5	3	45	0	6	33	-7					
BAGUIO CITY	17.49	332.1	4	9	2	7	33	12					
GUAM	19.94	50.7	4	36	0	8	22	6					
PORT MORESBY	20.78	120.0	4	48A	3	8	34	1			8	44	
LEMBANG	22.69	249.8	5	4K	0	9	11	2			16	18 SCS	
DJAKARTA	23.24	252.0	5	9A	-1	8	55	-24					
RABAU	23.70	102.6	5	16	2								
HONG KONG	25.69	326.8	5	35	2	9	55	-5			6	8 PP	
CANTON	26.78	326.5	5	46K	3	10	22	4			6	18	
CHARTERS TS.	26.87	141.9	5	43	-1								
PHU-LIEN	29.46	313.6	6	7	-1	11	1	-1					
MEDAN	30.41	275.5	6	15	-1	11	17	0					
ABUYAMA	34.32	9.6	6	49A	-1								
MUNDARING	34.89	199.2	6	54	-1								
KUNMING	34.96	315.6	6	56	0	12	27	0					
BRISBANE	36.27	142.7	7	7K	0	13	3	15					
MATUSIRO	36.45	12.5	7	6A	-2	12	54	3			8	27 PP	
TUKUBASAN	36.59	15.1	7	7	-3						8	58 PPP	
ADELAIDE	36.85	166.6	7	11	-1	12	55	-2			8	35	
SIAN	38.11	332.5	7	22	0								
RIVERVIEW	40.36	151.0	7	44A	3	13	54	4					
CANBERRA	40.61	154.6	7	44K	1						9	25 PP	
PEKING	40.64	344.8	7	42	-1	13	49	-5			9	17 PP	
MELBOURNE	41.29	160.7	7	48	-1	14	7	3					
LANCHOW	42.04	329.0	7	55	0	14	15	0					
CHANGCHUN	42.84	356.1	8	1	0	14	29	2			9	42 PP	
PAOTOW	43.06	338.7	8	2	-1								
SHILLONG	43.38	307.4	8	5K	-1						14	41	
LHASA	46.04	311.9	8	28	1	15	13	0					
Y.-SAKHLINSK	47.44	12.7	8	47	9	15	35	2					
BOKARO	47.64	301.9									15	31	
CHATRA	47.71	306.3	8	41	1						23	3	
UGLEGORSK	49.27	11.3	8	37	-15	15	35	-23					
MADRAS	49.82	286.2	8	55	-2	16	5	-1			16	26 PPS	
ULAN-BATOR	50.58	340.9	9	2	0								
HYDERABAD	52.32	291.3				16	42	2					
AGRA	55.37	302.7				17	14	-8					
DEHRA DUN	56.45	306.3	9	49	3	17	57	20					
PETROPAVLOVK	57.47	20.8	9	53	0	17	47	-3					
KARAPIRO	57.72	137.2	9	54	-1								
BOMBAY	57.86	291.7				18	1	6			13	56 PPP	
LAHORE	59.87	306.4	10	10	0	18	18	-3					
MAGADAN	60.88	12.5	10	16	-1	18	35	1					
YAKUTSK	60.94	0.4	10	16	-1								
KARACHI	64.30	297.1	10	39	0								
QUETTA	65.56	302.8	10	46	-2	19	30	-2			13	11 PP	
WILKES	68.41	187.9				20	1	-6			24	42 SS	
TIKSI	70.59	360.0	11	13	-6								
SVERDLOVSK	77.53	328.4	11	58	-1								
SCOTT BASE	81.27	172.5	12	19	0								
TANANARIVE	82.22	250.9	12	23	-1						13	54	
TIFLIS	85.05	311.6	12	43	4	23	9	1					
KHEYS	86.02	351.1				23	5	-12					
TIFLIS	85.05	311.6	12	43	4	23	9	1					
KHEYS	86.02	351.1				23	5	-12					
COLLEGE	86.26	25.1	12	44	-1								
SOTCHI	88.85	313.4	12	59	2								
SOUTH POLE	90.92	180.0	13	5	-2								
APATITY	91.29	337.5	13	9	0	23	56	-10			24	52 PS	
KSARA	92.09	303.7	13	22	10	24	22	9			18	56 PPP	
SIMFEROPOL	92.82	314.9	13	18	2	23	59	-20					
PULKOVO	93.59	329.9	13	17	-2	24	22	-4					
SODANKYLA	93.91	337.7	13	19	-2								
BYRD STATION	94.57	170.6	13	23	-1						16	23 PP	
KIRUNA	96.09	338.8	13	29	-2						26	16 PS	
UPPSALA	99.79	331.5	13	51	4								
RESOLUTE	100.14	10.8	13	48	-1	25	21	53			24	33 SKS	
PRUHONICE	104.77	322.6									18	28 PP	
PRAGUE	104.81	322.7									32	17 SS	
MESSINA	107.68	310.7									25	15	
ROME	108.83	315.1									31	40	
TAMANRASSET	120.20	297.1	18	56	3						20	51 PP	
OTTAWA	128.94	22.3	19	14	4								
PALISADES	133.35	23.9									21	49 PP	
BERMUDA	144.43	20.1	15	15	777						27	51 SKSP	

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HUANCAYO 153.45 115.6 19 59 7

SEPTEMBER 5 21.H 28.M 41.S EPICENTRE 51.30 179.36 DEPTH= 0.KM

A=-0.62780 B= 0.00705 C= 0.77834 D= 0.0112 E= 0.9999  
G=-0.7783 H= 0.0087 K=-0.6278 HT= -5.9

SE= 1.88

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	O-C S	M	S	M	S
PETROPAVLOVK	12.83	285.8	3	11	5	5	45	14				
MAGADAN	18.07	308.3	4	29	15							
COLLEGE	21.70	38.7	4	55	0	8	49	-2				
UGLEGORSK	23.81	279.4	5	15	0							
Y.-SAKHLINSK	24.17	274.3	5	21	2	9	46	11				
YAKUTSK	28.58	311.3	6	0	0							
TIKSI	30.14	330.8	5	59	-15							
MATUSIRO	32.63	259.3	6	35A	-1	11	55	3				
ABUYAMA	35.35	259.6	6	59A	0							
VICTORIA	36.16	71.3	6	52	-14							
CHANGCHUN	36.50	279.9	7	8	-1							
CORVALLIS	38.14	77.0	7	25	2							
RESOLUTE	40.30	24.2	7	42	1	13	52	3			8	57 PP
SHASTA	40.82	81.5	7	45	0							
MINERAL	41.52	81.4	7	56	5							
HUNGRY HORSE	41.75	66.9	7	51	-2							
RENO	43.10	81.2	8	3	-1							
LICK	43.30	85.0	8	6A	1						9	13 PP
PEKING	44.27	281.0	8	13	0	14	50	3				
FRESNO	44.80	84.3	8	19	2							
ULAN-BATOR	45.31	295.6	7	22	-59							
EUREKA	45.51	78.7	8	23	0							
PASADENA	47.50	85.9	8	37	-2	15	25	-9				
BOULDER CITY	48.40	81.7	8	44	-2							
RAPID CITY	50.36	66.0	9	0	-1							
TUCSON	53.35	82.4	9	22	-1							
TUCSON TELE.	53.36	82.3	9	22	-1							
LANCHOW	54.32	285.0	9	30	-1							
LAWRENCE	58.21	66.1	9	55	-3							
APATITY	58.74	345.4									25	57
SODANKYLA	59.89	348.2	10	9	-1						10	57 PCP
KIRUNA	60.15	350.9	10	9A	-3							
SVERDLOVSK	61.03	326.6	10	19	1							
SKALSTUGAN	65.02	353.7	10	42	-2							
PULKOVO	66.49	343.5	10	57	3							
NURMI JARVI	66.70	346.7	10	53	-2							
PALISADES	68.16	51.3									24	47 SS
UPPSALA	68.23	350.2	11	3	-2							
SHILLONG	68.96	284.8	11	8A	-1							
CHATRA	70.85	289.1	11	21	0							
GOTEBORG	70.87	352.9	11	26	5							
LAHORE	74.56	301.2	11	43A	0							
RATHFARNHAM	75.67	3.5	11	48K	-1							
CHARTERS TS.	76.79	211.8	11	55	0							
PRUHONICE	78.27	350.0	12	3	0							
TIFLIS	79.27	327.1	12	8	-1							
BERMUDA	79.50	50.7									22	19
QUETTA	79.51	305.5	12	11A	1	22	13	2			15	12 PP
STUTTGART	79.95	353.4	12	12	-1							
FOLINIERE	80.31	359.9	12	14	0							
KARAPIRO	88.91	183.0	12	58	0							
SAN JUAN	90.20	59.8	14	3	59							
MELBOURNE	93.73	206.6									21	9
ELISABTHVLE	134.32	319.8	19	21	1							
BYRD STATION	135.52	167.4	19	19	-3							
SOUTH POLE	141.11	180.0	19	31	-2							
KIMBERLEY	150.50	310.0	19	55	7							

SEPTEMBER 5 23.H 5.M 5.S EPICENTRE -17.76-178.68 DEPTH= 553.KM

A=-0.95267 B=-0.02200 C=-0.30320 D=-0.0231 E= 0.9997  
G= 0.3031 H= 0.0070 K=-0.9529 HT= 5.2

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DEPTH OF FOCUS= 0.082R

SE= 1.51

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
SUVA	2.78	261.6	0	58	-17	2	19	5				
APIA	7.72	60.3	1	55	-1							
ONERAHI	18.97	197.6	3	51	4	7	2	12				
KARAPIRO	20.72	193.0	4	3K	0	7	25	6			7	38 PCP
TUAI	21.28	189.0				7	25	-3				
WELLINGTON	24.11	192.2	4	33	-1	8	3	-11				
KAIMATA	26.08	196.8	4	56	4	8	39	-6				
GEBBIES PASS	26.88	194.0	4	56	-3	8	49	-8				
BRISBANE	27.99	244.9	5	6	-2						10	56
RIVERVIEW	31.37	233.5	5	37K	0							
CHARTERS TS.	33.21	260.4	5	53K	1	11	8	33				
CANBERRA	33.59	232.2	5	55K	-1	10	38	-3				
PORT MORESBY	34.19	279.5	6	2K	1	10	49	-1				
MELBOURNE	37.54	230.4	6	29K	0							
ADELAIDE	41.49	237.0	7	0	0							
HAWAII V.OB.	43.53	33.0	7	17	1							
HONOLULU	43.74	28.3	7	18	0							
KIPAPA	43.88	28.3	7	18	-1							
GUAM	47.60	308.3	7	48	0							
SCOTT BASE	60.55	183.5	9	19	0				11	11		
BYRD STATION	67.43	170.7	10	1	-1				11	56		
MATUSIRO	67.63	323.5	10	3A	-1	18	17	0				
ABUYAMA	68.03	320.6	10	6A	0							
SOUTH POLE	72.35	180.0	10	30	-1	19	11	0	12	28		
BERKELEY	76.60	42.7	10	56A	1							
LICK	76.70	43.4	10	57A	1				12	57		
UKIAH	76.72	41.2	10	55	-1							
PASADENA	77.31	47.7	10	59A	0				13	2		
FRESNO	77.60	44.7	11	1A	1							
SHASTA	78.16	40.3	11	5	2							
MINERAL	78.45	40.9	11	5A	0							
RENO	79.12	42.4	11	9A	0							
CHANGCHUN	79.85	322.4	11	12A	0	20	34	4				
CORVALLIS	79.93	36.7	11	13A	0							
BOULDER CITY	80.60	47.6	11	17	1				13	18	14	30 *SP
EUREKA	81.59	44.0	11	22	1							
TUCSON	81.75	52.5	11	24	2				13	17		
TUCSON TELE.	81.88	52.4	11	24	1				13	25	40	31 PKPPKP
ALBERNI	82.01	32.3	11	22	-1							
VICTORIA	82.27	33.5	11	23A	-2							
SITKA	82.84	22.2	11	27	-1							
HORSESHOE B.	82.87	32.8	11	26	-2							
PEKING	83.50	315.5	11	31	0	21	10	4				
ARGENTINE I.	83.73	157.3	11	30	-2							
LILLOOET	84.36	32.3	11	38A	3							
HALLEY BAY	85.32	173.2	11	57	17							
COLLEGE	85.69	12.7	11	39	-2							
HUNGRY HORSE	87.35	37.1	11	49	0						15	21 *SP
KUNMING	87.54	297.2	11	52	2	21	49	5				
BANFF	87.96	34.2	11	50K	-2							
RAPID CITY	92.18	44.3									15	59
LAWRENCE	96.02	51.1	12	30	1							
SHILLONG	97.00	294.5	15	32	178							
QUETTA	119.48	295.0	19	5	78							
SODANKYLA	127.80	347.9	18	2	-1						20	32 SKP
KIRUNA	128.48	350.9	18	3	-1						20	34 SKP
KIMBERLEY	128.50	206.5									20	16 PP
SKALSTUGAN	133.61	353.3	18	2	-12						20	52 SKP
NURMIJARVI	134.14	344.1	18	4	-11						20	55 SKP
HELSINKI	134.35	343.7	18	9	-6							
UPPSALA	136.34	348.2	18	7K	-12						20	59 SKP
BROKEN HILL	138.27	221.6	18	14	-9						20	53
GOTEBORG	139.34	351.2	18	24	0						21	15 SKP
ELISABTHVLE	141.00	223.3	18	24A	-5						21	30 PP
DURHAM	142.99	2.8	18	25A	-7							
RATHFARNHAM	144.04	7.8	18	31A	-2						25	1
WITTEVEEN	144.77	354.4	18	36	2							
RACIBORZ	145.02	341.0	18	37	2							
COLLMBERG	145.27	347.1	18	37	2						20	54
HALLE	145.30	348.3	18	36	1						19	11
JENA	145.91	348.4	18	36	0						21	26
PRUHONICE	146.14	344.6	18	40A	3							

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KEW	146.34	1.9	18 38	1		
JERUSALEM	146.36	301.0	18 41	4		
LWIRO	146.40	236.4	18 42K	5		
SONNEBERG	146.51	348.5	18 37	0		
BENSBERG	146.55	353.3	18 40A	3		
BRATISLAVA	147.05	340.5	18 40	2	20 55	
STUTT GART	148.40	349.9	18 41	1		
STRASBOURG	148.82	351.7	18 42	2		18 52 PKP2
PARIS	149.02	358.5	18 47A	6		18 54 PKP2
EBINGEN	149.02	350.0	18 47	6		
FOLINIERE	149.04	2.3	18 42	1		
RAVENSBURG	149.30	349.0	18 47	6		
TOLMEZZO	149.84	343.8	18 48	6		
ATHENS	151.89	320.3	18 52A	7		
CLERMONT-FD.	152.03	357.3	18 37	-8		
BANGUI	158.47	233.9	18 33	-21	29 10	
TAMANRASSET	173.64	322.4	19 7	2	21 19	24 27 PP

SEPTEMBER 6 O.H 28.M O.S EPICENTRE 5.62 126.47 DEPTH= 0.KM

A=-0.59163 B= 0.80033 C= 0.09722 D= 0.8041 E= 0.5944  
G=-0.0578 H= 0.0782 K=-0.9953 HT= 7.0

SE= 2.82

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
MANILA	10.44	329.9	2	45	11	4	53	20				
BAGUIO CITY	12.19	332.2	3	2	4	6	4	48				
GUAM	19.62	65.3	4	32	-1	8	9	0				
HONG KONG	20.41	325.5	4	44	2	8	30	4				
DJAKARTA	22.84	239.4	5	8K	2	9	14	2				
PHU-LIEN	24.46	309.9	5	30	8	9	50	10				
PORT MORESBY	25.44	125.8	5	37	6				5 51		5 57 PP	
NANKING	27.27	345.6	5	50	2						6 17 PP	
MEDAN	27.78	267.0	5	52A	-1							
KUNMING	29.89	312.9	6	12A	0	11	4	-5				
CHARTERS TS.	32.11	143.2	6	31	0						14 7	
MATUSIRO	32.60	17.7	6	34	-2	12	12	21			7 48	
PEKING	35.50	346.3	7	0	-1	12	30	-6				
LANCHOW	36.74	328.6	7	11A	0	12	51	-4				
CHITTAGONG	37.38	299.9	7	16	0	13	3	-2			8 44 PP	
CHANGCHUN	38.07	358.6	7	29	7							
SHILLONG	38.59	304.7	7	26A	-1						9 38	
MUNDARING	38.63	194.0	7	27	0							
LHASA	41.08	309.8				13	56	-5				
ADELAIDE	41.99	164.9	7	56K	1	14	11	-3			9 35 PP	
CHATRA	42.96	303.8	8	3	0							
ULAN-BATOR	45.35	341.5	8	23	1							
RIVERVIEW	45.66	150.9	8	26A	2							
CANBERRA	45.91	154.1	8	26K	0						10 12 PCP	
MELBOURNE	46.53	159.7	8	32K	1	15	25	5	9 14		10 18 PP	
YAKUTSK	56.33	1.8	9	49	4	17	40	5				
WARSAK DAM	58.04	306.7	9	56A	-1	17	52	-5				
QUETTA	60.94	301.4	10	16A	-1	18	27	-8			12 27 PP	
KARAPIRO	62.86	137.8	10	29	-1						10 36	
WELLINGTON	64.21	141.3	10	43	4							
TIKSI	65.95	0.8	10	48	-2							
SVERDLOVSK	72.24	328.2	11	26	-3							
HONOLULU	74.42	69.5	11	41	-1							
KIPAPA	74.49	69.4	11	42	0							
HAWAII V.OB.	77.10	71.4	11	57	0							
TIFLIS	80.08	311.2	12	13	0							
TANANARIVE	81.39	250.0	12	19	-1							
CAPE HALLETT	82.69	167.7	12	25	-2							
COLLEGE	83.12	25.4	12	27	-2							
MOSCOW	84.75	325.4	12	36	-2							
APATITY	86.02	337.4	12	42	-2	23	10	-7			23 37	
SCOTT BASE	86.23	172.1	12	45	0							
SIMFEROPOL	87.75	314.8	12	52	0							
JERUSALEM	88.14	301.6	12	53	-1							
PULKOVO	88.29	329.8	12	53	-2							
SODANKYLA	88.64	337.6	12	55	-2						13 19	
KIRUNA	90.83	338.6	13	4	-3							
HELSINKI	90.86	330.7	13	6	-1						13 25	
NURMI JARVI	90.94	331.0	13	7	0							
NORD	91.20	354.9	13	7	-2							



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UPPSALA	94.49	331.4	13 21K	-3					
SKALSTUGAN	95.48	335.8	13 30	2					
SOUTH POLE	95.58	180.0	13 29	0					17 21 PP
RESOLUTE	96.02	10.2	13 29	-2	24 46	39			
GOTEBORG	98.02	330.4	13 39	-1					
BULAWAYO	99.28	250.6	13 44	-1					
PRUHONICE	99.54	322.6	13 46	-1					
BYRD STATION	99.58	170.7	13 50	3					17 49 PP
COLLMBERG	99.97	324.2	13 45	-4					
JENA	100.94	324.2	13 51	-2					14 3
STUTTGART	103.18	322.8	14 3	0					
BANGUI	107.27	276.3			24 57	-4			
TAMANRASSET	115.79	298.5	18 46	1					29 24 PKKP
SEVEN FALLS	125.30	14.4	19 6	3					
OTTAWA	125.47	19.1	19 6	2					
MORGANTOWN	128.80	26.2	19 18	8					22 28 PP
PALISADES	129.98	20.1							39 8 SS
SAN JUAN	153.12	27.2	20 3	11					
HUANCAYO	157.54	108.0	20 2	4					24 36 PP
LA PAZ	162.06	128.2	20 7	4					20 54 PKP2

SEPTEMBER 7 4.H 3.M 20.S EPICENTRE -1.01 -23.74 DEPTH= 0.KM

A= 0.91526 B=-0.40248 C=-0.01744 D=-0.4025 E=-0.9154  
G=-0.0160 H= 0.0070 K=-0.9998 HT= 7.2

SE= 1.29

	DELTA DEG.	AZ. DEG.	M	P	S	O-C S	M	S	O-C S	*PP M S	SUPP. M S
MBOUR	16.68	23.4	3	59		2					
TAMANRASSET	37.03	48.5	7	14K		1	13	2	3		8 39 PP
LEOPOLDVILLE	39.08	95.7	7	31K		0					
GRANADA	42.33	24.1	9	2K		65					
LA PAZ	46.34	248.1	8	28		-2	15	0	-17		
ELISABTHVLE	51.89	104.0	9	13		1					
HUANCAYO	52.32	255.6	9	14		-2					11 0 PP
LWIRO	52.53	92.1	9	17		0					11 14 PP
STRASBOURG	56.42	24.6	9	45		-1					
STUTTGART	57.21	25.4	9	50		-1					
JENA	59.82	25.0	10	8		-1					10 27
PRUHONICE	60.44	27.4	10	13		-1					10 59 PCP
COLLMBERG	60.69	25.5	10	14		-1					
PALISADES	61.76	318.7					19	8	23		
SEVEN FALLS	63.12	325.9	10	32		0					
OTTAWA	65.07	322.3	10	45		0					
UPPSALA	68.67	21.0	11	6		-1					
SKALSTUGAN	69.75	16.3	11	13		-1					
NURMIJARVI	71.74	22.9	11	28		2					
LAWRENCE	76.34	310.5	11	51		-2					
SODANKYLA	76.66	17.8	11	55		1					
RESOLUTE	86.04	345.4	12	46		2					
TUCSON TELE.	87.98	302.2	12	53		0					
TUCSON	88.07	302.1	12	56		2					
BYRD STATION	90.02	190.0	13	3		0					
HUNGRY HORSE	90.94	318.2	13	9		2					
EUREKA	92.36	309.3	13	15		1					

SEPTEMBER 8 10.H 3.M 30.S EPICENTRE 36.50 140.65 DEPTH= 66.KM

A=-0.62314 B= 0.51089 C= 0.59219 D= 0.6340 E= 0.7733  
G=-0.4580 H= 0.3755 K=-0.8058 HT= -0.4

DEPTH OF FOCUS= 0.005R

SE= 1.94

	DELTA DEG.	AZ. DEG.	M	P	S	O-C S	M	S	O-C S	*PP M S	SUPP. M S
MITO	0.19	231.6	0	9		-2	0	15	-5		
KAKIOKA	0.47	235.2	0	12K		-2	0	18	-6		
ONAHAMA	0.49	23.6	0	11A		-3	0	19	-6		
TUKUBASAN	0.52	238.4	0	12A		-2	0	20	-5		
UTUNOMIYA	0.63	275.0	0	13K		-2	0	22	-5		

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SHIRAKAWA	0.71	330.9	0 15K	-1	0 25	-3	
TYOSI	0.79	168.3	0 12A	-5	0 22	-8	
HONGO	1.06	222.6	0 18K	-2	0 31	-4	
KUMAGAYA	1.08	251.8	0 19K	-1	0 32	-3	
0.00.50							
UTUNOMIYA	0.63	275.0	0 13K	-2	0 22	-5	
SHIRAKAWA	0.71	330.9	0 15K	-1	0 25	-3	
TYOSI	0.79	168.3	0 12A	-5	0 22	-8	
HONGO	1.06	222.6	0 18K	-2	0 31	-4	
KUMAGAYA	1.08	251.8	0 19K	-1	0 32	-3	
TOKYO C.M.O.	1.10	222.2	0 19K	-1	0 30	-5	
HUKUSIMA	1.26	353.4	0 23K	1	0 38	-1	
MAEBASI	1.28	266.1	0 22K	-1	0 37	-3	
YOKOHAMA	1.34	217.7	0 24K	1	0 36	-5	
TITIBU	1.37	248.4	0 23	-1	0 39	-3	
OIWAKE	1.70	265.0	0 27	-1	0 44	-6	
NERA	1.71	203.3	0 28	0	0 48	-2	
YAMAGATA	1.77	352.2	0 29	0	0 51	0	
SENDAI	1.78	6.3	0 29K	0	0 52	1	
HUNATU	1.82	237.5	0 30	0	0 49	-3	
KOHU	1.89	244.7	0 30K	-1	0 58	4	
NIIGATA	1.91	318.5	0 32	1	0 56	2	
AJIRO	1.92	221.6	0 33	2	0 56	1	
MISIMA	1.95	225.7	0 31K	-1			
MATUSIRO	1.97	272.0	0 32K	0	0 59	3	0 46
NAGANO	1.98	275.7	0 33K	1	1 5	9	
ISINOMAKI	2.00	15.2	0 32	0			
OSIMA	2.01	211.4	0 33K	1	0 53	-4	
TAKADA	2.02	288.0	0 34K	1	0 57	0	
MATUMOTO	2.18	264.3	0 36	1	1 6	5	
SHIZUOKA	2.38	230.9	0 38	0	1 9	3	
AIKAWA	2.45	309.1	0 39K	0			2 11
MIZUSAWA	2.66	8.0	0 42	0	1 14	1	
OMAESAKI	2.74	227.1	0 43	0	1 10	-5	
TOYAMA	2.79	275.2	0 44	1			1 4
HAMAMATU	2.98	234.3	0 49	3	1 33	12	
WAZIMA	3.13	287.5	0 49K	1			
MORIOKA	3.22	7.1	0 49	0	1 24	-3	
KANAZAWA	3.22	271.8	0 50	1			
AKITA	3.25	352.5	0 52	2	1 34	6	
NAGOYA	3.27	247.2	0 51	1	1 35	7	
MIYAKO	3.31	17.9	0 50	-1	1 27	-2	
GIHU	3.34	252.0	0 52K	1	1 34	4	
HATIDYOZIMA	3.46	192.1	0 56	3	1 41	8	
HUKUI	3.60	264.2	0 56	1			
HIKONE	3.78	252.4	0 59K	2	1 57	16	
KAMEYAMA	3.78	245.5	1 0	3	1 44	3	
TSURUGA	3.81	258.5	1 0	2	1 43	1	
TU	3.82	243.2	1 7	9			
HATINOHE	4.09	9.4	1 0	-1	1 48	-1	
KYOTO	4.27	251.2	1 4	0	1 55	2	
AOMORI	4.32	1.3	1 10	5	2 1	7	
NARA	4.33	246.7	1 5	0	1 54	-1	
MAIZURU	4.34	257.9	1 6	1	1 58	3	
OWASE	4.37	237.7	1 5	-1	2 9	13	
ABUYAMA	4.44	250.1	1 6A	0			
OSAKA	4.56	247.7	1 10	2	2 17	16	
KOBE	4.81	249.5	1 14	2	2 16	9	
SIOMISAKI	5.03	234.2	1 14	-1	2 13	1	
SUMOTO	5.16	247.0	1 16	0	2 30	15	1 48
HAKODATE	5.31	0.9	1 19	1	2 26	7	
TOTTORI	5.34	261.3	1 17	-2	2 23	3	
TOKUSIMA	5.53	245.8	1 22	1	2 44	20	1 43
MORI	5.60	359.4	1 24	2	2 34	8	
OKAYAMA	5.78	253.7	1 28	3	2 52	21	
TAKAMATU	5.81	250.0	1 22	-3			3 2
MURORAN	5.82	2.4					2 56
URAKAWA	5.88	15.6	1 26	0	2 32	-1	
SAIGO	5.92	269.3	1 29	2	2 38	4	
YONAGO	6.02	262.0	1 26K	-2	2 42	5	
HIROO	6.13	18.9	1 29A	-1	2 36	-4	
TOMAKOMAI	6.17	6.4			2 37	-4	
MUROTO	6.23	240.5	1 31	0	2 47	5	
MATSUE	6.24	262.6	1 31	0	2 49	7	
SUTTSU	6.30	357.2	1 39	7	2 47	3	
KOTI	6.54	245.4	1 38	2	2 55	5	
SAPPORO	6.59	4.5	1 36	0	2 54	3	

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OBHIRO	6.71	16.2	1 37	-1	2 53	-1	
MATUYAMA	6.97	250.0	1 44	2	3 7	7	
HIROSI MA	7.04	254.9	1 40	-3	3 7	5	
KUSIRO	7.09	22.9	1 42	-1	2 58	-5	
HAMADA	7.16	259.7	1 45	1	2 58	-7	
SIMIDU	7.34	241.9	1 48	1	3 17	8	
ASA HIGAWA	7.39	9.7	1 46	-1			
UWAZIMA	7.41	246.3	1 50	2			3 39
NEMURO	7.80	27.5	1 48	-5	3 11	-10	
ABASHI RI	8.01	19.1	2 9	13	3 17	-9	
OOITA	8.11	248.9	2 1	4			3 57
MIYAZAKI	8.90	241.8	2 10	2			
HUKUOKA	8.91	253.9					3 46
KUMAMOTO	8.98	248.8	2 13	4			4 36
SAGA	9.10	252.2	2 13	2			
Y.-SAKHLINSK	10.63	7.7	2 31	-1			
CHANGCHUN	13.82	306.7	3 16	2			
ZO-SE	17.05	257.2	3 54	-1			
NANKING	18.60	262.6	4 11A	-3			
PEKING	19.53	287.8	4 20	-4			
PETROPAVLOVK	20.79	31.7	4 38	0			
YAKUTSK	26.45	348.4	5 31	-1	9 56	-3	
CANTON	27.10	248.0	5 37	-1			
ULAN-BATOR	27.27	305.3	5 39	-1			
LANCHOW	29.58	280.3	5 59	-2			
CHENG TU	30.95	269.9	6 10	-3			
KUNMING	34.28	261.5	6 39A	-3			
TIKSI	35.73	353.6	6 53	-1	12 26	1	
LHASA	41.76	275.4	7 46A	2			
RABAU L	41.89	162.6	7 43	-2			
SHILLONG	42.80	269.4	7 51A	-2			
CHITTAGONG	44.36	265.4	8 2	-3	14 30	-4	9 45 PP
CHATRA	46.03	273.7	8 19	0			
COLLEGE	49.87	32.0	8 49	1			
LEMBANG	53.07	222.6	9 12	-1			
SVERDLOVSK	55.15	318.7	9 27	-1			
WARSAK DAM	55.36	289.4	9 29A	0			
CHARTERS TS.	56.53	173.7	9 37	-1			
QUETTA	60.53	287.3	10 4A	-2			
APATITY	62.93	335.7	10 20	-2			
RESOLUTE	63.28	14.2	10 23K	-1			
BRISBANE	64.56	168.1	10 35	3			
SODANKYLA	65.22	337.1	10 35	-2			12 58 PP
KIRUNA	66.80	339.1	10 46K	-1			
MOSCOW	67.32	323.3	10 48	-2			
PULKOVO	68.34	329.3	10 55	-1			
CORVALLIS	69.29	49.4	11 4K	2			
NURMI JARVI	70.13	331.8	11 7	0			13 41 PP
HELSINKI	70.23	331.4	11 8	0			
CANBERRA	71.87	172.8	11 18	0			
SHASTA	71.91	52.6	11 20K	2			
SKALSTUGAN	72.19	338.4	11 19A	0			
HUNGRY HORSE	72.59	42.4	11 22	0			
UPPSALA	73.17	333.8	11 24A	-1	11 39		14 7 PP
RENO	74.20	52.4	11 46	15			
LICK	74.24	55.1	11 33K	1			
SIMFEROPOL	75.28	315.3	11 37	0			
FRESNO	75.78	54.8	11 41	1			
EUREKA	76.66	50.7	11 47	2	12 7		
GOTEBORG	76.75	334.5	11 43A	-3			
IASI	77.42	320.0	11 50	0			
LWOW	77.45	323.6	11 51	1			
BOULDER CITY	79.48	53.0	12 2	1			
RACIBORZ	79.96	326.5	12 4	1			
KARAPIRO	80.78	152.7	12 30	22			
KSARA	80.97	305.4	12 10	1			
RAPID CITY	81.11	40.9	12 10	1			
COLLMBERG	81.26	329.8	12 10	0			15 9
PRUMONICE	81.62	328.2	12 13A	1	12 41		15 11 PP
VIENNA-H.	82.12	326.1	12 30	15			
JENA	82.12	330.3	12 14	-1			12 43
MUNSTER	82.82	332.9	12 19	1			
TUCSON	84.40	53.8	12 28	2			
TUCSON TELE.	84.41	53.7	12 28	2			
LJUBLJANA	84.60	325.6	12 27A	0			
STUTT GART	84.74	330.1	12 29	1			
TUBINGEN	85.01	330.1	11 58	-31			
EBINGEN	85.33	329.9	12 31	0			

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DOORBES	85.44	333.4	12 32	1	
STRASBOURG	85.49	330.8	12 31	-1	
KEW	85.96	336.7	12 34	0	
RATHFARNHAM	86.08	340.8	12 34	-1	
FOLINIÈRE	88.34	335.5	12 45	0	
FAYETTEVILLE	91.63	41.5	13 2A	1	
BREBEUF	92.71	23.4	13 7	1	
TAMANRASSET	107.40	317.0	16 44	777	18 24 PP
LEOPOLDVILLE	120.68	289.1	18 46	2	
SOUTH POLE	126.31	180.0	18 56	1	
BYRD STATION	127.38	167.5	18 58	1	19 16
HUANCAYO	139.53	62.3	19 7	-13	
LA PAZ	147.64	59.6	19 40	6	

SEPTEMBER 8 13.H 12.M 12.S EPICENTRE -53.32 23.08 DEPTH= 0.KM

A= 0.55186 B= 0.23521 C=-0.80008 D= 0.3921 E=-0.9199  
G=-0.73360 H=-0.3137 K=-0.5999 HT= -6.6

SE= 1.59

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
HERMANUS	19.10	350.2	4 28	1	8 2	5		12 25 PCS
PIETERMZBURG	24.28	15.6	5 21	1				
KIMBERLEY	24.58	3.6	6 22A	59				
PRETORIA	27.80	9.9	5 52	-1				
HALLEY BAY	29.31	203.1	6 8	1				
BULAWAYO	33.40	9.5	6 41	-2				
SOUTH POLE	36.86	180.0	7 11	-1	12 48	-9		8 29 PP
BROKEN HILL	39.01	8.3	7 29	-1				
TANANARIVE	39.22	38.3	7 31	-1				
ELISABTHVLE	41.71	6.5	7 53K	1	14 9	-1		
WILKES	42.02	143.0						14 12 SS
ARGENTINE I.	42.49	218.5	8 12	13				
BYRD STATION	45.20	188.6	8 22	1				10 13 PP
SCOTT BASE	47.19	170.1	8 35	-1				10 28 PP
LEOPOLDVILLE	49.22	349.7	8 51	-1	15 59	1		10 41 PP
LWIRO	51.12	7.3	9 6	-1	16 30	6		
CAPE HALLETT	52.58	167.9	9 17	-1				
ADELAIDE	75.92	130.2	11 49	-2				
MELBOURNE	76.25	136.2	11 52A	0				
TAMANRASSET	77.30	343.4	11 59K	1	22 2	14		15 2 PP
LA PAZ	77.66	259.0	12 3	3				
CANBERRA	80.05	137.7	12 14	1				
LEMBANG	81.30	89.7	12 20K	0				
RIVERVIEW	82.21	138.6	12 24K	-1	22 46	6		
MESSINA	91.38	354.1	13 15	6				24 20
ALGIERS UNI.	91.39	344.0	13 8	-1	23 45	-22		
QUETTA	91.47	36.9	13 9K	-1	23 42	-26		16 55 PP
GRANADA	93.06	338.9	13 15A	-2	24 40	18		29 46 SS
ROME	95.29	352.1						17 18 PP
TIFLIS	96.50	16.2						17 30 PP
WARSAK DAM	96.60	38.8	13 31	-2				
SIMFEROPOL	98.35	7.9						17 45 PP
SHILLONG	98.47	58.4	13 39	-3				
TRIESTE	98.92	353.4						17 44 PP
STUTTGART	102.39	350.7	14 11	12				18 11 PP
PRUHONICE	103.18	354.4						18 17 PP
SAN JUAN	104.05	281.8	14 24	17				
UPPSALA	112.90	357.0						29 5 PS
SODANKYLA	120.40	1.6	18 51	-3				
KIRUNA	120.85	358.8	18 53	-2				
TUCSON	141.03	256.0	19 35	2				
TUCSON TELE.	141.03	256.3	19 34	1				
YAKUTSK	141.86	47.1						40 20
RAPID CITY	144.15	277.3	19 21	-17				
TIKSI	144.15	31.4	19 34	-4				
BOULDER CITY	146.00	256.5	19 43	2				
PASADENA	146.62	250.6	19 44	2				
SALT LAKE C.	147.38	265.9	19 45	2				
KIPAPA	148.14	178.1	19 15	-30				
EUREKA	149.02	260.2	19 48	2				
FRESNO	149.43	252.3	19 49A	2				
BUTTE	150.78	273.7	19 56	7				
LICK	150.87	251.0	19 51A	2				

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RENO	151.31	256.4	19 53A	3
BERKELEY	151.60	251.1	19 51	1
HUNGRY HORSE	152.78	277.0	19 58	6
SHASTA	153.57	255.5	19 53	0
COLLEGE	167.53	341.8	19 50	-18

25 4

SEPTEMBER 8 19.H 19.M 39.S EPICENTRE 42.34 142.89 DEPTH= 70.KM

A=-0.59126 B= 0.44733 C= 0.67105 D= 0.6034 E= 0.7975  
G=-0.5351 H= 0.4049 K=-0.7414 HT= -2.6

DEPTH OF FOCUS= 0.006R

SE= 3.57

	DELTA DEG.	AZ. DEG.	M	P S	O-C S	M	S	O-C S	*PP M S	SUPP. M S
URAKAWA	0.21	203.2	0	10A	-2	0	17	-4		
HIROO	0.32	100.6	0	9	-4	0	15	-8		
OBIHIRO	0.62	21.5	0	14A	-2	0	23	-4		
TOMAKOMAI	1.01	287.1	0	21	2	0	36	2		
KUSIRO	1.28	59.7	0	20A	-3	0	36	-4		
SAPPORO	1.35	303.2	0	24K	0	0	43	2		
MURORAN	1.42	269.8	0	25A	1	0	43	0		
ASAHI GAWA	1.49	345.3	0	26	1	0	47	2		
HAKODATE	1.67	252.2	0	29K	1	0	50	1		
MORI	1.74	262.8	0	30	1	0	52	2		
ABASHIRI	1.96	30.7	0	32A	0	0	56	0		
SUTTSU	2.02	284.0	0	33	1	0	56	-1		
HATINOHE	2.08	209.9	0	33A	0	0	58	0		
AOMORI	2.19	226.9	0	35	0	1	0	-1		
NEMURO	2.21	62.5	0	33	-2	0	57	-5		
MIYAKO	2.78	194.8	0	42	-1	1	10	-6		
MORIOKA	2.94	206.8	0	45	0	1	19	-1		
WAKKANAI	3.20	344.6	0	52	3	1	38	12		
AKITA	3.36	219.8	1	10	19					
MIZUSAWA	3.47	203.2	0	53	0	1	33	0		
ISINOMAKI	4.09	197.6	1	1	0	1	46	-2		
SAKATA	4.15	215.1	1	14	12	1	50	0		
SENDAI	4.34	201.2	1	4	-1	1	53	-2		
YAMAGATA	4.52	206.3	1	7	0	1	55	-4		
Y.-SAKHLINSK	4.68	358.6	1	9	-1	2	2	-1		
HUKUSIMA	4.95	202.8				2	12	2		
NIIGATA	5.31	214.9	1	51	33					
AIKAWA	5.59	221.0	1	21	-1					
ONAHAMA	5.60	196.6	1	57	35					
SHIRAKAWA	5.60	202.4	1	22	0	2	21	-5		
UTUNOMIYA	6.24	203.0	1	29	-2	2	36	-6		
MITO	6.24	198.3	1	29	-2	2	37	-5		
TAKADA	6.34	215.9	1	30	-3					
KAKIOKA	6.45	199.9	1	33	-1	2	43	-4		
TUKUBASAN	6.48	200.4	1	30K	-5					
MAEBASI	6.63	207.8	1	36	-1	2	52	0		
NAGANO	6.72	214.2	1	48	10				3	20
KUMAGAYA	6.75	204.9	1	39	1	2	52	-3		
WAZIMA	6.76	224.9	1	47	9					
TYOSI	6.80	194.2	1	37	-2					
MATUSIRO	6.83	213.5	1	38K	-1	3	20	24		3 41
OIWAKE	6.88	210.7	1	46	6	3	7	9		
TITIBU	7.01	206.2	1	52	10					
TOKYO C.M.O.	7.09	201.2	1	42	-1	2	57	-6		
TOYAMA	7.14	219.8	1	41	-3					
MATUMOTO	7.18	213.7	1	52	8					
YOKOHAMA	7.35	201.2	1	45	-2	3	5	-4		
KOHU	7.46	208.2	1	52	4				3	35
HUNATU	7.55	206.5	1	55	6	3	13	-1		
MERA	7.79	198.9	1	52	-1				3	59
MISIMA	7.84	204.4	1	53	0	3	17	-4		
AJIRO	7.86	203.4	1	53	-1	3	15	-7		
IIDA	7.87	211.7	2	9	15				4	16
OSIMA	8.04	201.1				3	17	-9		
HUKUI	8.13	221.6	1	57	0					
SHIZUOKA	8.15	207.0	2	15	17					
GIHU	8.41	216.5	2	0	-1				4	6
NAGOYA	8.52	214.8	2	14	11	4	12	34		
OMAE SAKI	8.55	206.9	2	23	20				3	55
HIKONE	8.75	218.4	2	7	1					

