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PRELIMINARY BULLETIN
KURILE ISLANDS EXPERIMENT

OCEAN-BOTTOM SEISMOGRAPHIC EXPERIMENTS

by

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ABSTRACT

An Ocean-Bottom Seismograph (OBS) field experiment was conducted during the months of October, November, and December, 1966, in the Kurile Islands region. Data recorded by a total of 14 units are presented. Recorded during the experiment were 176 associated events, including 89 UCS&GS reported events, 70 OBS preliminary epicenters and 17 calibration explosions detonated during the experiment. In addition, 200 assumed associated events were determined with the number of stations per assumed event ranging from three to seven. These data are presented in standard bulletin format.

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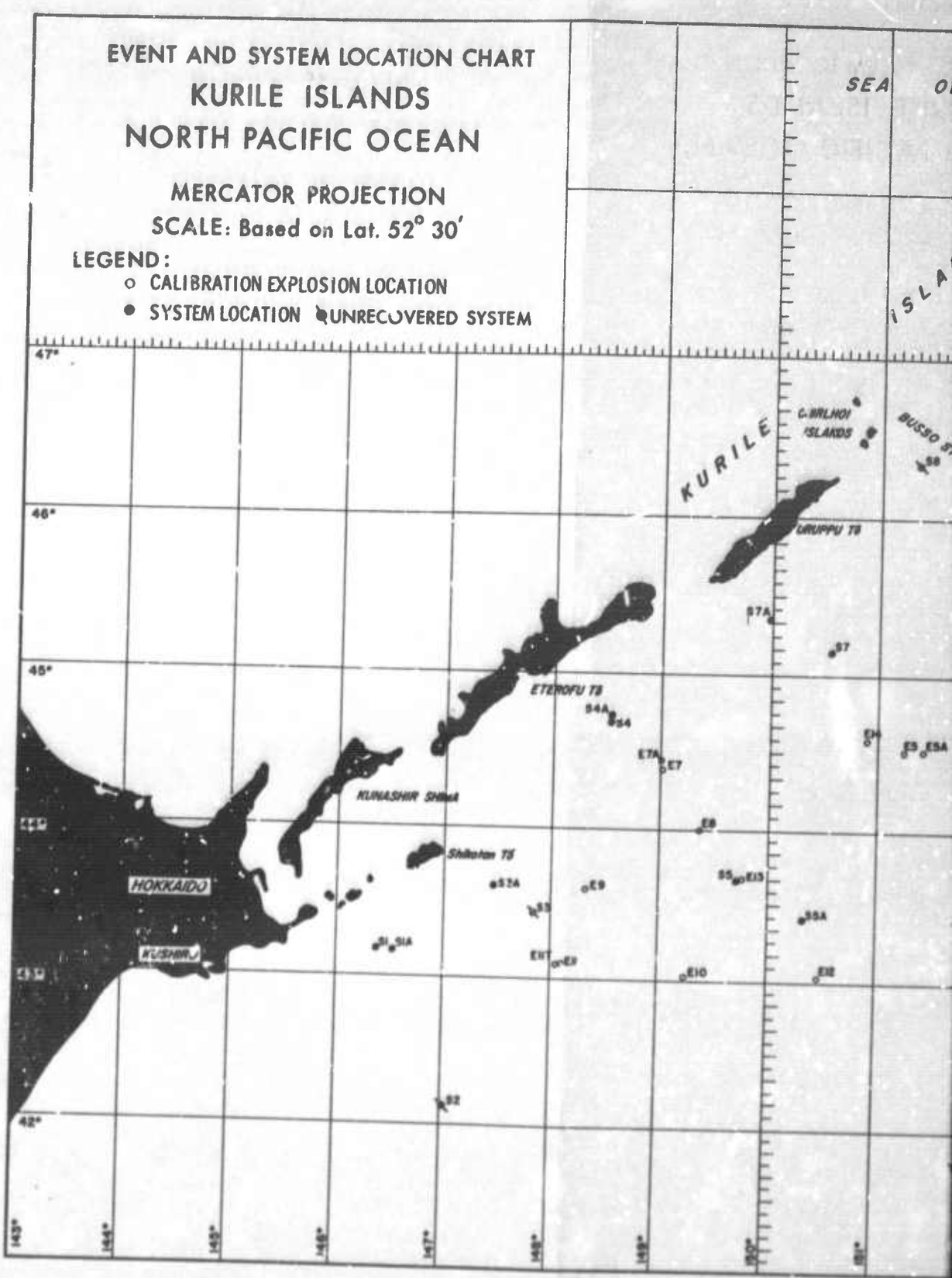
SECTION I
INTRODUCTION AND SUMMARY