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KAMEYAMA	9.01	216.0	2	14	5	4	13	23			
KYOTO	9.20	219.8	2	12	0	3	30	-25		4	21
ABUYAMA	9.40	219.9	2	13A	-2						
NARA	9.44	218.2	2	16	1						
OSAKA	9.60	219.3	2	35	18	4	34	29			
TOTTORI	9.62	227.7	2	12	-6						
KOBE	9.74	220.8	2	42	23	4	10	2			
YONAGO	10.14	230.2	2	19	-6					4	24
SUMOTO	10.15	220.7	2	33	8					4	42
SIOMISAKI	10.50	214.6	3	6	36	5	10	44			
TOKUSIMA	10.53	221.0	2	29	-1						
TAKAMATU	10.59	223.8	2	23	-8						
KOTI	11.46	223.1	3	5	22	5	13	23			
OITA	12.72	228.0	3	0	1						
CHANGCHUN	12.94	282.6	3	3	1					3	23 *SP
HUKUOKA	13.18	232.5	3	2	-3	6	0	29			
PETROPVLOVK	15.02	39.3	3	35	6	6	23	9			
MAGADAN	17.91	13.2	4	4	-1						
PEKING	20.22	272.4	4	29	-2	8	7	-2		4	51 *SP
ZO-SE	20.65	244.2	4	32	-4	8	22	5			
YAKUTSK	21.22	342.7	4	37	-4						
NANKING	21.71	249.7	4	47	1	8	42	5		5	8 *SP
ULAN-BATOR	25.83	294.9	5	26	0						
IRKUTSK	27.67	304.4	5	42	-1						
TIKSI	30.17	351.2								7	4 PP
LANCHOW	30.72	271.4	6	11	1						
CANTON	31.18	241.3	6	15	1	11	19	5		6	35 *SP
HONG KONG	31.20	239.2	6	12	-2	11	20	6			
CHENG TU	33.09	262.2	6	30	-1	11	41	-3			
KUNMING	37.15	255.4	7	6A	1	12	50	4		7	28 *SP
PHU-LIEN	37.23	246.2	7	5	-1	12	55	8	7	28	13 13 *SS
SEMPALATNSK	42.80	303.2	7	52	0	14	11	0			
LHASA	43.21	270.3	7	58	3	14	24	7			8 20 *SP
COLLEGE	44.05	35.1	8	1	-1					8	15
SHILLONG	44.82	264.9	8	8A	0						
RABAU	47.08	167.3	8	28	2						
SVERDLOVSK	52.01	316.3	9	4	0						
LAHORE	54.49	282.5	9	22	0						
WARSAK DAM	55.21	286.6	9	27	-1						
RESOLUTE	57.19	15.5	9	39	-3	17	29	-1		19	24 SCS
APATITY	58.35	334.8	9	33	-17						17 33
SODANKYLA	60.54	336.5	10	3	-2						
QUETTA	60.55	285.3	10	5	0				10	30	12 24 PP
HORSESHOE B.	61.61	47.8	10	13	1						
KIRUNA	61.98	338.7	10	13	-2	18	35	3			11 30
VICTORIA	62.00	48.7	10	15	0						
CHARTERS TS.	62.19	176.4	10	15	-1						
MOSCOW	63.71	322.5	10	24	-2						
PULKOVO	64.23	328.7	10	26	-3	18	57	-3			
BANFF	64.68	43.0	10	34	2						
NURMI JARVI	65.82	331.5	10	39	-1					11	9 PCP
HELSINKI	65.95	331.1	10	40	-1						
SHASTA	67.08	55.4	10	50K	2						
HUNGRY HORSE	67.17	44.8	10	50	2						
MINERAL	67.77	55.3	10	53	1						
TIFLIS	68.48	307.2	10	57	1						
UPPSALA	68.70	333.7	10	56A	-2				11	19	
RENO	69.35	55.1	10	57	-5						
FRESNO	71.08	57.3	11	23	11						
EUREKA	71.69	53.1	11	17	1					11	37
GOTEBORG	72.22	334.8	11	20	1						11 43
SIMFEROPOL	72.36	315.1	11	19	-1						
COPENHAGEN	73.70	333.3	11	27	-1	20	56	4			
LWOW	73.77	323.8	11	29	1						
PASADENA	73.78	58.6	11	45	17	21	14	22	12	4	
BOULDER CITY	74.66	55.3	11	34	1						
RAPID CITY	75.60	42.9	11	51	12						
RACIBORZ	76.03	326.9	11	51	10						
COLLMBERG	77.07	330.4	11	46	-1					12	8
CANBERRA	77.49	174.9	12	0	11						
PRUHONICE	77.55	328.8	11	50A	0	21	38	4		22	6 SP
JENA	77.89	330.9	11	51	0				12	13	14 54 PP
TUCSON TELE.	79.62	55.7	12	4	3				12	30	
STUTTGART	80.51	330.9	12	6	0	21	40	-25	12	28	
LJUBLJANA	80.73	326.4									17 6 PPP
JERUSALEM	80.79	304.7	12	9	2				12	32	
STRASBOURG	81.21	331.7	12	10	1	22	9	-3			
ROME	84.97	325.2				22	56	6			



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KARAPIRO	85.25	154.7	12 32	2					
BREBEUF	86.68	24.8	12 39	2			12 46		
MORGANTOWN	89.63	31.7	12 54	3					
PALISADES	90.61	27.0	13 18	22	23 42	-1			24 58 PS
ALGIERS UNI.	93.15	328.8							16 45 PP
TAMANRASSET	104.19	319.9	15 31	777					18 33 PP
ELISABTHVLE	116.51	278.6	18 39	3					
LA PAZ	143.03	55.3	19 29	3					

SEPTEMBER 8 20.H 18.M 37.S EPICENTRE -58.75 -24.95 DEPTH= 0.KM

A= 0.47272 B=-0.21997 C=-0.85331 D=-0.4219 E=-0.9066  
G=-0.7737 H= 0.3600 K=-0.5214 HT= -8.5

SE= 2.45

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
HALLEY BAY	16.86	181.4	3	58	-1							
ARGENTINE I.	19.29	233.8	4	28	-1							
PORT STANLEY	19.89	276.4	4	35	-1							
SOUTH POLE	31.43	180.0	6	25	0						7 19 PP	
BYRD STATION	33.59	198.3	6	44	0						9 23 PCP	
GRAHAMSTOWN	42.43	76.3	7	56	-2							
SCOTT BASE	43.46	183.6	11	7K	181						12 54	
KIMBERLEY	45.23	70.7	8	20	0							
CAPE HALLETT	48.81	186.1	8	50K	1						10 15 PCP	
LA PAZ	52.73	304.4	9	21	3							
BULAWAYO	54.34	68.5	9	30	0							
BROKEN HILL	59.16	65.0	10	5	0							
HUANCAYO	59.85	299.4	10	9	0							
ELISABTHVLE	61.14	62.4	10	18	0							
LEOPOLDVILLE	62.51	46.5	10	27A	0							
LWIRO	70.04	59.0	11	16	1							
BANGUI	71.82	46.3	11	26	0							
KARAPIRO	82.18	196.2	12	23	-1							
MELBOURNE	83.42	172.0	12	30A	0							
SAN JUAN	83.96	321.1	12	31	-2							
TAMANRASSET	85.05	28.0	12	40A	1						15 54 PP	
ADELAIDE	85.65	166.6	12	52	11							
CANBERRA	86.15	175.0	12	44	0							
TUCSON TELE.	114.94	291.4	18	43	0							
BOULDER CITY	119.88	290.7	18	53	1							
PASADENA	120.07	286.9	18	53	0							
UPPSALA	122.88	24.0	18	56	-2							
LICK	124.32	286.6	19	3K	2							
HELSINKI	124.83	27.8	19	1	-1							
BERKELEY	125.04	286.5	19	3K	1							
NURMI JARVI	125.06	27.4	19	2	0							
RENO	125.11	289.6	19	3K	1							
SHILLONG	125.37	98.7	19	3A	0							
MINERAL	126.61	289.0	19	6K	1							
SHASTA	127.27	288.7	19	6K	0							
HUNGRY HORSE	129.06	300.8	19	7	-3							
KIRUNA	130.58	20.8	19	12	-1							
SODANKYLA	131.41	23.8	19	13	-1							
ULAN-BATOR	149.93	89.7	19	52	5							
COLLEGE	153.18	307.3	19	47	-5							
MATUSIRO	155.20	146.2	20	20	25							

SEPTEMBER 9 5.H 44.M 31.S EPICENTRE 36.31 71.08 DEPTH= 101.KM

A= 0.26187 B= 0.76414 C= 0.58951 D= 0.9460 E=-0.3242  
G= 0.1911 H= 0.5577 K=-0.8078 HT= -0.3

DEPTH OF FOCUS= 0.011R

SE= 2.02

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
KHOROG	1.23	16.8	0	25	2	0	43	2				
KULYAB	1.92	326.6	0	32	0	0	55	-1				
WARSAK DAM	2.33	170.4	0	38K	0	1	4	-2				

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NUREK	2.51	326.8	0 40	0	1 8	-2	
OBI-GARM	2.63	335.7	0 43	1	1 14	1	
GARM	2.76	347.2	0 44	1	1 14	-2	
CHUIAN-GARON	2.79	327.5	0 44	0	1 16	-1	
DZERGAT	2.91	2.2	0 47	2	1 20	0	
MURGAB	3.06	46.9	0 50	2	1 26	2	
FERGANA	4.10	7.5	1 2	0	1 49	0	2 14
ANDI JAN	4.55	12.4	1 1	-7	1 58	-2	
SAMARKAND	4.67	317.2	1 10	1	2 1	-2	
NAMANGAN	4.69	5.4	1 9	-1	1 57	-6	
TASHKENT	5.20	344.8	1 14	-3	2 11	-5	2 33
LAHORE	5.46	149.4	1 19	-1			
TCHIMKENT	6.10	349.6	1 27	-2	2 34	-4	
NARYN	6.39	35.4	1 33	0	2 44	-1	
QUETTA	7.02	210.7	1 41	-1	2 58	-3	2 18 *SP
FRUNSE	7.06	21.7	1 42	0	3 1	-1	2 28
BAIRAM-ALI	7.29	282.9	1 47	2			
FABRICHNAYA	7.96	29.5	1 54	0	3 19	-5	
DEHRA DUN	8.34	133.7	1 59	-1	3 26	-7	
KURMENTY	8.69	37.5	2 3	-1			
ILI	8.89	29.4	2 5	-2			
ASHKABAD	10.30	283.0	2 24	-2	4 13	-7	
KARACHI	11.96	198.0			4 49	-11	
KIZYL-ARVAT	12.08	288.3	2 46	-4			
SEMIPALATNSK	15.57	22.3	3 37	2	6 34	10	
CHATRA	16.63	120.1	3 45	-3			6 44
POONA	17.88	171.4	3 4	-59			
LHASA	18.00	106.0	4 5	0	7 14	-5	
MAKHACH-KALA	19.31	297.4			7 42	-5	7 52
GORIS	19.78	286.8	4 27	3	8 3	7	
KIROVOBAD	19.84	290.1	4 25	0	7 59	1	
GROZNY	20.64	297.6	4 37	4	8 23	10	
SHILLONG	20.75	115.2	4 34A	0			
TIFLIS	21.09	292.9	4 39	1	8 30	9	5 35
EREVAN	21.20	288.6	4 41	2	8 31	8	
SVERDLOVSK	21.70	344.4	4 44	0			
PIATIGORSK	22.68	298.5	4 54	1			7 58
CHITTAGONG	22.74	122.0	4 55	1	8 47	-4	5 34
LANCHOW	26.37	80.7	5 30	2			9 56 *SS
CHENGTU	27.95	92.0	5 43	0			
YALTA	29.08	297.8	5 53	0			7 54
SIMFEROPOL	29.15	298.8	5 55	2			6 41
KUNMING	29.29	103.5	5 55	0			
MOSCOW	29.85	321.2	5 58	-2			6 22 *SP
PULKOVO	35.11	324.9	6 44	-1			7 8 *SP
LWOW	36.33	306.8	6 57	1			
HELSINKI	37.77	324.0	7 9	1	13 12	22	7 52
APATITY	37.82	337.5	7 9	1			
NURMI JARVI	38.02	324.4	7 10	0	13 7	13	
SODANKYLA	39.94	335.0	7 26	0			8 57 PP
UPPSALA	41.26	322.1	7 36	0			9 10 PP
KIRUNA	42.29	334.1	7 45	0			
PRUHONICE	42.46	307.1	7 49A	3			
LJUBLJANA	42.86	301.3	7 52K	2			8 17
COLLMBERG	43.37	309.1	7 54	0			9 37
COPENHAGEN	43.62	315.5	7 57	1			
GOTEBORG	43.94	318.4	7 57	-1			10 32
HALLE	44.01	309.4	7 56	-3			9 48
YAKUTSK	44.10	35.4	7 59	-1			
JENA	44.29	308.7	8 1	0		8 40	9 46 PP
SONNEBERG	44.57	307.9	8 4	1			
STRASBOURG	47.03	305.8	8 23	0			8 49
DOUBES	48.81	308.3	8 38	1			
PARIS	50.42	307.0	8 50	1			
KEW	51.61	310.9	8 58	0			
FOLINIERE	52.33	307.5	9 3	0			
MATUSIRO	52.96	68.4	9 7	-1			
RATHFARNHAM	54.72	314.2	9 11	-10			9 41
TAMANRASSET	57.63	275.8	9 40	-2			
BULAWAYO	69.02	222.8	10 56	0			
COLLEGE	74.66	16.1	11 29	-1			
CHARTERS TS.	90.40	114.7	12 50	-1			

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A=-0.90008 B= 0.42136 C=-0.11095 D= 0.4240 E= 0.9057  
G= 0.1005 H=-0.0470 K=-0.9938 HT= 6.9

SE= 2.27

	DELTA DEG.	AZ. DEG.	P			O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S	M	S
RABUL	3.51	308.7	1	4	7							
PORT MORESBY	8.24	248.4	2	6K	3	3	40	2				
CHARTERS TS.	15.98	210.9	3	50	3	6	54	8				
BRISBANE	20.96	185.3	4	49	2	8	40	4				
GUAM	22.18	332.9	5	0	1	9	3	4				
RIVERVIEW	27.50	186.8	5	50A	0	10	28	-2				
CANBERRA	29.28	189.9	6	6K	0					9	15 PCP	
ADELAIDE	32.10	205.5	6	31K	0	11	38	-5		9	19 PCP	
MELBOURNE	32.55	194.7	6	26A	-9				6	46	9	20 PCP
RAOUL ISLAND	34.25	134.8	6	49	0							
KARAPIRO	36.54	152.1	7	9A	0					9	1 PP	
TONGARIRO	37.57	153.3	7	16A	-2							
KAIMATA	38.81	160.4	7	32	4							
WELLINGTON	38.97	156.0	7	33	4							
MANILA	39.55	302.2	7	13	-21	13	11	-26				
GEBBIES PASS	40.28	160.0	7	39	-1							
BAGUIO CITY	40.85	304.1	7	46	1	13	53	-4				
MUNDARING	44.14	229.7	8	12	0					10	4	
PERTH	44.42	230.0				14	54	5		18	2 SS	
MATUSIRO	45.51	341.1	8	21A	-2	14	49	-16				
LEMBANG	46.97	266.7	8	25	-9							
HONG KONG	49.05	306.8	8	52	2							
ZO-SE	49.31	321.1	8	52A	0							
NANKING	51.47	320.2	9	10A	1	16	29	0		16	48 PS	
HONOLULU	53.69	57.8	9	25	0							
KIPAPA	53.81	57.7	9	27	1							
HAWAII V.OB.	55.35	61.2	9	38	0							
CHANGCHUN	56.72	334.7	9	47A	0							
MEDAN	57.01	278.4	9	49K	-1					10	35	
PEKING	58.39	325.6	9	57	-2							
PETROPAVLOVK	59.29	2.6	10	4	-2							
SIAN	59.35	316.2	10	5A	-1							
KUNMING	59.63	303.9	10	9A	1	18	16	-1		18	40 PS	
TERRE ADELIE	61.03	186.1	10	16	-1							
DUMONT	61.03	186.7	10	16	-1							
CHENGTU	61.07	310.2	10	17A	-1	18	33	-3		18	54 PS	
LANCHOW	63.84	315.4	10	36A	0	19	8	-3				
MAGADAN	65.83	357.7				19	40	4				
CAPE HALLETT	66.50	175.0	10	53	0					11	34	
WILKES	67.16	197.8				19	44	-8				
CHITTAGONG	68.02	297.1	11	2	-1							
ULAN-BATOR	68.59	327.5	11	6	0							
SHILLONG	68.95	300.4	11	8A	-1							
LHASA	70.95	304.2	11	23A	2	20	36	0		20	58 PS	
YAKUTSK	70.96	347.7	11	19	-2							
SCOTT BASE	71.67	177.4	11	25K	0							
CHATRA	73.35	300.3	11	36	1					21	4	
TIKSI	79.75	351.9								15	9 PP	
COLLEGE	82.58	21.2	12	25	-1							
BYRD STATION	82.95	169.9	12	27	-1					14	25	
POONA	83.60	289.4	12	31A	0							
SOUTH POLE	83.63	180.0	12	31	0					14	48	
SITKA	84.55	31.0	13	36	60							
UKIAH	87.73	50.4	12	52	0							
WARSAK DAM	88.07	304.3	12	52	-1							
BERKELEY	88.26	51.8	12	54A	0							
SHASTA	88.63	49.0	12	57A	1							
LICK	88.66	52.4	12	57A	1							
VICTORIA	89.26	41.1	12	59	0							
HORSESHOE B.	89.51	40.3	12	59A	-1							
FRESNO	90.03	53.2	13	3A	0							
RENO	90.40	50.4	13	5A	1							
PASADENA	91.01	55.9	13	8	1				13	21		
QUETTA	91.43	300.0	13	8	-1							
EUREKA	93.35	50.8	13	19A	1					30	2 PKKP	
BOULDER CITY	93.93	54.4	13	22	2							
BANFF	94.66	39.2	13	24K	0							
HUNGRY HORSE	95.44	42.1	13	26	-1					17	40 PP	
TUCSON	96.97	58.4	13	37	3							
RESOLUTE	101.43	14.7								27	24 PS	
LAWRENCE	109.41	51.0	18	32	0							
SODANKYLA	109.91	341.2	18	32	-1							

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NURMIJARVI	114.47	335.5	18 42	0	21 12 SKP 19 8
KIMBERLEY	120.62	231.3	18 55K	1	
MORGANTOWN	120.81	47.3	18 55K	1	
BULAWAYO	120.99	242.0	18 56	2	
OTTAWA	121.52	39.7	18 55	0	
COLUMBIA	121.61	53.9	18 56	0	
BREBEUF	122.80	38.8	18 57A	-1	
SEVEN FALLS	123.69	36.0	18 58A	-2	
PALISADES	124.59	43.8			20 44 PP 19 30 19 31
ELISABTHVILLE	124.73	251.2	19 4	2	
COLLMBERG	125.27	331.7	19 2	-1	
PRUHONICE	125.37	329.7	19 3A	0	
VIENNA-H.	125.48	327.1	19 3	0	
LWIRO	125.52	262.7	19 4	1	19 36 19 22
HUANCAYO	126.78	110.1	19 8	2	
MUNSTER	127.19	335.2	19 10	4	
LJUBLJANA	127.80	325.8	19 8A	0	
DURHAM	128.21	342.9	19 8A	0	
STUTTGART	128.75	331.4	19 9	0	22 48 PKS
HALIFAX	129.27	35.1	19 10A	0	
STRASBOURG	129.60	332.1	19 11	0	
LA PAZ	131.72	118.7	19 16	1	
FOLINIERE	132.92	337.9	19 16	-1	
BANGUI	136.45	269.6	19 19	-5	22 59 23 3 PKS
SAN JUAN	138.30	69.6	19 27	0	
LEOPOLDVILLE	138.33	256.1	19 30	3	
SETIF	139.29	321.0	19 29	0	
ST. KITTS	141.67	70.2	19 28	-5	
ANTIGUA	142.55	70.2	19 31	-4	23 6 PP
DOMINICA	143.31	73.0	19 31	-5	
GRENADA	143.42	78.5	19 31	-5	
ST. VINCENT	143.75	76.5	19 33	-4	
TRINIDAD	143.86	80.8	19 35	-2	
BARBADOS	145.37	76.2	19 43	3	23 6 PP
TAMARRASSET	146.32	302.1	19 42A	1	

SEPTEMBER 10 13.H 59.M 12.S EPICENTRE 39.21 41.57 DEPTH= 0.KM

A= 0.58120 B= 0.51552 C= 0.62964 D= 0.6636 E=-0.7481  
G= 0.4710 H= 0.4178 K=-0.7769 HT= -1.4

SE= 3.53

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S		
LENINAKAN	2.35	47.5	0 43	3	1 20	10				2 32		
EREVAN	2.46	65.9	0 44	2	1 22	9				2 31		
BOGDANOVKA	2.57	36.4	0 44	0	1 24	8				1 46		
AKHALKALAKI	2.63	33.1	0 46	2	1 27	10				0 54		
ABASTUMANJ	2.71	20.3	0 46	0	1 29	9				1 17		
STEPANAVAN	2.80	49.4	0 48	1	1 32	10						
BAKURIANA	2.92	30.0	0 51	2	1 37	12						
BORZHOMI	2.95	27.2	0 50	1	1 35	9				0 59		
GEGECHKORI	3.19	10.8	0 53	1	1 41	9						
ZUGDIDI	3.31	3.9	0 53	-1	1 41	6						
GORI	3.38	34.2	0 54	-1	1 44	8						
TIFLIS	3.51	43.5	0 58	1						2 13	SG	
GORIS	3.70	84.1	0 59	-1	1 50	5						
DUZHETI	3.72	38.7	1 1	1	1 53	8				1 19		
KIROVOBAD	3.93	67.1	1 4	1	1 59	9						
SOTCHI	4.58	342.9	1 11	-1	2 7	0				2 35		
PIATIGORSK	4.94	12.6	1 15	-2	2 21	5						
GROZNY	5.17	36.1	1 22	1						2 36		
BAKU	6.52	77.1			2 33	-23				2 11		
YALTA	7.64	316.1			3 19	-5				1 54		
KIZYL-ARVAT	11.41	85.4	2 57	10						6 29		
IASI	12.95	312.6	3 16	8								
ASHKABAD	13.19	90.2	3 12	1						6 14		
ATHENS	14.02	270.5	3 33K	11								
SOFIA	14.22	290.0	3 31	6								
BAIRAM-ALI	16.19	89.2								4 0		
LWOW	16.36	316.1	3 55	2								
MOSCOW	16.73	352.2	3 54	-3								
RACIBORZ	19.78	311.0	4 32	-3								
VIENNA-H.	20.25	304.7	4 41	1								
MESSINA	20.32	275.4	4 38A	-2	8 26	2				4 50		

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LJUBLJANA	20.98	297.8	4 45K	-2				
STALINABAD	21.16	83.1	4 50	1			8 56	
TASHKENT	21.22	75.4	4 50	0			9 59	
TCHIMKENT	21.42	72.7	4 51	-1			8 59	
TRIESTE	21.45	296.5	4 54	2	9 2	16		
SVERDLOVSK	21.62	29.1	4 51	-3				
PULKOVO	21.78	344.6	4 51	-4	8 55	3		
PRUHONICE	21.93	308.2	4 55	-2			6 11	
PRAGUE	22.03	308.4	4 57	-1				
KULYAB	22.04	84.5	4 59	1			9 4	
TOLMEZZO	22.06	298.3	5 2	4				
QUETTA	22.67	105.7	5 8	4	9 26	18		
NAMANGAN	23.04	75.9	5 9	1	9 21	6	9 59	
COLLMBERG	23.30	310.6	5 9	-1			7 12	
HELSINKI	23.43	338.9	5 11	-1				
KHOROG	23.51	84.7	5 15	3				
ANDI JAN	23.59	76.4			9 45	20	10 15	
NURMI JARVI	23.80	339.1	5 15	0				
HALLE	23.99	310.5	5 16	-1				
JENA	24.03	309.0	5 15	-2			6 1 PP	
SONNEBERG	24.10	307.6	5 16	-2				
WARSAK DAM	24.56	92.9	5 23	0				
FRUNSE	25.10	71.0	5 39	11	10 6	15		
COPENHAGEN	25.40	320.0			10 12	16		
UPPSALA	25.58	331.7	5 30	-2				
GOTEBORG	26.63	323.7	5 53	11				
SETIF	28.66	275.5	6 2	2				
APATITY	28.75	353.5	6 2	1				
SODANKYLA	29.42	348.3	6 4	-3				
KIRUNA	30.96	344.6	6 19K	-2				
TAMANRASSET	34.71	252.6	6 52K	-2			7 28 PP	
SHILLONG	44.07	92.5	8 8	-3				
ELISABTHVILLE	52.28	197.6	9 13	-2				
TIKSI	52.50	23.5	9 14	-3				
COLLEGE	75.99	4.1	11 49	-2				
HUNGRY HORSE	90.17	344.0	13 2	-2				
EUREKA	99.03	342.6	13 44	0				
KARAPIRO	144.28	102.9	19 36	-2				

SEPTEMBER 10 22.H 56.M 35.S EPICENTRE 47.04 151.66 DEPTH= 0.KM

A=-0.60192 B= 0.32467 C= 0.72957 D= 0.4747 E= 0.8801  
G=-0.6421 H= 0.3464 K=-0.6839 HT= -4.3

SE= 2.57

	DELTA DEG.	AZ. DEG.	P		O-C S	S O-C			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
PETROPAVLOVK	7.48	34.4	2	11	18							
MAGADAN	12.54	358.0	3	11	9	5	28	4				
TUKUBASAN	13.83	222.7	3	21A	2	5	43	-12				
MATUSIRO	14.50	228.4	3	31	3	6	10	-1				
ABUYAMA	17.15	230.6	4	6A	4							
CHANGCHUN	18.74	269.8	4	22	0							
YAKUTSK	19.52	328.2	4	35	4	8	5	-1				
PEKING	26.50	267.7	5	42	1							
ULAN-BATOR	29.94	288.4	6	12	0							
COLLEGE	36.54	38.6	7	12	3							
CHENG TU	39.90	263.1	7	37K	0							
KUNMING	44.32	257.9	8	13K	0							
LHASA	49.38	271.9	8	54K	1							
RESOLUTE	50.88	18.3	9	4	-1	16	12	-9			19 25 SS	
RABAU	51.02	179.3	9	5	-1							
SHILLONG	51.39	267.2	9	7K	-1							
CHITTAGONG	53.56	264.2	9	26	1	17	2	5			10 31 PP	
CHATRA	53.79	271.9	9	26	0							
CORVALLIS	56.46	58.7	9	48K	2							
SODANKYLA	58.61	338.2	10	0	-1						11 0 PCP	
SHASTA	59.30	61.9	10	7K	1							
HUNGRY HORSE	59.39	50.6	10	7	1							
KIRUNA	59.74	340.7	10	8	-1							
WARSAK DAM	59.76	288.7	10	6	-3							
MINERAL	59.99	61.8	10	12	2							
BERKELEY	61.12	64.4	10	18	0							
RENO	61.57	61.5	10	22A	1							
LICK	61.84	64.5	10	24A	1							
FRESNO	63.33	63.9	10	34	1							

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EUREKA	63.89	59.4	10 37	0	
NURMI JARVI	64.51	334.0	10 39	-2	11 13 PCP
HELSINKI	64.69	333.7	10 44	2	11 14 PCP
QUETTA	65.19	288.2	10 43K	-2	
PASADENA	66.05	65.2	10 50	-1	
CHARTERS TS.	66.99	185.5	10 55	-2	
UPPSALA	67.05	336.8	10 54	-3	11 22 PCP
RAPID CITY	67.85	48.7	11 2	0	
GOTEBORG	70.40	338.4	11 5	-13	
TUCSON	71.84	62.1	11 27	1	
TUCSON TELE.	71.84	62.0	11 27	1	
COLLMBERG	75.79	334.7	11 47	-2	
PRUHONICE	76.49	333.1	11 52A	-1	
JENA	76.53	335.3	11 51	-3	
RATHFARNHAM	78.28	346.7	12 2A	-1	
FAYETTEVILLE	78.39	49.0	12 5A	1	
KEW	78.95	342.6	12 6	-1	
STUTTGART	79.12	335.7	11 27	-41	
DOURBES	79.13	339.1	12 10	2	
BREBEUF	79.62	30.5	12 OK	-11	
STRASBOURG	79.71	336.6	12 9A	-2	
PARIS	80.84	339.9	12 18	1	
FOLINIERE	81.54	341.8	12 20	-1	
ADELAIDE	82.46	190.7	12 20	-5	
ATHENS	83.42	321.1	12 27K	-3	
PALISADES	83.42	33.0			22 21
MONACO	84.24	334.8	12 33	-2	
KARAPIRO	87.25	161.3	12 49	0	
SETIF	91.78	333.3	13 10	-1	
TAMANRASSET	104.08	328.0	14 5A	-1	18 22 PP
ELISABTHVLE	121.52	288.1	18 56	0	
LEOPOLDVILLE	123.31	304.6	18 59	0	
SOUTH POLE	136.85	180.0			22 41 PP

SEPTEMBER 11 12.H 31.M 4.5 EPICENTRE 43.33 -29.29 DEPTH= 0.KM

A= 0.63645 B=-0.35704 C= 0.68370 D=-0.4893 E=-0.8721  
G= 0.5963 H=-0.3345 K=-0.7298 HT= -2.9

SE= 2.81

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
PONTA DELGDA	6.23	152.6	1	39A	3	1	46	-63				
SERRA PILAR	15.48	91.1	3	44A	2				3	52		
LISBON	15.87	100.0	3	43A	-4	6	59	15	3	52		
RATHFARNHAM	18.19	48.7	4	15	-1						9	45
TOLEDO	19.17	91.7	4	26	-2	8	6	7			4	46
JERSEY	19.63	63.2	4	28	-5	9	43	94				
GRANADA	20.50	98.7	4	46	3	8	40	12				
FOLINIERE	20.66	64.7	4	44	0							
KEW	21.13	57.2	4	49	0	8	37	-3				
ABERDEEN	22.04	41.6				9	3	6			10	43
TORTOSA	22.20	86.2									9	14
ALICANTE	22.30	93.0	5	19	18						8	5
PARIS	22.62	64.9	5	6	2	9	9	1				
CLERMONT-FD.	23.14	72.7	5	15	6	9	23	6				
UCCLE	23.94	60.0	5	17	0	9	33	2				
DOURBES	24.05	61.8	5	19	1	9	33	0				
RELIZANE	24.14	98.1	5	15	-4							
DE BILT	24.60	57.0	5	24	1	9	49	6				
ALGIERS UNI.	25.50	93.8	5	35	3	10	1	3				
STRASBOURG	26.12	65.4	5	37	-1	10	11	3				
MONACO	26.49	76.3	5	43	2							
STUTTGART	27.11	64.9	5	44	-3	10	24	0				
BERMUDA	29.80	260.4	5	56	-15							
PRUHONICE	30.47	61.9	6	18	1	11	18	0				
TRIESTE	30.53	70.5	6	14	-4						12	23
ROME	30.55	78.1				11	11	-8				
PALISADES	32.86	281.6				12	4	9				
MESSINA	34.03	83.1				12	10	-3				
TAMANRASSET	35.30	114.2	7	0	1	12	40	7			8	22 PP
RESOLUTE	42.33	338.9									9	36
HUNGRY HORSE	56.36	307.1	9	46	0							
COLLEGE	62.00	334.9	10	23	-2							
EUREKA	62.25	299.2	10	29	3							



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TUCSON TELE.	62.87	289.9	10 36	6
TUCSON	63.00	289.8	10 35	4
MINERAL	65.26	302.8	10 48	2
LICK	67.10	300.2	11 1A	3

SEPTEMBER 12 1.H 41.M 4.S EPICENTRE -20.45 -68.76 DEPTH= 114.KM

A= 0.33966 B=-0.87407 C=-0.34731 D=-0.9321 E=-0.3622  
G=-0.1258 H= 0.3237 K=-0.9378 HT= 4.6

DEPTH OF FOCUS= 0.013R

SE= 2.14

	DELTA DEG.	AZ. DEG.	M	S	O-C S	M	S	O-C S	*PP M S	SUPP. M S
ANTOFAGASTA	3.58	205.1	0	52	-3	1	37	0		
LA PAZ	3.97	8.8	1	2	2	1	36	-10		1 15 PG
HUANCAYO	10.46	322.0	2	29	1	4	27	4		
BOGOTA	25.45	347.6	5	20	1	9	37	2		5 51 PP
CHINCHINA	26.14	344.3	5	25	0	9	47	1		5 48 PP
FUQUENE	26.21	348.8	5	43	17	9	54	7		
CARACAS	30.81	3.5	6	7	0	11	2	1		
PORT STANLEY	32.33	167.3	6	22	2					
ST. VINCENT	34.21	13.1	6	36	0					
SAN JUAN	38.67	4.0	7	11	-3				7 37	
BERMUDA	52.67	4.3				16	28	7		9 32 PCP
COLUMBIA	55.39	347.6	9	23	-1				9 48	
CHAPEL HILL	56.90	350.0	9	35	0					10 0
HALLEY BAY	59.27	168.7	9	50	-2					
MORGANTOWN	60.67	350.1	10	2A	1					10 27
FAYETTEVILLE	61.16	336.6	10	2	-2				10 28	
PALISADES	61.33	355.6				18	15	0		25 13 SSS
BYRD STATION	63.55	188.7	10	22	2					11 1 PCP
LAWRENCE	64.10	337.3	10	24	0					
BREBEUF	65.78	356.3	10	34A	-1					
OTTAWA	65.84	354.6	10	34	-1					
TUCSON	66.08	321.6	10	38	1				11 3	
TUCSON TELE.	66.08	321.7	10	36	-1				11 3	
SEVEN FALLS	67.28	358.5	10	44	0					
SOUTH POLE	69.68	180.0	11	36	37					14 12 PP
BOULDER CITY	71.06	321.9	11	7	0				11 33	
RAPID CITY	71.54	334.6	11	8	-2					
PASADENA	71.82	318.5	11	12	0					11 51
EUREKA	74.15	323.8	11	26	1				11 53	
FRESNO	74.54	319.6	11	54	26					
LICK	76.04	319.1	11	37K	1				12 5	
RENO	76.37	321.8	11	39A	1					
BERKELEY	76.75	319.2	11	40	0				12 6	
SCOTT BASE	76.88	190.3	11	42	1				12 23	
BUTTE	77.15	330.3	11	42	0				12 10	
MINERAL	77.94	321.5	11	52	5				12 27	
UKIAH	78.13	319.7	12	16	28					
SHASTA	78.62	321.4	11	50K	0				12 17	
CAPE HALLETT	79.46	195.5	10	58A	-57					11 26 PCP
HUNGRY HORSE	79.54	331.2	11	55	0				12 23	
CORVALLIS	81.61	324.0	12	35K	29					
SERRA PILAR	82.83	41.3	12	3A	-10					12 44
LEOPOLDVILLE	82.89	92.0	12	15	2				12 43	
KIMBERLEY	83.38	118.1	12	15A	0					
VICTORIA	84.19	327.0	12	18K	-1					26 6
TAMANRASSET	84.22	63.2	12	20A	0	22	40	6	12 49	13 13 *SP
TOLEDO	85.04	44.3	12	25	1	22	46	4	12 54	
DUMONT	90.50	191.1	12	50	0					
ELISABTHVLE	91.72	103.0	12	58	2					
RESOLUTE	96.37	353.2				24	26	45		25 16 SS
STUTTGART	97.58	40.8	13	50	28					
QUETTA	139.03	67.2	19	13	0				19 46	
AGRA	148.95	71.2	19	38	8					24 36
MATUSIRO	151.52	310.0	19	36A	2					20 12 PKP2
SHILLONG	161.46	70.4	19	50A	4					
CHITTAGONG	161.82	80.5	20	23	36					

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SEPTEMBER 12 1.H 53.M 50.S EPICENTRE -3.58 146.04 DEPTH= 0.KM

A=-0.82781 B= 0.55758 C=-0.06200 D= 0.5587 E= 0.8294  
G= 0.0514 H=-0.0346 K=-0.9981 HT= 7.1

SE= 4.19

	DELTA DEG.	AZ. DEG.	P S O-C			M S O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S	M	S
PORT MORESBY	5.87	169.2	1	30	0							
RABAU	6.15	96.0	1	28	-6							
CHARTERS TS.	16.41	179.3	3	55	2						4	14 PP
BRISBANE	24.54	165.4	5	24K	2	9	45	4				
RIVERVIEW	30.47	171.6	6	9A	-8	11	22	4				
MANILA	30.67	306.8	6	15	-3	11	9	-12				
CANBERRA	31.70	175.4	6	31K	3	11	44	7			7	48 PP
ADELAIDE	31.96	191.4	6	33	3	11	54	13			7	36 PP
BAGUIO CITY	32.06	309.0	6	28	-3	11	34	-9				
MELBOURNE	34.10	181.5	6	52	4							
SUVA	34.86	117.0	6	51	-4				8	0		
TAWU	35.61	317.5	7	17	16							
HWALIEN	36.26	320.3	6	56	-11							
YAKUSIMA	36.95	337.4	7	13	0	12	59	1				
KAGOSIMA	37.94	338.2	7	18	-3						14	52
MIYAZAKI	37.94	339.6	7	30	9							
SIOMISAKI	38.09	346.0	7	30	8	12	46	-30				
SIMIDU	38.22	342.1	7	56	33							
LEMBANG	38.39	263.6	6	56	-29						17	46
OMAESAKI	38.68	349.7	7	23	-4	13	20	-5				
MERA	38.74	351.8	7	23	-5							
KOTI	38.77	343.2	7	39	11	13	19	-7			9	12 PP
HISIMA	39.07	350.8	7	24	-6	13	27	-3				
OOITA	39.07	340.7	7	30	0						16	19
DJAKARTA	39.14	264.6	7	34	3						14	52
SUMOTO	39.15	345.3	7	46	15						10	55
YOKOHAMA	39.26	351.7	7	47	15						8	9
KAMEYAMA	39.27	347.5	7	32	0	13	34	0			8	54 PP
OSAKA	39.29	346.3	7	34	2						11	54
TAKAMATU	39.35	344.3	7	25	-8	13	28	-7				
KOBE	39.40	345.8	7	36	3						10	34
NAGOYA	39.47	348.3	7	37	3							
ABUYAMA	39.49	346.4	7	16A	-18							
TOKYO C.M.O.	39.49	351.9	7	37	3	13	42	5			9	14 PP
SAGA	39.54	339.1	7	44	10							
KYOTO	39.60	346.7	7	34	-1	13	31	-7				
HIKONE	39.72	347.4	7	39	3						9	15
GIHU	39.74	348.1	7	41	5	13	33	-8				
MUNDARING	39.77	221.4	7	38	2							
UKUOKA	39.81	339.4	7	39	2	13	44	2				
HIROSIMA	39.86	342.3	7	35	-2							
TITIBU	39.89	351.2	7	39	2							
TUKUBASAN	39.98	352.5	7	30	-8	13	49	5			9	11 PP
KUMAGAYA	40.01	351.6	7	46	8							
PERTH	40.01	221.7	7	43	5	13	47	2			9	11 PP
MAEBASI	40.30	351.3	7	47	6						8	15
OIWAKE	40.31	350.6	7	45	4	13	43	-6				
UTUNOMIYA	40.33	352.3	7	56	15	13	44	-6				
HONG KONG	40.39	311.0	7	41	0	13	50	0			9	16 PP
MATUSIRO	40.57	350.3	7	39	-4	13	46	-7			16	56 SS
NAGANO	40.70	350.3	7	40	-4	13	55	0				
TOYAMA	40.91	349.1	7	42	-4	13	59	1				
CANTON	41.47	311.3	7	49	-1	14	14	8			8	9
NIIGATA	41.79	351.7	7	57	4							
SENDAI	41.91	353.9	7	54	0	14	10	-3			12	56
MIZUSAWA	42.74	354.4	8	3	2	14	22	-3				
APIA	42.84	106.4	7	58	-3	14	0	-27			17	34 SS
MORIOKA	43.30	354.5	8	1	-4	14	40	7				
AKITA	43.43	353.3	8	6	0	14	32	-3			9	38
KARAPIRO	43.54	145.6	8	6	-1							
NANKING	43.90	325.9	8	9	-1	14	47	5				
TONGARIRO	44.43	146.9	8	10	-4							
AOMORI	44.45	354.3	8	14	0							
WELLINGTON	45.54	149.5	8	32	9	15	8	2			10	20 PP
PHU-LIEN	45.60	303.8	8	22	-2	15	2	-5			8	42
MORI	45.73	354.3	8	27	2							
TOMAKOMAI	46.17	355.4	8	40	12							
KUSIRO	46.37	358.3	8	33	3						16	17
GEBBIES PASS	46.38	153.3	8	29	-1							
ROXBURGH	46.44	157.4				15	18	-1			19	0 SS

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SUTTSU	46.46	354.1	8 36	5				
SAPPORO	46.63	355.3	8 32	0	15 17	-4		10 23 PP
MEDAN	47.86	278.0	8 42	0				
VLADIVOSTOK	48.21	346.1	8 43	-1	15 48	4		15 57 PS
Y.-SAKHLINSK	50.47	357.1	9 1	-1	16 17	2		16 36 PS
CHANGCHUN	50.74	340.7	9 3	-1	16 23	4		
KUNMING	50.78	306.6	9 3	-1				
PEKING	51.33	330.7	9 4	-4	16 32	5		
SIAN	51.35	320.2	9 6	-2				
UGLEGORSK	52.56	356.7	8 57	-20				
CHENG TU	52.60	313.4	9 16	-2	16 54	10		
PAOTOW	54.92	326.8	9 31	-4	17 17	1		
PORT BLAIR	55.14	286.8	10 1	25				
LANCHOW	55.75	318.8	9 37	-4				
PETROPAVLOVK	57.38	9.0	9 53	0	17 50	1		10 48 PCP
CHITTAGONG	58.88	298.7	10 30	27				
SHILLONG	59.93	302.2	10 10K	0	18 29	7		
HONOLULU	60.01	63.0	10 15	4	18 18	-5		22 26 SS
ULAN-BATOR	61.65	331.2	10 20	-2				
LHASA	62.10	306.2	10 25	0	18 56	7		
MAGADAN	63.05	2.7	10 34	3	19 4	3		
DUMONT	63.12	182.7	10 29	-3	19 6	4		19 25 PS
TERRE ADELIE	63.21	182.1	10 29	-3	19 6	3		
BOKARO	64.61	298.4	10 46	4	19 27	6		
IRKUTSK	65.86	333.4	10 48	-2				19 42 PS
YAKUTSK	66.60	351.7	10 54	0	19 42	-3		
WILKES	67.38	194.7	10 58	-1	19 54	-1		13 33 PP
MADRAS	67.42	285.6	11 2	3				
CAPE HALLETT	70.28	172.4	11 19	2	20 26	-3	11 32	12 2 PCP
MIRNY	72.72	199.6	11 32	0				21 20 PS
DEHRA DUN	73.00	303.0	11 37	4	21 4	4		16 9 PPP
POONA	74.33	290.3	11 37	-4				
SCOTT BASE	75.03	175.6	11 46	1				14 35 PP
BOMBAY	75.35	290.5	12 11	24				22 11
TIKSI	75.90	354.5	11 43	-7	21 28	-5		14 43 PP
LAHORE	76.40	303.5	11 53	0				
SEMI PALATNSK	77.62	323.3	12 1	1	21 53	2		15 9 PP
FRUNSE	78.93	314.7	12 8	1				
WARSAK DAM	79.21	305.4	12 6	-2				
STALINABAD	82.30	309.5	12 26	1	22 46	6		
QUETTA	82.38	300.9	12 22	-3	22 37	-4		15 30 PP
TASHKENT	82.45	312.3	12 23	-3				
COLLEGE	83.32	23.2	12 21	-9	22 50	-1		30 56 PKKP
SOUTH POLE	86.45	180.0	12 45	-1				16 20 PP
SITKA	86.82	32.5	12 54	6				
BYRD STATION	87.27	170.0	12 50	0				16 44 PP
ASHKABAD	90.35	307.8	13 3	-1	23 14	-44		16 34 PP
SVERDLOVSK	90.45	326.8	13 4	-1				
UKIAH	92.81	51.1	13 20	4				
VICTORIA	93.02	41.7	13 21K	4	25 46	85		17 5 PP
HORSESHOE B.	93.14	40.9	13 13K	-4				
KHEYS	93.18	350.5			23 34	-49		17 9 PP
SHASTA	93.50	49.6	13 19	0				14 9
BERKELEY	93.52	52.4	13 23	4	24 28	2		25 47 PS
LICK	94.00	53.0	13 21	0				17 27 PP
MINERAL	94.10	50.0	13 26	4				
FRESNO	95.46	53.6	13 28	0				
RENO	95.46	50.8	13 33	5				
PASADENA	96.79	56.2	13 32	-2	24 16	5		17 7 PP
BANFF	98.06	39.0	13 32	-8				
EUREKA	98.43	50.8	13 40	-1				17 1 PKP
HUNGRY HORSE	99.27	41.7	13 44	-1				17 45 PP
GORIS	99.76	309.3	13 55	8				
BUTTE	100.48	44.0	13 54	3				
TIFLIS	100.76	311.6			24 32	1		
RESOLUTE	100.88	13.7			25 22	51		24 22 SKS
APATITY	101.81	338.8						20 29 PP
TUCSON	103.01	57.9	18 17	777				
TUCSON TELE.	103.09	57.8	18 21	777				
MOSCOW	103.26	326.5						18 14 PP
PULKOVO	105.82	331.7						18 34 PP
KIRUNA	106.14	341.3						27 43 PS
SIMFEROPOL	107.95	316.2			25 27	23		19 11 PP
KSARA	108.70	304.4	14 23	777	25 7	0		19 1 PP
LWOW	112.95	323.4						19 43 PP
BUCHAREST	113.59	317.3						28 8
COPENHAGEN	116.16	332.8						20 46 PP
LWIRO	117.00	265.7						20 17
ELISABTHVLE	117.07	255.1	18 48	1				36 20 SS

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BRATISLAVA	117.77	324.0	18	58	10						
POTSDAM	117.77	329.5								20	30 PP
PRUMONICE	118.31	326.7								20	2 PP
COLLMBERG	118.42	328.6	18	54	4					20	17
JENA	119.37	328.8	19	2	10	25	48	0		20	34 PP
ZAGREB	119.57	322.0								20	26 PP
LJUBLJANA	120.35	322.8	18	50	-3					20	10
MUNSTER	120.70	331.5								20	37 PP
TRIESTE	121.01	322.7								20	26 PP
DE BILT	121.76	332.7								21	10 PP
STUTTART	121.84	327.8	18	55	-1					20	37 PP
STRASBOURG	122.75	328.3	19	4	6					20	40 PP
UCCLE	123.02	332.0								20	39 PP
MESSINA	123.28	314.2	20	4	65					21	14
DOURBES	123.37	331.3	19	6	7					20	45 PP
BASLE	123.49	327.4								20	43 PP
PRATO	123.55	322.1								20	55 PP
ROME	123.69	319.4								27	33 SKKS
KEW	124.62	335.1								21	0
OTTAWA	124.65	34.8	19	11	9						
PARIS	125.26	331.2								21	7 PP
MONACO	125.84	323.8	19	10	6						
COLUMBIA	126.82	49.4	19	7	1						
CLERMONT-FD.	126.99	328.1	20	43	97					21	17
PALISADES	128.29	38.2								21	19 PP
LEOPOLDVILLE	130.20	261.3	19	20	8					39	1 SS
ALGIERS UNI.	132.60	319.0	19	20	3					21	56 PP
TOLEDO	134.86	327.2								21	59 PP
HUANCAYO	136.05	111.3	19	28	5					40	36 SS
GRANADA	136.48	324.1				27	1	28		22	40 PP
TAMANRASSET	137.29	300.1	19	26	0	27	22	47		22	21 PP
CHINCHINA	138.44	86.6	19	29	1	26	35	-2		25	26 PPP
BERMUDA	139.38	41.6								22	20 PP
BOGOTA	139.99	87.1								23	1 SKP
FUQUENE	140.32	85.8	19	44	13					22	28 PP
LA PAZ	140.78	121.6	19	43	11						
SAN JUAN	145.27	62.5	19	39	-1					20	49
CARACAS	146.59	76.4	19	57	15	27	40	51			
ANTIGUA	149.51	61.8	19	52	5						
ST. VINCENT	151.39	68.9	19	52	2						
TRINIDAD	151.90	74.1	19	57	7						
MBOUR	160.10	303.7	20	31	30					24	53 PP

SEPTEMBER 12 7.H 1.M 47.S EPICENTRE -3.35 146.49 DEPTH= 0.KM

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SE= 2.67

	DELTA DEG.	AZ. DEG.	P			O-C			*PP			SUPP.	
			M	S	S	M	S	S	M	S	M	S	
RABAU	5.73	98.7	1	23	-5	2	44	9					
PORT MORESBY	6.05	173.8	1	31	-1								
CHARTERS TS.	16.64	180.8	3	58	2	7	14	13					
BRISBANE	24.65	166.5	5	24	1	9	45	3					
RIVERVIEW	30.64	172.4	6	19A	1	11	18	-2					
MANILA	30.90	306.0	6	20	0								
BAGUIO CITY	32.28	308.2	6	31	-1	12	1	16					
ADELAIDE	32.28	192.0	6	33	1								
DJAKARTA	39.62	264.4								9	33 PPP		
MUNDARING	40.25	221.6	7	39	-1								
MATUSIRO	40.43	349.7	7	38	-3	13	44	-6		13	53		
PERTH	40.49	221.9				14	2	11					
HONG KONG	40.59	310.4	7	25	-17	13	51	-2					
CANTON	41.67	310.8	7	53	2	14	17	8					
ZO-SE	41.90	326.7	7	54	1	14	15	3					
KARAPIRO	43.48	146.1	8	4	-2								
NANKING	43.96	325.3	8	11	1	14	46	4					
PHU-LIEN	45.86	303.3	8	26	1								
Y.-SAKHLINSK	50.26	356.6	9	3	3								
CHANGCHUN	50.68	340.2	9	1	-2	16	18	0					
KUNMING	51.01	306.2	9	5	0	16	28	6					
PEKING	51.35	330.2	9	7	-1	16	29	2					
UGLEGORSK	52.36	356.3	9	23	8								
CHENG TU	52.77	313.0	9	16	-3								

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PAOTOW	54.98	326.4	9 35	0				
LANCHOW	55.88	318.4	9 38	-3	17 25	-3		
PETROPAYLOVK	57.09	8.7	10 28	38	17 55	11		
CHITTAGONG	59.17	298.4	10 22	17				
SHILLONG	60.19	301.9	10 10K	-2				
ULAN-BATOR	61.67	330.9	10 21	-1				
LHASA	62.34	305.9	10 27	1	18 31	-21		
DUMONT	63.37	182.9	10 32	-1				
TERRE ADELIE	63.45	182.3	10 32	-1				
IRKUTSK	65.86	333.1	10 53	4				
WILKES	67.72	194.8	11 1	0	19 56	-2	24 22	SS
CAPE HALLETT	70.45	172.5	11 19	1				
SCOTT BASE	75.22	175.7	11 47	1			12 0	PCP
TIKSI	75.72	354.3	11 46	-3				
WARSAK DAM	79.45	305.3	12 7	-2				
QUETTA	82.65	300.8	12 24	-2			22 57	SCS
COLLEGE	82.93	23.1	12 23	-5				
SOUTH POLE	86.67	180.0	12 47	1			16 7	PP
BYRD STATION	87.42	170.0	12 49	-1				
VICTORIA	92.54	41.7	13 11	-3				
SHASTA	93.01	49.6	13 16	0				
BERKELEY	93.02	52.4					30 1	SS
LICK	93.49	52.9	13 21	3				
MINERAL	93.60	49.9	13 19	0				
FRESNO	94.96	53.5	13 33	8				
RENO	94.96	50.8	13 30	5				
HUNGRY HORSE	98.79	41.7	13 42	0				
RESOLUTE	100.54	13.7			24 21	-8	25 19	S
PALISADES	127.82	38.4					38 36	SS
HUANCAYO	135.70	110.9	19 29	7				
TAMANRASSET	137.57	300.5	19 29	3				

SEPTEMBER 12 11.H 24.M 28.S EPICENTRE -9.75 156.26 DEPTH= 0.KM

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SE= 2.71

	DELTA DEG.	AZ. DEG.	P			O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S		
RABAU	6.85	323.4	1 39		-5	3 7		4				
PORT MORESBY	8.99	271.5	2 14K		0	3 56		-1				
CHARTERS TS.	14.10	222.1	3 20		-3	6 3		2				
BRISBANE	17.85	190.1	4 12		1	7 34		5				
SUVA	23.06	113.6	5 37		29	9 21		6				
RIVERVIEW	24.42	190.3	5 23K		2	9 45		6				
CANBERRA	26.30	193.5	5 41A		2	10 16		6		10 34		
MELBOURNE	29.75	198.2	6 12K		2	11 12		6				
ADELAIDE	29.78	209.9	6 11		1	11 10		4		6 23		
KARAPIRO	32.99	151.3	6 36		-2					9 22		
WELLINGTON	35.40	155.6	6 54		-5	12 32		-2		8 22	PP	
GEBBIES PASS	36.70	160.0	7 5		-5							
ROXBURGH	37.33	164.8				12 56		-8				
MANILA	42.49	304.4	7 59		1	13 34		-47				
MUNDARING	43.12	233.1	8 1		-2	14 35		5				
PERTH	43.41	233.3	8 15		9	14 40		6		17 45	SS	
BAGUIO CITY	43.85	306.1	8 9		0	14 42		1				
LEMBANG	48.19	269.5	8 44K		0	15 42		-1				
TUKUBASAN	48.19	342.4	8 40A		-4	15 34		-9		10 33	PP	
ABUYAMA	48.51	337.2	8 43A		-3							
DJAKARTA	49.05	270.3	8 54		4							
MATUSIRO	49.08	340.7	8 49A		-1	15 51		-4		19 12	SS	
HONG KONG	52.12	308.1	9 20		6	16 42		5				
ZO-SE	52.74	321.7	9 18		0	16 46		0				
CANTON	53.19	308.4	9 20		-2	16 54		2				
HONOLULU	54.41	55.1	9 34		3	17 12		3				
NANKING	54.88	320.8	9 34K		0	17 12		-3				
PHU-LIEN	57.45	302.3	9 52		-1	17 58		9		13 12	PPP	
Y.-SAKHLINSK	57.79	349.1	9 53		-2							
TERRE ADELIE	57.88	186.9	9 53		-3	18 0		5				
DUMONT	57.91	187.6	9 53		-3	18 0		5				
UGLEGORSK	59.89	349.3	10 11		1	18 21		0				
CHANGCHUN	60.28	334.6	10 12		0	18 25		-1				
PEKING	61.88	325.9	10 23		0	18 47		1				
PETROPAYLOVK	62.55	1.6	10 31		3	18 57		2				

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KUNMING	62.60	304.8	10 25	-3	18 53	-2					
SIAN	62.67	316.7	10 28	0	18 53	-3					
CAPE HALLETT	63.09	175.3	10 32	1	19 9	8				20 18	SCS
CHENG TU	64.24	310.8	10 35	-4	19 15	-1					
PAOTOW	65.77	322.9	10 50	1	19 41	6					
LANCHOW	67.14	315.8	10 53	-4							
SCOTT BASE	68.30	177.6	11 4	-1						11 18	PCP
MAGADAN	69.21	357.0								11 18	PCP
CHITTAGONG	70.73	297.8	11 33	14							
SHILLONG	71.78	301.0	11 26	0	20 50	4					
ULAN-BATOR	72.10	327.6	11 29	1							
LHASA	73.93	304.7	11 37	-1	21 13	3					
YAKUTSK	74.48	347.4	11 44	2	21 16	0					
IRKUTSK	76.07	330.1	11 51	0	21 36	2					
BOKARO	76.45	297.4								21 34	
COLOMBO	77.87	279.2								14 38	PP
MADRAS	78.84	285.4								22 0	
BYRD STATION	79.46	169.8	12 9	0						12 53	
SOUTH POLE	80.31	180.0	12 11	-3						13 38	
KODAIKANAL	80.86	282.1								22 48	
HYDERABAD	81.45	289.3								22 29	
TIKSI	83.23	351.6	12 26	-3	22 48	-1					
AGRA	84.10	298.7	12 36	2	22 54	-4					
DEHRA DUN	84.86	301.8	12 58	21	23 6	1					
COLLEGE	85.20	20.8	12 37	-2	23 6	-3					
POONA	85.97	289.5	12 47	4							
BOMBAY	86.99	289.6								22 33	
LAHORE	88.25	302.3	12 53	-1							
SEMI PALATNSK	88.67	321.6	13 0	4							
BERKELEY	89.27	51.5	12 59	0	23 41	-6				29 38	SS
LICK	89.63	52.1	13 3	2							
SHASTA	89.80	48.7	13 2	1							
MINERAL	90.31	49.2	13 5	1							
FRESNO	90.96	53.0	13 9	2							
WARSAK DAM	91.04	304.2	13 7	0							
RENO	91.49	50.3	13 11A	2							
PASADENA	91.77	55.8	13 11	1	24 11	1				30 14	SS
EUREKA	94.41	50.9	13 22	-1						16 43	PKP
BOULDER CITY	94.77	54.5	13 27	3							
TUCSON	97.57	58.6	13 45	8						17 36	PP
TUCSON TELE.	97.67	58.5	13 47	10						17 35	PP
RESOLUTE	104.29	15.1			24 44	-3				25 56	S
APATITY	111.14	339.8								22 37	PKS
TIFLIS	112.43	311.1								19 14	PP
MOSCOW	113.95	327.1								19 38	PP
KIRUNA	115.09	343.0	18 43	0							
SIMFEROPOL	119.40	316.4								20 1	PP
KSARA	120.55	303.5	18 58	5	25 56	5				20 25	PP
OTTAWA	123.17	41.5	18 59	1							
LWOW	123.87	324.7								20 45	
HUANCAYO	124.35	111.8	19 5	4							
BREBEUF	124.49	40.7	19 8K	7							
ELISABTHVLL	124.84	248.5	19 4	2							
PALISADES	126.00	45.9								32 29	PPS
COPENHAGEN	126.11	335.5								20 56	PP
LWIRO	126.34	259.9								21 11	
BRATISLAVA	128.62	325.9	19 11	2							
PRUHONICE	128.90	329.1	19 18	8						21 21	PP
LA PAZ	128.92	120.4	19 22	12							
JENA	129.74	331.6								21 37	PP
ABERDEEN	129.81	344.8								21 22	PP
ZAGREB	130.58	324.0	19 17	4						20 52	
LJUBLJANA	131.29	325.0	19 15A	1							
BENSBERG	131.70	334.2	20 50	95						22 44	
DURHAM	131.77	343.0	19 31K	16							
TRIESTE	131.96	325.0	16 13	-182						21 43	PP
STUTTGART	132.30	330.8	19 13	-3						22 58	SKP
UCCLE	132.99	335.9								20 15	
STRASBOURG	133.15	331.6	19 36	18						22 50	PKS
DOURBES	133.43	335.1	19 31K	13							
KEW	134.19	339.7								22 51	
PRATO	134.53	324.6	20 6	46						21 57	PP
MESSINA	134.81	315.3								23 17	
ROME	134.88	321.5	19 45	24						23 21	PKS
PARIS	135.30	335.5	19 36	14							
BERMUDA	136.03	53.0	20 58	95						23 4	PKS
CLERMONT-FD.	137.37	332.2								20 56	
SAN JUAN	138.09	73.4	19 38	11							



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LEOPOLDVILLE	138.70	251.9	19 37	9					
TORTOSA	142.35	329.3						24	2
ALGIERS UNI.	143.79	322.2	19 23	-14				22	51 PP
TOLEDO	145.25	332.9	19 40	1				23	32 PP
RELIZANE	145.97	323.3	19 32	-8					
SERRA PILAR	146.00	339.3	19 36A	-5		19 47		19	58 PP
COIMBRA	146.76	338.4	19 35	-7					
ALMERIA	146.86	327.8	19 51	9					
GRANADA	147.18	329.5	19 55K	13	27 19 29			31	19 SKKS
LISBON	148.33	338.0	19 50	6					
TAMANRASSET	149.15	298.4	19 51	5				23	16 PP

SEPTEMBER 12 21.H 20.M 1.S EPICENTRE 36.51 70.99 DEPTH= 196.KM

A= 0.26245 B= 0.76169 C= 0.59241 D= 0.9455 E=-0.3258  
G= 0.1930 H= 0.5601 K=-0.8056 HT= -0.4

DEPTH OF FOCUS= 0.026R

SE= 2.18

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
KHOROG	1.06	24.0	0	32	2							
KULYAB	1.70	324.8	0	35	-1	1	1	-3				
NUREK	2.30	325.5	0	43	1	1	13	-2				
OBI-GARM	2.41	335.3	0	45	2	1	15	-2				
GARM	2.54	347.8	0	46	1	1	18	-1				
WARSAK DAM	2.55	169.4	0	45K	0							
CHUIAN-GARON	2.58	326.4	0	46	1	1	19	-1				
STALINABAD	2.71	320.0	0	47	0	1	21	-2				
DZERGETAL	2.71	4.0	0	48	1	1	21	-2				
MURGAB	2.99	50.8	0	52	2	1	29	1				
FERGANA	3.91	8.9	1	2	1	1	47	-2				
ANDI JAN	4.37	13.9	1	7	0	1	54	-5				
SAMARKAND	4.46	316.1	1	7	-1	1	54	-7				
NAMANGAN	4.49	6.6	1	7	-2							
LUNACHARSKOE	4.98	345.5	1	15	0	2	10	-3			3	59
TASHKENT	4.98	345.0	1	15	0	2	2	-11			2	24
LAHORE	5.67	149.8	1	25K	1	2	23	-6				
TCHIMKENT	5.88	349.9	1	25	-1	2	26	-8				
NARYN	6.27	37.0	1	30	-2	2	36	-7				
FRUNSE	6.90	22.8	1	40	0	2	57	-1			2	29
QUETTA	7.16	209.3	1	44K	1	3	2	-2			2	27 *SP
BAIRAM-ALI	7.17	281.3				3	5	1			2	54
PRZHEVALSK	8.26	41.6	1	56	-2	3	14	-16				
DEHRA DUN	8.54	134.3	1	59	-2	3	31	-5			2	8 PP
KURMENTY	8.57	38.7	2	0	-2							
ILI	8.75	30.4	1	58	-6							
ASHKABAD	10.18	281.9	2	21	-1	4	19	5				
AGRA	11.10	145.5	2	35K	1	4	32	-3			3	21
KIZYL-ARVAT	11.94	287.4	2	43	-2							
KARACHI	12.13	197.3	2	45	-2	4	49	-10				
SEHORE	14.30	156.7	3	7	-8	5	24	-25				
SEMI PALATNSK	15.41	22.8	3	27	-1	6	17	3			4	28
CHATRA	16.80	120.5	3	46	1	6	45	1				
BOMBAY	17.62	174.3	3	59	5	7	8	6			4	52
BOKARO	17.97	130.6	3	58K	0	7	19	10			4	31 PP
POONA	18.09	171.2	4	0	1	7	14	3			4	57
LHASA	18.13	106.4	4	2K	2	7	19	7				
GORIS	19.64	286.2	4	14	-1	7	48	7			5	13
HYDERABAD	20.12	158.9	4	20K	0	7	52	2			5	18
SHILLONG	20.91	115.6	4	28K	0	8	11	6			5	25 *SP
TIFLIS	20.94	292.4	4	30	2	8	15	10			5	6 PP
VIZIANAGRAM	21.37	145.7	6	37	124							
SVERDLOVSK	21.48	344.3	4	35	1	8	21	6	5 9		5	34
TOCKLAI	22.42	109.0	4	42	-1							
CHITTAGONG	22.91	122.3	4	50	2	8	46	7	5 32		5	36 PP
MADRAS	24.83	158.2	5	2	-4	9	12	0			5	49 PPP
LANCHOW	26.41	81.1	5	22	2	9	41	4	6 1		6	26 *SP
CHENG TU	28.03	92.3	5	35	0	10	5	1	6 19		6	45 *SP
ULAN-BATOR	28.69	55.3	5	41	0							
KSARA	28.73	275.1	5	44	3	10	24	9			6	32 PP
SIMFEROPOL	28.98	298.4	5	43	0	10	20	1	6 25		6	44 PP
KUNMING	29.41	103.7	5	49	2	10	28	3			6	52 *SP
MOSCOW	29.64	321.0	5	49	0	10	25	-4	6 23		11	45 *SP
JERUSALEM	29.87	271.5	5	52	1							

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PAOTOW	30.63	70.3	6 0	2	10 48	4				6 55	PP
SIAN	30.88	82.8	6 0A	0	10 51	3				7 6	*SP
PULKOVO	34.90	324.8	6 34	-1	11 52	1				7 47	PP
PEKING	35.36	70.3	6 39	1	11 51	-7	7 24			8 6	PP
LWOW	36.15	306.6	6 45	0	12 13	3				9 10	PCP
ATHENS	37.34	286.9	6 55A	0			7 39				
HELSINKI	37.56	323.8	6 56	-1	12 56	25				8 23	PP
APATITY	37.60	337.4	6 57A	0	12 37	5				8 23	PP
NURMI JARVI	37.81	324.3	7 0	1	12 36	1					
BELGRADE	38.69	298.5	7 8A	2						8 14	
KRAKOW	38.80	306.9			12 52	2				8 13	*SP
CANTON	38.81	98.2	7 9	2	12 47	-3				8 14	*SP
NANKING	39.42	82.1	7 13A	1	13 1	2					
SODANKYLA	39.72	335.0	7 14	-1	13 5	2				8 51	PP
HONG KONG	39.87	98.6	7 17	1	13 7	1					
RACIBORZ	39.92	306.9	7 18	2						8 58	PP
BRATISLAVA	40.72	304.0	7 23	0			8 5			9 2	PP
UPPSALA	41.05	321.9	7 25A	-1			8 9			9 9	PP
VIENNA-H.	41.20	304.2	7 28	1			8 35				
CHANGCHUN	41.51	62.5	7 30	1							
ZO-SE	41.68	82.3	7 33	2	13 34	2	8 14			8 44	*SP
ZAGREB	41.71	300.6	7 42	11						10 13	PPP
KIRUNA	42.07	334.1	7 34A	0							
PRUHONICE	42.27	306.9	7 37A	1			8 20			9 11	PP
PRAGUE	42.34	307.0	7 41	5			8 12			10 21	*SPP
L JUBLJANA	42.69	301.1	7 39A	0			8 24			9 11	PP
POTSDAM	43.08	310.5	7 41	-1			8 26			10 27	*PPP
COLLMBERG	43.18	308.9	7 42	-1			8 27			10 30	
TRIESTE	43.28	300.6	7 44	0	13 59	3				9 34	PP
COPENHAGEN	43.42	315.3	7 25K	-20	14 4	6	8 30			15 29	*SS
MESSINA	43.54	289.6	7 47	1							
GOTEBORG	43.74	318.3	7 51A	4						10 16	
PLAUEN	43.77	307.8	7 45	-3						10 35	
HALLE	43.82	309.3	7 47	-1	14 6	3	8 31			9 36	PP
YAKUTSK	43.98	35.5	7 51	2	14 7	1					
JENA	44.10	308.5	7 51	1	14 6	-1	8 34			9 35	PP
SKALSTUGAN	44.19	326.7	7 51A	0							
SONNEBERG	44.39	307.7	7 53	0			8 37				
KHEYS	44.50	357.0								15 15	
ROME	44.90	295.6	7 48	-9	14 9	-10				9 3	
TIKSI	45.76	22.0	8 1	-3	14 29	-2	8 46			9 33	PCP
STUTTGART	45.82	305.7	8 4	0	14 31	-1	8 49			9 11	*SP
VLADIVOSTOK	46.35	62.2								24 59	
STRASBOURG	46.84	305.6	8 12	0	14 47	1	8 58			9 26	*SP
BENSBERG	46.87	308.9	8 13	1			8 57				
MONACO	48.08	299.3	8 21	-1							
DOURBES	48.62	308.2	8 28	2							
MANILA	49.51	102.5	9 34	62						11 47	
PARIS	50.23	306.8	8 38	0			9 25				
CLERMONT-FD.	50.54	302.9	8 43	3						9 47	
KEW	51.41	310.7	8 46A	-1			9 54				
DURHAM	51.49	315.0	8 46A	-1			9 52				
ABUYAMA	51.58	71.4	8 47A	-1							
SETIF	51.85	290.5	8 50	0			9 31			9 59	
FOLINIERE	52.15	307.4	8 51	-1							
MATUSIRO	52.96	68.5	8 57	-1	16 11	0				17 33	*SS
RATHFARNHAM	54.52	314.0	10 8	58							
LWIRO	55.01	235.0	9 13	0							
RELIZANE	55.67	291.8	9 24	6						11 29	PP
TOLEDO	57.43	298.1	9 30	0			10 15				
TAMANRASSET	57.53	275.7	9 30A	-1	17 13	2	10 16			11 44	
SIDA	57.54	328.2	9 31	0						10 19	
BANGUI	57.63	249.2	9 28	-4						11 27	
ELISABTHVLE	63.03	229.2	10 9A	1							
THULE	64.45	350.2	10 16	-1			11 6				
BROKEN HILL	64.64	226.4	10 19	0							
LEOPOLDVILLE	65.96	244.5	10 26A	-1							
RESOLUTE	68.69	356.0			19 29	-1				13 41	PP
BULAWAYO	69.12	222.7	10 46	-1							
PRETORIA	73.92	219.6	11 47	32							
COLLEGE	74.48	16.1	11 17	-2			12 5				
PIETERMZBURG	76.03	215.7	11 28K	1							
KIMBERLEY	78.11	220.4	11 38K	-1							
GRAHAMSTOWN	80.91	216.4	11 53A	-1							
CHARTERS TS.	90.56	114.6	12 40	-1							
OTTAWA	93.10	337.2	12 53	0							
HORSESHOE B.	93.55	9.3	12 53	-2							
VICTORIA	94.37	9.6	12 57	-1							

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HUNGRY HORSE	95.40	3.4	13	9	6			
PALISADES	96.41	334.0					26	38 PS
EUREKA	104.11	5.5	13	47	5		17	57 PKP
SOUTH POLE	126.33	180.0	18	38	-1		19	32
BYRD STATION	136.18	177.4	18	58	0		19	53 22 10 PP

SEPTEMBER 13 19.H 15.M 55.S EPICENTRE 39.61 74.25 DEPTH= 0.KM

A= 0.20965 B= 0.74354 C= 0.63497 D= 0.9625 E=-0.2714  
G= 0.1723 H= 0.6111 K=-0.7725 HT= -1.5

SE= 2.95

	DELTA DEG.	AZ. DEG.	P		O-C	S O-C			*PP		SUPP.	
			M	S	S	M	S	S	M	S	M	S
MURGAB	1.26	191.6	0	27	2						0	45 SG
ANDI JAN	1.84	308.9	0	38	5						1	4 S*
FERGANA	2.05	292.9	0	41	5						1	10 S*
NARYN	2.26	35.6	0	41	2						1	11 S*
NAMANGAN	2.40	305.6	0	46	4							
KHOROG	3.01	226.0									0	57 P*
GARM	3.13	260.1									0	58 P*
FRUNSE	3.23	4.8	0	57	4						1	46 S*
FABRICHNAYA	3.88	24.3	1	5	2						2	2 S*
KULYAB	3.91	245.6									2	14 SG
LUNACHARSKOE	4.13	296.2	1	8	2						2	24 SG
TASHKENT	4.16	295.9	1	6	-1	1	56	-1			2	50
ALMATA	4.18	28.1	1	9	2						3	10
PRZHEVALSK	4.25	46.2	1	7	-1						2	7 S*
STALINABAD	4.39	258.1	1	12	2						2	25 SG
TCHIMKENT	4.43	308.8	1	12	2	2	5	2			1	45
KURMENTY	4.55	40.5	1	12	0						2	22 S*
ILI	4.81	25.4	1	18	2						2	28 S*
SAMARKAND	5.62	272.9	1	28	1	3	4	31			1	47
WARSAK DAM	6.00	202.0	1	34	1							
LAHORE	8.04	179.5	2	2	1	3	33	-1				
BAIRAM-ALI	9.71	261.9	2	19	-5						3	19
DEHRA DUN	9.77	160.3	2	24	-1	4	10	-7				
QUETTA	11.15	214.7	2	43	-1	4	50	-1			2	50 PP
SEMI PALATNSK	11.59	19.4	2	48	-2							
ASHKABAD	12.52	267.4	3	0	-3	5	22	-2			8	19
KIZYL-ARVAT	13.92	274.1	3	19	-2	5	57	-1			8	39
KARACHI	15.94	204.5				6	42	-3				
CHATRA	16.68	135.9	3	57	0	7	16	13				
LHASA	17.00	120.7	4	5	4	7	20	10				
SVERDLOVSK	19.41	337.1	4	29	-2							
SHILLONG	20.35	128.2	4	37	-4							
POONA	21.01	181.1	4	53	5						11	14
GORIS	21.50	278.7				8	43	-4			3	52
TIFLIS	22.40	284.9	5	1	-1	9	8	4			5	37 PPP
CHITTAGONG	22.79	133.8	5	8	2	9	15	4				
LANCHOW	23.58	89.3	5	18A	5	9	35	10				
ULAN-BATOR	24.85	59.7	5	27	1							
CHENG TU	25.83	101.0	5	35	0	10	5	2				
PAOTOW	27.27	76.3	5	52	4							
SIAN	28.11	90.0	6	6	10	11	6	26				
MOSCOW	29.03	315.9	6	3	-1						7	5 PP
SIMFEROPOL	29.95	293.5	6	11	-1	11	9	-1			13	56
PULKOV	33.98	321.1	6	46	-2						18	4
APATITY	35.83	334.6	7	4	1						16	46
LWOW	36.49	303.2	7	14	5							
HELSINKI	36.69	320.6	7	9	-2							
NURMI JARVI	36.91	321.1	7	12	-1							
SODANKYLA	38.09	332.4	7	21	-2							
ATHENS	39.00	284.2	7	24K	-6							
YAKUTSK	39.96	37.2	7	33	-5	13	35	-9				
UPPSALA	40.30	319.3	7	40	-1							
KIRUNA	40.49	331.8	7	40	-2							
TIKSI	41.92	22.8	7	51	-3						22	13
PRUHONICE	42.56	304.5	8	0	1						9	47 PP
SKALSTUGAN	43.09	324.7	8	1	-3						8	8
COLLMBERG	43.32	306.7	8	5	-1						9	46
LJUBLJANA	43.38	298.9	8	4	-2							
HALLE	43.94	307.1	8	10	-1							
JENA	44.27	306.3	8	11	-2						9	31
STRASBOURG	47.20	303.9	8	37	0						10	2 PCP

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DOURBES	48.79	306.6	8 51	2
MATUSIRO	49.49	72.1	8 50	-4
FOLINIÈRE	52.36	306.3	9 15	-1
TAMANRASSET	59.80	275.6	10 7A	-3
ELISABTHVLE	66.99	230.9	10 55	-2
BROKEN HILL	68.63	228.2	11 6	-1
LEOPOLDVILLE	69.60	245.8	11 11	-2
COLLEGE	70.77	17.6	11 16	-4
HUNGRY HORSE	92.12	5.5	13 13	0
SOUTH POLE	129.42	180.0	19 12	1
BYRD STATION	139.12	176.4	19 25	-4

SEPTEMBER 13 22.H 40.M 39.S EPICENTRE 0.84 129.16 DEPTH= 0.KM

A=-0.63147 B= 0.77526 C= 0.01463 D= 0.7753 E= 0.6315  
G=-0.0092 H= 0.0113 K=-0.9999 HT= 7.2

SE= 2.90

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
MANILA	15.89	330.2	4	7	21	7	0	16				
BAGUIO CITY	17.64	331.8	4	11	3	7	33	9				
GUAM	19.87	50.2	4	35	0							
PORT MORESBY	20.60	120.0	4	43	0	8	30	1			5	1 PP
HENGCHUN	22.57	339.3	5	7	4							
LEMBANG	22.81	250.2	5	6	1	9	16	5				
DJAKARTA	23.36	252.3	5	10A	-1	9	30	10				
RABAU	23.53	102.5	5	13	1	9	33	10			6	58
HWALIEN	24.12	342.9	5	30	12							
TAIPEI	25.15	343.5	5	36	8							
HONG KONG	25.84	326.7	5	33	-1	10	1	-2				
CHARTERS TS.	26.71	142.1	5	42	0						11	18
CANTON	26.93	326.3				10	21	0				
MEDAN	30.58	275.6	6	16K	-1	11	29	10				
ZO-SE	31.03	346.6	6	21	0	11	25	-1				
NANKING	32.56	343.5	6	35	0	11	50	0				
ABUYAMA	34.38	9.4	6	51A	1							
MUNDARING	34.87	199.5	6	52	-3							
KUNMING	35.12	315.5	6	58K	1	12	31	1				
BRISBANE	36.11	142.8	7	5	0	11	53	-52				
MATUSIRO	36.49	12.3	7	5A	-3	12	46	-5			8	29 PP
ADELAIDE	36.73	166.8	7	10K	0	13	1	6				
CHENG TU	38.06	323.6	7	22	0	13	11	4				
MIZUSAWA	39.65	14.6	7	40	5							
RIVERVIEW	40.21	151.1	7	42	2							
CANBERRA	40.47	154.7	7	42	0							
PEKING	40.76	344.7	7	44	0	13	51	-5				
CHITTAGONG	42.15	303.2	7	56	1	14	16	0			9	36 PP
LANCHOW	42.19	328.9	7	56	0	14	13	4				
CHANGCHUN	42.94	355.9	8	1	-1	14	25	-3				
SHILLONG	43.55	307.4	8	7A	0	14	36	-1				
LHASA	46.21	311.9	8	30K	2	15	16	1				
Y.-SAKHLINSK	47.49	12.6	8	37	-1	15	33	0				
BOKARO	47.81	301.9				15	38	0				
CHATRA	47.89	306.3	8	42	1							
MADRAS	49.99	286.2	8	56	-2	16	7	-1				
ULAN-BATOR	50.71	340.8	9	3	0							
IRKUTSK	55.31	341.7	9	36	-1	17	19	-2				
AGRA	55.55	302.7				17	22	-2				
DEHRA DUN	56.62	306.3	9	45	-2	17	36	-2				
POONA	57.01	291.5	9	48	-2							
PETROPAVLOV	57.49	20.6	9	51	-2							
KARAPIRO	57.55	137.3	9	50	-3							
LAHORE	60.05	306.3	10	9K	-2	18	19	-4				
YAKUTSK	61.02	0.3	10	16	-1	18	32	-3				
WARSAK DAM	63.06	308.1	10	29K	-2							
SEMI PALATNSK	64.42	327.7	10	41	1							
KARACHI	64.47	297.1	10	42K	2							
QUETTA	65.74	302.8	10	46K	-2	19	32	-2				
TIKSI	70.68	359.9	11	18	-1							
CAPE HALLETT	77.49	168.1	12	4	5							
SVERDLOVSK	77.68	328.4	11	59	-1							
SCOTT BASE	81.17	172.5	12	25	6						13	3
TANANARIVE	82.34	250.9	12	24A	-1							
TIFLIS	85.23	311.6	12	39	0							

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KHEYS	86.13	351.0								14	4
COLLEGE	86.26	25.1	12	38	-7						
MOSCOW	90.18	325.6	13	7	4						
SOUTH POLE	90.84	180.0	13	5	-1						
APATITY	91.42	337.5	13	8	-1					24	33
SODANKYLA	94.04	337.7	13	19	-2						
BYRD STATION	94.46	170.6	13	24	1						
KIRUNA	96.22	338.8	13	31	0						
RESOLUTE	100.19	10.8				25	3	35		26	51
ELISABTHVLE	101.62	258.4	13	54	-1						
PRUHONICE	104.93	322.6								18	30 PP
COLLMBERG	105.39	324.2	17	34	777						
EUREKA	108.43	47.7	18	9	777						
TAMANRASSET	120.37	297.1	18	48	-5					20	18 PP
PALISADES	133.36	24.1	20	14	56					22	0 PP
HUANCAYO	153.27	115.6	19	57	5						

SEPTEMBER 14 13.H 15.M 51.S EPICENTRE -24.30-176.52 DEPTH= 0.KM

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SE= 3.81

	DELTA DEG.	AZ. DEG.	M	P	S	O-C S	M	S	O-C S	*PP M S	M	SUPP. S
SUVA	7.72	321.5	1	59	3		3	31	5			
APIA	11.36	24.0	2	42	-5		4	44	-12			
ONERAHI	13.88	212.5	3	23	3		6	20	24			
AUCKLAND	14.58	208.8	3	33	4		6	29	16			
KARAPIRO	15.18	204.7	3	40	3						3	58
WELLINGTON	18.43	201.2	4	18	0		7	18	-24			
COBB RIVER	18.99	205.7	4	30	5							
GEBBIES PASS	21.30	202.0	4	48	-2		8	24	-19			
BRISBANE	27.77	257.0	5	26	-26		10	41	7			
RIVERVIEW	29.71	243.9	6	1A	-9		10	47	-19			
CANBERRA	31.72	241.7	6	33	5							
CHARTERS TS.	34.65	269.5	6	49	-4		12	11	-12			
MELBOURNE	35.39	238.4	7	5A	6							
PORT MORESBY	37.66	286.9	7	14	-4		13	8	-1		16	0
ADELAIDE	40.04	244.0	7	38	0							
HAWAII V.OB.	48.15	27.3	8	50	6		16	4	21			
CAPE HALLETT	48.61	185.4	8	43	-4		16	6	17		10	39 PP
KIPAPA	48.88	23.1	8	48	-1							
TERRE ADELIE	49.92	200.3	8	56	-1							
DUMONT	50.27	200.9	8	56	-4							
GUAM	53.29	310.6	9	31	8							
MUNDARING	58.99	246.2	10	6	2							
PERTH	59.31	246.1					18	22	8			
BYRD STATION	60.68	170.3	10	14	-1							
WILKES	61.16	206.1	10	15	-4		18	29	-8		22	16 SS
SOUTH POLE	65.84	180.0	10	47	-2						11	13 PCP
TUKUBASAN	72.81	324.5	11	41	9		20	53	-5		24	44 SS
MATUSIRO	74.07	323.5	11	34K	-6		21	5	-7		25	54 SS
LEMBANG	74.36	269.5	11	35	-6							
ARGENTINE I.	76.95	156.4	11	38	-18							
MAWSON	78.47	199.7	12	7K	3							
HALLEY BAY	78.61	172.6	12	2	-3							
Y.-SAKHLINSK	79.96	333.0	12	11	-1							
PETROPAVLOVK	79.97	345.1	12	3	-9		22	41	25			
BERKELEY	80.12	40.7	12	15	2		22	24	6		27	27 SS
LICK	80.14	41.4	12	14A	1							
PASADENA	80.30	45.7	12	14	0		22	27	7		27	21 SS
UKIAH	80.39	39.2	12	16	1							
FRESNO	80.90	42.8	12	19	2							
HONG KONG	81.71	298.9	12	19	-3		22	49	15			
SHASTA	81.91	38.5	12	24A	1							
MINERAL	82.13	39.1	12	24A	0							
RENO	82.66	40.7	12	32	5							
BOULDER CITY	83.59	45.9	12	31	0							
CORVALLIS	84.02	35.1	12	36	2							
TUCSON	84.20	50.9	12	35	1							
TUCSON TELE.	84.33	50.9	12	36	1						39	0 PKPPKP
EUREKA	84.95	42.6	12	36	-2							
PORT STANLEY	87.24	146.9	12	50	1							
HORSESHOE B.	87.30	31.6	12	50	0							

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MAGADAN	87.77	344.0	12 56	4		
SALT LAKE C.	98.26	43.4	12 55	1		
BUTTE	90.82	38.8	13 6	0		
HUNGRY HORSE	91.36	36.3	13 7	-2		16 54 PP
COLLEGE	91.62	11.8	13 7	-3		14 8
BANFF	92.25	33.4	13 13	0		
HUANCAYO	95.06	105.5	13 28	2		16 12 PPS
YAKUTSK	96.11	337.5	13 27	-4		
LA PAZ	99.24	112.7	13 37	-8		
CHITTAGONG	100.33	289.9	17 14	777		
RESOLUTE	111.05	16.4			26 51 95	28 41 PS
PALISADES	114.72	54.4			24 38 -53	20 18 PP
BERMUDA	120.35	65.5				20 49 PP
WARSAK DAM	120.73	296.3	18 51	-3		
KIMBERLEY	123.41	202.5	18 59A	0		
QUETTA	123.89	291.0	18 59	-1	26 12 9	
SVERDLOVSK	127.88	324.2	19 9	1		
BULAWAYO	129.50	211.1	19 11	0		
SODANKYLA	134.59	347.7	19 22	1		
KIRUNA	135.23	351.0	19 19	-3		
ELISABTHVILLE	137.27	215.9	19 25	0		
MAKHACH-KALA	139.43	308.4	19 25	-4		23 4 PKS
MOSCOW	139.87	330.5	19 29	-1		23 13 PKS
NURMI JARVI	140.95	343.5	19 30	-2		
TIFLIS	141.66	307.2	19 32	-1		23 12 PKS
UPPSALA	143.12	348.1	19 34	-2		20 8
LWIRO	143.92	226.5	19 35	-2		
SOTCHI	144.68	312.0	19 35	-4		
GOTEBORG	146.08	351.8	19 40	-1		
SIMFEROPOL	147.74	317.3	19 44	0		
COPENHAGEN	147.97	350.4	19 48	4		
LEOPOLDVILLE	149.28	203.5	19 50K	4		
DURHAM	149.34	5.8	19 53K	7		
LWOW	149.91	333.0	19 50	3		20 17
RATHFARNHAM	150.12	11.8	19 43A	-5		19 53 PKP2
POTSDAM	151.03	347.8	19 53	4		20 17
KRAKOW	151.28	337.7	20 6	17		
WITTEVEEN	151.42	356.0	19 54	5		20 25 PKP2
RACIBORZ	151.83	339.7	19 56	6		20 9 PKP2
SKALNATE PL.	151.90	336.3	19 27	-23		20 24 PKP2
COLLMBERG	152.07	347.2	19 48	-2		21 9
HALLE	152.08	348.7	19 56	6		20 21
MUNSTER	152.19	354.5	19 57	6		20 21
DE BILT	152.21	357.8	19 51	0		
JENA	152.69	348.8	19 51	0		23 44 PP
KEW	152.72	5.2	19 44	-7		42 39 SS
PRAGUE	152.90	344.4	20 12	20		
PRUHONICE	152.95	344.2	19 51	-1		20 20 PKP2
PLAUEN	153.00	347.7	20 22	30		
BENSBERG	153.23	354.8	19 59	7		20 19
SONNEBERG	153.29	349.0	19 55	3		20 15
UCCLE	153.54	358.8	20 20	28		
BRATISLAVA	153.85	339.0	19 51	-2		20 24 PKP2
VIENNA-H.	154.01	340.1	19 51	-2		20 48
DOURBES	154.23	358.3	19 56	3		
STUTTGART	155.15	350.8	19 53	-2		
BELGRADE	155.31	330.2	19 59A	4		22 35
FOLINIERE	155.38	6.3	20 2	7		
SOFIA	155.40	323.1	19 53	-2		20 20
BANGUI	155.41	218.7	20 2	7		
STRASBOURG	155.53	353.1	20 2	7		21 38
LJUBLJANA	156.55	340.4	19 54K	-2		20 34
TRIESTE	157.14	341.2	20 3	6		20 48 PKP2
ROME	160.92	339.1	20 6	4		26 9
TOLEDO	163.22	20.5	20 38	34		
GRANADA	165.80	23.7	21 13K	67		25 6 PP
ALGIERS UNI.	167.57	1.6	20 3	-5		25 7 PP
RELIZANE	168.31	11.9	20 4	-4		24 59 PP
TAMANRASSET	177.59	231.4	20 12A	0		25 48 PP