An ocean-bottom seismograph (OBS) field experiment was conducted during the months of October, November, and December, 1966, in the Kurile Islands region. Data were recorded by a total of 14 units. Seventeen calibration explosions were detonated during the experiment. Station and calibration explosion locations are presented in Figure I-1.

Analysis of the data revealed that 89 events reported by the United States Coast and Geodetic Survey were recorded by the network. The majority of the USC&GS events recorded were local or near regional events. Very few teleseismic arrivals from earthquakes distributed around the world were recorded by the network. Those teleseismic events that were recorded were, in general, located in a few selected regions and all had a computed magnitude (USC&GS) of 5.5 or larger.

Seventy OBS preliminary epicenters were determined from the data, bringing the total number of associated events recorded during the experiment to 176, including USC&GS epicenters and calibration explosions. In addition, 200 assumed associated events were determined with the number of stations per assumed event ranging from 3 to 7.

This report presents the preliminary bulletin produced from the data recorded by the ocean-bottom seismographs during the experiment. The data includes arrival times, phase types, phase periods, ground displacement, epicenter-to-station distances and azimuth, and residuals where possible. Individual station magnitudes were computed and, as expected, were larger than the magnitudes reported for the events. Due to insufficient time and the work necessary to conduct a satisfactory study of the individual magnitude calculations, magnitudes are not included in this bulletin.


EVENT AND SYSTEM LOCATION CHART
KURILE ISLANDS
NORTH PACIFIC OCEAN
MERCATOR PROJECTION
SCALE: Based on Lat. 52° 30'
LEGEND:
CALIBRATION EXPLOSION LOCATION
SYSTEM LOCATION
UNRECOVERED SYSTEM
KURILE
C. BRLHOI ISLANDS
URUPPU TO
ETEROFU TO
KUNASHIR SHIMA
Shikotan TO
HOKKAIDO
KUSHIRO
47°
46°
45°
42°
143°
144°
145°
146°
147°
148°
149°
150°
151°