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	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
ONERAHI	9.83	223.1	2	31	6						2	44
AUCKLAND	10.37	217.3	2	47	14	4	32	1				
KARAPIRO	10.84	211.2	2	38	-1						2	53
SUVA	11.30	339.2	2	49	4							
COBB RIVER	14.66	210.9	3	33	3	6	2	-12			4	10
APIA	15.83	20.3	3	39	-6	6	29	-13			4	6 P*
GEBBIES PASS	16.86	205.7	3	50	-9	6	49	-17			4	18
ROXBURGH	19.67	208.7	4	27	-6							
BRISBANE	26.33	265.9	5	39A	0	10	33	22				
RIVERVIEW	27.28	251.5	5	49	1	10	32	6				
CANBERRA	29.12	248.5	6	5	1	11	1	5			7	7 PP
MACQUARIE I.	30.87	207.2	6	19	-1	11	23	-1			7	21 PP
MELBOURNE	32.54	244.1	6	35A	1							
CHARTERS TS.	34.12	276.5	6	48	0	12	15	1				
ADELAIDE	37.54	249.2	7	18	1	13	27	20			8	49 PP
RABAUL	37.88	304.6	7	16	-4						13	29
PORT MORESBY	38.47	293.0	7	24	-1						9	36 PCP
CAPE HALLETT	44.05	185.4	8	14A	3	14	56	12			17	2 SS
TERRE ADELIE	45.43	201.5	8	24	2							
DUMONT	45.80	202.1	8	24	-1							
HAWAII V.OB.	52.51	26.6	9	15	-2	16	51	8				
HONOLULU	53.19	22.6	9	20	-2	16	47	-5			15	1
KIPAPA	53.33	22.6	9	20K	-3							
GUAM	55.75	313.7	9	37A	-3							
BYRD STATION	56.38	169.8	9	45	0						11	52 PP
MUNDARING	56.55	249.0	9	43	-3							
WILKES	56.79	207.3	9	47A	-1	17	39	-1			12	18 PP
PERTH	56.87	248.9	9	48	0						18	17
SOUTH POLE	61.34	180.0	10	20	1	18	45	6			39	17 PKPPKP
MIRNY	63.78	206.5	10	34	-2						19	26 PS
ARGENTINE I.	73.14	156.1	11	15	-19							
MANILA	73.50	297.5	11	32	-4						15	52
LEMBANG	73.61	271.2	11	35	-2	21	15	8				
MAWSON	73.97	200.3	11	39A	0	21	8	-3				
HALLEY BAY	74.25	172.7	11	37	-3							
DJAKARTA	74.61	271.4	11	38A	-4	21	41	23				
BAGUIO CITY	74.93	298.6	11	42	-2	21	33	12				
MERA	75.18	324.7	11	46	0							
AJIRO	75.65	324.3	11	47	-1							
YOKOHAMA	75.67	324.9	12	11	23						22	17
OMAESAKI	75.76	323.5	11	41	-8	21	30	-1			12	50
MISIMA	75.78	324.3	11	47	-2	21	23	-8				
TOKYO C.M.O.	75.82	325.2	11	52	3	21	28	-3			13	41
HONGO	75.83	325.2	11	52	3	21	45	14				
SHIZUOKA	75.95	323.8				21	35	2			12	52
MITO	76.01	326.1	11	58	8	21	48	15				
KAKIOKA	76.04	325.8	11	50	-1							
TUKUBASAN	76.07	325.7	11	48K	-3	21	26	-8			14	29 PP
HUNATU	76.17	324.4	11	54	3							
SIOMISAKI	76.20	321.1	11	47	-4	21	51	16				
ONAHAMA	76.26	326.7	12	15	23	21	55	19			14	50
KUMAGAYA	76.37	325.2	11	54	2	22	28	51				
TITIBU	76.39	324.9	11	51	-1	21	59	22				
KOHU	76.41	324.4	12	2	9	21	55	17				
OWASE	76.43	321.8	11	52	-1	22	2	24				
UTUNOMI YA	76.44	325.8	12	13	20						14	31
IIDA	76.67	323.8	12	13	19						21	24
SHIRAKAWA	76.72	326.4	11	55	1	21	58	17				
MAEBASI	76.72	325.2	11	54	0	22	42	61				
NAGOYA	76.85	323.0	11	55	0	22	20	37				
KAMEYAMA	76.87	322.5	11	59	4	21	45	2				
OIWAKE	76.93	324.8	11	56	0	22	50	67			13	43
MUROTO	76.94	319.9	11	46	-10							
NARA	77.09	322.0	11	55	-1							
YAKUSIMA	77.09	315.6	11	53	-3	21	39	-6			14	28
HUKUSIMA	77.10	326.9	12	1	5	22	18	33				
GIHU	77.13	323.0	11	55	-2	22	20	34				
MATUMOTO	77.16	324.4	11	59	2	22	4	18				
OSAKA	77.23	321.7	11	56	-1	22	5	18			15	2
ISINOMAKI	77.24	327.9	11	57	0							
MATUSIRO	77.26	324.7	11	54A	-3	21	51	4			15	6 PP
SIMIDU	77.28	318.8	11	54	-3							
HIKONE	77.31	322.6	11	59	1	21	56	9				
SENDAI	77.31	327.5	11	55	-3	22	9	22			12	46
SUMOTO	77.34	321.1	11	58K	0	22	2	14			14	38
NAGANO	77.37	324.8	11	59	1	21	55	7			15	6 PP

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1959								PAGE 722	
ABUYAMA	77.37	321.9	11 56A	-2					
KYOTO	77.40	322.1	11 59	1				16 53	
KOBE	77.44	321.5	11 57	-1	22 12	23		15 43	
TAKAYAMA	77.45	323.8	11 56	-2					
KOTI	77.52	319.7	11 58	-1	21 49	-1		14 53 PP	
YAMAGATA	77.55	327.2	12 5	6	22 26	36			
MIYAZAKI	77.57	317.3	12 1	2	22 11	21			
TAKADA	77.68	325.1	12 7	7					
HIMEJI	77.74	320.9	12 23	23					
TAKAMATU	77.80	320.6	11 56	-4	21 49	-4			
KAGOSIMA	77.85	316.5	12 2	1	22 12	19			
UWAZIMA	77.85	318.9	12 29	28					
MAIZURU	77.88	322.2	12 3	2				24 46	
MIZUSAWA	77.89	328.2	12 3	2	21 30	-24			
TOYAMA	77.90	324.2	11 57	-4	22 3	9			
HUKUI	77.91	323.1	12 16	15					
NIIGATA	77.92	326.1	12 18	17	22 28	34			
MIYAKO	77.93	329.0	12 5	4					
MATUYAMA	78.16	319.5	12 59	57	21 47	-10		18 9	
TAWU	78.26	303.6	12 5	2					
SAKATA	78.32	327.2	12 32	29					
MORIOKA	78.33	328.6	12 9	6	23 2	64			
OOITA	78.39	318.3	12 3K	-1	22 14	15			
AIKAWA	78.39	325.7	12 9	5					
WAZIMA	78.58	324.4	12 6	1	22 19	18			
KUMAMOTO	78.64	317.5	12 3	-2	22 33	31			
HWALIEN	78.73	305.3	12 20	15					
HIROSIWA	78.75	319.6	12 3	-3	22 21	18			
HATINOHE	78.84	329.3	12 5	-1	22 6	2			
AKITA	78.84	327.9	12 9	3	22 5	1		15 24	
YONAGO	79.00	320.9	12 13	6	22 43	37		16 36	
NAGASAKI	79.07	316.9	12 6A	-1	21 12	-54			
ILAN	79.14	306.0	12 14	6					
TAINAN	79.15	303.7	12 52	44					
MATSUE	79.17	320.8	12 15	7	22 58	51			
SAGA	79.18	317.5	12 8	0					
HAMADA	79.33	319.8	12 7	-2	22 20	11			
HUKUOKA	79.37	317.8	12 8	-1	22 12	3			
AOMORI	79.41	329.0	12 11	2	22 33	23			
NEMURO	79.45	333.4	12 7	-2	22 17	7		12 43 PCP	
TAIPEI	79.46	306.1	12 7	-2					
HIROO	79.49	331.4	12 20	10					
TAICHUNG	79.52	304.9	12 51	41					
URAKAWA	79.61	331.0	12 11	1	22 38	26		16 29	
KUSIRO	79.62	332.5	12 11	1	22 21	9	12 43	22 49 *SS	
TOMIE	79.66	316.2	12 9	-1				23 17	
OBIHIRO	80.07	331.7	12 17	4	22 42	25			
ITUHARA	80.45	317.6	12 30	15					
MORI	80.53	329.6	12 16	1	22 12	-10			
SAPPORO	80.97	330.7	12 16	-1	22 31	5		15 25 PP	
ASAHIKAWA	81.12	331.7	12 22	4					
SUTTSU	81.24	329.9	12 21	2	22 31	2			
KERQUELEN I.	81.79	217.6	12 22	0	22 58	23		12 59	
WAKKANAI	82.74	332.3	12 33	6	22 53	9			
HONG KONG	83.25	299.8	12 28A	-1	23 12	22		15 47 PP	
ZO-SE	83.49	310.7	12 30A	-1				12 49	
Y.-SAKHLINSK	83.64	333.8	12 31	0				22 55 SCS	
SAN FRANCISCO	83.86	40.7			23 1	5			
PORT STANLEY	83.89	147.0	12 33	0	23 17	21			
PASADENA	84.00	45.8	12 33A	0	23 33	36		16 4 PP	
LICK	84.03	41.5	12 33A	0				16 14 PP	
BERKELEY	84.03	40.7	12 33A	0	23 14	17			
PETROPAVLOVK	84.14	345.7	12 31	-3				15 46 PP	
CANTON	84.33	300.1	12 33A	-2				13 0	
UKIAH	84.37	39.3	12 36A	1	22 26	-35		23 33	
FRESNO	84.73	42.9	12 36A	-1					
ARCATA	85.13	37.6	12 39	0					
VLADIVOSTOK	85.41	325.3	12 39	-1	23 3	-8		15 52 PP	
MAZATLAN	85.67	60.7			23 16	3			
NANKING	85.69	310.2	12 41A	-1	23 27	13		13 2	
SHASTA	85.92	38.6	12 42A	-1					
MINERAL	86.11	39.3	12 42	-2					
RENO	86.57	40.8	12 48	2					
GUADALAJARA	86.72	64.4	13 2	15	23 24	1		16 17 PP	
BOULDER CITY	87.27	46.1	12 49A	0					
TUCSON	87.64	51.1	12 51A	0	23 19	-13		16 32 PP	
TUCSON TELE.	87.77	51.1	12 52A	0					
CORVALLIS	88.14	35.4	12 54K	0					
PHU-LIEN	88.32	294.7	12 51	-3	23 39	0		18 21 PPP	

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EUREKA	88.78	42.8	12 55A	-2			
CHANGCHUN	89.31	322.5	12 58A	-1			13 22
TACUBAYA	89.35	67.5	13 3	4	23 45	-3	16 39 PP
OAXACA	90.14	70.7	13 55	52	23 52	-3	30 4 SS
ALBERNI	90.74	31.3	13 4A	-2			
VICTORIA	90.86	32.5	13 3A	-3	23 13	-49	16 58 PP
HORSESHOE B.	91.53	32.0	13 7	-2			
VERA CRUZ	91.75	69.1	13 19	9	23 40	-30	30 16 SS
MAGADAN	91.89	344.4	13 9	-2	23 37	-34	16 37 PP
SALT LAKE C.	92.06	43.8	13 10A	-2			
PEKING	92.18	315.2	13 12A	0			13 36
ANTOFAGASTA	92.46	118.6	13 19	5	23 50	-26	
SITKA	92.62	21.5	13 16A	2			
KUNMING	93.60	296.6	13 19A	0			22 57
COMITAN	93.64	73.6	13 34	15	24 46	20	17 35 PP
SIAN	93.71	307.2	13 19A	0			
HUANCAYO	94.57	106.3	13 26	3	24 8	-26	
BUTTE	94.80	39.3	13 23A	-1			
HUNGRY HORSE	95.44	36.8	13 26A	-1			17 25 PP
BOZEMAN	95.45	40.2	13 29A	2			17 19 PP
PORT BLAIR	95.45	280.3	13 34	7	24 29	26	25 29
COLLEGE	96.19	12.2	13 28A	-3	24 16	9	17 22 PP
PAOTOW	96.36	313.0	13 34	2			
BANFF	96.43	34.0	13 30	-2			
DALLAS	97.95	57.0	13 49	10			
LA PAZ	98.17	113.8	13 41	1	23 43	-34	18 7 PP
LANCHOW	98.21	306.6	13 39	-1			
YAKUTSK	99.98	337.5	13 45	-3			17 59 PP
CHITTAGONG	101.12	289.4	13 55	2	24 34	2	18 7 PP
FAYETTEVILLE	101.36	55.1	13 55	1			18 19 PP
SASKATOON	101.50	36.4	14 58	63	25 43	69	32 29 SS
LAWRENCE	101.93	52.1	13 57	0			
ULAN-BATOR	102.08	318.2	13 57	0			
SHILLONG	102.49	292.3	13 59K	0	25 16	37	18 5
COLOMBO	104.45	270.0	14 35	27	25 50	62	18 55 PP
LHASA	104.90	295.8	14 11	1			
FLORISSANT	105.28	54.0	14 9	777			18 33 PP
IRKUTSK	105.61	321.3	14 15	777	24 50	-3	
BOKARO	106.75	288.3	18 45	777	24 56	-2	21 30 PPP
CHATRA	106.85	291.7	14 31	777	25 27	29	
TIKSI	106.88	344.5	14 13	777			18 49
KODAIKANAL	108.08	271.9	16 51A	777			35 42 SS
COLUMBIA	110.34	61.7	19 9	35			
HYDERABAD	110.36	279.2	14 55	777			18 7 PPP
CHAPEL HILL	112.54	60.4	18 33	-5			19 52
CLEVELAND	112.56	54.0			25 48	26	19 46 PP
CARACAS	112.85	90.4	18 42	4	25 55	32	
MORGANTOWN	113.10	56.4	18 59	20			28 46
GRAHAMSTOWN	114.16	201.9	18 42K	1			
AGRA	114.50	288.6			25 30	0	19 39 PP
POONA	114.80	278.3	18 42	0	25 22	-9	19 48 PP
PENNSYLVANIA	114.97	55.7	18 46	3	25 39	7	20 6 PP
GEORGETOWN	114.99	57.9					20 1 PP
HERMANUS	115.17	195.1					20 7 PP
DEHRA DUN	115.58	291.9	18 47	3	25 40	6	20 24 PP
RESOLUTE	115.58	17.0	18 36K	-8	25 31	-3	19 42 PP
TANANARIVE	115.69	227.9	18 46	2			19 22 PP
BOMBAY	115.84	278.2	19 9	25	25 59	24	20 25
PIETERMZBURG	116.11	206.9	19 5	20			
SAN JUAN	116.90	82.9	18 46K	0			20 8 PP
OTTAWA	117.73	51.2	18 46	-2			
TRINIDAD	117.77	92.9	18 48	0			
FORDHAM	117.90	56.6	18 39	-9			
PALISADES	117.92	56.4	18 47	-1			29 52 PS
LCO. MARQUES	118.38	210.7					20 37 PP
KIMBERLEY	118.95	202.2	18 51K	1			
ST. VINCENT	118.99	90.5	18 49	-1			29 31
LAHORE	119.00	292.1	18 46	-4			
BREBEUF	119.19	51.5	18 49	-2	25 49	2	
SEMPALATNSK	119.27	314.2	18 48	-3			20 42
ANTIGUA	120.14	86.1	18 52	-1			
PRETORIA	120.44	206.8	18 30	-23			
SEVEN FALLS	121.40	50.1	18 53A	-2			
FRUNSE	121.63	304.7	18 54	-2			26 11
WARSAK DAM	121.94	294.0	18 55A	-1			
BERMUDA	122.83	68.3	19 1	3			21 3 PP
KARACHI	123.00	282.3	19 4	6			
QUETTA	124.69	288.4	19 2A	1	26 8	3	20 59 PP

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STALINABAD	125.17	298.7	19 3	1					
BULAWAYO	125.24	210.3	19 4	2				21 35	
TASHKENT	125.27	302.1	19 1	-2	25 51	-15		20 57	
HALIFAX	126.04	53.9	19 3	-1					
NORD	126.60	3.5	19 1	-4				31 14	PS
BROKEN HILL	130.25	213.6	19 14	2				22 34	
SVERDLOVSK	131.01	321.8	19 12	-2				22 49	PKS
ELISABTHVILLE	133.14	214.3	19 11	-7				22 17	PP
ASHKABAD	133.19	296.4	19 17	-1				22 45	SKP
SCORESBY SD.	136.05	11.6	19 20	-3				21 54	PP
APATITY	137.08	343.2	19 18	-7				22 18	PP
SODANKYLA	138.80	346.2	19 15	-13				22 11	PP
KIRUNA	139.54	349.7	19 22	-7				22 55	PKS
LWIRO	140.19	223.5	19 24	-6				23 6	
ADDIS ABABA	140.78	247.1	19 32	0				21 46	PP
REYKJAVIK	141.37	17.0	19 26	-7				19 41	
SIDA	142.60	15.0	19 37	2					
GORIS	142.62	298.3	19 29	-6					
MOSCOW	143.33	327.1	19 30	-6	26 21	-23		33 5	PS
TIFLIS	143.59	302.1	19 34	-2				22 54	PP
PULKOVO	143.79	336.5	19 32	-5				23 31	PKS
SKALSTUGAN	144.68	352.5	19 35A	-3					
LEOPOLDVILLE	144.83	202.2	19 39A	0				42 5	SS
NURMIJARVI	145.01	341.1	19 37	-2	26 36	-11		29 41	PKKP
HELSINKI	145.20	340.5	19 37	-2					
UPPSALA	147.34	346.0	19 43A	0				23 15	PP
BERGEN	148.38	357.5	19 44	0				23 36	PKS
SIMFEROPOL	150.34	311.4	19 46	-2				19 53	PKP2
GOTEBORG	150.40	349.8	19 48	0				30 54	
KSARA	151.23	288.4	19 58	9					
BANGUI	151.34	215.0	19 56	7				40 0	
ABERDEEN	151.47	5.4	19 54A	5				30 9	SKKS
JERUSALEM	151.76	284.2	19 51A	1				20 32	PKP2
COPENHAGEN	152.25	348.0	19 49	-1				23 57	PP
EDINBURGH	152.60	7.1	20 19	28					
WARSAW	152.91	334.8	19 57	6	26 55	-2		23 47	PP
IASI	153.30	320.2	19 59	7				20 28	PKP2
LWOW	153.45	328.1	19 52	0				23 46	PP
DURHAM	153.90	5.5	19 52K	-1				24 12	PP
BACAU	154.03	319.6						20 30	PKP2
FOCSANI	154.34	317.7	20 55	62				22 45	
RATHFARNHAM	154.68	12.5	19 56A	2				24 4	PP
KRAKOW	155.06	333.0	19 55	1				20 16	PKP2
POTSDAM	155.22	344.6	19 52	-2				24 2	PP
CHORZOW	155.23	334.4	20 24	30	26 52	-8		31 56	PKKS
SKALNATE PL.	155.60	331.2	19 55	0				24 19	PP
BUCHAREST	155.68	316.1	20 2K	7				24 45	PP
RACIBORZ	155.70	335.1	19 56	1				24 9	PP
WITTEVEEN	155.84	354.0	19 59	4					
CAMPULUNG	155.85	318.9	20 24	29				20 28	PKP2
COLLMBERG	156.23	343.7	19 55	-1			20 26	24 28	PP
HALLE	156.29	345.4	19 55	-1				44 19	SS
MUNSTER	156.58	352.2	19 56	0				20 45	
DE BILT	156.67	356.0	19 59	3				24 37	PP
MBOUR	156.85	124.3	20 0	3				23 53	PP
JENA	156.91	345.4	19 55	-2				23 46	PP
PRAGUE	156.96	340.3	19 57	0				24 2	PP
PRUHONICE	157.01	340.0	19 56A	-1				24 4	PP
PLAUEN	157.19	344.2	20 0	3				20 31	PKP2
KEW	157.27	4.8	19 56A	-1				24 6	PP
BUDAPEST	157.43	330.1	20 8	11				24 28	PP
HURBANOVO	157.48	331.8	20 2	5	27 24	22		24 38	PP
SONNEBERG	157.51	345.5	19 57	0				20 29	PKP2
CHEB	157.51	343.4	20 30	33	26 49	-13		24 0	PP
BENSBERG	157.63	352.4	19 56	-2				24 17	PP
TIMISOARA	157.63	324.1	20 1	3				24 7	PP
BRATISLAVA	157.68	333.9	19 56K	-2	27 38	36		24 14	PP
VIENNA-H.	157.89	335.0	19 57	-1				24 20	PP
UCCLE	158.01	357.1	19 58	0				24 14	PP
SOFIA	158.30	315.2	19 57	-1	26 47	-16		24 45	
BELGRADE	158.66	323.2	19 59K	0				27 21	
DOURBES	158.70	356.5	19 59K	0					
JERSEY	159.35	8.8	20 18	18				38 21	
STUTTART	159.43	347.4	19 59	-1				24 27	PP
TUBINGEN	159.70	347.6	19 59	-1				24 18	PP
SKOPJE	159.87	315.6	19 57A	-3				24 54	PP
STRASBOURG	159.88	350.0	20 0A	0					
FOLINIERE	159.94	6.0	19 53	-7					

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ZAGREB	160.03	331.8	19 59	-1					24 57	PP
PARIS	160.04	0.3	20 1	1	26 59	-5				
EBINGEN	160.06	347.5	19 59	-1					24 18	PP
ATHENS	160.20	302.9	19 52K	-9					24 25	PP
RAVENSBURG	160.31	345.9	19 59	-2					24 55	
LJUBLJANA	160.42	334.6	19 59	-2					24 35	PP
TOLMEZZO	160.65	337.9	20 13	12	25 59	-66			20 56	
TRIESTE	161.04	335.4	20 2	1	26 56	-9			21 6	PKP2
CHUR	161.21	345.2	20 2K	0					24 35	PP
NEUCHATEL	161.54	350.6	20 1	-1					25 1	PP
OROPA	162.71	347.3	20 16	13					29 16	
PAVIA	162.87	344.1	19 53	-10					25 14	PP
BOLOGNA	162.88	338.4	20 19	16					21 31	
CLERMONT-FD.	163.08	358.8	20 5	1	27 4	-3				
PRATO	163.51	337.9	20 2	-2	26 31	-36				
MONACO	164.63	346.7	20 25	20						
SERRA PILAR	164.68	33.8	19 58A	-7	26 57	-11			24 41	PP
ROME	164.69	331.0	20 5A	0					24 42	PP
REGGIO CALA.	165.74	313.8	19 56	-10					25 13	
MESSINA	165.74	314.3	19 59	-7						
LISBON	166.11	41.7	20 7K	1					24 56	PP
BARCELONA	167.43	1.7	20 27	20						
TOLEDO	167.68	24.8	20 7	0	26 14	-56			25 11	PP
TORTOSA	167.91	7.7	20 10	2					25 43	PP
ALICANTE	170.15	14.4	20 12	3	27 9	-2			25 15	PP
GRANADA	170.17	30.5	20 10K	1	28 12	61			25 18	PP
ALMERIA	170.92	26.8	20 6	-3	27 14	3			25 6	PP
ALGIERS UNI.	172.07	357.5	20 9	-1					25 26	PP
SETIF	172.28	343.0	20 9	-1					25 16	PP
RELIZANE	172.88	13.7	20 11A	1					25 29	PP
TAMANRASSET	173.44	204.1	20 12A	1					24 28	PP

SEPTEMBER 14 17.H 6.M 15.S EPICENTRE -28.70-177.17 DEPTH= 0.KM

A=-0.87743 B=-0.04338 C=-0.47774 D=-0.0494 E= 0.9988  
G= 0.4772 H= 0.0236 K=-0.8785 HT= 2.2

SE= 2.36

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
RAOUL ISLAND	0.86	230.0	0	23	4							
ONERAHI	10.05	223.3	2	27	-2						2	48
AUCKLAND	10.58	217.6	2	53	17							
KARAPIRO	11.04	211.6	2	38	-4						2	50
TUAI	11.12	203.6	2	45	1	4	36	-14				
SUVA	11.25	338.0	2	45	0							
WELLINGTON	14.17	205.6	3	27	3	5	45	-18				
COBB RIVER	14.86	211.1	3	37	4	6	2	-18				
APIA	15.65	19.8	3	41	-3	6	21	-17			4	3
GEBBIES PASS	17.05	205.9	3	54	-7	6	50	-21			4	6
BRISBANE	26.52	265.6	5	42A	1	10	3	-11				
RIVERVIEW	27.49	251.3	5	52	2						7	0
CANBERRA	29.34	248.3	6	8A	1	11	17	17			7	9
MELBOURNE	32.76	243.9	6	38K	1						8	8
CHARTERS TS.	34.28	276.2	6	51	1	12	28	11				
ADELAIDE	37.76	249.0	7	20	1	13	25	14			9	37
RABAUL	37.96	304.2	7	20	-1	13	25	11			9	34
PORT MORESBY	38.59	292.7	7	26	0						9	40
CAPE HALLETT	44.19	185.5	8	13K	0						10	2
TERRE ADELIE	45.62	201.5	8	27	3	15	6	-1				
DUMONT	45.98	202.1	8	27	0	15	6	-6			15	21
SCOTT BASE	49.78	184.4	8	58A	2	16	10	4			19	51
HAWAII V.OB.	52.32	26.4	9	17	1	16	45	4				
HONOLULU	53.01	22.4	9	21	0							
KIPAPA	53.14	22.5	9	21	-1							
GUAM	55.79	313.5	9	39	-2							
BYRD STATION	56.47	169.8	9	44	-2						10	18
MUNDARING	56.77	248.9	9	46	-2							
WILKES	56.99	207.3	9	44	-6	17	32	-11			19	21
PERTH	57.09	248.8	9	50	-1						13	31
SOUTH POLE	61.46	180.0	10	19	-2	18	41	0			13	0
MIRNY	63.97	206.4	10	34	-3						10	48
ARGENTINE I.	73.18	156.1	11	19	-16							
MANILA	73.61	297.3	11	35	-2						15	10
LEMBANG	73.79	271.0	11	36	-2	21	16	7				

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MAWSON	74.15	200.2	11 40A	0			
HALLEY BAY	74.35	172.6	11 38	-3			11 59 PCP
BAGUID CITY	75.03	298.5	11 43	-2			
TUKUBASAN	76.07	325.6	11 46K	-5			15 1 PP
MATUSIRO	77.27	324.6	11 57A	-1	21 40	-8	
ABUYAMA	77.39	321.8	11 59A	0			
KERGUELEN	82.00	217.5	12 24	1	22 46	9	
HONG KONG	83.35	299.7	12 33	3	22 55	4	
ZO-SE	83.55	310.6	12 32A	1			
Y.-SAKHLINSK	83.61	333.7	12 33	1			22 59 SCS
PASADENA	83.78	45.6	12 36	3			13 1
LICK	83.81	41.4	12 29K	-4			
BERKELEY	83.82	40.6	12 34	1	23 0	4	
PETROPAVLOVK	84.06	345.6	12 32	-2	22 53	-5	12 46
UKIAH	84.15	39.2	12 37	3			
CANTON	84.43	299.9	12 37A	1			12 50
FRESNO	84.51	42.8	12 36A	0			
VLADIVOSTOK	85.41	325.2	12 41	0			23 3 SKKS
SHASTA	85.71	38.5	12 42	0			
NANKING	85.75	310.0	12 44A	2			12 56
MINERAL	85.90	39.2	12 42	-1			
RENO	86.36	40.7	12 47K	2			
BOULDER CITY	87.06	46.0	12 48	-1			
TUCSON	87.42	51.0	12 52	1	23 21	-10	
TUCSON TELE.	87.55	51.0	12 51	0			38 48 PKPPKP
CORVALLIS	87.94	35.3	12 53	0			
PHU-LIEN	88.43	294.6	12 54	-1	23 23	-17	16 31 PP
EUREKA	88.57	42.7	12 55	-1			
CHIHUAHUA	88.71	56.3			24 14	31	14 44
TACUBAYA	89.14	67.4	13 5	6	23 46	-1	17 34
CHANGCHUN	89.33	322.4	13 0A	0	23 40	-8	24 9
VICTORIA	90.66	32.4	13 5K	-1			
VERA CRUZ	91.54	69.0	13 54	44			16 34 PP
MAGADAN	91.82	344.3	13 11	0			16 47 PP
PEKING	92.22	315.1	13 14A	1	24 1	-13	23 47 SKS
KUNMING	93.71	296.5	13 22A	2	23 58	-29	16 25 PP
SIAN	93.78	307.1	13 22A	2			13 35 PCP
HUANCAYO	94.43	106.2	13 27	4	24 2	-31	
BUTTE	94.59	39.2	13 24	0			
HUNGRY HORSE	95.23	36.7	13 32	5			
COLLEGE	96.03	12.1	13 28	-3			17 19 PP
LA PAZ	98.05	113.7	13 46	6	24 18	1	26 30 PS
LANCHOW	98.28	306.5	13 42	1			
YAKUTSK	99.94	337.5	13 50	2			
CHITTAGONG	101.25	289.3	13 59	5	24 36	3	18 8 PP
ULAN-BATOR	102.11	318.1	13 57	-1			
SHILLONG	102.61	292.3	14 1	1			24 51
TIKSI	106.81	344.5					18 40 PP
CHATRA	106.97	291.6	18 9	777	25 19	20	
TERRE HAUTE	107.42	54.3	17 15	777			21 10
PENNSYLVANIA	114.75	55.6					19 49 PP
HERMANUS	115.33	195.0					35 48 SS
RESOLUTE	115.41	17.0					29 25 PS
BOMBAY	116.00	278.2	18 10	-35			
LAHORE	119.13	292.1	18 52	1			
KIMBERLEY	119.14	202.1	18 52K	1			
FRUNSE	121.71	304.8	18 56	0			20 28 PP
WARSAK DAM	122.06	294.0	18 56	-1			
KHEYS	123.61	350.7	18 59	-1			
QUETTA	124.82	288.4	19 3A	1			
STALINABAD	125.27	298.8	19 5	2			
TASHKENT	125.35	302.2					28 19 SKKS
BULAWAYO	125.43	210.1	19 4	1			
BROKEN HILL	130.45	213.4	19 15	2			22 19
SVERDLOVSK	131.03	321.9	19 17	3			22 39 SKP
ELISABTHVLE	133.35	214.2	19 14	-4			21 50 PP
KIZYL-ARVAT	135.02	298.0	19 22	0			22 54 PKS
APATITY	137.01	343.3	19 24	-1			22 58 PKS
SODANKYLA	138.73	346.3	19 22	-6			22 18 PP
KIRUNA	139.45	349.8	19 27	-3			22 23 PP
LWIRO	140.40	223.4	19 27	-4			
ADDIS ABABA	140.99	247.1	19 31	-1			
GORIS	142.72	298.4	19 32	-3			
MOSCOW	143.32	327.3	19 34	-2			22 45 PP
TIFLIS	143.68	302.3	19 36	-1			22 48 PP
PULKOVO	143.75	336.7	19 34	-3			22 45 PP
SKALSTUGAN	144.58	352.7	19 36A	-3			19 49
NURMI JARVI	144.95	341.3	19 39	0			
LEOPOLDVILLE	145.02	202.0	19 40A	1			



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HELSINKI	145.14	340.8	19 39	-1				
UPPSALA	147.26	346.2	19 44A	1			23 19	PP
GOTEBORG	150.31	350.1	19 49	1			20 2	
SIMFEROPOL	150.40	311.7	19 46	-2			27 4	PPP
KSARA	151.37	288.7	19 52	2	27 0	4	23 42	PP
BANGUI	151.54	214.7	19 59	9			30 24	
JERUSALEM	151.90	284.4	19 52	2			20 23	PKP2
COPENHAGEN	152.17	348.3	19 51	0			20 7	PKP2
WARSAW	152.88	335.1	19 57	5			27 12	PPP
IASI	153.32	320.5	20 7	15			20 31	PKP2
LWOW	153.44	328.4	19 52	-1	26 49	-9	27 17	PPP
DURHAM	153.75	5.8	19 51A	-2			23 46	PP
FOCSANI	154.37	318.0	20 11	17			23 17	
RATHFARNHAM	154.52	12.8	19 57	3				
KRAKOW	155.03	333.3					23 27	PKS
POTSDAM	155.15	345.0	19 54	-1			23 55	PP
SKALNATE PL.	155.58	331.6	20 3	8				
RACIBORZ	155.66	335.5	19 55	0			20 21	PKP2
BUCHAREST	155.72	316.5	20 0A	4			20 29	PKP2
WITTEVEEN	155.74	354.3	20 9	13				
COLLMBERG	156.17	344.1	19 55	-1			20 37	23 58
HALLE	156.22	345.8	19 57	1			24 1	PP
MUNSTER	156.48	352.6	19 57	0				
DE BILT	156.56	356.4	19 57	0				
JENA	156.84	345.8	19 57	0			24 4	PP
PRAGUE	156.91	340.7	20 29	32			24 4	PP
PRUHONICE	156.95	340.4	19 57A	0			24 5	PP
KEW	157.13	5.1	19 56	-1			24 5	PP
BUDAPEST	157.41	330.5	20 22	24			24 36	PP
SONNEBERG	157.44	345.9	19 58	0			20 40	
BENSBERG	157.53	352.8	19 58	0			20 42	PKP2
BRATISLAVA	157.65	334.3	19 58K	0	27 52	50	23 40	PP
UCCLE	157.90	357.4	20 0	2			24 10	PP
SOFIA	158.34	315.6	19 57	-2			20 35	PKP2
DOURBES	158.59	356.9	20 0	1				
BELGRADE	158.67	323.7	20 0K	1			28 13	
STUTTGART	159.35	347.8	20 0	0			24 19	PP
TUBINGEN	159.62	348.0	20 0	-1			24 19	PP
STRASBOURG	159.79	350.5	20 1	0			20 42	PKP2
FOLINIÈRE	159.80	6.4	20 2	1				
SKOPJE	159.91	316.1	20 37	36			21 1	
PARIS	159.92	0.7	20 2	1			20 56	PKP2
EBINGEN	159.98	347.9	20 0	-1			24 20	PP
ZAGREB	160.01	332.3	20 3	2			26 33	
RAVENSBERG	160.23	346.4	20 0	-1			24 21	PP
LJUBLJANA	160.39	335.1	20 0A	-1			20 54	PKP2
TOLMEZZO	160.60	338.4	20 17	15			21 9	
TRIESTE	161.01	335.9	20 3	1			24 41	PP
CHUR	161.14	345.7	20 47K	45			24 41	PKS
NEUCHÂTEL	161.45	351.1	20 3	1			24 29	PKS
CLERMONT-FD.	162.96	359.3	20 6	2				
PRATO	163.46	338.6	19 58	-6			25 2	PP
ROME	164.67	331.7	20 8A	2			24 47	PP
REGGIO CALA.	165.78	314.5	20 3	-4			24 43	
MESSINA	165.78	315.1					21 6	
TOLEDO	167.49	25.2	20 9	1				
TORTOSA	167.76	8.4	19 57	-11			24 0	
GRANADA	169.97	30.9	20 12A	3	27 8	-4	25 15	PP
ALICANTE	169.99	15.1	20 9	0	27 11	-1	21 26	PKP2
ALMERIA	170.73	27.4	20 9	-1				
ALGIERS UNI.	171.95	358.7	20 10	0			25 24	PP
SETIF	172.21	344.5	20 11	0			25 28	PP
RELIZANE	172.71	14.8	20 11	0			25 28	PP
TAMANRASSET	173.63	203.0	20 13A	2			25 27	PP

SEPTEMBER 14 17.H 22.M 27.S EPICENTRE 46.27 151.37 DEPTH= 0.KM

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SE= 3.19

	DELTA	AZ.	P		O-C	S			*PP		SUPP.	
	DEG.	DEG.	M	S	S	M	S	S	M	S	M	S
Y.-SAKHLINSK	6.00	280.3	1	42	10	2	49	7				
UGLEGORSK	6.88	297.5	1	55	11							

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PETROPAVLOVK	8.25	32.3			3 38 -1	
MIZUSAWA	10.37	230.2			4 22 -9	
TUKUBASAN	13.12	224.1	3 10	0	5 19 -19	6 16 PPS
MAGADAN	13.31	358.7	3 23	10		
MATUSIRO	13.84	230.1	3 21A	1		
YAKUTSK	20.08	329.6	4 40	2		
COLLEGE	37.28	38.0	7 16	1		
HONG KONG	38.42	244.3	7 26	1		
SHILLONG	51.16	267.6	9 7A	0		
CORVALLIS	57.03	58.1	9 51A	1		
APATITY	57.31	336.2	9 50K	-2		
BANFF	57.59	48.1	9 54	0		
DEHRA DUN	57.73	281.6	9 55	0		
SODANKYLA	59.26	338.3	10 3	-2		10 52 PCP
LAHORE	59.48	285.0	10 6A	-1		
WARSAK DAM	59.82	288.9	10 9A	0		
SHASTA	59.84	61.3	10 10A	1		
HUNGRY HORSE	60.04	50.1	10 11	0		
KIRUNA	60.41	340.7	10 11	-2		
MINERAL	60.53	61.2	10 14A	0		
RENO	62.12	61.0	10 25	0		
BUTTE	62.26	51.5	10 25	-1		
LICK	62.35	64.0	10 27A	1		
EUREKA	64.46	59.0	10 40	0		
NURMI JARVI	65.12	334.1	10 43	-2		11 18 PCP
QUETTA	65.25	288.4	10 45A	0		
HELSINKI	65.30	333.7	10 44	-2		
SKALSTUGAN	65.82	341.3	10 47	-2		
CHARTERS TS.	66.20	185.2	10 6	-45		
UPPSALA	67.69	336.8	10 59A	-2		11 28 PCP
REYKJAVIK	69.82	356.9	11 15	1		
SIDA	69.98	355.0	11 16	1		
TIFLIS	70.77	310.5	11 22	2		
GOTEBORG	71.05	338.3	11 20	-2		
TUCSON TELE.	72.39	61.6	11 29	-1		
BRISBANE	73.32	178.7	11 35	0		
SKALNATE PL.	75.87	329.4	11 51	1		
COLLMBERG	76.41	334.6	11 51	-2		
HALLE	76.54	335.3	11 44	-9		
PRUHONICE	77.09	333.0	11 56A	-1		
JENA	77.15	335.2	11 56	-1		12 25
MUNSTER	77.31	338.0	11 58	0		
SONNEBERG	77.75	335.2	12 9	9		
BRATISLAVA	77.83	330.6	12 1	0		
BENSBERG	78.34	337.8	12 4	1		
RATHFARNHAM	78.99	346.6	12 5	-2		
KEW	79.64	342.4	12 11	0		
STUTT GART	79.75	335.6	12 11	0		
TUBINGEN	80.03	335.6	12 13	0		
STRASBOURG	80.35	336.4	12 14	0		
EBINGEN	80.37	335.5	12 15	1		
BREBEUF	80.39	30.3	12 14	-1		
RAVENSBERG	80.54	335.0	12 16	1		
CANBERRA	81.24	182.0			21 38 -51	
PARIS	81.50	339.8	12 21	1		
FOLNIERE	82.22	341.6	12 10	-14		
BYRD STATION	135.02	165.7	19 20	-1		
SOUTH POLE	136.07	180.0	19 12	-11		

SEPTEMBER 14 22.H 23.M 53.S EPICENTRE -28.73-177.09 DEPTH= 0.KM

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G= 0.4776 H= 0.0243 K=-0.8783 HT= 2.2

SE= 3.32

	DELTA DEG.	AZ. DEG.	P		O-C S	S O-C			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
RAOUL ISLAND	0.89	234.3	0	22	2							
ONERAHI	10.07	223.7	2	34	5						2	49
KARAPIRO	11.05	212.0	2	38	-4						3	8
TUAI	11.13	204.0	2	43	0	4	32	-18				
SUVA	11.30	337.7	2	41	-5							
WELLINGTON	14.18	205.8	3	28	4	5	42	-21				
COBB RIVER	14.87	211.4	3	37	4	5	58	-22				
APIA	15.65	19.5	3	37	-6	6	23	-15				

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GEBBIES PASS	17.06	206.1	3 55	-6	6 45	-26					
BRISBANE	26.59	265.6	5 41	-1	10 28	13					
RIVERVIEW	27.55	251.3	5 52A	2	10 29	-2					
CANBERRA	29.39	248.4	6 7A	0	11 13	12			7 11	PP	
MELBOURNE	32.81	244.0	6 37K	0							
CHARTERS TS.	34.36	276.2	6 51	0	12 27	9					
ADELAIDE	37.81	249.0	7 19	-1							
RABAUL	38.03	304.2	7 24	2					9 39	PCP	
PORT MORESBY	38.66	292.6	7 27	0	13 11	-13			9 40	PCP	
CAPE HALLETT	44.17	185.5	8 12	0	14 51	5			18 17	SCS	
TERRE ADELIE	45.62	201.5	8 22	-2							
DUMONT	45.98	202.1	8 22	-5							
HONOLULU	53.01	22.3	9 23	2	17 13	23					
KIPAPA	53.14	22.4	9 22	0							
GUAM	55.86	313.4	9 43	1							
BYRD STATION	56.43	169.8	9 43	-3					10 58	PCP	
MUNDARING	56.82	248.8	9 44	-5							
WILKES	56.99	207.3	9 47	-3	17 33	-10			14 41	PCS	
PERTH	57.14	248.8	9 54	3							
SOUTH POLE	61.43	180.0	10 18	-2	18 55	14			11 43		
LEMBANG	73.86	271.0	11 37	-1	21 17	7					
TUKUBASAN	76.13	325.5	11 50A	-1	21 32	-3			14 41	PP	
MATUSIRO	77.33	324.5	11 57A	-1	21 42	-6			27 3	SS	
ABUYAMA	77.45	321.7	11 59A	0							
HONG KONG	83.42	299.7	12 31	0	22 55	3					
Y.-SAKHLINSK	83.67	333.6	12 33	1	22 53	-1					
PASADENA	83.75	45.6	12 34	2	23 1	6			28 7	SS	
LICK	83.79	41.3	12 34K	2							
BERKELEY	83.80	40.6	12 33	1	23 1	6			28 45	SS	
PETROPAVLOVK	84.11	345.5	12 29	-5	22 31	-27					
FRESNO	84.49	42.7	12 38	2							
UGLEGORSK	85.61	334.5	12 44	2							
SHASTA	85.68	38.5	12 43	1							
NANKING	85.83	310.0	12 44A	1	23 25	10					
MINERAL	85.88	39.2	12 54A	11							
RENO	86.34	40.7	12 37	-8							
TUCSON	87.38	50.9	12 52	2	23 39	9			16 23	PP	
TUCSON TELE.	87.51	50.9	12 52	1					30 41	PKKP	
EUREKA	88.54	42.7	12 56	0							
CHANGCHUN	89.39	322.3	13 1A	1	23 43	-6			24 9		
VICTORIA	90.64	32.4	13 5A	-1							
HORSESHOE B.	91.32	31.8	13 8	-1							
MAGADAN	91.87	344.3	13 14	3							
PEKING	92.29	315.1	13 14	1	23 46	-29					
KUNMING	93.78	296.5	13 21	1	23 59	-29					
HUANCAYO	94.35	106.2	13 31	8					17 19	PP	
BUTTE	94.57	39.1	13 25	1							
HUNGRY HORSE	95.21	36.7	13 35	8					17 31	PP	
PORT BLAIR	95.68	280.1			24 19	14					
COLLEGE	96.04	12.1	13 30	0	24 0	-7			17 23	PP	
LA PAZ	97.98	113.6	13 43	4	24 21	4			26 39	PS	
LANCHOW	98.36	306.5	13 42	1							
YAKUTSK	99.99	337.5							17 53	PP	
ULAN-BATOR	102.18	318.1			24 38	0					
CHINCHINA	102.42	91.1							27 20	PS	
SHILLONG	102.69	292.2	14 1K	1					17 9		
BOGOTA	103.62	92.2			24 44	0			18 24	PP	
FUQUENE	104.32	91.6							18 26	PP	
IRKUTSK	105.69	321.3	17 43	777					18 44	PP	
TIKSI	106.86	344.4									
CHATRA	107.05	291.6			25 22	22					
GRAHAMSTOWN	114.34	201.6	18 48	6							
AGRA	114.71	288.5							19 42		
PENNSYLVANIA	114.71	55.6							35 37	SS	
RESOLUTE	115.42	17.0			25 31	-3			19 43	PP	
DEHRA DUN	115.78	291.8			25 29	-6					
PALISADES	117.65	56.3			25 36	-6			20 6	PP	
KIMBERLEY	119.14	202.0	18 52K	1							
LAHORE	119.20	292.0	18 52	1							
WARSAK DAM	122.14	294.0	18 56	-1							
BERMUDA	122.56	68.1			25 57	-1			30 27	PS	
QUETTA	124.90	288.3	19 4A	2							
BULAWAYO	125.45	210.0	19 4	1							
BROKEN HILL	130.47	213.3	19 15	2							
SVERDLOVSK	131.09	321.9	19 16	2							
ELISABTHVILLE	133.36	214.1	19 15	-3					22 48	SKP	
APATITY	137.06	343.4	19 27	2					22 10	PP	
SODANKYLA	138.77	346.3	19 22	-6							

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1959					PAGE 730
KIRUNA	139.49	349.9	19 26	-4	22 23 PP
LWIRO	140.43	223.2	19 27	-4	23 15
MAKHACH-KALA	141.61	303.9	19 28	-5	23 11 PKS
MOSCOW	143.39	327.3	19 34	-2	32 55 PS
TIFLIS	143.75	302.3	19 36	-1	
PULKOVO	143.80	336.8	19 34	-3	
SKALSTUGAN	144.62	352.8	19 36A	-2	
NURMI JARVI	145.00	341.4	19 39	0	
LEOPOLDVILLE	145.02	201.8	19 39A	0	22 58 PP
HELSINKI	145.19	340.8	19 39	-1	
SOTCHI	147.09	306.7	19 46	3	
UPPSALA	147.31	346.3	19 44A	1	33 21 SKSP
GOTE BORG	150.35	350.1	19 59A	11	20 33
SIMFEROPOL	150.47	311.7	19 49	1	30 37 SKKS
ABERDEEN	151.35	5.7			22 37
KSARA	151.44	288.6	19 55	5	23 43 PP
BANGUI	151.56	214.5	19 58	8	30 42
JERUSALEM	151.98	284.3	19 59	9	
COPENHAGEN	152.21	348.4	19 53	2	23 40 PP
LWOW	153.51	328.5	19 53	1	27 17 19
DURHAM	153.78	5.9	20 16K	23	
RATHFARNHAM	154.53	12.9	20 3	9	
KRAKOW	155.09	333.4	20 8	13	23 58 PP
POTSDAM	155.19	345.1	19 56	1	23 55 PP
RACIBORZ	155.72	335.6	19 59	4	20 24 PKP2
COLLMBERG	156.21	344.2	19 54	-2	20 28
HALLE	156.26	345.9	19 58	2	20 53
DE BILT	156.59	356.5	20 1	4	24 7 PP
MBOUR	156.69	123.6	19 59	2	30 59 SKKS
JENA	156.88	345.9	19 57	0	24 3 PP
PRUHONICE	157.00	340.5	20 0A	3	24 8 PP
KEW	157.16	5.2	19 59	2	
SONNEBERG	157.48	346.1	19 59	1	
BENSBERG	157.56	352.9	20 34	36	
BRATISLAVA	157.70	334.4	19 59K	1	
SOFIA	158.41	315.6	19 57	-2	20 37 PKP2
DOURBES	158.62	357.0	20 4	5	
BELGRADE	158.73	323.7	20 15K	16	
STUTTART	159.40	348.0	20 0	0	24 19 PP
FOLINIERE	159.82	6.5	19 59	-2	
STRASBOURG	159.83	350.6	20 0	-1	24 19 PP
PARIS	159.95	0.8	20 3	2	24 42
LJUBLJANA	160.44	335.3	20 1K	0	20 17
TOLMEZZO	160.65	338.5	20 17	16	
TRIESTE	161.06	336.0	20 50	48	21 4 PKP2
CLERMONT-FD.	162.99	359.5	20 4	0	
ROME	164.73	331.9	20 7	1	24 51
TOLEDO	167.48	25.5	20 10	2	
GRANADA	169.96	31.3	21 5K	56	25 41 PP
ALGIERS UNI.	171.98	359.2	20 11	1	25 28 PP
SETIF	172.26	344.9	20 11	0	21 37 PKP2
RELIZANE	172.72	15.3	20 12	1	25 31 PP
TAMANRASSET	173.63	202.2	20 12A	1	25 33 PP

SEPTEMBER 15 5.H 59.M 41.S EPICENTRE -28.53-176.84 DEPTH= 0.KM

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SE= 3.12

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
ONERAHI	10.37	223.7	2	42	9							
AUCKLAND	10.89	218.1	2	59	18							
SUVA	11.20	336.2	2	44	-1							
KARAPIRO	11.34	212.2	2	43	-4							
TUAI	11.40	204.4	2	44	-3	4	46	-11				
WELLINGTON	14.45	206.1	3	23	-5	5	55	-15			3	36
COBB RIVER	15.16	211.6	3	43	6	6	12	-15				
APIA	15.39	18.8	3	35	-5	6	14	-18				
GEBBIES PASS	17.34	206.4	4	1	-4	6	56	-21			7	5
ROXBURGH	20.16	209.2	4	39	0							
BRISBANE	26.83	265.1	5	43	-1	10	17	-3				
RIVERVIEW	27.82	251.0	5	54A	1	10	37	1				
CANBERRA	29.67	248.1	6	12K	2	11	21	16			7	19 PP
MELBOURNE	33.09	243.7	6	42A	2				6	59	11	28

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CHARTERS TS.	34.55	275.7	6 52	-1	12 21	-1	
ADELAIDE	38.09	248.8	7 23	1	13 17	1	8 59 PP
RABAUL	38.10	303.7	7 25	2			8 58 PP
PORT MORESBY	38.79	292.2	7 27A	-1	13 19	-8	9 34 PCP
CAPE HALLETT	44.40	185.6	8 18A	4			18 30 SSS
TERRE ADELIE	45.88	201.5	8 28	2	15 12	1	
DUMONT	46.25	202.1	8 28	-1	15 12	-4	
SCOTT BASE	49.98	184.5	8 58A	0	16 15	6	20 1 SS
HONOLULU	52.74	22.1	9 18	-1	16 51	4	
KIPAPA	52.87	22.1	9 18	-2			
GUAM	55.89	313.1	9 39	-3	17 47	18	13 17 PPP
BYRD STATION	56.59	169.9	9 47	0	18 41	63	14 19
MUNDARING	57.10	248.7	9 47	-4			
WILKES	57.27	207.3	9 51	-1	17 42	-5	12 17 PP
PERTH	57.42	248.6	9 53	0	17 37	-12	
SOUTH POLE	61.64	180.0	9 19	-63	18 46	2	19 17
MIRNY	64.25	206.4	10 38	-1	19 18	1	19 33 PS
MANILA	73.79	297.1	11 42	4	20 42	-27	
LEMBANG	74.08	270.8	11 38	-2			29 29 SSS
DJAKARTA	75.07	271.0	11 45	-1	21 3	-21	
BAGUIO CITY	75.20	298.2	11 46	0			
MERA	75.21	324.3	11 46	-1			
OSIMA	75.33	323.9	11 39	-8	21 36	10	
YOKOHAMA	75.70	324.5	11 48	-1	21 45	14	
OMAESAKI	75.80	323.1	11 43	-7	21 35	3	
MISIMA	75.82	323.9	11 46	-4			
SHIZUOKA	75.99	323.4	11 55	4	21 42	8	
MITO	76.03	325.7	11 59	8			
TUKUBASAN	76.09	325.3	11 49A	-3	21 30	-5	14 39 PP
HUNATU	76.21	324.0	11 50	-2			
UTUNOMIYA	76.46	325.4	11 59	5	21 35	-4	
SHIRAKAWA	76.74	326.0	11 56	1			
MAEBASI	76.75	324.8	11 56	1			
ONAGOYA	76.90	322.6			21 31	-13	12 57
KAMEYAMA	76.93	322.1	11 56	0	21 54	10	15 21 PP
OIWAKE	76.96	324.4	11 56	0	22 31	47	
MUROTO	77.01	319.5	11 45	-12			
HUKUSIMA	77.11	326.5	11 58	1	22 0	14	
GIHU	77.18	322.7	12 17	19			14 55
ISINOMAKI	77.24	327.5	11 58	0			
OSAKA	77.29	321.4	11 59	1	22 19	31	15 11
MATUSIRO	77.30	324.3	11 55K	-3	21 45	-3	26 54 SS
SENDAI	77.31	327.1	11 58	0	22 1	13	
HIKONE	77.36	322.2	12 0	1	21 55	6	
TOKUSIMA	77.39	320.4	12 46	47			
NAGANO	77.40	324.4	11 59	0	22 4	15	
SUMOTO	77.40	320.8	11 59	0	21 52	3	15 25
ABUYAMA	77.43	321.5	11 58A	-1			
KYOTO	77.46	321.7	11 59	0			18 0
KOBE	77.50	321.2	12 0	1	22 5	15	
KOTI	77.60	319.4	12 0	0	21 52	1	
TAKADA	77.71	324.7	12 17	17			
TAKAMATU	77.87	320.2	12 3	2			
MIZUSAWA	77.89	327.8	12 3	1	22 3	9	
MIYAKO	77.92	328.7	12 2	0	22 6	11	
TOYAMA	77.94	323.8	11 47	-15	22 1	6	
NIIGATA	77.94	325.7	12 3	1			
SAKATA	78.33	326.9	12 17	13			
TOYOOKA	78.33	321.5	12 3	-1	22 8	9	
OOITA	78.49	317.9	12 5	0	21 55	-6	
WAZIMA	78.61	324.1	12 1	-4			
KUMAMOTO	78.74	317.1	12 7	1			
HATINOHE	78.83	328.9	12 3	-4	22 7	3	
HIROSIWA	78.83	319.3	12 6	-1			
AKITA	78.84	327.5	12 9	2	22 3	-2	15 15
YONAGO	79.07	320.6	12 21	13	22 16	9	
NAGASAKI	79.17	316.5	12 8	-1			17 31
NEMURO	79.39	333.1	12 10	0	22 23	13	
AGMORI	79.40	328.6	12 12	2	22 30	19	
SIMONOSEKI	79.40	318.0	12 18	8			
HUKUOKA	79.47	317.5	12 5	-5	21 24	-47	
KUSIRO	79.58	332.2	12 11	0	22 23	11	21 16
URAKAWA	79.58	330.7	12 13	2			
TOMIE	79.77	315.8	12 2	-10			
OBIHIRO	80.03	331.4	12 15	2			
HAKODATE	80.20	329.2	12 14	0			
TOMAKOMA I	80.49	330.2	12 28	12			
ABASHIRI	80.49	332.7	12 16	0	22 27	5	
MORI	80.51	329.3	12 20	4	22 16	-6	

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SAPPORO	80.95	330.4	12 17	-1	22 25	-2				26 57	SS
SUTTSU	81.22	329.5	12 25	6	22 47	17					
KERGUELEN I.	82.31	217.4	12 25	0	23 13	32					
WAKKANAI	82.70	331.9	12 32	5	22 55	10					
VINEYARD	83.24	41.8	12 29	-1							
SAN FRANCISCO	83.32	40.4	12 35	5	22 45	-6					
PASADENA	83.46	45.5	12 31A	0	22 54	2			15 44	PP	
LICK	83.49	41.2	12 32K	1							
BERKELEY	83.50	40.5	12 31A	0	22 55	2					
HONG KONG	83.51	299.5	12 32A	1	22 57	4			15 40	PP	
Y.-SAKHLINSK	83.58	333.5	12 31	-1							
ZO-SE	83.66	310.4	12 32A	0	23 8	14			23 57	PS	
UKIAH	83.84	39.0	12 32K	-1	23 9	13			30 23	PKKP	
PETROPAVLOVK	83.97	345.4	12 32	-2	22 51	-6			17 44	PPP	
FRESNO	84.19	42.6	12 35A	0							
MANZANILLO	84.49	65.0							21 28		
CANTON	84.59	299.8	12 38A	1	23 16	12			16 1	PP	
ARCATA	84.60	37.3	12 37A	0							
SHASTA	85.39	38.4	12 40K	-1							
VLADIVOSTOK	85.43	325.0	12 41	0					16 10		
MINERAL	85.58	39.0	12 40	-2							
NANKING	85.86	309.9	12 44	1							
RENO	86.04	40.6	12 44A	0							
BOULDER CITY	86.73	45.8	12 48K	1					16 42	PP	
TUCSON	87.09	50.8	12 49K	0	23 23	-5			16 22	PP	
TUCSON TELE.	87.21	50.8	12 50K	0					38 55	PKPPKP	
CORVALLIS	87.63	35.1	12 51A	-1							
WUHAN	87.88	306.5	12 55A	2							
EUREKA	88.24	42.6	12 54K	-1							
CHIHUAHUA	88.37	56.1	13 4	9	23 46	6			17 30	PP	
PHU-LIEN	88.62	294.5	12 57	1	23 25	-17					
TACUBAYA	88.80	67.3	13 1A	4	23 47	3			16 32	PP	
CHANGCHUN	89.37	322.2	13 0A	0							
OAXACA	89.60	70.5			23 34	-17			29 58	SS	
VICTORIA	90.36	32.3	12 59K	-6	20 3-235				15 35	PP	
HORSESHOE B.	91.03	31.7	13 5A	-3							
VERA CRUZ	91.21	68.9	13 13	4	23 30	-36			30 10	SS	
SALT LAKE C.	91.52	43.5	13 10	0							
MAGADAN	91.73	344.2	13 9	-2					16 39	PP	
SITKA	92.17	21.3	13 13	0							
ANTOFAGASTA	92.19	118.4							15 22		
PEKING	92.31	315.0	13 14A	0	24 27	12			23 45	SKS	
COMITAN	93.11	73.3			24 42	20			23 52	SKS	
KUNMING	93.89	296.4	13 23A	2	24 45	16			23 56	SKS	
HUANCAYO	94.20	106.0	15 24	122					17 13	PP	
BUTTE	94.28	39.0	13 23K	0					17 9	PP	
BUENOS AIRES	94.37	133.3	15 28	125							
BOZEMAN	94.92	39.9	13 26A	0					17 17	PP	
HUNGRY HORSE	94.92	36.6	13 24A	-2	23 49	-49			17 17	PP	
COLLEGE	95.80	12.0	13 28K	-2	24 45	39			17 24	PP	
PORT BLAIR	95.86	280.0	13 37	7					24 27		
BANFF	95.92	33.7	13 29	-1							
PAOTOW	96.51	312.8	13 34	1							
LA PAZ	97.86	113.5	13 39	0	24 19	2			17 36	PP	
LANCHOW	98.41	306.4	13 42	1	24 20	1					
YAKUTSK	99.89	337.4	13 45	-3					17 53	PP	
FAYETTEVILLE	100.80	54.9	13 54	2	24 9	-22					
SASKATOON	100.98	36.2			25 27	55					
LAWRENCE	101.38	51.9	14 19	24							
CHITTAGONG	101.46	289.2	14 0	5	25 43	69			18 12	PP	
ULAN-BATOR	102.18	318.1	15 57	119							
CHINCHINA	102.21	91.0	14 2	3	24 38	0			18 13	PP	
SHILLONG	102.82	292.2	14 1	0	24 52	11			15 31		
BOGOTA	103.41	92.0	14 8	4	24 42	-2			18 23	PP	
FUQUENE	104.10	91.4	14 15	8	24 58	11			18 26	PP	
FLORISSANT	104.72	53.7							27 57	PS	
ST. LOUIS 1	104.76	53.9							18 36		
GALERAZAMBA	105.17	85.8			25 1	9			18 29		
IRKUTSK	105.67	321.2	14 12A	777	24 48	-6			27 53	PS	
TIKSI	106.72	344.4	14 22	777					19 16	PP	
BOKARO	107.10	288.2	18 57	777	25 6	6					
MADRAS	107.39	275.6	18 52	777							
KODAIKANAL	108.54	271.7	18 0	777					28 18		
HYDERABAD	110.78	279.0	19 6	31	25 45	29					
CHAPEL HILL	111.98	60.1	19 21	44							
PENNSYLVANIA	114.42	55.4			27 39	129			29 41	PS	
GRAHAMSTOWN	114.61	201.5	18 49	6							
AGRA	114.85	288.5	19 35A	52	25 27	-5			29 23		



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RESOLUTE	115.16	16.9	18 19	-25	25 39	6				19 39 PP
POONA	115.22	278.2	18 22	-22						29 21
HERMANUS	115.58	194.7								19 56 PP
TANANARIVE	116.24	227.6	18 49	3						20 10 PP
BOMBAY	116.26	278.1	20 7	81						29 36
SAN JUAN	116.39	82.5	18 47	1						20 32 PP
OTTAWA	117.18	51.0	18 45	-3						
FORDHAM	117.34	56.3	19 52	64						37 52
PALISADES	117.36	56.1	15 16	777	25 38	-3				30 2 PP
BREBEUF	118.64	51.3	18 51K	1						20 25 PP
SEMI PALATNSK	119.40	314.3	18 46	-6						20 6 PP
KIMBERLEY	119.40	201.8	18 52	0						
FRUNSE	121.84	304.8	18 56	-1						20 26 PP
WARSAK DAM	122.25	294.0	18 56	-1						
BERMUDA	122.28	68.0	15 34	777	25 57	-1				20 35 PP
KHEYS	123.48	350.7	15 29	777						20 39 PP
QUETTA	125.04	288.4	19 4A	1						20 56 PP
TASHKENT	125.51	302.2	19 3	-1						20 51 PP
NORD	126.27	3.5	19 2	-3						37 56 SS
BROKEN HILL	130.75	213.1	19 9	-5						21 36
SVERDLOVSK	131.07	322.1	19 13	-1						22 41 SKP
IVIGTUT	132.99	31.1								22 51 PKS
ASHKABAD	133.47	296.6	19 20	1						22 53 SKP
ELISABTHVLE	133.65	213.9	19 16	-3						21 53 PP
SCORESBY SD.	135.67	11.8	19 22	-1						21 57 PP
APATITY	136.93	343.5	19 18	-7						22 4 PP
SODANKYLA	138.63	346.5	19 22	-6						22 24 PP
KIRUNA	139.33	350.0	19 24A	-6						22 20 PP
REYKJAVIK	140.95	17.2	19 26	-7						
SIDA	142.19	15.2	19 36	1						
GORIS	142.89	298.7	19 33	-3						20 53
MOSCOW	143.33	327.6	19 33	-4						22 47 PP
PULKOV	143.70	337.0	19 33	-4						22 50 SKP
TIFLIS	143.83	302.6	19 35	-2						32 51 SKSP
SKALSTUGAN	144.45	353.0	19 35	-4						
NURMIJARVI	144.88	341.6	19 37	-2						
HELSINKI	145.07	341.1	19 37	-3						
LEOPOLDVILLE	145.28	201.5	19 41A	1						
UPPSALA	147.16	346.5	19 43A	0						23 7 PP
BERGEN	148.10	358.0	19 51	6						23 6 PKS
GOTEBORG	150.19	350.5	19 52	4						
SIMFEROPOL	150.50	312.1	19 49	1						23 23 PP
ABERDEEN	151.13	5.9	20 1K	12						
KSARA	151.58	289.0	19 51	1	27 5	9				23 43 PP
BANGUI	151.85	214.3	19 57	7						
COPENHAGEN	152.05	348.7	19 51A	0						23 37 PP
EDINBURGH	152.25	7.7								23 48 PP
WARSAW	152.84	335.6	20 0	8	26 54	-4				23 39
IASI	153.37	321.0	20 4	11						23 7
LWOW	153.45	328.9	19 53	0	26 52	-6				23 11 SKP
DURHAM	153.55	6.2	19 56	3	26 37	-21				
BACAU	154.11	320.5	19 50	-4						20 51
RATHFARNHAM	154.29	13.1	20 4	10						23 50 PP
KRAKOW	155.00	333.9	19 58	3						23 59 PP
POTSDAM	155.05	345.5	19 55	0						23 52 PP
SKALNATE PL.	155.56	332.2	19 58	2						24 1 PP
WITTEVEEN	155.59	354.8	20 1	5						
BUCHAREST	155.79	317.1	20 2	6						24 38 PP
CAMPULUNG	155.93	319.8	20 11	15						25 0
COLLMBERG	156.08	344.7	20 18	22						24 5 PP
HALLE	156.12	346.3	19 51	-5						24 45 PPP
MUNSTER	156.35	353.1	19 57	0						
DE BILT	156.40	356.9	19 57	0						24 1 PP
MBOUR	156.62	122.8	20 0	3						24 8 PP
JENA	156.74	346.4	19 56	-1						23 53 PP
PRAGUE	156.84	341.3	20 19	22						
PRUHONICE	156.88	341.0	19 57A	0						24 1 PP
KEW	156.93	5.6	19 58	1						24 2 PP
PLAUEN	157.03	345.2	20 30	32						20 39
SONNEBERG	157.34	346.6	19 57	-1						20 34 PKP2
CHEB	157.36	344.4	20 30	32						24 3 PP
BENSBERG	157.39	353.4	19 59	1						24 17 PP
BUDAPEST	157.40	331.2	20 38	40						24 0 PKS
HURBANOVO	157.43	332.9	20 58	60						
BRATISLAVA	157.61	334.9	19 59K	1	27 5	2				23 50 PP
TIMISOARA	157.66	325.2	20 4	6						20 44 PKP2
UCCLE	157.74	358.0	20 1	3						24 14 PP
VIENNA-H.	157.81	336.1	19 31	-28						24 18 PP



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TUCSON TELE.	87.20	50.7	12 50	0	
EUREKA	88.27	42.5	12 54	-1	
VICTORIA	90.43	32.2	13 5A	0	
HORSESHOE B.	91.11	31.6	13 0	-8	
COLLEGE	95.96	11.9	13 28	-2	17 23 PP
QUETTA	125.27	288.2	19 4	1	
ELISABTHVILLE	133.58	213.5	19 24	5	
APATITY	137.17	343.6	19 25	-1	
SODANKYLA	138.86	346.6	19 22	-7	
KIRUNA	139.56	350.1	19 28	-2	
MOSCOW	143.60	327.5	19 35	-2	
PULKOVO	143.95	337.1	19 33	-5	
TIFLIS	144.09	302.4	19 38	0	
SKALSTUGAN	144.67	353.1	19 36	-3	
NURMIJARVI	145.13	341.7	19 38	-2	
LEOPOLDVILLE	145.16	201.1	19 40	0	
HELSINKI	145.32	341.1	19 39	-1	
UPPSALA	147.40	346.6	19 45	2	
GOTEBORG	150.42	350.6	19 52	4	
JERUSALEM	152.36	284.3	20 0	9	
RACIBORZ	155.88	336.2	20 55	59	
JENA	156.97	346.6	19 58	1	20 56
KEW	157.12	5.9	19 56	-2	
PRUHONICE	157.13	341.2	20 29	31	
SONNEBERG	157.57	346.8	20 1	3	20 34
STUTTGART	159.48	348.8	20 1	1	
FOLINIÈRE	159.77	7.4	20 39	38	
TRIESTE	161.22	336.9	20 31	29	20 59
ALGIERS UNI.	171.98	1.8	20 5	-6	25 30 PP
RELIZANE	172.61	18.0	20 13	2	25 47 PP
TAMANRASSET	173.76	198.7	20 12	1	25 37 PP

SEPTEMBER 15 8.H 0.M 25.S EPICENTRE -28.93-177.20 DEPTH= 0.KM

A=-0.87557 B=-0.04285 C=-0.48118 D=-0.0489 E= 0.9988  
G= 0.4806 H= 0.0235 K=-0.8766 HT= 2.2

SE= 2.88

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	O-C S	M	S	M	S
RAOUL ISLAND	0.71	242.7	0	20	3							
ONERAHI	9.87	224.1	2	32	5							
KARAPIRO	10.83	212.1	2	36	4						2	52
TUAI	10.91	204.0				4	35	-10				
WELLINGTON	13.96	205.9				4	43	-76				
COBB RIVER	14.65	211.5	3	33	2	5	59	-16				
APIA	15.87	19.6	3	53	6	6	23	-21				
GEBBIES PASS	16.84	206.2	3	54	-5	6	44	-22				
BRISBANE	26.48	266.1	5	40	-1						6	41
RIVERVIEW	27.40	251.7	5	52A	3						5	59
CANBERRA	29.23	248.7	6	7	1				6	13		
MELBOURNE	32.64	244.2	6	38A	2							
CHARTERS TS.	34.28	276.5	6	48	-2							
ADELAIDE	37.66	249.3	7	19	0						7	35
CAPE HALLETT	43.97	185.5	8	11	0				8	16		
TERRE ADELIE	45.40	201.6	8	24	2							
DUMONT	45.76	202.2	8	24	-1							
SCOTT BASE	49.55	184.4	8	55	0							
KIPAPA	53.36	22.4	9	21	-3							
BYRD STATION	56.25	169.8	9	44	-1							
MUNDARING	56.66	249.0	9	44	-4							
SOUTH POLE	61.24	180.0	10	19	0						12	12 PP
MATUSIRO	77.44	324.6	11	54	-5							
LICK	84.00	41.4	12	40A	6							
FRESNO	84.69	42.8	12	37	0							
SHASTA	85.90	38.5	12	42A	-1							
MINERAL	86.09	39.2	12	43	-1							
RENO	86.55	40.7	12	45	-2							
TUCSON	87.58	51.0	12	51	-1							
TUCSON TELE.	87.71	51.0	12	53	1							
EUREKA	88.75	42.7	12	55	-2							
HUANCAYO	94.39	106.2	13	26	3							
COLLEGE	96.25	12.2	13	29	-3							
WARSAK DAM	122.13	293.9	18	55	-2							
QUETTA	124.87	288.2	19	2	0							

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BULAWAYO	125.23	210.1	19 3	0	
ELISABTHVLE	133.15	214.1	19 21	3	
APATITY	137.22	343.3	19 23	-3	
SODANKYLA	138.94	346.2	19 27	-2	
KIRUNA	139.66	349.8	19 26	-4	
MOSCOW	143.50	327.1	19 33	-4	
TIFLIS	143.78	302.0	19 34	-3	
LEOPOLDVILLE	144.80	201.9	19 38A	-1	
SKALSTUGAN	144.80	352.7	19 36	-3	
NURMIJARVI	145.16	341.2	19 39	-1	
HELSINKI	145.35	340.6	19 38	-2	
UPPSALA	147.47	346.1	19 44A	0	
SIMFEROPOL	150.53	311.4	19 56	7	
GOTEBORG	150.53	350.0	19 55A	6	
KSARA	151.41	288.3	19 57	7	
JERUSALEM	151.94	284.0	19 57K	6	
PRUHONICE	157.15	340.2	20 28K	30	
STUTTGART	159.57	347.7	19 55	-6	
LJUBLJANA	160.58	334.8	19 59K	-3	
RELIZANE	172.93	15.1	20 11	0	21 45 PKP2
TAMANRASSET	173.41	202.4	20 11	0	25 26 PP

SEPTEMBER 15 11.H 5.M 37.S EPICENTRE -21.97-179.46 DEPTH= 594.KM

A=-0.92818 B=-0.00875 C=-0.37203 D=-0.0094 E= 1.0000  
G= 0.3720 H= 0.0035 K=-0.9282 HT= 4.2

DEPTH OF FOCUS= 0.089R

SE= 2.15

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
SUVA	4.29	332.1	1	29	1							
RAOUL ISLAND	7.38	169.5	1	33	-21							
APIA	10.93	43.2	2	26	-2	4	19	-8			13	48 SCS
ONERAHI	14.76	200.1	3	10	4	5	44	9			13	53 SCS
AUCKLAND	15.66	197.3				5	55	4			13	59 SCS
KARAPIRO	16.48	194.1	3	23K	1							
TUAI	17.02	189.1	3	26	-2	6	11	-4			13	55 SCS
WELLINGTON	19.85	192.9	3	54	0	6	59	-3			14	5 SCS
COBB RIVER	20.16	197.3	3	56	-1	7	1	-6			14	1 SCS
GEBBIES PASS	22.63	195.0	4	17	-2	7	42	-5				
ROXBURGH	25.18	198.8									11	25 PCS
BRISBANE	25.76	252.3	4	45K	-2	8	34	-2				
RIVERVIEW	28.43	239.1	5	12A	2	9	19	1				
CANBERRA	30.56	237.3	5	29A	1	9	52	1			7	7 PP
CHARTERS TS.	32.01	267.0	5	40	0	10	10	-3				
RABAUL	32.69	298.7	5	44	-2						14	51
PORT MORESBY	34.40	286.0	6	0K	0	10	47	-2	7	42	11	10 SCP
MELBOURNE	34.41	234.6	6	3K	3	10	50	1	7	41		
ADELAIDE	38.71	241.1	6	36K	0	11	51	-2	8	19		
HONOLULU	47.80	27.3									12	2
KIPAPA	47.94	27.3									12	3
GUAM	49.73	311.8	7	59	-2						10	20 PP
CAPE HALLETT	50.70	184.1	8	9A	1	14	47	7			9	49 PP
TERRE ADELIE	51.20	198.7	8	12	0	14	51	4				
DUMONT	51.52	199.3	8	12	-2	14	51	0				
SCOTT BASE	56.32	183.5	8	48A	0	16	3	9	10	46	11	4 PP
MUNDARING	57.47	245.3	8	54	-1	16	7	-1				
PERTH	57.79	245.3	9	0	2	16	13	1			11	56
WILKES	62.07	205.4				17	4	-2	11	23	18	17 SCS
BYRD STATION	63.42	170.3	9	34	0				11	35	38	25 PKPPKP
HATIDYOZIMA	67.17	323.5	9	48	-10							
SOUTH POLE	68.16	180.0	9	56	-8				12	8	10	25 PCP
HERA	68.52	324.8	10	6	0							
OSIMA	68.65	324.4	10	6	0	18	24	1				
MANILA	68.72	296.6	10	7	0						21	9 SCS
YOKOHAMA	69.00	325.1	10	8	-1						18	12
MIRNY	69.09	205.3	10	9	0	18	28	0			21	58 *SS
TOKYO C.M.O.	69.14	325.3	10	9	0	18	25	-4			20	18
MISIMA	69.14	324.4	10	9K	0							
MITO	69.30	326.3	10	10	0	18	33	2				
SHIZUOKA	69.33	323.9	10	11	0							
KAKIOKA	69.33	326.0	10	10	-1							
TUKUBASAN	69.37	325.9	10	9A	-2	18	21	-10	12	16	12	51 PP

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ONAHAMA	69.52	326.9	10 12	0	18 34	1		19 21
HUNATU	69.52	324.5	10 10	-2	18 36	3		
KUMAGAYA	69.69	325.4	10 12	-1	18 37	2		13 0
TITIBU	69.72	325.1	10 13	0				
UTUNOMIYA	69.74	326.0	10 13	0	18 34	-2		12 14
KOHU	69.76	324.5	10 13	0	18 37	1		
OWASE	69.90	321.8	10 13	-1	18 40	2		
SHIRAKAWA	69.99	326.6	10 13	-1	18 40	1		
BAGUIO CITY	70.04	297.9	10 15	0	18 40	1		
MAEBASI	70.04	325.4	10 16	1				
TU	70.18	322.5	10 18	2				
OIWAKE	70.26	325.0	10 16	0				19 30
NAGOYA	70.27	323.1	10 17	1				
KAMEYAMA	70.31	322.6	10 17	1	18 47	5		12 58 PP
HUKUSIMA	70.35	327.2	10 17	0				
I SINOMAKI	70.46	328.2	10 16	-1				
SENDAI	70.54	327.8	10 17K	-1	18 45	0		11 12
GIHU	70.55	323.2	10 17	-1	18 45	0		19 38
MATUSIRO	70.60	324.9	10 16K	-2	18 45	0	12 17	13 2 PP
OSAKA	70.70	321.8	10 18	-1	18 56	9		
NAGANO	70.71	325.0	10 19K	0	18 42	-5		12 47 PP
HIKONE	70.74	322.8	10 21	2				19 35
YAMAGATA	70.80	327.5	10 20	1				
ABUYAMA	70.84	322.0	10 19K	0				
SUMOTO	70.84	321.2	10 19K	0				20 48
TOKUSIMA	70.84	320.8	10 20K	1				
KYOTO	70.85	322.2	10 19	0				13 5 PP
YAKUSIMA	70.90	315.5	10 20	0				
KOBE	70.93	321.6	10 20	0	18 51	2		
TAKADA	71.00	325.3	10 39	19				
MIZUSAWA	71.10	328.5	10 22	1	18 51	0		
KOTI	71.10	319.8	10 10K	-11	18 12	-39		18 53
NIIGATA	71.20	326.4	10 25	4				
TOYAMA	71.26	324.4	10 21	-1	18 47	-6		
HUKUI	71.32	323.3	10 22	0				
MORIOKA	71.52	328.9	10 23	0				
SAKATA	71.56	327.6	10 25	1				
KAGOSIMA	71.60	316.5	10 23	-1				13 11
LEMBANG	71.66	269.9	10 23K	-1	18 56	-1		
AIKAWA	71.69	326.0	10 25	1				
TOYOOKA	71.74	322.1	10 26	1	18 59	1		13 13
WAZIMA	71.93	324.7	10 25	-1				13 15
OOITA	72.04	318.4	10 20	-6				14 25
AKITA	72.06	328.3	10 27K	1	19 3	1		
HIROSIMA	72.33	319.7	10 28K	0				13 16
KUMAMOTO	72.34	317.5	10 28	0				
AOMORI	72.58	329.4	10 29	0	19 37	30		
DJAKARTA	72.62	270.3	10 41	11	19 15	7		
MATSUE	72.69	320.9	10 30	0				
KUSIRO	72.70	333.0	10 31K	1	19 13	4		
URAKAWA	72.72	331.5	10 32	2	19 15	6		
NAGASAKI	72.80	317.0	10 30K	-1	18 51	-19		12 28
SAGA	72.88	317.6	10 32K	1				
HAMADA	72.90	319.9	10 32	1	19 49	38		12 26
OBIIHRO	73.16	332.3	10 33K	0				
HAKODATE	73.37	330.1	10 34K	0				
ABASHIRI	73.60	333.6	10 35K	0	19 23	4		
TOMAKOMAI	73.64	331.1	10 37	2				
MORI	73.68	330.1	10 37	1	19 23	4		
SAPORO	74.09	331.2	10 37	-1	19 25	1	11 49	
ASAHIGAWA	74.21	332.3	10 40	1				
SUTTSU	74.39	330.4	10 40	0	19 18	-9		
WAKKANAI	75.82	332.9	10 51	3	19 46	4		
Y.-SAKHLINSK	76.68	334.5	10 52	0	19 52	0	12 56	
PETROPVLOVK	77.06	346.6	10 54	0	19 54	-2	12 58	13 55 PP
ZO-SE	77.61	310.9	10 57K	0	20 15	14	13 3	14 1 *SP
HONG KONG	78.22	299.9	11 1K	1	20 8	0	13 7	14 5 PP
VLADIVOSTOK	78.71	325.9	11 3	0	20 16	3	13 8	14 10 PP
CANTON	79.27	300.2	11 7K	1	20 22	4	13 12	14 17 *SP
MAWSON	79.72	200.2	11 9A	1				13 18
NANKING	79.84	310.5	11 10K	1	20 28	4	13 22	14 19 *SP
SAN FRANCISCO	80.00	42.5			20 31	5		24 18 *SS
VINEYARD	80.06	43.8	11 11A	1				
ARGENTINE I.	80.15	157.3	11 10	0	20 29	2		
BERKELEY	80.18	42.5	11 12A	1	20 32	4	13 16	14 15 *SP
LICK	80.25	43.2	11 12A	1			13 18	
UKIAH	80.36	41.0	11 12	0			13 17	
PASADENA	80.68	47.5	11 14A	1	20 37	4	13 19	14 29 PP

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ARCATA	80.95	39.2	11 15A	0					
FRESNO	81.10	44.5	11 17A	2			13 22		
HALLEY BAY	81.24	173.3	11 15	-1					
SHASTA	81.84	40.1	11 14A	-5			13 26		
WUHAN	82.07	307.3	11 21K	1	20 44	-2		14 39	
MINERAL	82.10	40.8	11 41A	21			13 29		
RENO	82.72	42.3	11 24A	0			13 30		
CHANGCHUN	82.74	323.2	11 23K	-1	20 45	-8	13 28	14 41	*SP
CORVALLIS	83.73	36.7	11 30A	1					
MEDAN	83.79	276.4	11 30	1	20 58	-5			
BOULDER CITY	83.97	47.5	11 30	0	21 2	-3	13 35		
MAGADAN	84.82	345.3	11 33	-1			13 41	20 59	SKKS
TUCSON	84.89	52.4	11 35	1	21 5	-8	13 44	14 40	*SP
TUCSON TELE.	85.02	52.4	11 35	0			13 43	29 39	PKKP
EUREKA	85.12	44.0	11 34	-1			13 43	15 2	PP
PEKING	85.99	316.1	11 39K	0	21 27	3	13 46	21 7	SKS
VICTORIA	86.17	33.6	11 40A	0	21 32	7		22 32	PPS
CHIHUAHUA	86.79	57.5			21 34	3		25 46	
SITKA	86.99	22.4	11 45	1					
SALT LAKE C.	88.48	44.6	11 52	1			14 2		
TACUBAYA	88.54	68.5	11 53A	1	21 42	-5	13 58	15 29	PP
KUNMING	88.81	297.6	11 54K	1	21 53	4		21 26	SKS
COLLEGE	89.94	12.9	11 55	-3	21 57	-2	14 8	21 31	SKS
PAOTOW	90.30	314.1	12 1	1					
PORT STANLEY	90.65	148.0	12 4	3					
BUTTE	90.74	39.9	12 2	0			14 13		
HUNGRY HORSE	91.13	37.4	12 3	0	21 38	-32	14 12	29 23	PKKP
VERA CRUZ	91.13	69.9			21 29	-41			
BOZEMAN	91.48	40.7	12 6A	1			14 16	15 51	PP
BANFF	91.84	34.5	12 6K	-1					
PORT BLAIR	92.30	281.6						21 44	
LANCHOW	92.58	307.9	12 10K	0	21 46	-36			
YAKUTSK	92.95	338.5	12 10	-2			14 20	16 2	PP
ULAN-BATOR	95.71	319.6	12 23	-1			14 31		
DALLAS	95.81	57.1	12 25	0	22 4	0			
CHITTAGONG	96.98	291.2	12 31	1	23 5	55	14 40	16 39	PP
ANTOFAGASTA	97.40	119.1						16 40	
SHILLONG	98.06	294.2	12 35K	0	22 12	-4		15 15	PP
HUANCAYO	98.31	106.5	12 40	4	22 26	9			
FAYETTEVILLE	98.99	54.8	12 39A	0				16 49	
IRKUTSK	99.07	322.8	12 37	-2	22 19	-2	14 45	16 47	PP
LAWRENCE	99.21	51.8	12 41	1					
TIKSI	99.81	345.4	12 40	-3	22 20	-4	14 50	26 8	PS
COLOMBO	102.42	272.5			22 41	4		17 14	
LA PAZ	102.64	113.7	12 37	-18	22 37	-1		17 19	PP
BOKARO	102.69	290.7			22 38	0		17 16	PP
MADRAS	104.23	278.4			22 46	1			
CHINCHINA	104.67	90.5			22 31	-16		17 20	PP
KODAIKANAL	105.80	274.8						17 49	PP
BOGOTA	105.98	91.4			22 50	-2		17 44	PP
FUQUENE	106.60	90.7						17 47	PP
GALERAZAMBA	107.02	85.0			23 6	9		18 4	PP
HYDERABAD	107.24	282.2			22 57	-1			
RESOLUTE	109.59	16.3			23 5	-3		27 44	PS
AGRA	110.37	291.9	17 51	26				27 4	
CHAPEL HILL	110.70	58.6	18 14	48					
DEHRA DUN	111.13	295.2	17 37	10					
POONA	111.74	281.9	16 47	-41					
SEMI PALATNSK	113.08	316.8	17 24	-7	23 18	-3		18 24	PP
OTTAWA	114.79	48.9	17 33	-1				28 23	SKSP
PALISADES	115.56	53.9			24 46	75		18 44	PP
FRUNSE	116.06	308.0	17 37	1	23 31	-1		18 44	PP
BREBEUF	116.27	49.0	17 36A	-1	25 39	126			
KHEYS	116.67	351.1			23 31	-4			
WARSAK DAM	117.26	297.9	17 39K	0					
SAN JUAN	117.76	80.2	17 39	-1	23 43	4	20 18	19 1	PP
SEVEN FALLS	118.31	47.3	17 40	-1					
TANANARIVE	118.64	232.1	17 45	4			20 5	19 10	PP
GRAHAMSTOWN	119.67	205.0	17 45	2					
TRINIDAD	119.84	90.1	17 44	0					
TASHKENT	119.88	305.9	17 43	-1	23 46	0		19 16	PP
NORD	119.89	2.9	17 43	-1					
STALINABAD	120.06	302.7	17 48	4				19 11	PP
QUETTA	120.51	292.9	17 46K	1	23 52	4	20 3	19 14	PP
ST. VINCENT	120.75	87.4	17 45	0					
FORT FRANCE	121.33	85.7	17 48	1					
ANTIGUA	121.36	82.8	17 46	-1					
BERMUDA	121.83	64.7						19 31	PP
HALI FAX	123.34	50.3	17 49A	-1			19 39		



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KIMBERLEY	124.42	205.9	17 54K	1				
SVERDLOVSK	124.42	324.7	17 53	0			19 39	PP
PRETORIA	125.51	210.9	17 28	-27				
ASHKABAD	128.22	301.6	18 2	2			20 14	PP
SCORESBY SO.	129.69	9.6	18 3	0		20 20	20 32	PP
BULAWAYO	129.96	215.2	17 49	-14			20 33	
APATITY	130.01	344.2	18 2	-1	24 16	0	20 32	20 22 PP
KIRUNA	132.49	349.9	17 55	-13			20 38	SKP
BROKEN HILL	134.61	219.6	18 0	-12			20 50	
REYKJAVIK	135.29	13.8	18 14	1			20 50	SKP
SIDA	136.39	11.9	18 18	3			20 54	SKP
MOSCOW	136.52	330.3	18 5	-10			20 54	
PULKOVO	136.76	338.5	18 7	-9		20 30	20 54	PP
ELISABTHVLE	137.40	221.0	18 10	-7		20 38	20 59	SKP
GORIS	137.43	304.9	18 19	2		20 35	20 55	PP
SKALSTUGAN	137.67	352.2	18 7	-11			20 55	SKP
TIFLIS	138.10	308.5	18 10	-8	24 31	0	20 38	20 59 PP
UPPSALA	140.27	346.6	18 15	-8			21 24	PP
GOTEBORG	143.35	349.7	18 24K	-4			21 11	SKP
LWIRO	143.37	232.5	18 29	1				
SIMFEROPOL	144.20	317.8	18 29	-1		20 51	20 39	PP
ABERDEEN	144.79	2.5					29 13	SKKS
COPENHAGEN	145.19	348.2	18 32	1		20 53	21 16	SKP
WARSAW	145.91	337.4	18 39	7			22 7	PP
LWOW	146.60	332.0	18 37	4			27 57	SKKS
IASI	146.71	325.6	18 38	5			21 59	PKS
KSARA	146.77	298.5	18 34	1		20 51	22 9	PP
DURHAM	147.21	2.3	18 37A	3		20 52		
BACAU	147.47	325.3	18 36	1			18 44	
JERUSALEM	147.68	295.0	18 37	2			22 13	PP
FOCSANI	147.86	323.8	18 48	13			22 0	PKS
KRAKOW	148.09	336.1	18 40	4			25 37	PPP
DABROWA	148.12	337.1	18 34	-2				
POTSDAM	148.14	345.4	18 36	0		20 54	22 12	PP
RACIBORZ	148.69	337.9	18 43	7				
COLLMBERG	149.16	344.7	18 37	0		21 2	22 16	PP
HALLE	149.22	346.0	18 38	1		20 55	22 2	PP
BUCHAREST	149.27	322.8	18 34	-3		21 4	22 2	PKS
CAMPULUNG	149.31	325.0	18 45	8		21 5	21 37	
MUNSTER	149.56	351.3	18 40	2				
JENA	149.84	346.0	18 39	1		20 57	22 21	PP
PRAGUE	149.90	342.0	18 41	3			22 40	PP
PRUHONICE	149.94	341.8	18 38K	0		21 0	22 25	PP
PLAUEN	150.11	345.0	18 47	9		20 55		
LEOPOLDVILLE	150.12	210.5	18 40A	2		21 2		
SONNEBERG	150.44	346.1	18 40	1		20 59	22 24	PP
BUDAPEST	150.52	334.1	18 45	6		21 8		
HURBANOVO	150.53	335.5	18 43	4		21 13	22 1	PKS
KEW	150.55	1.1	18 59	20		20 56	22 21	PP
BENSBERG	150.61	351.4	18 47	8		21 3		
BRATISLAVA	150.69	337.1	18 40K	1	25 42	52	21 7	22 1 PKS
VIENNA-H.	150.88	338.0	18 42A	2			21 2	
TIMI SOARA	150.89	329.5	18 50	10				
UCCLE	151.08	355.0	18 48	8			28 20	
DOURBES	151.75	354.5	18 43	2		20 59		
SOFIA	151.91	322.7	18 41	0	24 37	-14	20 57	22 37 PP
BELGRADE	151.94	329.0	18 49K	8			22 34	PKS
STUTTGART	152.37	347.5	18 43	1		20 58	22 32	PP
TUBINGEN	152.64	347.6	18 43	1		21 10		
JERSEY	152.77	3.8				20 37		
STRASBOURG	152.83	349.5	18 46A	4	25 5	13	21 18	22 39 PP
EBINGEN	152.99	347.5	18 43	0			21 13	
ZAGREB	153.08	335.7	18 48	5			21 18	19 9 PKP
PARIS	153.18	357.1	18 53	10			22 40	PP
RAVENSBURG	153.24	346.3	18 44	1				
FOLINIERE	153.25	1.5	18 43	0				
LJUBLJANA	153.42	337.9	18 43K	0			21 12	
TOLMEZZO	153.60	340.3	18 56	13			21 39	PP
BASLE	153.88	349.1	19 11	27				
TRIESTE	154.03	338.5	18 45	1		21 14	22 46	PP
ATHENS	154.46	313.8	18 54K	9		21 16		
NEUCHATEL	154.50	349.8	18 46	1			22 47	*SPKP
BANGUI	155.24	227.6	18 49	3			35 16	
OROPA	155.64	347.3	19 22	36			30 21	
PAVIA	155.79	345.0	19 49	63			37 33	PPS
CLERMONT-FD.	156.17	355.5	19 21	34			42 12	SS
PRATO	156.47	340.6	18 46	-1			23 4	PP
MONACO	157.56	346.8	18 40	-9			19 26	PKP2