1

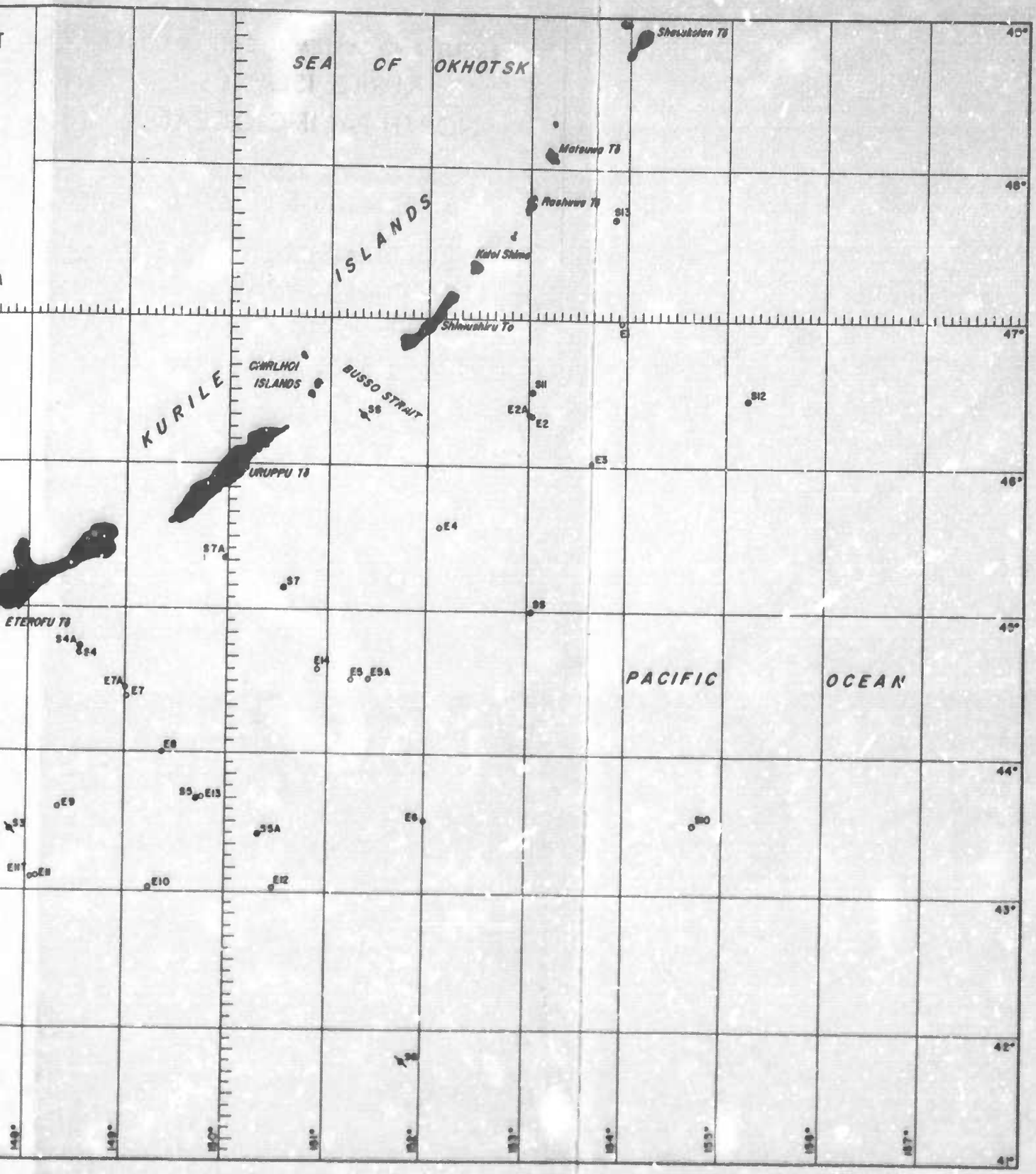


Figure I-1. Station and Calibration Explosion Locations

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SECTION II
FIELD OPERATIONS

The Kurile Islands Experiment field operations were conducted between 21 October 1966 and 16 December 1966. Field operations were accomplished using two vessels - the M/V Pacific Seal and the M/V Campeche Seal.

A. STATIONS

The Kurile Islands field experiment was divided into two phases, the first consisting of a drop of 13 instruments and the second consisting of a drop of 5 instruments. Station drop-times and location information is presented in Table II-1.

B. CALIBRATION EXPLOSIONS

An extensive calibration explosion program was conducted during the Kurile Islands experiment. Seventeen explosions were detonated, using from 1.0 to 5.2 tons of explosives in each detonation. The larger explosions were well recorded throughout the ocean-bottom network and hydroacoustic waves from all shots were well recorded. Calibration explosion information is presented in Table II-2.

C. RECORDING PERIODS

Station drops were scheduled so that a minimum of five stations were recording data during most of the total recording period. Data were recorded by all stations with the exception of Station S5 which reached a depth greater than specifications resulting in an inoperative recorder. Recording periods of the ocean-bottom seismometers during the Kurile Experiment are presented in Figure II-1.

Table II-1

KURILE EXPERIMENT OCEAN-BOTTOM SEISMOGRAPH STATION LOCATIONS

Station Position	Drop Date	Drop Time (z)	Unit Number	Approx. Water Depth (fm)	Drop Location
S1	21 Oct	18:22	21	400	43°10.5'N, 146°20'E
S3	22 Oct	08:32	14	1900	43°26'N, 147°47'E
S5	23 Oct	02:37	15	4315	43°40'N, 149°40'E
S4	23 Oct	12:33	16	230	44°41'N, 148°29'E
S7	23 Oct	23:45	19	1500	45°08'N, 150°31'E
S9	24 Oct	11:53	20	3200	45°00'N, 153°00'E
S8	25 Oct	02:29	23	1750	46°19'N, 151°22'E
S11	25 Oct	10:30	22	1650	46°30'N, 153°00'E
S12	26 Oct	00:15	25	2850	46°28'N, 155°11'E
S13	26 Oct	11:21	24	1320	47°40'N, 153°50'E
S2	28 Oct	08:41	11	3300	42°07'N, 146°59'E
S6	6 Nov	17:41	12	2920	41°45'N, 151°46'E
S10	6 Nov	11:14	13	3000	43°38'N, 154°35'E
S7A	24 Nov	05:14	24	330	45°21'N, 149°56'E
S4A	24 Nov	21:00	10	230	44°43'N, 148°30'E
S3A	25 Nov	22:33	20	600	43°36'N, 147°25'E
S1A	27 Nov	04:22	19	900	43°10'N, 146°30'E
S5A	2 Dec	01:55	21	3100	43°25'N, 150°17'E