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RELIZANE 172.95 17.3 20 13 2  
TAMANRASSET 173.42 199.7 20 12 1

25 38 PP

SEPTEMBER 15 15.H 8.M 27.S EPICENTRE 43.50 147.05 DEPTH= 79.KM

A=-0.61067 B= 0.39579 C= 0.68588 D= 0.5439 E= 0.8392  
G=-0.5756 H= 0.3730 K=-0.7277 HT= -3.0

DEPTH OF FOCUS= 0.007R

SE= 3.05

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	O-C S	M	S	M	S
NEMURO	1.09	261.6	0	18K	-2	0	32	-4				
KUSIRO	2.01	256.0	0	31	-1	0	54	-3				
ABASHIRI	2.08	285.5	0	34K	1	0	58	0				
OBIIRO	2.87	259.7	0	44	0	1	17	-1				
HIROO	3.00	247.3	0	47K	1	1	20	-1				
ASAHI GAWA	3.41	276.4	0	52	0							
URAKAWA	3.42	248.3	0	53	1	1	32	0				
TOMAKOMAI	4.10	259.7	1	6	5	1	48	-1				
SAPPORO	4.19	266.1	1	3	0	1	48	-3				
WAKKANAI	4.30	298.4	1	6	2	1	53	-1				
Y. -SAKHLINSK	4.66	320.5	1	9	0							
HAKODATE	4.94	252.2	1	12	-1	2	4	-5				
MORI	4.97	255.9	1	14	1	2	8	-2				
SUTTSU	5.04	264.4	1	33	19						2	10
HATINOHE	5.07	236.1	1	12	-3	2	5	-8				
AOMORI	5.37	242.3	1	20	1	2	18	-2				
MIYAKO	5.41	226.5	1	21	1	2	11	-10				
MORIOKA	5.82	231.3	1	23	-2	2	18	-13				
MIZUSAWA	6.24	227.6	1	28	-3	2	31	-11				
AKITA	6.43	236.4	1	52	18	2	42	-4				
ISINOMAKI	6.67	222.5	1	34	-3	2	43	-9				
SENDAI	7.00	223.8	1	46	5	2	51	-9				
SAKATA	7.12	232.3				2	57	-6				
YAMAGATA	7.30	226.3	2	3	17	3	0	-8				
HUKUSIMA	7.62	223.3	1	50	0	3	7	-8				
ONAHAMA	8.05	217.8	2	43	47						3	12
SHIRAKAWA	8.23	221.6	2	4	6	3	21	-10				
NIIGATA	8.24	230.2									3	0
AIKAWA	8.63	233.6	2	5	1							
MITO	8.72	217.6	2	6	1	3	33	-10				
UTUNOMIYA	8.86	220.8	2	2	-5	3	36	-10				
KAKI OKA	8.97	218.3	2	3	-5	3	39	-10				
TUKUBASAN	9.02	218.6	2	5K	-4						2	33
TAKADA	9.27	229.4	2	33	21							
MAEBASI	9.37	223.5	2	23	9	3	55	-3				
KUMAGAYA	9.41	221.4				4	52	53			3	7
NAGANO	9.61	227.8	2	23	6							
TOKYO C.M.O.	9.62	218.2	2	17	0	3	44	-21				
OIWAKE	9.69	225.2									2	48
MATUSIRO	9.71	227.2	2	15A	-3	4	2	-5				
WAZIMA	9.86	235.1	2	25	5	4	6	-4				
YOKOHAMA	9.88	217.8									3	2
MATUMOTO	10.05	227.0									3	10
KOHU	10.20	222.8	2	35	10	4	13	-5				
HUNATU	10.23	221.4									3	11
HERA	10.23	215.6									3	5
AJIRO	10.44	218.8				4	19	-5			3	15
MISIMA	10.45	219.6	2	56	28	4	15	-10				
OSIMA	10.55	216.9									4	16
NAGOYA	11.40	226.5									4	41
NARA	12.38	228.4	2	49	-5							
ABUYAMA	12.38	229.8	2	52A	-2							
YAKUTSK	21.18	337.1	4	37	-3							
COLLEGE	41.33	35.9	7	41	2							
SHILLONG	47.96	266.8	8	32	0							
RESOLUTE	55.23	16.6	9	26K	-1							
APATITY	58.58	335.6	9	49	-1							
SODANKYLA	60.67	337.5	10	2	-3							
KIRUNA	61.98	339.8	10	11	-3							
CHARTERS TS.	63.27	180.8	10	23	1							
MOSCOW	64.61	323.8	10	32	1							
NURMIJARVI	66.22	332.8	10	41	0							

10 59

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HELSINKI	66.37	332.5	10 41	-1	
SKALSTUGAN	67.41	339.9	10 48A	-1	
EUREKA	68.54	55.6	10 57	1	
UPPSALA	68.97	335.3	10 58A	0	
TIFLIS	70.18	309.0	11 7	1	
SIDA	72.42	353.1	11 20	1	
GOTEBORG	72.42	336.6	11 19A	0	
TUCSON TELE.	76.43	58.3	12 0	18	
COLLMBERG	77.51	332.5	11 48	0	
RADUL ISLAND	79.20	149.3			21 9
STUTTART	80.92	333.2	12 8	1	
KEW	81.27	340.0	12 10	2	
BREBEUF	84.30	27.4	12 25K	1	
SOUTH POLE	133.30	180.0	19 2	-5	19 58

SEPTEMBER 16 2.H 36.M 0.S EPICENTRE -29.23-177.06 DEPTH= 0.KM

A=-0.87293 B=-0.04488 C=-0.48577 D=-0.0513 E= 0.9987  
G= 0.4851 H= 0.0249 K=-0.8741 HT= 2.1

SE= 2.90

	DELTA DEG.	AZ. DEG.	M	P S	O-C S	M	S	D-C S	*PP M S	M	SUPP. S
ONERAHI	9.74	225.8	2	26	1						
KARAPIRO	10.65	213.5	2	29	-8						
TUAI	10.69	205.2				4	27	-12			
WELLINGTON	13.74	206.8				5	35	-18			
COBB RIVER	14.46	212.5				5	53	-18			
APIA	16.11	18.8				6	26	-23			
GEBBIES PASS	16.63	206.9				6	37	-24			
BRISBANE	26.59	266.6	5	40	-2						
RIVERVIEW	27.42	252.2	5	52	2						
CANBERRA	29.24	249.2	6	8A	2						
MELBOURNE	32.62	244.7	6	37	1						
CHARTERS TS.	34.44	276.9	6	52	0						
ADELAIDE	37.67	249.6	7	20A	1					9 36	PCP
CAPE HALLETT	43.68	185.6	8	17	8	14	49	10		18 7	SCS
TERRE ADELIE	45.16	201.7	8	22	1						
DUMONT	45.53	202.3	8	22	-1						
SCOTT BASE	49.26	184.5	8	52	-1						
BYRD STATION	55.93	169.8	9	41	-1						
MUNDARING	56.67	249.1	9	45	-3						
SOUTH POLE	60.94	180.0	10	16	-1						
MATUSIRO	77.75	324.5	11	59	-2	22	7	14		20 43	
SHASTA	86.05	38.4	12	44	0						
MINERAL	86.24	39.1	12	59	14						
RENO	86.69	40.6	12	48	1						
TUCSON	87.67	50.9	12	52	0						
TUCSON TELE.	87.80	50.9	12	53	0						
EUREKA	88.88	42.7	12	57	-1						
COLLEGE	96.52	12.1	13	30	-3						
BULAWAYO	125.03	209.8	18	40	-23						
QUETTA	125.08	288.0	19	4	1						
ELISABTHVILLE	132.97	213.8	19	20	2						
MOSCOW	143.82	327.0	19	38	1						
PULKOVO	144.27	336.5	19	36	-2						
LEOPOLDVILLE	144.57	201.5	19	39	0						
SKALSTUGAN	145.11	352.7	19	37	-3						
NURMIJARVI	145.48	341.2	19	41	1						
HELSINKI	145.67	340.6	19	41	0						
UPPSALA	147.80	346.1	19	45	1					19 57	
GOTEBORG	150.85	350.0	20	0	11						
KSARA	151.62	287.7	19	59	9					23 52	PP
JERUSALEM	152.13	283.4	19	59	8						
COLLMBERG	156.70	343.9	20	26	29						
STUTTART	159.89	347.7	20	40	39					24 14	PP
LJUBLJANA	160.90	334.7	20	2	0						
TAMANRASSET	173.17	200.4	20	11	0					25 35	PP

SEPTEMBER 16 5.H 13.M 50.S EPICENTRE 35.17 26.03 DEPTH= 0.KM

A= 0.73617 B= 0.35953 C= 0.57340 D= 0.4388 E=-0.8986

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G= 0.5152 H= 0.2516 K=-0.8193 HT= 0.1

SE= 3.58

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
ATHENS	3.36	327.0	1	3A	8	1	37	1			1	52 SG
SKOPJE	7.68	333.5	2	3	7						2	14
SOFIA	7.81	345.2	1	59	1						4	51
KSARA	8.24	96.6	2	2	-2	3	33	-6			2	43 PG
JERUSALEM	8.39	111.2	2	4	-2	3	33	-9				
TARANTO	8.73	309.9	2	24	14	3	34	-17				
REGGIO CALA.	8.84	292.3	1	59	-13	3	40	-14			2	9
MESSINA	8.94	292.8	2	11	-2	3	41	-15			2	32 P*
BUCHAREST	9.24	0.3	2	24	6	4	45	42	2	49	3	14
BELGRADE	10.54	337.8	2	43A	8						3	3 PP
BACAU	11.41	3.0	2	23	-24	4	44	-13			3	30
ROME	12.55	306.4	3	29	26	5	43	19			6	43
ZAGREB	13.09	327.4	3	36	26						6	8
LJUBLJANA	13.93	324.7	3	17	-4	5	47	-11			3	29 PP
TRIESTE	14.02	322.0	3	29	7	5	47	-13			4	36
PRATO	14.42	311.6	4	0	33						7	22 PP
BRATISLAVA	14.59	335.6	3	35	5							
LWOW	14.71	354.9	3	36	5	6	37	21			6	42
TOLMEZZO	14.91	322.7	3	51	17							
VIENNA-H.	14.91	334.2	3	40	6	6	19	-2				
KRAKOW	15.53	345.2	3	42	0						4	1 PP
RACIBORZ	15.96	341.4	3	39	-9						3	51 PP
TIFLIS	16.08	60.4	3	54	5							
MONACO	16.69	306.4	3	58	1							
SETIF	16.79	279.5	3	59	1						4	12 PP
CHUR	17.03	318.3	4	3	2	7	16	6				
RAVENSBURG	17.56	320.8	4	8	0							
EBINGEN	18.15	320.9	4	14	-1							
TUBINGEN	18.32	321.9	4	16	-1							
STUTTGART	18.38	322.8	4	17	-1	7	31	-10				
BASLE	18.50	317.5	4	32	13							
NEUCHATEL	18.56	315.3	4	19	-1	7	43	-2				
COLLMBERG	18.66	333.7	4	20	-1						8	29
ALGIERS UNI.	18.67	281.6	4	17	-4	7	44	-3			4	31 PP
STRASBOURG	19.02	320.3	4	23	-3	7	58	3				
HALLE	19.21	332.5	4	26	-2	7	37	-23			8	53
POTSDAM	19.53	335.7	4	29	-3	8	9	2			5	12
CLERMONT-FD.	20.33	308.3	4	44	4	8	30	6				
RELIZANE	20.75	279.0	4	42	-3						5	3 PP
BENSBERG	20.86	325.0	4	44	-2						8	40 PP
MUNSTER	21.34	327.5	4	49	-2							
ALICANTE	21.45	286.3	4	53	1	8	48	2			5	17 PP
DOURBES	21.60	320.3	4	52K	-1	8	43	-6				
TAMANRASSET	21.73	240.9	4	50K	-5	8	45	-6			5	13 PP
MOSCOW	22.05	17.6	5	0	2	9	0	3				
PARIS	22.06	315.3	4	57	-1						5	35
UCCLE	22.14	321.5	4	58	-1	8	58	-1				
FOLINIERE	23.79	312.9	5	13	-2							
GRANADA	23.96	283.5	5	22A	5	9	52	21			6	31 PP
TOLEDO	24.25	290.1	5	17	-3							
GOTEBORG	24.43	341.6	5	21A	0							
PULKOVO	24.77	5.2	5	25	0							
KEW	24.96	318.9	5	39	13	9	45	-3				
HELSINKI	25.02	358.7	5	27	0							
UPPSALA	25.30	350.1	5	28	-2							
NURMIJARVI	25.37	358.4	5	30	0	9	53	-2			5	58
DURHAM	27.38	324.3	5	49	0							
RATHFARNHAM	29.05	318.6	6	10	6							
SKALSTUGAN	29.68	347.6	6	7A	-3							
BANGUI	31.40	194.3	6	33	8						17	29
SVERDLOVSK	31.82	36.3	6	42	13							
SODANKYLA	32.25	0.4	6	31	-1							
APATITY	32.70	5.3	6	34A	-2							
KIRUNA	32.86	356.1	6	35A	-3							
QUETTA	34.63	86.5	6	53	0							
WARSAK DAM	37.25	78.3	7	15	0							
LWIRO	37.31	175.4	7	13	-3							
SIDA	39.18	330.7	7	31	0							
LEOPOLDVILLE	40.61	196.6	7	51A	8							
REYKJAVIK	40.88	330.2	7	44	-1							
SCORESBY SD.	43.58	338.8	8	7A	0							
ELISABTHVLLÉ	46.58	178.1	8	29	-2							
NORD	49.03	352.4	8	47A	-4						10	11 PCP

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CHATRA	52.36	81.2	9 16	0	
SHILLONG	56.70	80.4	9 46A	-2	
THULE	57.14	343.7	9 37	-14	
PRETORIA	60.62	177.8	10 28	13	
TIKSI	60.92	20.7	10 15	-2	
KIMBERLEY	63.59	181.2	10 45	10	
RESOLUTE	63.84	345.3	10 34A	-3	
YAKUTSK	65.53	30.2	10 46	-1	
SEVEN FALLS	69.39	313.6	11 10K	-2	
BREBEUF	71.88	313.2	11 25K	-2	
OTTAWA	73.18	313.9	11 32K	-2	
COLLEGE	80.17	357.3	12 11	-3	15 11 PP
SAN JUAN	81.34	286.3	12 18	-2	13 30
MATUSIRO	84.79	48.5	12 37A	0	
LAWRENCE	88.42	318.2	12 53	-2	
RAPID CITY	88.62	326.1	12 54	-2	
HUNGRY HORSE	89.53	334.6	13 0	-1	
EUREKA	97.85	331.2	13 36	-3	
SOUTH POLE	124.99	180.0	18 59	-3	19 9
CHARTERS TS.	125.70	90.6	19 3	-1	19 26 PP
BYRD STATION	133.04	187.8	19 17	-1	

SEPTEMBER 16 10.H 7.M 48.S EPICENTRE -28.85-176.87 DEPTH= 0.KM

A=-0.87591 B=-0.04795 C=-0.48009 D=-0.0547 E= 0.9985  
G= 0.4794 H= 0.0262 K=-0.8772 HT= 2.2

SE= 3.34

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
RAOUL ISLAND	1.00	246.6	0	24	2	0	42	5				
D NERAHI	10.12	224.8	2	37	7						2	54
KARAPIRO	11.05	213.0	2	41	-2						3	13
TUAI	11.09	205.0				4	38	-11				
WELLINGTON	14.15	206.6				5	43	-20				
COBB RIVER	14.87	212.1				6	2	-18				
APIA	15.71	18.6	4	18	33	6	19	-21				
GEBBIES PASS	17.03	206.8	3	36	-25	6	46	-25			3	57
BRISBANE	26.78	265.8	5	40	-4	10	16	-3				
CANBERRA	29.53	248.6	6	8	-1							
CHARTERS TS.	34.56	276.2	6	52	-1							
ADELAIDE	37.95	249.2	7	21	0						9	36 PCP
PORT MORESBY	38.89	292.6				13	22	-6			9	11 PP
CAPE HALLETT	44.07	185.6	8	12	0	14	27	-18			18	19 SCS
TERRE ADELIE	45.57	201.7	8	34	10							
DUMONT	45.94	202.3	8	24	-3							
SCOTT BASE	49.65	184.5	8	55	-1	16	12	8			9	12
KIPAPA	53.19	22.1	9	21	-1							
BYRD STATION	56.27	169.8	9	43	-2							
SOUTH POLE	61.31	180.0	10	18	-2						10	35
MATUSIRO	77.55	324.4	11	58K	-2	21	54	3				
PASADENA	83.70	45.5	12	32	0	23	0	5			23	54 PS
LICK	83.75	41.2	12	32	-1							
BERKELEY	83.76	40.5	12	42	9	23	4	9				
FRESNO	84.44	42.6	12	36	0							
SHASTA	85.66	38.4	12	42	0							
MINERAL	85.85	39.0	12	43	0							
RENO	86.30	40.6	12	47	2							
BOULDER CITY	86.97	45.8	12	49	0							
TUCSON	87.31	50.8	12	51	1							
TUCSON TELE.	87.44	50.8	12	52	1							
EUREKA	88.50	42.6	12	55	-1							
COLLEGE	96.12	12.0	13	29	-2							
CHITTAGONG	101.55	289.2	14	8	12	25	58	83			18	32 PP
RESOLUTE	115.48	17.0									29	30 PS
PALISADES	117.56	56.3									29	51 PS
QUETTA	125.12	288.2	19	3A	0							
LWIRO	140.47	222.8	19	32	0							
MOSCOW	143.60	327.3	19	32	-5							
TIFLIS	143.99	302.2	19	34	-4							
PULKOVO	143.99	336.8	19	36	-2							
SKALSTUGAN	144.77	352.9	19	36	-3							
LEOPOLDVILLE	144.97	201.4	19	39A	-1							
NURMIJARVI	145.18	341.5	19	39	-1							
HELSINKI	145.37	340.9	19	40	0							
UPPSALA	147.47	346.4	19	47	3							



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KSARA	151.67	288.4	19 56	6						23 42 PP
COLLMBERG	156.39	344.4	20 19	22						
PRUHONICE	157.18	340.8	20 42A	44						
TAMARRASSET	173.58	200.1	20 12A	1						25 34 PP

SEPTEMBER 16 15.H 57.M 4.5 EPICENTRE -28.64-176.61 DEPTH= 0.KM

A=-0.87746 B=-0.05197 C=-0.47682 D=-0.0591 E= 0.9983  
G= 0.4760 H= 0.0282 K=-0.8790 HT= 2.3

SE= 2.66

	DELTA DEG.	AZ. DEG.	P M S	O-C S	M S O-C S S S	*PP M S	SUPP. M S
RAOUL ISLAND	1.30	241.8	0 29	3			
ONERAHI	10.43	224.8	2 36	2			3 30
KARAPIRO	11.35	213.3	2 41	-6			3 9
TUAI	11.38	205.5			4 46	-10	
SUVA	11.39	335.4	2 44	-3			3 46
WELLINGTON	14.44	206.9	3 35	7	5 53	-17	
COBB RIVER	15.17	212.3			6 11	-16	
APIA	15.43	17.9	3 36	-5	6 10	-24	
GEBBIES PASS	17.33	207.0	3 59	-6	6 57	-20	
ROXBURGH	20.16	209.8	4 39	0			8 46
BRISBANE	27.02	265.3	5 45K	-1	10 25	2	
RIVERVIEW	27.98	251.2	5 59K	4	10 46	8	
CANBERRA	29.82	248.3	6 12	1			
MELBOURNE	33.22	243.9	6 42	1			6 54
CHARTERS TS.	34.76	275.8	6 54	0	12 23	-2	
ADELAIDE	38.24	248.9	7 24	0	13 20	2	9 39 PCP
RABAUL	38.33	303.5	7 25	0			
PORT MORESBY	39.02	292.1	7 28	-2	13 23	-7	9 28 PPP
CAPE HALLETT	44.30	185.7	8 15	1	14 57	9	18 20 SCS
TERRE ADELIE	45.85	201.7	8 27	1	15 13	3	
DUMONT	46.22	202.3	8 27	-2	15 13	-3	
SCOTT BASE	49.88	184.5	8 59	2	16 13	6	18 56 SS
HONOLULU	52.77	21.8	9 26	7	17 10	23	
KIPAPA	52.90	21.9	9 21	1			
BYRD STATION	56.44	169.9	9 45	-1			
MUNDARING	57.25	248.7	9 50	-2			10 45
WILKES	57.26	207.3	9 51	-1	17 42	-5	10 25 PCP
PERTH	57.57	248.6	9 52	-2	17 55	4	24 38
SOUTH POLE	61.52	180.0	10 20	-1			11 5 PCP
ARGENTINE I.	73.03	156.0	11 30	-4			
BAGUID CITY	75.43	298.1	11 46	-2			
TUKUBASAN	76.30	325.2	11 47	-6			14 37 PP
MATUSIRO	77.51	324.2	11 58A	-1	21 49	-1	26 53 SS
PASADENA	83.39	45.3	12 30	-1	22 58	6	24 8 PS
LICK	83.45	41.1	12 32A	1			
BERKELEY	83.46	40.3	12 31	0	22 58	6	
HONG KONG	83.75	299.4	12 33	0	22 59	4	
Y.-SAKHLINSK	83.78	333.4	19 5	777	22 59	3	
UKIAH	83.80	38.9	12 34	1			
PETROPAVLOVK	84.13	345.3	12 35	0	23 1	2	
FRESNO	84.14	42.5	12 34A	-1			
CANTON	84.82	299.6	12 40	2			13 23
SHASTA	85.35	38.2	12 40A	-1			
MINERAL	85.54	38.9	12 43A	1			
RENO	85.99	40.4	12 45	1			
TUCSON	87.00	50.7	12 51	2			
TUCSON TELE.	87.13	50.7	12 50	1			
CORVALLIS	87.61	35.0	12 54	2			
EUREKA	88.19	42.4	12 54	-1			
TACUBAYA	88.66	67.1	12 56	-1			
CHANGCHUN	89.58	322.1	13 2	1	23 59	8	14 45
VICTORIA	90.34	32.2	13 6A	1			
MAGADAN	91.90	344.1					23 48
PEKING	92.53	314.9	13 16	1	24 25	8	23 50 SKS
HUANCAYO	93.97	105.9	13 21	0			
KUNMING	94.12	296.3	13 27	5	24 47	16	14 9 *SP
COLLEGE	95.87	11.9	13 28	-2	24 53	47	26 9 PS
CHENG TU	95.87	301.6	13 35	5	25 0	54	24 16 SKS
PORT BLAIR	96.08	279.9			24 26	19	
LA PAZ	97.63	113.4	13 40	2	24 17	2	26 22 PS
RAPID CITY	98.61	44.3	14 0	18			
YAKUTSK	100.07	337.3					17 4 PP



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CHARTERS TS.	34.92	275.0	6 54	-1		11 32
ADELAIDE	38.59	248.3	7 26	0		
PORT MORESBY	39.04	291.4	7 28	-2		8 5
TERRE ADELIE	46.34	201.6	8 31	2		
SCOTT BASE	50.34	184.6	9 1	0		
BYRD STATION	56.84	170.0	9 47	-2		
SOUTH POLE	61.97	180.0	10 22	-2		10 36
MATUSIRO	77.26	324.0	11 58	0		
LICK	82.98	41.0	12 29A	1		
FRESNO	83.67	42.4	12 32	0		
SHASTA	84.88	38.1	12 38A	0		
MINERAL	85.07	38.8	12 39	0		
RENO	85.53	40.3	12 42	1		
TUCSON TELE.	86.69	50.6	12 48	1		
EUREKA	87.73	42.3	12 52	0		
COLLEGE	95.39	11.8	13 26	-1		
SKALSTUGAN	144.16	353.4	19 36	-2		19 48
NURMIJARVI	144.69	342.1	19 37	-2		
HELSINKI	144.89	341.5	19 40	1		
LEOPOLDVILLE	145.74	200.9	19 41	1		
UPPSALA	146.93	347.1	19 43	1		
GOTEBORG	149.93	351.0	19 57A	10		20 10
JERUSALEM	152.44	285.3	20 1	10		
COLLMBERG	155.86	345.5	19 51	-5		
PRUHONICE	156.70	342.0	20 28	31		
STUTTGART	158.99	349.5	20 34	34		
RELI ZANE	172.03	18.3	20 8	-2		
TAMANRASSET	174.34	198.1	20 13A	2		21 44 PKP2

SEPTEMBER 17 14.H 36.M 11.S EPICENTRE -28.88-176.16 DEPTH= 0.KM

A=-0.87504 B=-0.05881 C=-0.48046 D=-0.0671 E= 0.9977  
G= 0.4794 H= 0.0322 K=-0.8770 HT= 2.2

SE= 3.09

	DELTA DEG.	AZ. DEG.	P		O-C S	S O-C			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
RAOUL ISLAND	1.59	256.1	0	31	1	0	54	3				
ONERAHI	10.55	227.0	2	38	2						2	52
TUAI	11.35	207.6				4	49	-7				
KARAPIRO	11.38	215.4	2	44	-3						2	50
SUVA	11.77	333.9	2	58	5							
WELLINGTON	14.42	208.5				5	57	-12			7	19
APTA	15.54	16.1	3	26	-16	6	17	-19				
GEBBIES PASS	17.30	208.3	4	1	-4	6	59	-18				
ROXBURGH	20.16	210.8				7	57	-24			9	22
BRISBANE	27.40	265.6	5	47	-2	10	21	-8				
RIVERVIEW	28.28	251.6	6	0	3	10	46	3				
CANBERRA	30.10	248.7	6	17	3	10	36	-36				
MELBOURNE	33.48	244.3	6	44	1							
CHARTERS TS.	35.19	275.8	6	52	-6	12	12	-19				
ADELAIDE	38.53	249.1	7	25K	-1	13	19	-4			8	55 PP
PORT MORESBY	39.48	292.0	7	31	-3						13	6
CAPE HALLETT	44.11	185.9	8	16A	4						18	28 SCS
TERRE ADELIE	45.78	201.9	8	20	-5	15	18	9				
SCOTT BASE	49.67	184.7	9	0	4	16	2	-2			10	59 PP
BYRD STATION	56.14	169.9	9	45	1	17	44	12			25	16
GUAM	56.57	312.7	9	47	0							
WILKES	57.23	207.4	9	52	1	17	48	2			19	33 SCS
MUNDARING	57.53	248.7	9	53	-1						10	45
SOUTH POLE	61.28	180.0	10	21	1						11	23 PCP
ARGENTINE I.	72.65	155.8	11	31	-1							
HALLEY BAY	74.05	172.4	11	39	-1							
MANILA	74.48	296.7	11	46	4						15	46 PCS
DJAKARTA	75.68	270.8	11	48K	-1	21	27	-3				
BAGUIO CITY	75.90	297.9	11	48	-2							
MATUSIRO	77.93	323.9	11	58	-4	21	47	-8			22	28
PASADENA	83.27	45.1	12	29	-1							
LICK	83.36	40.8	12	31A	0							
BERKELEY	83.38	40.1	12	30A	-1	22	58	6				
UKIAH	83.73	38.6	12	33	1							
FRESNO	84.04	42.2	12	33	-1							
Y -SAKHLINSK	84.17	333.1	12	35	0	23	3	4				
HONG KONG	84.21	299.2	12	30	-5	22	49	-11				
PETROPAVLOVK	84.46	345.0	12	33	-3	22	51	-11				

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CANTON	85.29	299.4	12 42	2			
SHASTA	85.29	38.0	12 40A	0			
MINERAL	85.48	38.7	12 41	0			
RENO	85.92	40.2	12 43A	0			
BOULDER CITY	86.54	45.5	12 46	0			
TUCSON	86.84	50.5	12 47	-1			
TUCSON TELE.	86.97	50.4	12 49	0			
MEDAN	87.48	275.4	13 1	10			23 22
CORVALLIS	87.57	34.8	12 51	0			
EUREKA	88.10	42.2	12 52	-2			
CHANGCHUN	90.01	321.9	13 3	0	23 59	4	
ALBERNI	90.24	30.8	13 48	44			
VICTORIA	90.33	31.9	13 4	-1			
MAGADAN	92.24	343.9					23 41
PEKING	92.98	314.7	13 21	4	24 26	5	23 48 SKS
HUANCAYO	93.52	105.7	13 23	4			16 49 PP
KUNMING	94.58	296.0	13 31	7	24 46	11	24 1 SKS
COLLEGE	96.02	11.8	13 28	-3	24 38	31	17 5 PKP
CHENGTU	96.34	301.4	13 33	1	24 50	41	24 9 SKS
LA PAZ	97.17	113.2	13 29	-7			17 33 PP
RAPID CITY	98.50	44.2	13 41	-1			
LANCHOW	99.11	306.1	13 50	5	24 23	0	
YAKUTSK	100.44	337.1					17 51 PP
CHITTAGONG	102.15	288.9	13 59	1	24 43	5	18 13 PP
TIKSI	107.22	344.2					18 37 PP
RESOLUTE	115.32	16.9			27 33	119	29 38 PS
HERMANUS	115.39	194.0					35 53 SS
BERMUDA	121.85	68.0			26 1	5	30 39 PS
QUETTA	125.72	288.0	19 4	0			31 9 PS
ELISABTHVLE	133.69	212.9	19 24	5			
KIRUNA	139.78	350.3	19 26	-4			40 49 SS
LWIRO	140.88	221.9	19 35	3			23 15
MAKHACH-KALA	142.37	303.9	19 32	-3			23 9 PKS
MOSCOW	143.95	327.7	19 36	-2			
PULKOVO	144.26	337.3	19 35	-3			23 16 PKS
TIFLIS	144.53	302.3	19 38	-1			
SKALSTUGAN	144.86	353.5	19 37A	-2			
LEOPOLDVILLE	145.17	200.2	19 43A	3			23 6 PP
NURMI JARVI	145.40	342.0	19 38	-2			
HELSINKI	145.60	341.4	19 41	0			
UPPSALA	147.64	347.0	19 45	1			42 8 SS
SOTCHI	147.83	306.9	19 45	1			
GOTEBORG	150.63	351.1	20 0A	11			
SIMFEROPOL	151.18	312.0	19 56	7			
BANGUI	151.89	212.7					20 53
KSARA	152.27	288.4	19 59	8			23 51 PP
COPENHAGEN	152.51	349.4	19 58	7			
JERUSALEM	152.81	284.0	20 1	9			
LWOW	154.06	329.3	19 55	1			22 43
RATHFARNHAM	154.49	14.2	19 49	-5			
POTSDAM	155.54	346.3	19 56	0			
MBOUR	155.92	122.4	20 1	5			31 0 SKKS
RACIBORZ	156.18	336.7	20 34	38			
COLLMBERG	156.57	345.4	20 7	10			
DE BILT	156.78	357.9	20 1	4			23 39 PP
JENA	157.22	347.3	19 57	-1			23 49 PP
KEW	157.22	6.7	19 58	0			
PRUHONICE	157.41	341.8	19 59	1			24 10 PP
HURBANOVO	158.02	333.5					21 5
UCCLE	158.10	359.1	20 33	34			
BRATISLAVA	158.18	335.6	19 59	0			
DOURBES	158.80	358.7	20 21	21			
SOFIA	159.09	316.5	20 15	15			24 19 PP
BELGRADE	159.33	324.8	20 12	12			20 41
STUTTGART	159.70	349.6	19 59	-2			24 20 PP
FOLINIERE	159.86	8.3	20 1	0			20 39 PKP2
PARIS	160.07	2.6	20 6	5			25 24
STRASBOURG	160.10	352.3	20 0	-1			24 35 PP
LJUBLJANA	160.91	336.8	20 3K	1			
TRIESTE	161.52	337.6	20 4	1			
CLERMONT-FD.	163.13	1.7	20 7	3			
ROME	165.23	333.9	20 7	1			24 41 PP
TOLEDO	167.24	28.6	20 11	3			21 14 PKP2
TORTOSA	167.78	12.1					24 32 PP
GRANADA	169.63	35.1	20 12K	3			25 12 PP
ALGIERS UNI.	172.10	4.6	20 12	1			25 27 PP
RELI ZANE	172.60	21.3	20 10	-1			25 33 PP
TAMANRASSET	173.74	194.3	20 14A	3			25 34 PP

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SEPTEMBER 17 21.H 24.M 31.S EPICENTRE 13.21 -89.02 DEPTH= 87.KM

A= 0.01657 B=-0.97376 C= 0.22698 D=-0.9999 E=-0.0170  
G= 0.0039 H=-0.2269 K=-0.9739 HT= 6.1

DEPTH OF FOCUS= 0.009R

SE= 2.43

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
SAN SALVADOR	0.50	340.2	0	10	-6	0	24	-5				
SANTIAGO MA.	0.61	62.3	0	13	-4	0	25	-5				
COMITAN	4.26	315.6	1	5	1	1	55	2				
MERIDA	7.72	355.9	1	54K	2	3	26	8			3	35
OAXACA	8.39	297.9	2	5	4	3	36	1			3	15
VERA CRUZ	9.06	312.1				3	45	-6			3	5
BALBOA HTS.	10.20	113.5	2	22	-3							
PUEBLA	10.55	304.5									4	2
TACUBAYA	11.54	303.6	2	45	2	5	8	17			2	56 PPP
GALERAZAMBA	13.67	98.7	3	18	7							
CHINCHINA	15.55	120.5	3	36	0	6	49	24				
GUADALAJARA	15.56	300.5									7	29
FUQUENE	16.93	115.6	3	52	-1							
BOGOTA	17.05	118.7	3	57	3	7	17	18				
DALLAS	20.80	341.3	4	36	0							
COLUMBIA	21.94	18.0	4	49	1							
SAN JUAN	22.62	73.9	4	57	3	9	1	10				
FAYETTEVILLE	23.26	349.4	5	1A	1						5	15 PP
LAWRENCE	26.25	349.0	5	28	-1							
MORGANTOWN	27.51	15.3	5	46	6							
TUCSON TELE.	27.52	317.4	5	41	0						8	57 PCP
TUCSON	27.54	317.1	5	41	0							
WASHINGTON	27.70	20.3	5	55	13							
HUANCAYO	28.53	151.0	5	51A	1						9	1 PCP
BERMUDA	29.34	45.4	5	57	0	10	49	7			6	59 PP
FORDHAM	30.57	22.9	6	8	0							
PALISADES	30.69	22.7	6	9	0	11	14	10	6	24	6	58 PP
RAPID CITY	33.08	341.1	6	30	0						7	35 PP
PASADENA	33.67	313.2	6	34	-1						9	14
SALT LAKE C.	33.96	328.2	6	37	0							
OTTAWA	34.02	16.8	6	36A	-2							
BREBEUF	34.74	19.1	6	42	-2						6	57
EUREKA	35.35	322.7	6	49	0				7	5	9	17 PCP
LA PAZ	36.02	144.4	5	55A	-60						6	57 PP
FRESNO	36.18	315.9	6	55	-1							
BOZEMAN	37.36	334.3	7	7	1							
RENO	37.73	319.7	7	10K	1							
LICK	37.73	315.4	7	10K	1							
HALIFAX	38.09	29.8	7	14K	2						16	55 SCS
BERKELEY	38.42	315.7	7	15	0							
MINERAL	39.32	319.5	7	23A	1							
UKIAH	39.72	316.8	7	40	14				8	0		
SHASTA	40.02	319.4	7	25	-3							
HUNGRY HORSE	40.72	334.4	7	33	-1						9	33 PCP
ARCATA	41.19	318.6	7	52K	14							
CORVALLIS	42.79	323.7	7	57	6							
BANFF	43.53	335.9	7	56K	-1							
VICTORIA	45.26	328.1	8	9A	-2						9	49
HORSESHOE B.	45.74	329.1	8	11K	-3							
RESOLUTE	61.55	358.2	10	6A	-4	18	35	11			22	47 SS
COLLEGE	65.12	336.3	10	31	-3				10	46		
NORD	74.46	8.4	11	31	0							
FOLINIERE	79.25	42.3	11	56	-1							
ARGENTINE I.	80.42	169.7	12	3	-1							
SKALSTUGAN	83.25	26.2	12	17	-1						12	39
STRASBOURG	84.65	41.5	12	25	0							
KIRUNA	85.02	21.1	12	26	-1				12	41		
STUTTGART	85.58	41.0	12	27	-3						16	6 PP
COLLMBERG	87.17	37.9	12	36	-2							
SODANKYLA	87.36	20.4	12	42	3							
PRUHONICE	88.52	38.9	12	43	-1							
TAMANRASSET	89.07	66.9	12	44	-3				12	59		
NURMIJARVI	89.79	26.9	12	50	0							
BYRD STATION	94.42	185.1	13	12	1							
KIMBERLEY	116.99	115.6	18	37	2							





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TUCSON	114.62	291.6	18 42	0		29 24 PKKP
TIFLIS	114.88	50.7				19 54 PP
QUETTA	115.92	74.2	18 45	0		
MAKHACH-KALA	117.04	51.8				20 1 PP
COPENHAGEN	117.05	22.7				20 0 PP
PASADENA	119.83	287.4	18 52	0	30 6 257	21 1
RAPID CITY	120.49	305.0	18 52	-2		20 11 PP
WARSAK DAM	121.32	75.1	18 55	0		
SALT LAKE C.	121.87	296.7	18 56	0		
UPPSALA	121.99	23.7	18 54	-2		
FRESNO	122.71	288.1	18 59K	1		
EUREKA	122.87	292.9	18 57	-1		
MOSCOW	123.82	37.2	19 1	1		
LICK	124.08	287.1	19 1	0		
NURMIJARVI	124.19	27.1	18 58	-3		
SKALSTUGAN	124.36	19.1	18 59	-2		
BERKELEY	124.80	287.1	19 2K	0		
BOZEMAN	125.25	301.0	19 3	0		
SHILLONG	125.46	98.0	19 3K	0		
MINERAL	126.34	289.6	19 5K	0		
SHASTA	127.00	289.3	19 5K	-1		
SCORESBY SD.	128.00	1.2	19 6A	-2		
HUNGRY HORSE	128.61	301.4	19 6	-3		22 23 PP
KIRUNA	129.67	20.5	19 10	-1		
CORVALLIS	130.31	292.0	19 12	0		
SODANKYLA	130.52	23.5	19 13	0		22 29 SKP
KUNMING	130.75	108.6	19 15	2		
APATITY	132.20	26.2	19 14	-2		
SVERDLOVSK	133.03	48.6	19 30	12		
CANTON	134.18	121.2	19 22	2		
RESOLUTE	139.96	337.1	19 17	-13		22 12 PP
LANCHOW	140.01	100.2	19 32	2		
SITKA	144.05	299.3	19 36	-1		
NANKING	144.32	120.4	19 37	-1		
ZO-SE	144.60	124.2	19 37	-1		
PEKING	149.40	108.5	19 51	5		
IRKUTSK	150.95	78.8	19 54	5		
COLLEGE	152.63	308.8	19 48	-3		
MATUSIRO	155.95	144.9	20 15	19		33 11
TUKUBASAN	156.21	148.7	19 47	-9		24 0 PP
TIKSI	162.41	27.7	20 48	45		
PETROPAVLOVK	174.81	204.2	20 11	0		

SEPTEMBER 19 4.H 11.M B.S EPICENTRE 38.46 142.21 DEPTH= 55.KM

A=-0.62044 B= 0.48103 C= 0.61941 D= 0.6127 E= 0.7903  
G=-0.4895 H= 0.3795 K=-0.7851 HT= -1.1

DEPTH OF FOCUS= 0.003R

SE= 3.54

	DELTA DEG.	AZ. DEG.	P		O-C S	S		*PP		SUPP.	
			M	S		M	S	M	S	M	S
ISINOMAKI	0.70	267.8	0	11K	-4	0	19	-8			
SENDAI	1.05	260.0	0	16K	-3	0	28	-5			
MIZUSAWA	1.08	308.6	0	18	-1	0	30	-4			
MIYAKO	1.20	351.0	0	18	-3	0	32	-5			
MORIOKA	1.48	327.0	0	24K	-1	0	36	-8			
YAMAGATA	1.48	262.4	0	22	-3	0	37	-7			
HUKUSIMA	1.55	243.2	0	22K	-4	0	40	-5			
ONAHAMA	1.83	215.0	0	26	-4	0	45	-7			
SAKATA	1.92	284.0	0	24	-7	0	45	-9			
SHIRAKAWA	2.07	230.3	0	31	-2	0	54	-4			
AKITA	2.07	308.1	0	33	0	0	52	-6			
HATINOHE	2.13	345.9	0	33	-1	0	58	-1			
MITO	2.50	214.3	0	36	-3	1	5	-4			
NIIGATA	2.55	258.8	0	45	5	1	12	2			
AOMORI	2.60	335.3	0	45	5	1	15	4			
UTUNOMIYA	2.67	225.1	0	40	-1	1	0	-13			
KAKI OKA	2.75	216.7	0	40	-2	1	6	-9			
TUKUBASAN	2.80	217.6	0	39A	-4					1 14	
TYOSI	2.94	202.1	0	46	1						
AIKAWA	3.15	263.2	0	48	0						
KUMAGAYA	3.23	225.3	0	47	-2	1	26	-1			
MAEBASI	3.24	231.5	0	49K	0	1	26	-1			

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TOKYO C.M.O.	3.40	216.1	0 51	-1	1 28	-3	
TAKADA	3.42	247.8	0 54	2			
TITIBU	3.52	226.2	0 53	0	1 33	-1	
HAKODATE	3.53	342.0	0 53A	0	1 37	3	
OIWAKE	3.61	235.0	0 54	-1	1 26	-10	
NAGANO	3.66	242.0	0 58	3	1 48	10	
YOKOHAMA	3.66	215.0	0 57	2	1 38	0	
URAKAWA	3.71	6.5	0 59	3			1 37
MATUSIRO	3.72	240.2	0 54K	-2	1 41	2	1 49
MORI	3.85	341.4	0 56	-2	1 54	12	
HIROO	3.91	12.1	0 59	0	1 42	-2	
MURORAN	3.97	346.7	1 11	11			
MERA	4.02	209.2	1 4	4			
KOHU	4.04	227.5	1 1	0	1 48	1	
MATUMOTO	4.04	238.2	1 6	5	1 48	1	
HUNATU	4.04	224.1	1 12	11			
TOMAKOMAI	4.19	353.6	1 52	49			
AJIRO	4.22	217.2	1 2	-1	1 48	-4	1 17
MISIMA	4.24	219.1	1 0	-3	1 57	5	
OSIMA	4.33	212.6	1 28	23			
WAZIMA	4.34	257.2	1 9	4			
TOYAMA	4.35	247.7	1 11	6	2 16	21	
OBIHIRO	4.52	9.2	1 16	9			
TAKAYAMA	4.58	241.3	1 6	-2			
SHIZUOKA	4.64	222.5	1 14	5	2 3	1	
SAPPORO	4.65	352.2	1 15	6			
KUSIRO	4.81	19.5	1 8	-3	2 0	-7	
OMAESAKI	5.02	221.1	1 33	19			
ASAHI GAWA	5.32	1.2	1 49	31			
GIHU	5.32	236.6	1 18	-1	2 20	1	
NAGOYA	5.34	233.6	1 25	6	2 30	10	
HUKUI	5.35	245.1	1 22	3			
NEMURO	5.49	26.6			2 15	-9	
HIKONE	5.74	238.2	1 28	4	2 29	-1	
KAMEYAMA	5.86	233.8	1 28	2	2 34	1	
KYOTO	6.24	238.6	1 31	0	2 49	7	
NARA	6.37	235.6	1 36	3	2 53	8	
ABUYAMA	6.43	238.2	1 33A	-1			
OWASE	6.54	229.8					2 33
OSAKA	6.59	236.8					3 5
TOYOOKA	6.60	246.0	1 37	1	2 59	8	
SUMOTO	7.18	237.3					2 35
SHILLONG	44.08	268.3	8 3A	-1			
CHATRA	47.16	272.8	7 28	-60			
COLLEGE	47.55	32.9	8 31	0			
WARSAK DAM	55.89	288.8	9 31	-3			
QUETTA	61.14	287.0	10 9	-1			
SODANKYLA	63.90	337.1	10 27	-2			
KIRUNA	65.41	339.2	10 37A	-2			
NURMIJARVI	68.99	332.0	10 59	-2			
HELSINKI	69.10	331.6	11 1	-1			
UPPSALA	71.96	334.1	11 17A	-2			
EUREKA	74.47	51.8	11 35	1			
RAPID CITY	78.81	41.9	11 59	1			
COLLMBERG	80.18	330.4	12 4	-2			
PRUHONICE	80.60	328.8	12 7A	-1			
JENA	81.02	330.9	12 9	-1			

SEPTEMBER 20 6.H 8.M 0.S EPICENTRE -13.41-111.63 DEPTH= 0.KM

A=-0.35867 B=-0.90457 C=-0.23043 D=-0.9296 E= 0.3686  
G= 0.0849 H= 0.2142 K=-0.9731 HT= 6.0

SE= 2.73

	DELTA DEG.	AZ. DEG.	P			S			*PP		SUPP.	
			M	S	O-C	M	S	O-C	M	S	M	S
MANZANILLO	33.05	12.7				12	52	54				
TACUBAYA	34.82	20.8				12	22	-4			15	35
HUANCAYO	35.41	92.0	6	59A	-1	12	41	6				
VERA CRUZ	35.82	25.6				12	26	-15				
CHINCHINA	40.15	65.3	7	38	-2	13	52	5				
BOGOTA	41.37	66.8	7	51	1	14	5	0			16	50 SS
FUQUENE	42.05	65.9	7	59	4	14	16	1				
LA PAZ	42.08	99.8	7	55	-1	14	18	2				
CHIHUAHUA	42.13	7.3									16	34
GALERAZAMBA	43.35	58.1				14	43	9				

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TUCSON	45.40	1.0	8 23	1				10 2 PP
PASADENA	47.70	352.7	9 8	27	15 44	7		
BOULDER CITY	49.21	356.6	8 51	-1				
FRESNO	50.50	351.5	9 3	1				
LICK	51.35	349.8	9 9A	0				
BERKELEY	51.97	349.3			16 43	7		20 30 SS
EUREKA	52.77	355.8	9 19	0				
RENO	53.22	352.1	9 24K	1				
SALT LAKE C.	53.90	359.8	9 27	-1				
MINERAL	54.28	350.6	9 21	-9				
SHASTA	54.75	350.0	9 33	-1				
HONOLULU	57.20	306.5	9 54	2	17 44	-2		
RAPID CITY	57.72	7.2	9 57	2				
ARGENTINE I.	60.89	159.2	10 12	-5				
HUNGRY HORSE	61.52	358.2	10 19	-2				
BERMUDA	63.94	43.5			19 20	7		
PALISADES	64.41	30.9	10 39	-2	19 19	0		23 7 SS
BYRD STATION	66.73	181.5	10 54	-1				
OTTAWA	66.94	26.7	11 1	4				
BREBEUF	67.95	27.9	11 5	2				
KARAPIRO	68.40	234.4	11 6	0				
HALIFAX	72.34	33.9			20 53	0		
CAPE HALLETT	73.71	198.2	11 39	1	21 16	7		
SCOTT BASE	75.21	192.5	11 47	0				
SOUTH POLE	76.68	180.0	11 55	0				
COLLEGE	82.70	345.3	12 25	-2	22 50	5		27 44 SS
TERRE ADELIE	84.31	202.4	12 40	5				
RESOLUTE	88.53	4.4			23 40	-1		29 42 SS
BRISBANE	88.79	242.3			23 34	-10		30 46
MATUSIRO	114.00	304.2			26 35	66		29 17 PS
LEOPOLDVILLE	124.39	104.9	19 7	5				
LWIRO	137.78	108.7	19 28	1				
KSARA	144.19	49.8						23 17
JERUSALEM	144.55	53.4	19 41	2				19 54 PKP2
MEDAN	148.51	254.7	19 53	8				
SHILLONG	154.81	302.2	20 21K	26				
QUETTA	163.26	4.3	20 6	2				

SEPTEMBER 21 2.H 8.M 28.S EPICENTRE -9.54 148.79 DEPTH= 0.KM

A=-0.84363 B= 0.51104 C=-0.16469 D= 0.5181 E= 0.8553  
G= 0.1409 H=-0.0853 K=-0.9863 HT= 6.6

SE= 1.40

	DELTA DEG.	AZ. DEG.	P			S			O-C		*PP		SUPP.	
			M	S	O-C	M	S	O-C	M	S	M	S		
PORT MORESBY	1.63	274.8	0 31K	1	0 55	3								
RABAU	6.28	32.5	1 37	1										
CHARTERS TS.	10.77	192.9	2 36	-3	5 3	22								
BRISBANE	18.15	168.6	4 19	4	7 54	18								
RIVERVIEW	24.27	175.2	5 22A	2	9 42	6								
ADELAIDE	26.94	198.5	5 45A	0	10 22	1						7 38		
MANILA	36.52	310.9	7 7	-2	12 55	3								
KARAPIRO	37.12	143.9	7 14	0										
MUNDARING	37.52	228.7	7 16	-1										
PERTH	37.79	229.0			13 22	11						15 56		
BAGUIO CITY	38.01	312.5	7 22	1	13 17	3								
ABUYAMA	45.91	344.8	8 25K	-1										
MATUSIRO	46.90	348.3	8 33K	-1	15 27	2						10 12 PP		
CANTON	47.50	313.6	8 40K	1	15 38	5						10 32 PP		
ZO-SE	48.31	327.8	8 44K	-1	15 46	1						10 41 PP		
NANKING	50.34	326.5	9 1K	0	16 17	4						10 57 PP		
MEDAN	51.61	282.3	9 11A	1										
WUHAN	51.66	321.8	9 12K	1	16 37	6								
KUNMING	56.57	308.5	9 48K	1	17 44	6								
Y.-SAKHLINSK	56.57	355.0	9 47	0	17 41	3								
CHANGCHUN	57.24	339.9	9 50K	-1	17 48	1						11 54 PP		
TERRE ADELIE	57.42	183.5	9 49	-4										
SIAN	57.67	321.1	9 54K	0	17 54	2								
PEKING	57.84	330.7	9 55K	-1	17 55	1						19 50 SCS		
CHENG TU	58.69	314.7	10 1K	-1	17 57	-9						12 9 PP		
KIPAPA	60.60	58.9	10 16	1										
PAOTOW	61.38	327.1	10 20	0	18 47	7								
LANCHOW	62.03	319.6	10 25K	1	18 53	5								
WILKES	62.41	196.4			18 54	1						22 47 SS		

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CAPE HALLETT	64.05	172.9	10 36	-2	19 22	8	23 36	SS
CHITTAGONG	64.19	300.4	10 41	2	19 21	5	13 6	PP
SHILLONG	65.45	303.7	10 47A	0				
LHASA	67.84	307.3	11 4	2	20 4	4		
ULAN-BATOR	68.16	331.1	11 3	-1				
SCOTT BASE	68.92	176.0					21 9	
IRKUTSK	72.39	333.1	11 29	-1	20 57	4		
YAKUTSK	72.88	350.7	11 31	-2	20 59	0		
POONA	78.98	291.0	12 7	0				
SOUTH POLE	80.52	180.0	12 15	0			13 36	
BYRD STATION	80.96	169.8	12 18	0			12 30	PCP
LAHORE	81.96	303.8	12 23	0				
TIKSI	82.08	353.7	12 23	-1	22 40	2		
WARSAK DAM	84.88	305.6	12 37	-1				
COLLEGE	87.72	22.5	12 51	-1	23 34	1	27 32	
QUETTA	87.78	300.9	12 53	1	23 36	2	23 21	SKS
BERKELEY	94.95	52.6	13 27	2				
SHASTA	95.25	49.8	13 29A	2				
LICK	95.37	53.2	13 29	2				
MINERAL	95.80	50.2	13 32	3				
FRESNO	96.75	53.9	13 35	1				
RENO	97.07	51.2	13 37A	2				
EUREKA	100.02	51.5	13 51	3				
HUNGRY HORSE	101.82	42.5	13 57	0				
RESOLUTE	105.96	14.4					27 47	PS
TIFLIS	106.72	310.7					18 46	PP
RAPID CITY	109.51	46.6	14 32	777				
MOSCOW	109.71	325.9					19 4	PP
PULKOVO	112.33	331.3					19 1	
SIMFEROPOL	114.10	315.0					19 40	PP
LWIRO	119.10	262.1	18 57	6				
BUCHAREST	119.78	316.0					20 23	PP
BRATISLAVA	124.16	322.8	19 2	1				
PRUHONICE	124.75	325.7	19 3	1			20 40	
COLLMBERG	124.90	327.7	19 3	1			20 54	
JENA	125.85	328.0	19 2	-2			20 38	
LJUBLJANA	126.71	321.5	19 7K	1				
OTTAWA	127.76	38.7	19 8	0				
STUTTGART	128.30	326.8	19 9	0				
SHAWINIGAN	128.94	36.1	19 8	-2				
BREBEUF	128.99	37.6	19 11A	1				
STRASBOURG	129.22	327.4	19 15	4				
ROME	129.95	317.7			25 42	-38	22 30	PKS
HUANCAYO	131.18	115.2	19 19	5			22 48	PKS
LEOPOLDVILLE	131.69	255.4	19 19	4				
TAMANRASSET	142.47	295.0	19 37	2			22 45	PP
CARACAS	144.82	85.3	19 46A	7				
ST. KITTS	148.41	72.4	19 50	5				
GRENADA	149.92	82.5	19 52	5				
TRINIDAD	150.26	85.2	19 56	8				
ST. VINCENT	150.32	80.2	19 43	-5				

SEPTEMBER 21 12.H 19.M 35.S EPICENTRE 40.89 74.72 DEPTH= 0.KM

A= 0.19985 B= 0.73138 C= 0.65204 D= 0.9646 E=-0.2636  
G= 0.1719 H= 0.6290 K=-0.7582 HT= -2.0

SE= 2.85

	DELTA DEG.	AZ. DEG.	P			S			*PP		SUPP.	
			M	S	O-C	M	S	O-C	M	S	M	S
NARYN	1.11	60.3									0 17	PG
ANDI JAN	1.79	266.4	0 38		6						1 4	S*
FRUNSE	1.94	357.9	0 36		1						1 9	SG
FERGANA	2.29	258.2									0 45	PG
NAMANGAN	2.31	273.3	0 45		5						1 22	S*
FABRICHNAYA	2.58	29.1	0 45		1						1 21	S*
ALMATA	2.90	34.2	0 50		2						1 30	S*
ALMATA-2	3.09	38.8	0 52		1						1 33	S*
DZERG TAL	3.15	239.3									0 59	P*
PRZHEVALSK	3.18	58.8	0 53		1						1 37	S*
KURMENTY	3.39	50.4	0 55		0						1 42	S*
ILI	3.51	29.4	0 57		0						1 46	S*
CHILIK	3.84	44.5	1 1		-1						1 56	S*
GARM	3.88	242.4									2 10	SG
TCHIMKENT	4.09	291.9				1 57	3				1 18	P*

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LUNACHARSKOE	4.09	278.0	1	8	3	1	59	4	4	1
TASHKENT	4.13	277.8	1	5	-1	2	0	4	2	16
KHOROZ	4.21	217.1							1	14 P*
KULYAB	4.87	233.8							1	39 PG
STALINABAD	5.14	245.1	1	23	3				2	48
SAMARKAND	6.04	260.9	1	34	1				3	27
WARSAK DAM	7.32	201.1	1	53A	2					
LAHORE	9.32	182.0	2	19	0					
SEMIPALATNSK	10.27	20.3							3	59
BAIRAM-ALI	10.31	255.5	2	27	-5	4	21	-9	5	57
DEHRA DUN	10.89	164.6	2	42	2	4	45	1		
QUETTA	12.41	213.0	2	59A	-2	4	30	-51	3	9 PP
ASHKABAD	12.99	262.3	3	3	-6	5	26	-9	7	32
KIZYL-ARVAT	14.23	269.2	3	25	0	6	1	-4		
CHATRA	17.39	139.9	4	3	-3	7	10	-9		
SVERDLOVSK	18.39	334.9	4	19	1					
SHILLONG	20.90	131.7	4	46A	0	8	40	5	5	11 PP
GORIS	21.69	275.7	4	55	1					
BOMBAY	21.97	184.8	5	8	11	9	2	7		
POONA	22.29	182.2	5	1	1	9	3	1		
TIFLIS	22.44	282.0	5	3	1					
ULAN-BATOR	23.92	62.1	5	20	4					
MOSCOW	28.38	314.1	5	58	0				12	19 SS
PULKOVO	33.23	319.8							14	55 SSS
APATITY	34.83	333.7	6	50	-5				14	25
NURMI JARVI	36.15	320.0	7	11	5					
SODANKYLA	37.13	331.5	7	13	-1					
KIRUNA	39.54	331.0	7	35	1					
UPPSALA	39.57	318.3	7	34	-1					
TIKSI	40.61	23.3	7	39	-4					
PRUHONICE	42.14	303.4	7	56	0				9	44 PP
SKALSTUGAN	42.26	323.9	7	59	2					
GOLLMBERG	42.86	305.6	8	1	-1					
LJUBLJANA	43.08	297.8	8	4A	1					
JENA	43.81	305.4	8	9	0				8	40
STUTTGART	45.78	302.9	8	25	0					
STRASBOURG	46.79	303.0	8	35	2					
MATUSIRO	48.77	73.4	8	46	-3					
DURHAM	50.54	313.2	8	58K	-4					
TAMANRASSET	60.03	275.2	10	11A	0					
BANGUI	61.89	249.8	10	21	-3					
TANANARIVE	64.63	208.6							10	42 PCP
ELISABTHVLE	68.07	230.8	11	5	1					
COLLEGE	69.45	18.0	11	10	-2					
BULAWAYO	74.29	224.7	11	41	0					
HORSESHOE B.	88.73	11.7	12	53K	-4					
VICTORIA	89.54	11.9	11	59K	-62					
HUNGRY HORSE	90.81	5.8	13	5	-1					
RAPID CITY	95.40	358.5	13	31	3					
EUREKA	99.42	8.4	13	49	3					
SOUTH POLE	130.70	180.0	19	11	-2				22	37
BYRD STATION	140.38	176.1	19	33	2					

SEPTEMBER 23 10.H 38.M 58.S EPICENTRE 83.53 114.02 DEPTH= 0.KM

A=-0.04617 B= 0.10362 C= 0.99355 D= 0.9134 E= 0.4070  
G=-0.4044 H= 0.9075 K=-0.1134 HT=-14.0

SE= 3.41

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
TIKSI	12.30	157.6	3	1A	2	5	27	9			3	36
NORD	13.62	331.7	3	17	0							
THULE	20.18	1.6	4	39	0							
RESOLUTE	21.35	20.7	4	47	-4	8	47	3				
YAKUTSK	21.94	160.0	4	53	-4						9	3 PCP
APATITY	22.41	276.4	5	3	2	9	21	18			9	8 PCP
SODANKYLA	23.35	282.7	5	9	-2							
KIRUNA	23.58	288.7	5	12	-1	9	29	5				
COLLEGE	26.93	68.9	5	44	-1	10	25	4				
SKALSTUGAN	28.57	293.7	6	4	5							
SVERDLOVSK	29.87	242.4	6	23	12							
NURMI JARVI	30.23	280.7	6	24	10							
PULKOVO	30.32	274.8				11	12	-3				
SEMIPALATNSK	34.53	218.9	7	18	26							

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DURHAM	38.62	303.1	7 33	7			
CHANGCHUN	39.99	167.3	7 37	-1			
COLLMBERG	40.56	288.6	7 44	2			
PRUNONICE	41.69	286.8	7 58	6			9 48 PP
TCHIMKENT	43.42	229.1	8 4	-2			17 24
PEKING	43.65	177.6	8 8	0	14 40	2	
NAMANGAN	44.56	226.6	8 18	3			
ANDI JAN	44.73	225.8	8 16	0			
SOTCHI	45.19	260.5					20 17
LJUBLJANA	45.58	285.9	8 25K	2			8 46
HUNGRY HORSE	46.40	43.2	8 27	-3			
TIFLIS	46.46	254.9	8 32	2			
KIROVOBAD	47.35	253.1	8 36	-1			
LANCHOW	47.73	191.2	8 39	-1			
MATUSIRO	47.76	153.5	8 47	7	15 46	9	
KULYAB	47.78	228.2	8 39	-2			
KHOROG	48.05	226.3					8 54
ASHKABAD	48.78	240.2	8 49	1			20 38 SSS
CORVALLIS	49.37	52.4	8 59	6			
BREBEUF	51.15	6.9	8 10	-57			
OTTAWA	51.22	8.8	9 4	-3			
RAPID CITY	51.42	33.9	9 7	-2			
CHENG TU	53.10	190.8	9 19	-2			
SHASTA	53.30	52.2	9 22	-1			
MINERAL	53.72	51.5	9 25	-1			
LARAMIE	54.02	36.4	9 26	-2			
RENO	54.68	49.9	9 32	-1			
EUREKA	55.06	46.3	9 34	-2			
PALISADES	55.64	7.3			17 26	1	
BERKELEY	56.12	52.5	9 42	-1			
LICK	56.70	51.9	9 47A	0			
FRESNO	57.43	50.3	9 51A	-2			
SHILLONG	58.58	203.5	10 0A	-1			
KUNMING	58.65	192.0	10 1	0			
PASADENA	60.17	49.1	10 10	-2	18 36	12	
TUCSON TELE.	62.57	42.2	10 26	-2			11 14 PCP
TUCSON	62.65	42.3	10 27	-1			
TAMANRASSET	69.56	290.9	11 10	-2			11 33 PCP

SEPTEMBER 23 22.H 23.M 10.5 EPICENTRE 35.55 138.39 DEPTH= 0.KM

A=-0.60973 B= 0.54147 C= 0.57882 D= 0.6640 E= 0.7477  
G=-0.4328 H= 0.3843 K=-0.8155 HT= -0.1

SE= 3.28

	DELTA DEG.	AZ. DEG.	P			S			*PP		SUPP.	
			M	S	O-C	M	S	O-C	M	S	M	S
KOHU	0.18	48.6	0	5A	-4	0	8	-7				
HUNATU	0.31	99.2	0	6	-5	0	12	-6				
IIDA	0.46	266.4	0	9	-4	0	13	-9				
SHIZUOKA	0.58	179.5	0	13A	-2	0	23	-2				
MISIMA	0.63	133.2	0	12K	-3	0	22	-4				
TITIBU	0.70	52.3	0	16	0	0	24	-4				
AJIRO	0.76	130.6	0	16	-1	0	27	-3				
MATUMOTO	0.78	333.9	0	15	-2	0	23	-7				
OIWAKE	0.79	9.2	0	12	-6	0	22	-8				
OMAESAKI	0.96	188.6	0	20	0	0	35	0				
HAMAMATU	1.00	213.9	0	19	-2	0	35	-1				
MATUSIRO	1.00	351.5	0	19A	-2	0	32	-4				
KUMAGAYA	1.00	53.0	0	19A	-2	0	33	-3				
MAEBASI	1.01	32.7	0	20A	-1	0	34	-2				
NAGATURO	1.02	158.3	0	22	1	0	35	-1				
YOKOHAMA	1.03	96.3	0	23K	2	0	35	-1				
TAKAYAMA	1.10	303.1	0	20	-2	0	36	-2				
TOKYO C.M.O.	1.11	82.9	0	23K	1	0	40	1				
OSIMA	1.12	133.6	0	23K	1	0	39	0				
NAGANO	1.13	352.1	0	21A	-1	0	37	-2				
HONGO	1.13	81.5	0	23K	0	0	40	1				
NAGOYA	1.22	252.3	0	23K	-1	0	38	-3				
GIHU	1.33	264.0	0	25K	0	0	42	-2				
NERA	1.33	117.7	0	26K	1	0	46	2				
TOYAMA	1.50	320.2	0	29K	1	0	47	-1				
TUKUBASAN	1.54	63.8	0	19	-9							1 49
TAKADA	1.55	355.8	0	29	0	0	51	1				
UTUNOMIYA	1.56	49.8	0	29A	0	0	50	0				



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KAKI OKA	1.60	64.4	0 30K	1	0 52	1	
KANAZAWA	1.72	305.2	0 31	0	0 56	2	
KAMEYAMA	1.72	246.6	0 33A	2	0 53	-1	
TU	1.75	241.6	0 34	3	0 57	2	
HIKONE	1.77	261.5	0 31K	-1	0 57	2	
HUKUI	1.83	286.5	0 33K	1	0 58	1	
MITO	1.88	63.2	0 34K	1	0 57	-1	
TSURUGA	1.90	273.7	0 34	1	0 55	-3	
TYOSI	2.01	84.5	0 37K	2	1 8	7	
SHIRAKAWA	2.15	42.7	0 39	2	1 8	3	
WAZIMA	2.19	327.0	0 42	4	1 11	5	
KYOTO	2.24	257.1	0 40A	2	1 7	0	
NARA	2.27	248.3	0 40K	1	1 11	3	
MAIZURU	2.39	266.0	0 44	3	1 11	-1	
OWASE	2.33	231.3	0 41	1	1 15	6	
ABUYAMA	2.41	254.4	0 40K	-1	1 12	1	
NIIGATA	2.42	12.4	0 42K	1	1 11	-1	
ONAHAMA	2.46	54.7	0 43	1	1 14	1	
AIKAWA	2.47	357.4	0 43	1	1 28	15	
OSAKA	2.51	249.9	0 43K	1	1 19	5	
HATIDYOZIMA	2.70	154.3	0 48	3	1 29	10	
HUKUSIMA	2.76	36.6	0 48A	2	1 24	4	
KOBE	2.77	252.7	0 46	0	1 25	4	
TOYOOKA	2.91	270.6	0 48	0	1 24	0	
WAKAYAMA	2.96	244.5	0 56	7	1 40	15	
SIOMISAKI	3.01	226.7	0 54	5	1 36	9	
SUMOTO	3.11	248.1	0 52K	1	1 33	4	
YAMAGATA	3.12	29.6	0 54	3	2 33	64	
SENDAI	3.38	35.8	0 56	1	1 38	2	
TOTTORI	3.44	270.5	0 55	0	1 39	2	
HIMEJI	3.44	253.4	0 56	0	1 37	-1	
TOKUSIMA	3.47	245.9	0 56	0	1 39	1	
SAKATA	3.53	18.5	1 5	8	1 51	11	
ISINOMAKI	3.71	38.3	1 1	2	1 46	2	
OKAYAMA	3.77	258.0	1 3	3	2 0	14	
TAKAMATU	3.77	252.3	0 59	-1	1 56	10	
YONAGO	4.12	269.8	1 7	2	2 8	13	
MUROTO	4.17	237.8	1 10	4	2 5	9	
MATSUE	4.34	270.2	1 10	2	2 14	14	
AKITA	4.38	17.5	1 17	8	2 11	10	
KOTI	4.48	245.0	1 11	1	2 3	-1	
MORIOKA	4.69	27.2	1 18	5	2 15	6	
MATUYAMA	4.93	251.4	1 16	-1	2 14	-1	
MIYAKO	4.98	33.7	1 18	1	2 18	1	
HIROSIMA	5.04	258.2	1 18A	0	2 21	3	
HAMADA	5.22	264.7	1 18	-3	2 19	-3	
SIMIDU	5.28	240.0	1 21	-1	2 23	-1	
IWAZIMA	5.36	246.1	1 32	9	2 47	21	
HATINOHE	5.55	25.5	1 26	1	2 36	5	
AOMORI	5.59	18.9	1 28	2	2 53	21	
OOTA	6.06	249.5	1 35	2	2 51	7	
SIMONOSEKI	6.35	257.6	1 38	1	2 57	6	
HAKODATE	6.52	15.8	1 42K	3	3 20	25	
ASOSAN	6.62	248.5	1 41	1	3 17	19	
MIYAZAKI	6.84	240.0	1 51	7			4 48
HUKUOKA	6.90	255.7	2 1	17	3 29	24	
KUHAMOTO	6.93	249.1	1 48	3	3 29	24	
MURORAN	7.05	15.8	1 50	3			
SAGA	7.07	253.4	1 59	12	3 39	30	
SUTTSU	7.38	10.6	1 56	5	3 32	15	
URAKAWA	7.42	26.1	1 52	0	3 15	-3	
TOMAKOMAI	7.49	18.3	2 6	13	3 37	18	
NAGASAKI	7.60	250.7	1 59	5	3 28	6	
HIROO	7.74	28.3	1 56	0			
SAPPORO	7.85	16.1	2 1	3	3 39	11	
OBIHIRO	8.25	25.4	2 3	0	3 36	-2	
YAKUSIMA	8.35	234.7	2 3	-2			
TOMIE	8.50	252.6					4 16
KUSIRO	8.76	30.3	2 11	1	3 42	-9	
VLADIVOSTOK	9.08	328.3	2 17	2			
NEMURO	9.55	33.4	2 29	8	3 59	-12	
ABASHIRI	9.59	26.4	2 39	17	4 11	-1	
WAKKANAI	10.17	13.2					4 40
Y.-SAKHLINSK	11.91	14.5	2 44	-10			
CHANGCHUN	13.02	313.4	3 10	1	5 44	9	
ZO-SE	15.06	257.7	3 41	6	6 37	13	
NANKING	16.67	263.6	3 57	1	7 10	9	
PEKING	18.11	290.9	4 15	1	7 42	8	

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WUHAN	20.58	262.7	4 44	1	8 37	9	
PETROPAVLOVK	22.57	33.0	4 54	-9			
SIAN	24.17	275.5	5 18K	0			
HONG KONG	24.90	244.5	5 25	0	9 57	10	
CANTON	25.05	247.1	5 26	-1	9 53	4	
MAGADAN	25.34	14.8	5 26	-4			
MANILA	25.96	221.1	5 36	1			7 2
ULAN-BATOR	26.36	307.7	5 35	-4			
YAKUTSK	27.05	351.0	5 40	-5			
LANCHOW	27.95	281.3	5 50	-4	10 34	-3	
CHENG TU	29.12	270.3	6 1	-3	10 56	0	
KUNMING	32.33	261.2	6 30	-2			
LHASA	40.03	275.3	7 37	-1			
SHILLONG	40.96	269.2	7 44	-1			
CHITTAGONG	42.45	264.9	7 53	-5			
SEMI PALATNSK	43.93	308.4	8 5	-5			
FRUNSE	48.92	298.9	8 46	-3			
DEHRA DUN	50.24	282.2	9 3	4			16 12
COLLEGE	51.64	31.5	9 8	-2			
TASHKENT	53.15	298.4	9 17	-4			16 48 PS
WARSAK DAM	53.94	289.1	9 23	-4			
SVERDLOVSK	54.65	318.8	9 28	-4			
CHARTERS TS.	55.83	171.1	9 37	-4			
QUETTA	59.05	286.8	10 0	-4	17 47	-23	
ASHKABAD	62.23	298.4	10 21	-4			
APATITY	63.03	335.4	10 29	-2			
RESOLUTE	64.63	13.6	10 35	-6	19 26	5	20 30 SCS
SODANKYLA	65.37	336.7	10 48	2			
MOSCOW	66.97	322.9			19 38	-11	
KIRUNA	67.02	338.6	10 57	1			
THULE	67.03	6.6	10 53	-4			
TIFLIS	69.79	307.2	11 10	-4			
GORIS	69.88	304.6	11 11	-3			
NURMI JARVI	70.09	331.2	11 14	-1			
ADELAIDE	70.16	179.7	11 19	3			
HELSINKI	70.17	330.8	11 16	0			
CANBERRA	71.20	170.9	11 20	-2			
CORVALLIS	71.29	48.3	11 22K	-1			
SKALSTUGAN	72.38	337.7	11 27	-2			
SHASTA	73.94	51.4	11 37K	-1			
HUNGRY HORSE	74.52	41.3	11 39	-3			
BERKELEY	75.58	53.7	11 47	-1			
RENO	76.23	51.2	11 51K	-1			
LICK	76.28	53.9	12 14	22			
BUTTE	76.71	42.6	11 55	1			
FRESNO	77.82	53.5	12 0	0			
EUREKA	78.67	49.5	12 4	-1			
SALT LAKE C.	80.38	46.5	12 13	-1			
PASADENA	80.43	54.9	12 13	-2			
KARAPIRO	80.81	151.1	12 15A	-2			12 37
COLLMBERG	81.14	328.8	12 13	-5			15 22
PRUHONICE	81.44	327.2	12 18	-2			
JENA	82.01	329.2	12 20	-3			
RAPID CITY	83.01	39.7	12 28	0			
DURHAM	83.69	338.0	12 33K	2			
LJUBLJANA	84.33	324.5	12 33K	-2			
STRASBOURG	85.40	329.6	12 47	7	23 8	-3	
TUCSON TELE.	86.44	52.4	12 45	0			
ROME	88.39	322.8					23 18
OTTAWA	93.72	23.3	13 24	5			
BREBEUF	94.29	22.0	13 32K	10			
PALISADES	98.24	24.1					25 4 SKKS
TAMNARSSET	106.81	315.0					18 42 PP
SOUTH POLE	125.37	180.0	19 0	-3			20 52 PP
BYRD STATION	126.85	167.7	19 4	-1			
HUANCAYO	141.59	60.9	19 30	-3			
LA PAZ	149.69	58.1	19 52	6			20 5 PKP2

SEPTEMBER 24 5.H 43.M 34.S EPICENTRE 83.53 113.49 DEPTH= 0.KM

A=-0.04524 B= 0.10409 C= 0.99354 D= 0.9171 E= 0.3987  
G=-0.3961 H= 0.9112 K=-0.1135 HT=-14.0

SE= 3.55

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

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TIKSI	12.32	156.8	3	1	1	5	17	-2	6	5
NORD	13.60	331.4	3	19	2					
THULE	20.18	1.2	4	36	-3					
RESOLUTE	21.37	20.3	4	50	-2	8	47	2		
YAKUTSK	21.95	159.4	4	57	0				9	9
APATITY	22.35	275.9	5	12	11	9	32	29	9	9 PCP
SODANKYLA	23.25	282.2	5	13	2					
KIRUNA	23.52	288.3	5	13	0					
SCORESBY SD.	24.70	325.6	5	26K	2	9	50	6		
MAGADAN	25.71	134.6				10	16	15		
COLLEGE	26.99	68.5	5	46	0	10	37	15		
SKALSTUGAN	28.51	293.2	6	1	2					
NURMI JARVI	30.17	280.2	6	27	13					
PULKOVO	30.26	274.3	6	14	-1	11	4	-11	9	19 PCP
PETROPAVLOVK	32.85	127.8							14	20 SSS
MOSCOW	33.39	265.4	6	40	-3					
ULAN-BATOR	35.80	187.6	7	5	2					
DURHAM	38.57	302.7	7	35	8				8	42
POTSDAM	39.43	288.3	7	34	0					
MUNSTER	40.41	293.4	7	50	8					
COLLMBERG	40.50	288.1	7	42	-1				9	37
LWOW	40.74	277.1	7	45	0					
KRAKOW	40.98	281.1	7	53	7				9	19 PP
JENA	41.02	289.4	7	46	-1				9	5 PP
PRUHONICE	41.64	286.3	7	52	0				9	42 PP
DOURBES	42.57	295.8	8	2	2					
IASI	42.93	272.9							9	44 PP
BRATISLAVA	43.15	283.4	8	5	1				9	53 PP
TCHIMKENT	43.38	228.5	8	8	2					
STRASBOURG	43.75	292.4	8	15	6					
PARIS	44.06	297.4	8	22	10				8	56
FOLINIERE	44.40	300.2	8	14	0					
NAMANGAN	44.51	226.1	8	17	2				10	5 PP
ANDI JAN	44.69	225.3	8	20	3					
LJUBLJANA	45.52	285.4	8	23K	0				10	19
BUCHAREST	45.84	273.7							9	47
TRIESTE	46.00	286.0	8	48	21				10	39 PP
BELGRADE	46.08	279.4	8	37K	9				10	29 PP
HUNGRY HORSE	46.45	42.8	8	29	-2					
CLERMONT-FD.	47.01	296.2	8	37	2					
KIROVOBAD	47.29	252.6	8	38	1				10	27 PP
KULYAB	47.73	227.7	8	40	-1					
KHOROG	48.00	225.7							12	33
MONACO	48.58	291.7	8	47	0					
ASHKABAD	48.72	239.7	8	50	1					
BUTTE	48.87	41.8	8	49	-1					
SEVEN FALLS	49.57	3.9	8	53	-2					
ROME	49.85	286.5	9	1	4				14	45
SHAWINIGAN	50.12	5.6	8	58	-1					
BREBEUF	51.16	6.4	9	5K	-2					
OTTAWA	51.23	8.3	9	6K	-2					
RAPID CITY	51.45	33.4	10	8	59					
WARSAK DAM	51.45	225.2	9	8	-1					
SHASTA	53.35	51.7	9	22	-2					
TOLEDO	53.55	302.0	9	32	7					
LAHORE	53.67	222.0	9	24	-2					
MINERAL	53.76	51.0	9	39	12					
LARAMIE	54.06	35.9							11	28 PP
RENO	54.72	49.4	9	33A	-1					
EUREKA	55.11	45.8	9	35	-2					
QUETTA	55.63	229.6	9	40	0	17	18	-8		
PALISADES	55.65	6.8				17	12	-14	22	2 SS
PENNSYLVANIA	55.79	10.4	9	41	0					
BERKELEY	56.17	52.0	9	44	0					
GRANADA	56.18	301.1	9	48K	4				10	17
LICK	56.75	51.4	9	48A	0					
MORGANTOWN	56.91	12.4	9	52	2					
RELIZANE	57.19	297.0	9	42	-9					
FRESNO	57.47	49.8	9	52A	-1					
WASHINGTON	57.70	9.7	9	52	-3					
SHILLONG	58.55	203.0	10	0	-1					
PASADENA	60.21	48.6	10	11	-2					
CHAPEL HILL	60.64	11.7	10	13	-2					
TUCSON TELE.	62.61	41.7	10	28	-1					
TUCSON	62.69	41.8	10	28	-1					
MANILA	68.97	172.1	10	51	-18				14	11
TAMANRASSET	69.50	290.4	11	11	-2				13	45 PP
SOUTH POLE	173.48	180.0							21	56 PKP2

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SEPTEMBER 25 0.H 14.M 33.S EPICENTRE -9.30 114.22 DEPTH= 0.KM

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SE= 2.09

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
LEMBANG	6.98	290.1	1	49K	3						3	9
MEDAN	20.09	308.9	4	38	0						8	24
MUNDARING	22.64	175.6	5	3	-1	8	59	-9				
MANILA	24.77	16.0	5	32	8	9	46	1				
BAGUIO CITY	26.32	13.9	6	6	27							
PORT MORESBY	32.49	92.9	6	35	1	11	47	-2			7	45 PP
CHARTERS TS.	32.74	112.8	6	37	1						9	21 PCP
ADELAIDE	33.98	142.5	6	47A	0						8	11
CHITTAGONG	38.36	325.4	7	23	-1	13	15	-5			8	51 PP
MELBOURNE	39.67	140.6	7	36A	1						7	55
BRISBANE	40.56	121.5	7	46A	3						8	22
SHILLONG	40.92	328.4	7	46A	0	13	31	-27				
CANBERRA	40.95	134.6	7	46A	0						8	5
RIVERVIEW	41.78	131.3	7	53A	0						8	14
CHATRA	44.48	324.6	8	16	1	14	12	-38				
POONA	48.48	304.8	8	46	0							
MATUSIRO	50.87	25.0	9	0	-5							
DEHRA DUN	52.53	320.0	9	20	3							
LAHORE	55.73	318.5	9	37A	-4	17	13	-14				
KARACHI	57.14	307.5	9	50	-1							
MIRNY	58.98	189.7	10	0	-4							
WARSAK DAM	59.09	319.0	10	3A	-1							
QUETTA	60.02	312.8	10	9A	-2	18	24	1				
KARAPIRO	61.78	128.1	10	22	-1							
CAPE HALLETT	71.24	164.5	11	23	0						11	43 PCP
YAKUTSK	72.12	7.6	11	27	-1							
SCOTT BASE	73.50	169.9	11	35	-1							
SVERDLOVSK	79.16	333.2	12	9	1							
SOUTH POLE	80.76	180.0	12	15	-2							
TIFLIS	81.18	314.8	12	19	0							
TIKSI	81.34	4.7	12	18	-2							
BULAWAYO	82.76	250.8	12	28	1							
BROKEN HILL	83.64	256.4	12	32	0							
ELISABTHVILLE	85.00	259.1	12	41A	3							
LWIRO	85.12	268.5	12	40	1							
JERUSALEM	85.62	303.0	12	42K	0						12	59 PCP
BYRD STATION	86.78	171.9	12	47	0						13	5
MOSCOW	90.16	326.6	13	0	-3							
PULKOVO	94.90	329.7	13	25	0							
PRUHONICE	103.27	319.2									18	18 PP
TAMANRASSET	110.72	290.8	18	33	-2						19	7 PP
RESOLUTE	112.58	8.1									35	12 SS
HUNGRY HORSE	123.92	36.8	19	1	1							
PASADENA	126.11	54.4	19	7	3						19	39
EUREKA	126.21	47.5	19	6	1							
BOZEMAN	126.98	38.6	19	9	3							
TUCSON	132.54	54.5	19	20	3						22	40 PP
RAPID CITY	132.55	36.5	19	17	0						22	38 PKS
TUCSON TELE.	132.60	54.3	19	19	2						22	41 PP
SEVEN FALLS	142.06	5.6	19	35K	1							
SHAWINIGAN	142.40	7.9	19	34	-1							
FAYETTEVILLE	142.88	39.7	19	32K	-3							
OTTAWA	143.02	11.7	19	33K	-3							
BREBEUF	143.30	9.2	19	34K	-2							
HALIFAX	144.76	357.3	19	39A	0							
TACUBAYA	146.17	69.0	19	44	3						20	4
PENNSYLVANIA	146.84	16.9	19	45	3						20	6
MORGANTOWN	147.25	20.5	19	47A	4							
PALISADES	147.61	11.5	19	47	3						42	33 SS
FORDHAM	147.77	11.6	19	49	5							
CHAPEL HILL	150.87	22.5	19	51	2							
COLUMBIA	151.70	27.4	19	52	2							
LA PAZ	154.26	174.8	19	57	3						20	22 PKP2
HUANCAYO	156.77	155.7	20	2	5						20	32

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SEPTEMBER 25 2.H 36.M 48.S EPICENTRE 21.95 121.30 DEPTH= 0.KM

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SE= 2.88

	DELTA DEG.	AZ. DEG.	P		O-C S	S		O-C S	*PP		SUPP.	
			M	S		M	S		M	S	M	S
HENGCHUN	0.51	275.4	0	18	4	0	25	1				
TAWU	0.54	317.2	0	15	0	0	21	-4				
TAITUNG	0.81	350.3	0	20	1	0	26	-5				
HSINKONG	1.14	3.4	0	22	-1	0	38	-2				
KAOHSIUNG	1.16	305.1	0	28	4	0	42	2				
TAINAN	1.44	316.5	0	30	2	0	51	3				
YUSHAN	1.55	348.2	0	22	-7	0	43	-7				
ALISHAN	1.63	343.7	0	17	-13	0	38	-14				
HWALIEN	2.03	8.4	0	38	2	1	8	5				
PENGHU	2.25	314.6	0	41	2	1	7	-1				
TAICHUNG	2.26	345.6	0	41	2	1	10	2				
ILAN	2.84	8.4	0	49	1	1	24	1				
HSINCHU	2.85	354.0	0	57	9	1	22	-1				
TAIPEI	3.07	3.8	0	52	1	1	32	3				
BAGUIO CITY	5.54	187.1	1	29	3							
HONG KONG	6.62	274.3	1	42	1							
MANILA	7.25	181.7	1	52	2	3	12	-2				
CANTON	7.44	280.3	1	53K	0	2	22	-57				
ZO-SE	9.11	359.4	2	14K	-2	3	59	-2				
NANKING	10.31	348.0	2	29	-4	4	31	1				
WUHAN	10.46	326.1	2	32	-3	4	30	-4				
YAKUSIMA	11.82	42.4	2	54	1	5	14	7			3	39
TOMIE	12.53	30.4	3	2	-1	5	32	8				
KAGOSIMA	12.64	38.8	3	19	15	6	21	54				
NAGASAKI	13.16	33.5	3	10A	-1	6	23	44			7	34
MIYAZAKI	13.41	40.1	3	21	7	5	56	11				
KUMAMOTO	13.66	35.6	3	13	-5	6	45	54				
PHU-LIEN	13.71	267.9	3	18	0	5	59	6				
SAGA	13.79	33.4	3	20	1							
ASOSAN	13.93	36.4	3	19	-2	6	12	14				
ITUHARA	14.08	28.2	3	17	-6	5	48	-13				
HUKUOKA	14.09	32.8	3	26	3	6	8	6				
DOITA	14.48	36.9	3	42	14							
SIMIDU	14.95	41.4	3	37	2	6	31	9				
UWAZIMA	15.01	39.2	3	41	6							
MATUYAMA	15.58	38.1	3	49	6	6	53	16			7	42
HIROSIMA	15.78	36.0	3	51	6	6	57	16				
KOTI	15.82	40.5	3	49	3	6	49	7			4	22 PP
HAMADA	15.99	33.9	3	58K	10	6	42	-4				
MUROTO	16.02	42.6	3	46	-2	6	57	10				
SIAN	16.39	321.0	3	52K	-1							
TAKAMATU	16.66	39.6	3	51	-6	7	17	15				
TOKUSIMA	16.81	41.3	4	3	4							
OKAYAMA	16.84	38.4	4	3	4							
MATSUE	16.94	34.9	4	17	17	7	39	31				
HIMEJI	17.00	39.8									6	51
YONAGO	17.07	35.5									6	8
SIOMISAKI	17.17	45.1	4	6	3	7	27	13				
SUMOTO	17.19	41.2	4	5	2	7	29	15			8	19
WAKAYAMA	17.28	42.0	4	9	5							
KUNMING	17.31	284.1	4	6	1	7	22	5				
KOBE	17.59	40.9	4	11	3	7	37	14			9	53
SAIGO	17.64	33.8									12	5
CHENGTU	17.74	302.8	4	11K	1	7	30	3				
OSAKA	17.78	41.6	4	13A	2	7	40	12				
OWASE	17.83	44.2	4	16	5	7	43	14				
ABUYAMA	17.95	41.1	4	14A	1							
TOYOOKA	17.96	38.2	4	16	3	7	44	12			9	59
KYOTO	18.15	41.1	4	18	3	7	44	8				
MAIZURU	18.28	39.6	4	20	3	8	10	31				
TU	18.43	43.2	4	22	3							
KAMEYAMA	18.50	42.7	4	23K	3	7	54	10			8	22
PEKING	18.54	347.5	4	20A	0	7	48	3				
HIKONE	18.63	41.4	4	24	3	8	0	13			13	29
NAGOYA	19.02	42.8	4	29	3	8	7	11				
GIHU	19.04	41.9	4	26A	0	8	4	8			8	43
HUKUI	19.15	39.5	4	32	5							
OMAESAKI	19.48	46.1	4	31	0	8	15	9				
IIDA	19.78	43.3	4	34	-1	8	23	10				

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SHIZUOKA	19.82	45.4	4 35	0	8 24	11	
TOYAMA	20.16	39.7	4 39	0			8 0
MISIMA	20.27	45.8	4 41A	1	8 29	6	
AJIRO	20.33	46.2	4 41	0	8 36	12	
MATUMOTO	20.33	41.9	4 40	-1	8 31	7	
KOHU	20.34	44.0	4 41	0	8 32	8	
OSIMA	20.36	47.3	4 41A	0	8 32	7	
HUNATU	20.38	44.7	4 43A	2	8 33	8	
WAZIMA	20.45	37.8	4 42	0	8 30	3	
MATUSIRO	20.67	41.6	4 42A	-2	8 33	2	
LANCHOW	20.71	316.5	4 44A	-1	8 34	2	
NAGANO	20.74	41.3	4 46	1	8 38	6	
OIWAKE	20.74	42.5	4 43	-2	8 35	3	
MERA	20.75	47.5	4 34	-11	8 45	12	
TITIBU	20.87	44.1	4 46	0	8 42	7	
PAOTOW	20.88	335.3	4 46	0	8 39	4	
YOKOHAMA	20.92	46.1	4 50	3	8 48	12	
TAKADA	21.05	40.5	4 48	0	8 38	-1	
MAEBASI	21.12	43.1	4 49	0	8 54	14	5 8
TOKYO C.H.O.	21.13	45.6	4 44	-5	8 44	4	6 40
HONGO	21.16	45.6	4 48	-1	8 54	13	6 54
KUMAGAYA	21.16	44.1	4 50	1	8 54	13	
AIKAWA	21.67	38.6	4 56	2	8 47	-3	
TUKUBASAN	21.67	44.9	4 46	-8	8 42	-8	5 12 PP
UTUNOMIYA	21.72	43.9	4 51	-4	8 44	-7	5 11
KAKIOKA	21.73	45.0	4 41	-14			
MITO	22.01	45.0	4 56	-2	8 19	-38	9 26
CHANGCHUN	22.07	7.7	4 56A	-2	8 57	-1	
NIIGATA	22.07	39.9	5 0	2			
SHIRAKAWA	22.29	43.1	4 59	-2	8 59	-3	
ONAHAMA	22.62	44.3	5 9	5	9 6	-2	6 0
HUKUSIMA	22.83	42.1	5 6	0	9 8	-4	
VLADIVOSTOK	22.88	20.3	5 6	-1			5 35 PP
YAMAGATA	23.07	41.0	5 8	0	9 8	-8	
SENDAI	23.42	41.6	5 8	-4	9 16	-6	
ISINOMAKI	23.78	41.8	5 17	2	9 30	2	
GUAM	23.85	106.8	5 14	-2			
AKITA	23.88	37.9	5 14	-2	9 30	0	
MIZUSAWA	24.10	40.3	5 18	0	9 32	-2	
MORIOKA	24.49	39.3	5 19A	-3	9 39	-1	
TOCKLAI	24.61	286.5	5 59	36			
MIYAKO	24.93	40.3	5 23	-3	9 43	-5	
AOMORI	25.01	36.8	5 21	-6	9 56	7	
HATINOHE	25.24	38.2	5 19	-10	10 0	7	
HAKODATE	25.68	35.1	5 32	-1			
MORI	25.78	34.4	5 38	4	10 15	13	
SUTTSU	26.11	32.9	5 35	-3	10 8	0	10 15
MURORAN	26.16	34.5	5 37	-1			18 2
TOMAKOMAI	26.69	34.7	5 46	3			6 50
SAPPORO	26.88	33.8	5 41	-4	10 19	-1	11 28
URAKAWA	27.01	36.8	5 50	4	9 35	-48	
SHILLONG	27.15	283.4	5 48A	1	10 28	3	7 0
CHITTAGONG	27.29	276.5	5 49	1	10 33	6	6 39 PP
HIROO	27.40	37.2	5 55	6			
OBIHIRO	27.76	36.0	5 55	2			
ASAHIKAWA	27.91	33.8	5 54	0			
ULAN-BATOR	28.37	339.4	5 56	-2			
KUSIRO	28.46	37.2	6 0	1	10 54	8	
MEDAN	28.55	233.4	6 2A	2			
WAKKANAI	28.75	30.7	6 1	0	10 52	2	
PORT BLAIR	29.15	254.1	6 10	5	10 49	-8	
NEMURO	29.35	37.8	6 5	-2	11 14	14	6 37
Y.-SAKHLINSK	30.42	29.6	6 14	-2	11 10	-7	14 6 SSS
CALCUTTA	30.45	277.4	6 22A	5	11 22	4	
DJAKARTA	31.35	208.5	6 26	1	11 33	1	
CHATRA	31.40	285.8	6 25	0	11 30	-3	
LEMBANG	31.59	206.6	6 30	3	11 40	5	
IRKUTSK	32.98	340.8	6 36A	-3			7 53 PP
DEHRA DUN	39.52	291.4	7 37	3	13 35	-3	8 58 PP
RABAU	39.85	127.0	7 38	1			
MADRAS	40.11	264.2	7 41	2	13 51	5	9 17 PP
PORT MORESBY	40.18	138.2	7 38	-2	13 41	-6	13 25 SCP
YAKUTSK	40.46	6.1	7 37	-5			13 26 PCS
HYDERABAD	40.50	271.4	7 43A	1	13 56	4	14 12 PS
PETROPAVLOVK	42.10	33.1	7 53	-3	14 9	-7	9 35 PP
LAHORE	42.74	293.2	8 2A	1	14 25	0	9 43 PP
SEMI PALATNSK	42.81	321.8	8 1	0	14 18	-8	9 43 PP
MAGADAN	43.00	21.6	8 0	-3	14 24	-5	



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KODAIKANAL	43.55	261.6	8 11	4	14 29	-8					
FRUNSE	43.92	309.5	8 10	0	14 36	-6			18 0	SS	
POONA	44.51	274.5	8 16	1	14 51	0			17 59	SS	
WARSAK DAM	45.15	296.6	8 22A	2							
BOMBAY	45.39	275.3	8 22	0	14 57	-7			10 11	PP	
TASHKENT	47.56	306.4	8 40	1	15 35	0			10 27	PP	
STALINABAD	47.66	302.7	8 41	1	15 35	-1					
CHARTERS TS.	48.38	148.0	8 44A	-2	15 38	-8					
QUETTA	49.12	291.5	8 52A	1	15 57	0			10 44	PP	
KARACHI	49.61	284.5	8 57A	2							
MUNDARING	53.84	185.4	9 25	-2	16 56	-5					
PERTH	53.85	185.8			17 2	0					
ASHKABAD	55.85	301.7	9 43	1	17 27	-1			11 45	PP	
SVERDLOVSK	55.91	324.6	9 41	-1	17 25	-4			13 1	PPP	
BRISBANE	57.73	146.7	9 54	-1	17 51	-2					
ADELAIDE	58.98	163.3	10 2A	-2	18 4	-6			12 5		
RIVERVIEW	62.34	152.1	10 27A	0	18 46	-7					
CANBERRA	62.73	154.7	10 28A	-1							
MELBOURNE	63.50	159.2	10 34K	0	19 10	3					
KHEYS	64.20	350.6	10 39	0					26 18	SSS	
GORIS	65.05	304.5	10 44	-1	19 28	2			11 13	PCP	
TIFLIS	65.88	307.1	10 49	-1	19 37	0			11 21	PCP	
MOSCOW	68.63	322.9	11 4	-3	20 3	-7			15 13	PPP	
FORT NELSON	68.88	159.8	11 9	0	20 5	-8					
APATITY	69.12	335.7	11 8A	-2	20 11	-4	11 11		13 45	PP	
COLLEGE	70.73	26.9	11 16	-4	20 28	-6			25 24	SS	
SODANKYLA	71.73	336.0	11 24	-2	20 44	-2					
PULKOVO	71.79	327.8	11 25	-1	20 41	-6			14 9	PP	
SIMFEROPOL	72.89	312.1	11 32A	-1	20 56	-3			14 20	PP	
KIRUNA	73.89	337.2	11 37A	-2	21 3	-7			22 0		
HONOLULU	74.00	73.1	11 39	0	21 18	6					
KIPAPA	74.04	73.0	11 38	-2							
HELSINKI	74.29	328.9	11 40	-1	21 12	-3					
NURMIJARVI	74.34	329.3	11 41	0	21 11	-5					
NORD	74.56	354.1	11 38	-5							
APIA	74.61	112.0	11 45	2							
JERUSALEM	75.59	298.7	11 49	0	21 33	4					
ONERAHI	76.27	138.0	11 55	3							
IASI	76.66	315.6	11 54	-1	21 38	-3					
BACAU	77.29	315.2	12 5	7	21 46	-2					
UPPSALA	77.87	329.9	11 59A	-2	21 47	-7			15 2	PP	
LWOW	78.05	318.9	12 2	0	21 53	-3			14 53	PP	
KARAPIRO	78.38	139.1	12 4K	0					15 6	PP	
SKALSTUGAN	78.63	334.4	12 3A	-3					12 29		
SITKA	78.82	32.8	12 6	-1							
CAMPULUNG	78.95	314.3	12 14	7	22 3	-3					
WARSAW	78.98	321.9	12 6	-1	22 1	-5			15 9	PP	
ROXBURGH	80.05	147.9			22 14	-3			27 38	SS	
WELLINGTON	80.08	142.1			22 3	-15					
KRAKOW	80.43	320.1	12 14	-1	22 14	-7			15 8	PP	
GEBBIES PASS	80.52	144.9	12 14	-2							
SKALNATE PL.	80.58	319.2	12 30	14							
RESOLUTE	80.84	9.2	12 14	-3	22 12	-14			15 20	PP	
CHORZOW	80.90	320.6	12 16	-2	22 24	-2					
SOFIA	81.01	312.3	12 18	0	22 35	8			15 29	PP	
TIMISOARA	81.28	315.8	12 24	4	22 29	-1			26 48	SS	
RACIBORZ	81.45	320.6	12 20	-1					22 47	SCS	
GOTEBORG	81.45	329.2	12 13A	-8					14 59	PP	
BUDAPEST	82.00	318.0	12 25	2	22 33	-4					
BELGRADE	82.14	315.1	12 23A	-1	22 34	-5			23 25	PS	
COPENHAGEN	82.16	327.2	12 22A	-2	22 38	-1			22 55	SCS	
HURBANOVO	82.35	318.6	12 30	5	22 56	15					
ATHENS	82.47	307.8	12 24A	-2	22 36	-6			15 36	PP	
TANANARIVE	82.75	246.4	12 27A	0					15 39	PP	
BRATISLAVA	82.89	319.2	12 28K	0	22 46	-1			14 38	PP	
BERGEN	83.07	333.3	12 30	1	22 45	-3			23 47	PS	
VIENNA-H.	83.30	319.4	12 30A	0	23 0	9					
POTSDAM	83.36	324.1	12 30	-1	22 48	-3			15 40		
PRUHONICE	83.62	321.5	12 31A	-1	22 48	-6			15 38	PP	
PRAGUE	83.65	321.6	12 36	4							
COLLMBERG	83.90	323.2	12 32	-1	22 51	-6			29 12	SS	
SCORESBY SD.	84.26	348.3	12 35	0	22 56	-4			28 14	SS	
KERGUELEN I.	84.32	210.8	12 36	1	23 2	1					
HALLE	84.38	323.7	12 34	-2	23 20	19			15 46	PP	
ZAGREB	84.60	317.4	12 37A	0	23 6	2			16 6	PP	
PLAUEN	84.75	322.7	12 36	-2	22 55	-10					
CHEB	84.82	322.3	12 50	12	23 27	21					
JENA	84.86	323.3	12 37	-1	23 0	-6			15 58	PP	



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MBOUR	125.43	307.7			26 30 23	20 53 PP
BERMUDA	125.67	6.2	19 5	1	26 12 4	20 52 PP
SAN JUAN	139.26	10.8	19 24	-5		22 17 PP
ST. VINCENT	145.01	4.4	19 38	-1		
BARBADOS	145.14	1.5	19 42	2		
GRENADA	146.08	5.3	19 41	0		
CARACAS	146.76	14.9	19 49A	7		
TRINIDAD	147.49	4.9	19 45	1		
CHINCHINA	148.53	33.7	19 45	0		
FUQUENE	149.03	30.1	19 44	-2		23 0 PP
BOGOTA	149.61	31.5	19 51	4		23 22 PP
PORT STANLEY	150.30	181.0	19 55	7		
HUANCAYO	161.32	60.8	20 8K	6		24 48 PP
LA PAZ	169.58	60.3	20 12A	3		25 12 PP

SEPTEMBER 25 7.H 18.M 36.S EPICENTRE 44.26 39.31 DEPTH= 0.KM

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G= 0.5381 H= 0.4407 K=-0.7185 HT= -3.3

SE= 2.25

	DELTA DEG.	AZ. DEG.	P		O-C S	S			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
SOTCHI	0.74	156.6									0 11	PG
KRASNAYA	0.87	132.5									0 15	PG
ZUGDIDI	2.56	132.1	0 45		1						1 18	S*
PIATIGORSK	2.71	93.6	0 48		2						1 26	S*
GEGECHKORI	2.94	129.4	0 45		-4						1 24	S*
ABASTUMANJ	3.60	133.0	0 56		-3						1 57	SG
YALTA	3.70	275.5	1 1		1							
SIMFEROPOL	3.77	282.3	1 1		0						1 43	
BORZHOMI	3.85	127.8	1 1		-1						1 58	S*
BAKURIANA	3.99	127.9	1 3		-1						2 5	SG
AKHALKALAKI	4.19	131.6	1 5		-2						2 9	
GORI	4.19	121.3	1 8		1							
BOGDANOVKA	4.35	132.0	1 9		0							
DUZHETI	4.50	117.1	1 9		-2							
GROZNY	4.75	99.2									1 31	
TIFLIS	4.76	120.4	1 16		1						2 23	S*
LENINAKAN	4.83	134.5									1 29	
STEPANAVAN	4.96	129.4	1 15		-3							
EREVAN	5.61	134.9	1 33		6						2 52	S*
KIROVOBAD	6.32	122.4	1 36		-1						3 13	
NAKHICHEVAN	6.80	135.9									2 11	
IASI	8.72	293.8	2 12		1							
MOSCOW	11.53	355.2	2 50		1						5 35	
KIZYL-ARVAT	13.63	105.9									4 48	
RACIBORZ	15.47	299.5	3 39		-3						3 59	PPP
ASHKABAD	15.66	107.2	3 43		-1						9 36	
BRATISLAVA	15.85	292.1	3 51		5							
VIENNA-H.	16.35	292.2	3 24		-29							
PULKOVO	16.46	343.8	3 50		-4	6 52		-5			7 15	
LJUBLJANA	17.56	284.6	4 9		1							
PRUHONICE	17.76	297.5	4 13		2							
HELSINKI	18.13	336.5	4 17		2							
SVERDLOVSK	18.39	39.3	4 15		-3							
BAIRAM-ALI	18.44	103.3									6 11	
NURMIJARVI	18.49	336.8	4 18		-2	7 42		-2			8 12	SS
COLLMBERG	18.97	301.1	4 25		0						10 52	
UPPSALA	20.37	327.6	4 41K		0							
STUTTGART	21.08	293.0	4 48		-1							
GOTEBORG	21.65	318.1	4 53K		-1	8 58		8			5 18	PP
STALINABAD	22.74	94.2	5 11		6							
APATITY	23.55	354.3	5 15		2							
SODANKYLA	24.13	348.0	5 19		0						10 21	SS
ANDIJAN	24.53	86.6	5 24		1							
SKALSTUGAN	24.72	330.9	5 26		1						10 8	
KHOROG	25.17	94.4	5 31		2							
KIRUNA	25.64	343.5	5 33		0							
FOLINIERE	27.53	293.6	5 50		-1							
TAMANRASSET	35.03	243.4	6 55		-2							
COLLEGE	71.07	3.2	11 21		-1							
MATUSIRO	71.17	57.2	12 18		55							
HUNGRY HORSE	84.85	342.5	12 38		0							
EUREKA	93.71	341.1	13 21		1							

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KARAPIRO 146.72 94.5 19 44 1

SEPTEMBER 26 8.H 20.M 53.S EPICENTRE 43.45-127.65 DEPTH= 0.KM

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G=-0.4186 H=-0.5426 K=-0.7282 HT= -3.0

SE= 4.08

	DELTA DEG.	AZ. DEG.	P M S	O-C S	M S O-C S S	*PP M S	SUPP. M S
CORVALLIS	3.33	68.8	0 52A	-3			
ARCATA	3.70	132.9	1 0	0			
SHASTA	4.79	123.3	1 15	0			
UKIAH	5.46	140.8	1 24	-1	2 27	-2	
MINERAL	5.48	122.4	1 28A	3			
VICTORIA	5.86	28.7	1 18K	-13	2 24	-15	
HORSESHOE B.	6.65	25.5	1 33K	-9	3 0	1	
BERKELEY	6.92	141.9	1 44K	-1	3 2	-4	
RENO	7.07	120.9	1 50A	3			
BRANNER	7.33	143.5	1 49	-2			
LICK	7.64	141.1	1 54K	-1			
LILLOET	8.23	26.3	1 45A	-19			
VINEYARD	8.24	142.2	2 4	0			
FRESNO	8.98	135.4	1 50A	-24			
EUREKA	9.62	110.4	2 24	1			
HUNGRY HORSE	10.68	58.0	2 34	-4	4 44	5	
BUTTE	11.03	71.3	2 40	-2	5 18	30	
BANFF	11.27	42.5	2 47	1			
PASADENA	11.87	138.4	2 53K	-1			
SALT LAKE C.	12.04	97.5	2 58	2	5 55	43	
BOZEMAN	12.05	73.7	2 55	-1	5 24	11	
BOULDER CITY	12.37	122.8	3 3	3			
SITKA	14.45	343.0	3 34	6			4 40
LARAMIE	16.44	89.9	3 53	-1	7 0	3	
SASKATOON	16.53	51.0	3 46K	-9	9 13	134	
TUCSON	17.33	124.6	4 8	3	7 28	11	
TUCSON TELE.	17.33	124.2	4 8	3	7 33	16	
RAPID CITY	17.66	79.5	4 6	-3	7 41	16	
CHIHUAHUA	22.78	123.4	5 3	-2	9 12	1	12 2
COLLEGE	24.27	339.0	5 14	-6	9 32	-5	
LAWRENCE	24.69	89.3	5 24	0			9 56
FAYETTEVILLE	26.62	94.6	5 39A	-3	10 21	5	5 55 PP
MANZANILLO	31.25	133.8					11 52
KIPAPA	33.46	238.7	6 36	-7			8 3 PP
HONOLULU	33.60	238.6					
TACUBAYA	33.83	126.1	6 53	7	12 1	-9	7 57 PP
RESOLUTE	34.56	14.7	6 47	-6	12 19	-3	8 1 PP
MORGANTOWN	35.52	79.4	6 57A	-4	12 43	6	
VERA CRUZ	35.84	122.4	6 57	-6			13 10
PENNSYLVANIA	36.58	76.6	7 6	-4	12 56	3	8 41 PP
OTTAWA	36.61	68.4	7 7	-3	12 52	-1	8 35 PP
COLUMBIA	37.16	88.6	7 11	-4	13 1	-1	
CHAPEL HILL	37.70	84.6	7 10	-9			
WASHINGTON	37.87	79.1	7 11	-10	13 18	5	8 55 PP
BREBEUF	38.00	67.6	7 18A	-4	13 14	-1	
SHAWINIGAN	38.27	65.7	7 20	-4			8 44 PP
MERIDA	38.76	113.1	7 23	-5	13 29	3	
PALISADES	39.29	74.5	7 30	-2	13 33	-1	8 53 PP
FORDHAM	39.37	74.7	7 32	-1	13 39	4	
SEVEN FALLS	39.40	64.2	7 31	-2	13 28	-8	9 7 PP
COMITAN	40.54	120.8			14 1	8	14 47
HALI FAX	44.99	65.3	8 16	-3	14 50	-8	18 16 SS
PETROPVLOVK	47.96	308.7	8 38	-5			18 43 SS
IVIGTUT	48.39	39.6	9 16	30	15 58	12	19 23 SS
BERMUDA	49.81	80.6	8 58	1	16 9	3	10 58 PP
MAGADAN	49.89	318.8	8 53	-4			
NORD	50.24	10.3	9 0	0	16 20	8	
TJKSI	53.41	337.4			16 46	-10	12 25 PPP
SCORESBY SD.	54.61	23.4	9 34	1	17 29	17	
GALERAZAMBA	55.66	109.5			17 34	8	18 11 PS
KHEYS	56.14	358.9	9 51	7			12 0 PP
SAN JUAN	57.01	95.6	9 49	-1			
YAKUTSK	58.05	327.2	9 51	-6			
CHINCHINA	59.65	114.5	10 9	0	18 25	7	
FUQUENE	60.54	112.5	10 16	1			

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BOGOTA	60.94	113.4	10 21	4	18 36	1	12 49
CARACAS	61.68	103.0	10 33K	11	18 53	9	
ST. VINCENT	63.94	96.6	10 32	-5			
TRINIDAD	65.54	98.7	10 50	2			
KIRUNA	66.46	12.6	10 54	0	19 46	2	
SODANKYLA	67.79	10.5	10 56	-6			11 37 PCP
APATITY	68.40	7.7	11 5	-1	19 42	-25	20 14 PS
MATUSIRO	68.66	300.4	11 6K	-1			11 10
SKALSTUGAN	68.68	18.0	11 5A	-3			
ABERDEEN	69.87	28.2			20 29	5	25 1 SS
RATHFARNHAM	71.30	32.8	11 31	7			
HUANCAYO	72.94	125.9	11 32	-1	21 13	13	
UPPSALA	73.18	17.5	11 33A	-2	21 1	-1	
GOTEBORG	73.72	21.2	11 39	1			
NURMI JARVI	73.95	13.8	11 36	-3			
IRKUTSK	74.64	329.9	11 36	-7			11 46 PCP
KEW	75.02	31.0			21 22	-1	21 35 PS
PULKOVO	75.55	11.3	11 47	-1			
COPENHAGEN	75.62	22.0			21 44	14	22 16 PS
JERSEY	76.16	33.4			20 11	-85	15 47
WITTEVEEN	76.36	26.5	11 56	3			
DE BILT	76.47	27.7			21 37	-2	13 7
ULAN-BATOR	77.11	325.8	11 59	2			
FOLINIERE	77.13	32.7	11 57	0			
MUNSTER	77.39	26.5	12 2	3			12 36
DOURBES	77.94	29.2					22 22
BENSBERG	78.10	27.3	12 2	-1			
PARIS	78.24	31.1	12 7	4	22 4	6	
POTSDAM	78.70	23.3	12 7	1	22 14	11	12 38
SERRA PILAR	79.52	42.2	12 4A	-6			12 13 PCP
JENA	79.54	24.8	12 12	2	21 51	-21	15 22 PP
COLLMBERG	79.64	23.9	12 9	-2	22 25	12	15 23 PP
SVERDLOVSK	79.84	355.4	12 8	-4			22 25 SCS
SONNEBERG	79.90	25.3	12 15	3			
PLAUEN	80.10	24.7	12 15	2			
COIMBRA	80.31	42.7	12 25K	10			
STRASBOURG	80.33	28.2	12 18	3	22 21	1	23 7 PS
MOSCOW	80.40	8.4	12 17	2			22 29 SCS
CHEB	80.53	24.8					13 12
STUTTGART	80.68	27.2	12 19	2	22 18	-6	22 37 SCS
LA PAZ	80.74	123.1	12 15	-2	22 33	9	15 35 PP
TUBINGEN	80.82	27.5	12 21	4			
WARSAW	80.92	18.9			22 24	-2	
CLERMONT-FD.	80.99	32.5	11 17	-61	22 38	11	
LISBON	81.08	44.1	12 17K	-2			17 25 PPP
EBINGEN	81.09	27.7	12 22	3			
PRAGUE	81.15	23.6	12 23	4	22 45	16	
BASLE	81.17	28.9	12 26	7			
PRUHONICE	81.26	23.6	12 18A	-2	22 28	-2	15 31 PP
NEUCHATEL	81.39	29.5	12 26	6	22 40	9	
RAVENSBURG	81.65	27.6	12 25	3			
TOLEDO	82.67	40.3	12 33	6	22 55	11	15 44 PP
VIENNA-H.	83.35	23.3	12 27	-3			12 43
BRATISLAVA	83.63	22.9	12 35	3	22 59	5	
LWOW	83.86	18.0	12 35	2			15 52 PP
TORTOSA	83.98	36.9			23 38	41	
MONACO	84.36	31.0	12 41	5			
LJUBLJANA	84.77	25.4	12 40A	2			12 54
BUDAPEST	84.79	22.0			23 16	11	13 46
TRIESTE	84.88	26.1	12 45K	7	23 22	16	23 13 SKS
ANTOFAGASTA	84.99	129.3					26 33
GRANADA	85.03	41.6	12 40K	1	23 14	6	15 48 PP
ZAGREB	85.42	24.6	12 47K	6	23 21	9	35 7
ALICANTE	85.56	38.9	12 39	-3	23 10	-3	16 0 PP
IASI	87.11	16.6	12 55	6	23 37	9	13 9
BELGRADE	87.63	22.1	12 56K	4	23 44	11	16 11
ROME	87.78	28.6	12 51	-1	23 34	0	29 28 SS
RELIZANE	88.15	39.8	13 11	17			16 32 PP
ALGIERS UNI.	88.45	37.5	13 0	4	23 34	-6	16 26 PP
BUCHAREST	89.43	18.5	12 35	-25	23 59	9	23 35 SKS
SETIF	89.95	36.2	13 6	3			
SIMFEROPOL	90.49	12.8					23 41 SKKS
TARANTO	90.66	26.0	13 50	44	25 30	89	
FRUNSE	91.81	343.8	13 11	0			
MESSINA	92.14	28.2	13 17	4	24 17	3	19 2 PPP
PORT MORESBY	92.93	259.9	13 17	1			17 2 PP
TASHKENT	94.24	347.3	13 39	17			
MBOUR	94.59	65.4			24 14	-21	31 13 SS
TIFLIS	94.94	5.7	13 27	1			

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GORIS	97.25	4.7						24 25 SKKS
TAMANRASSET	101.30	43.3	13 56	1	24 41	7		17 45 PP
DEHRA DUN	102.90	337.4			24 49	8		18 51
QUETTA	105.51	346.9	13 40	777	24 59	6		17 34 PP
CAPE HALLETT	123.26	198.9	19 0	1				37 46 SS
BYRD STATION	123.30	178.3	19 0	1				
SCOTT BASE	127.30	194.0	19 7	0				
LEOPOLDVILLE	129.13	50.8	19 14	3				
SOUTH POLE	133.26	180.0	19 9	-9				19 28
LWIRO	133.93	33.7	19 25	5				
WILKES	141.45	213.4						35 28 PPS
ELISABTHVILLE	141.69	41.7	19 36	2				
WINDHOEK	144.22	65.8						20 8
BROKEN HILL	144.59	42.6	19 40	1				
MIRNY	148.12	209.6	19 44	-1				
BULAWAYO	149.42	48.0	19 51	4				
KIMBERLEY	153.48	65.5	20 4K	11				
TANANARIVE	155.21	10.9	20 9	14				

SEPTEMBER 26 10.H 18.M 19.S EPICENTRE -21.79 -68.57 DEPTH= 118.KM

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DEPTH OF FOCUS= 0.013R

SE= 2.38

	DELTA DEG.	AZ. DEG.	P M S	O-C S	M S O-C M S S	*PP M S	SUPP. M S
ANTOFAGASTA	2.56	221.5	0 40	-1	1 7 -5		
LA PAZ	5.28	4.6	1 18K	0	1 55 -23	1 24	1 33 *SP
HUANCAYO	11.64	325.2	2 49K	6	5 1 10		
BOGOTA	26.79	347.8	5 30	-1	9 55 -1		
CHINCHINA	27.47	344.6	5 36	-1	10 20 13		
FUQUENE	27.56	348.8	5 33	-5			6 16
CARACAS	32.13	3.0	6 22A	4			
ST. VINCENT	35.47	12.3	6 44	-3			7 13
SAN JUAN	39.99	3.6	7 20	-4		7 50	
ARGENTINE I.	43.54	177.4	7 49	-4			
TACUBAYA	50.72	321.6	8 51	1			
COLUMBIA	56.73	347.6	9 32	-2			
HALLEY BAY	57.93	168.5	9 40	-2			
CHAPEL HILL	58.24	350.0	9 52	8			
WASHINGTON	60.89	352.4	10 0	-2			
MORGANTOWN	62.01	350.1	10 8A	-2			
BYRD STATION	62.26	188.8	10 13	1		10 41	39 22 PKPPKP
FAYETTEVILLE	62.46	336.7	10 10	-3			10 26 PCP
LAWRENCE	65.40	337.4	10 30	-2		11 0	
BREBEUF	67.12	356.1	10 41K	-2			21 12
OTTAWA	67.18	354.5	10 42A	-1			
TUCSON	67.24	321.8	10 44	0		11 14	11 3 PCP
TUCSON TELE.	67.24	322.0	10 44	0		11 14	14 1 PP
SHAWINIGAN	68.12	356.9	10 48	-1			
SOUTH POLE	68.35	180.0	10 51	0		11 22	40 17 PKPPKP
SEVEN FALLS	68.61	358.3	10 51	-1			
LARAMIE	71.55	331.4	11 11	1			
BOULDER CITY	72.22	322.0	11 14	0			
RAPID CITY	72.82	334.6	12 16	59		12 47	
PASADENA	72.94	318.7	11 18	0			11 49
SALT LAKE C.	74.10	327.2	11 25	0			
EUREKA	75.33	323.9	11 33	1			
SCOTT BASE	75.60	190.4	11 34	1			
FRESNO	75.67	319.8	11 33A	-1			
LICK	77.16	319.2	11 43K	1			
BOZEMAN	77.43	331.0	11 44	0			
RENO	77.53	321.9	11 45K	1			
BERKELEY	77.88	319.3	11 47A	1			
CAPE HALLETT	78.22	195.5	11 49	1			
BUTTE	78.39	330.4	11 50	1			
MINERAL	79.09	321.6	11 52K	-1			
UKIAH	79.26	319.8	11 54	0		12 30	
SHASTA	79.78	321.4	11 55K	-1			
HUNGRY HORSE	80.79	331.2	12 2	0			
ARCATA	80.88	320.7	12 3	1			
KIMBERLEY	82.60	117.9	12 11A	0			



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LEOPOLDVILLE	82.67	91.8	12 12	0	22 20	2			
CORVALLIS	82.79	324.0	12 13A	1					
TAMANRASSET	84.66	63.1	12 21	-1	22 32	-5	12 52	15 37	PP
TOLEDO	85.87	44.1	12 27	-1	22 44	-5		12 58	
PRETORIA	86.51	116.2	12 10	-21					
BULAWAYO	89.02	111.2	12 43	0					
ALGIERS UNI.	89.12	49.7	12 50	7	23 22	2			
BROKEN HILL	91.08	105.9	12 56	4					
ELISABTHVILLE	91.25	103.0	12 55	2					
LWIRO	96.01	94.8	13 17	2					
COLLEGE	105.05	334.3	13 54	777				17 38	PP
CHARTERS TS.	126.23	221.7	18 41	7					
PORT MORESBY	133.21	232.2	19 8	6			19 40		
QUETTA	139.36	68.7	19 16	3					
LAHORE	145.59	65.7	19 25	1					
GUAM	147.25	261.0	19 29	2			20 6		
LEMBANG	151.32	172.1	19 36	3					
MATUSIRO	152.49	308.2	19 43	8					
SHILLONG	161.70	74.3	19 48	2					

SEPTEMBER 27 10.H 20.M 21.S EPICENTRE -6.17 130.13 DEPTH= 0.KM

A=-0.64090 B= 0.76016 C=-0.10678 D= 0.7645 E= 0.6446  
G= 0.0688 H=-0.0816 K=-0.9943 HT= 6.9

SE= 1.83

	DELTA DEG.	AZ. DEG.	M	P S	O-C S	M	S	O-C S	*PP M S	SUPP. M S
PORT MORESBY	17.16	101.8	4	7K	5	7	12	-1		
CHARTERS TS.	20.90	133.0	4	47K	1	8	29	-6		
MANILA	22.57	336.6	5	7	4	9	7	1		
GUAM	24.30	36.6	6	21	61					
BAGUIO CITY	24.36	337.3	5	21	1	9	38	0		
MUNDARING	28.78	205.1	6	2	1	11	41	51		
ADELAIDE	29.73	165.7	6	11	1				7 8	
BRISBANE	30.14	137.0	6	14	1				16 25	
HONG KONG	32.33	331.6	6	33	0	11	33	-13		
MEDAN	32.87	286.3	6	39	2					
RIVERVIEW	33.72	147.5	6	45K	0					
CANBERRA	33.81	151.6	6	46K	1	12	3	-6		
MELBOURNE	34.28	158.9	6	51K	1					
ZO-SE	38.04	347.5	7	22	1					
WUHAN	39.43	338.6	7	35A	2	13	25	-10		
NANKING	39.53	344.8	7	34	0					
KUNMING	40.96	320.5	7	48A	2	13	49	-9		
ABUYAMA	41.14	6.8	7	47A	0					
MATUSIRO	43.15	9.5	8	1	-3					
CHENG TU	44.35	327.1	8	13A	0	14	32	-16		
SIAN	44.93	334.9	8	18A	0					
CHITTAGONG	47.02	308.3	7	57	-37					
PEKING	47.74	345.5	8	40A	0					
LANCHOW	48.72	331.5	8	49A	1	15	38	-12		
SHILLONG	48.76	311.9	8	48A	0					
LHASA	51.74	315.6	9	13A	2	16	20	-12		
KARAPIRO	51.88	134.3	9	11	-1					
GEBBIES PASS	52.77	142.0	9	17	-2					
CHATRA	52.97	310.3	9	19	-1					
ULAN-BATOR	57.62	341.7	9	54	0					
LAHORE	65.07	308.9	10	44	0					
MIRNY	65.48	195.4	10	45	-2					
YAKUTSK	67.99	359.8	10	59	-4					
WARSAK DAM	68.22	310.2	11	4	0					
QUETTA	70.43	304.9	11	18K	0	20	32	2		11 38 PCP
CAPE HALLETT	70.47	167.9	11	19	1				11 26	11 56 PCP
SCOTT BASE	74.13	172.5	11	38	-2					
TIKSI	77.65	359.6	11	56	-3					
TANANARIVE	81.03	251.9	12	17	-1					13 11
SOUTH POLE	83.87	180.0	12	30	-2					16 17 PP
SVERDLOVSK	84.14	328.8	12	32	-2					
BYRD STATION	87.43	170.6	12	49	-1					13 36
TIFLIS	90.59	311.7	13	4	-1					
COLLEGE	92.17	25.0	13	8	-4					
HALLEY BAY	97.27	185.8	13	24	-12					
GRAHAMSTOWN	97.87	235.3	13	38K	0					
BULAWAYO	98.63	248.6				23	51	-29		24 39



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EUREKA 91.03 44.3 13 8 1  
 TAMANRASSET 106.31 306.3 18 40 PP  
 HUANCAYO 153.35 62.1 20 4 12

SEPTEMBER 29 15.H 31.M 58.S EPICENTRE -28.86-176.62 DEPTH= 0.KM

A=-0.87562 B=-0.05173 C=-0.48022 D=-0.0590 E= 0.9983  
 G= 0.4794 H= 0.0283 K=-0.8771 HT= 2.2

SE= 2.76

	DELTA DEG.	AZ. DEG.	P		O-C S	S O-C			*PP		SUPP.	
			M	S		M	S	S	M	S	M	S
RAOUL ISLAND	1.20	251.0	0	25	1							
ONERAHI	10.27	225.6	2	33	2						3	18
AUCKLAND	10.76	219.9	2	30	-8							
KARAPIRO	11.16	213.9	2	38	-5							
TUAI	11.18	205.9				4	42	-9				
SUVA	11.59	335.9	3	2	13	4	51	-10				
WELLINGTON	14.24	207.3	3	28	3	5	48	-17				
COBB RIVER	14.98	212.7	3	38	4	6	7	-15				
APIA	15.65	17.7	3	44	1	6	26	-12				
KAIMATA	16.71	212.2	3	58	1	6	52	-10				
GEBBIES PASS	17.12	207.3	2	57	-65	7	52	40				
ROXBURGH	19.97	210.0	4	32	-4	7	55	-21				
BRISBANE	26.99	265.7	5	43A	-2	10	16	-6				
RIVERVIEW	27.90	251.6	5	55A	2	10	36	0				
CANBERRA	29.73	248.6	6	12	2	11	10	5			7	18 PP
MELBOURNE	33.12	244.2	6	41K	2							
CHARTERS TS.	34.78	276.1	6	53	-1	12	24	0				
ADELAIDE	38.15	249.1	7	24	2	13	20	4			7	54
PORT MORESBY	39.10	292.4	7	30	0	13	4	-26			9	1 PP
CAPE HALLETT	44.08	185.7	8	13A	2	14	54	10			18	2 SCS
TERRE ADELIE	45.64	201.7	8	25	1						10	21 PP
SCOTT BASE	49.66	184.6	8	57	2	16	12	9			14	14 SCP
HONOLULU	52.97	21.8	9	19	-1							
BYRD STATION	56.22	169.9	9	43	-1	17	38	5				
GUAM	56.26	313.1	9	47	3							
WILKES	57.06	207.4	9	49A	-1	17	39	-5			10	24 PCP
MUNDARING	57.16	248.8	9	47	-4	17	39	-6				
PERTH	57.48	248.7	9	49	-4	17	44	-5			13	34
SOUTH POLE	61.30	180.0	10	17	-2						10	34
MIRNY	64.04	206.4	10	36	-1						19	28 PS
MANILA	74.11	297.0	11	40	1	20	40	-32				
LEMBANG	74.28	270.8	11	40	0	20	44	-30				
BAGUIO CITY	75.53	298.2	11	45	-3	22	7	39				
TUKUBASAN	76.48	325.2	11	43	-10	21	28	-10			14	46 PP
MATUSIRO	77.68	324.2	11	57	-3	21	51	0	12	17	14	27 PP
ABUYAMA	77.81	321.4	12	0A	0							
KERGUELEN I.	82.17	217.3	12	48	24	22	46	8				
SAN FRANCISCO	83.45	40.3				22	57	6				
PASADENA	83.55	45.3	12	31	0	22	57	5			23	55 PS
LICK	83.62	41.1	12	31K	0							
BERKELEY	83.63	40.3	12	31	0	23	1	8				
HONG KONG	83.85	299.4	12	34	2	22	54	-1				
Y.-SAKHLINSK	83.97	333.4	12	32	-1						23	2 SCS
UKIAH	83.98	38.9	12	28	-5							
ZO-SE	84.03	310.3	12	33A	0							
FRESNO	84.30	42.5	12	34A	-1							
PETROPAVLOVK	84.34	345.3	12	30	-5						15	44 PP
MANZANILLO	84.46	64.9									15	50 PP
CANTON	84.93	299.7	12	37	-1	23	7	1				
SHASTA	85.53	38.2	12	40	-1							
MINERAL	85.72	38.9	12	40	-2							
VLADIVOSTOK	85.82	324.9	12	44	2						23	20 SCS
GUADALAJARA	86.13	64.0				23	32	14			15	18 PP
RENO	86.17	40.4	12	45A	1							
NANKING	86.23	309.8	12	45A	1							
TUCSON	87.15	50.7	12	46	-3							
TUCSON TELE.	87.27	50.7	12	50	1						16	33 PP
CORVALLIS	87.79	35.0	12	53K	1							
WUHAN	88.24	306.4	12	56A	2							
EUREKA	88.36	42.4	12	54	0						29	18 PKKP
CHIHUAHUA	88.40	56.0				23	33	-6			18	43
TACUBAYA	88.75	67.1	12	56K	0	23	33	-10				
PHU-LIEN	88.94	294.4	12	57	0	23	30	-14			16	30 PP









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UCCLE	144.82	341.9	19 42	3		
STUTT GART	144.83	335.3	19 39	0	21	30
TOLMEZZO	144.97	329.3	19 37	-3	20	0
LEOPOLDVILLE	145.06	232.9	19 41	1		
TUBINGEN	145.10	335.3	19 40A	0		
TRIESTE	145.13	327.7	19 43K	3	29	19 SKKS
DOURBES	145.36	341.1	19 40	0		
KEW	145.39	347.1	19 36	-4	41	54 SS
EBINGEN	145.42	335.0	19 41	1		
RAVENSBURG	145.47	334.0	19 41A	1		
STRASBOURG	145.57	336.6	19 42A	1	23	6 PP
CHUR	146.24	333.0	19 43	1		
BASLE	146.50	335.7	19 44	2	22	36
BANGUI	147.08	249.3	19 47	4	20	26 PKP2
PARIS	147.14	342.2	19 45	2	19	58 PKP2
NEUCHATEL	147.18	335.7	19 46	3		
PRATO	147.72	327.9	19 53	9	23	0 PP
FOLINIERE	147.96	345.5	19 46	1		
ROME	148.34	323.8	19 52K	7	26	44 -8
MESSINA	148.66	315.5	19 50K	4	26	50 -2
CLERMONT-FD.	149.63	338.8	19 56	9		
SERRA PILAR	156.82	353.4	19 55K	-2	20	26 PKP2
ALGIERS UNI.	157.11	327.5	19 48	-10	24	6 PP
TOLEDO	157.18	344.0	20 10	12		
RELIZANE	159.15	330.1	20 2	2	24	33 PP
GRANADA	159.56	340.4	20 19A	18	24	25 PP
TAMANRASSET	162.89	288.9	20 5A	1	24	39 PP
MBOUR	174.01	126.9	20 11	-1	25	33 PP

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

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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.