Table II-2

CHARGE DETONATION DATA

Pos. No.	Date (1900)	Location		Charge Size (tons)	Charge Depth* (ft)	Water Depth** (fm)	Detonation Time*** (GMT)	Pressure Wave Arrival*** (GMT)	First Bottom Reflection*** (GMT)	Visicorder Record Quality
		Lat. N	Long. E	Operational				Observational		
E11	5 Nov	43°06'	148°04'	1.0	315	2206[b]	23:24:03.0	23:24:03.4	23:24:08.4	Fair
E9	6 Nov	43°35'	148°17'	1.0	315	2300[a]	03:33:03.0	03:33:03.4	03:33:06.2	Poor
E10	7 Nov	43°01'	149°12'	1.0	315	3091[b]	04:03:02.0	04:03:02.4	04:03:09.6	Very Good
E8	8 Nov	44°00'	149°20'	5.2	630	3018[b]	01:50:02.9	01:50:03.4	01:50:10.2	Good
E7	8 Nov	44°23'	148°58'	1.0	315	2288[b]	06:53:02.5	06:53:02.8	06:53:08.1	Poor
E5	9 Nov	44°31'	151°12'	5.2	600	4454[b]	00:09:04.0	00.09:04.6	00:09:14.9	Poor
E6	9 Nov	43°31'	151°57'	5.2	570	2660[a]	06:44:04:1	No Geophone	—	Fair
E4	9 Nov	45°35'	152°04'	5.2	540	2393[b]	23:23:03.0	23:23:03.7	23:23:08.8	Good
E2	10 Nov	46°20'	153°00'	1.0	315	2215[a]	06:25:04:0	No Geophone	—	Poor
E3	12 Nov	46°07'	153°32'	1.0	315	3130[a]	05:55:03.9	No Geophone	—	Poor
E2A	12 Nov	46°21'	152°58'	5.2	510	1990[b]	23:31:03.0	23:31:03.6	23:31:07.8	Poor
E1	13 Nov	46°59'	153°54'	5.2	680	1826[b]	05:48:03.0	05:48:03.6	05:48:07.3	Good
E12	2 Dec	43°02'	150°25'	5.2	680	2702[b]	22:30:02.8	22:30:03.4	22:30:09.3	Poor
E13	3 Dec	43°40'	149°42'	5.2	680	4388[b]	05:21:02.9	05:21:03.4	05:21:13.6	Good
E7A	3 Dec	44°25'	148°58'	5.2	680	1417[b]	22:49:03.1	22:49:03.6	22:49:06.4	Very Good
E14	4 Dec	44°35'	150°51'	5.2	680	3945[b]	22:24:03.0	22:24:03.6	22:24:12.6	Good
E5A	5 Dec	44°31'	151°22'	1.5	630	4540[b]	03:22:03:1	03:22:03.6	03:22:14.2	Fair

* Depth values are determined from buoy line measurements, using a 20-ft track as a scale. A stretch factor characteristic of the nylon buoy line (15 ft for 1-ton charges with 300 ft of buoy line and 60 ft for 5.2-ton charges with 600 ft of buoy line) was taken into consideration. Current conditions had very little if any effect on depth measurements. It is estimated that the 1-ton charge depths are accurate to ±10 ft and the 5.2-ton charge depths to ±20 ft. In every case, measurements are made to the top of the charge.

** Water depths are obtained from fathometer data and/or pressure wave travel-time computations with the method used indicated by an a (fathometer data) or a b (travel-time computation).

*** Times, representing arrivals of pressure waves received by a marine geophone (see Material Inventory, Appendix B, for description) and recorded on a Visicorder, are converted to GMT and are accurate to ±0.1 sec.

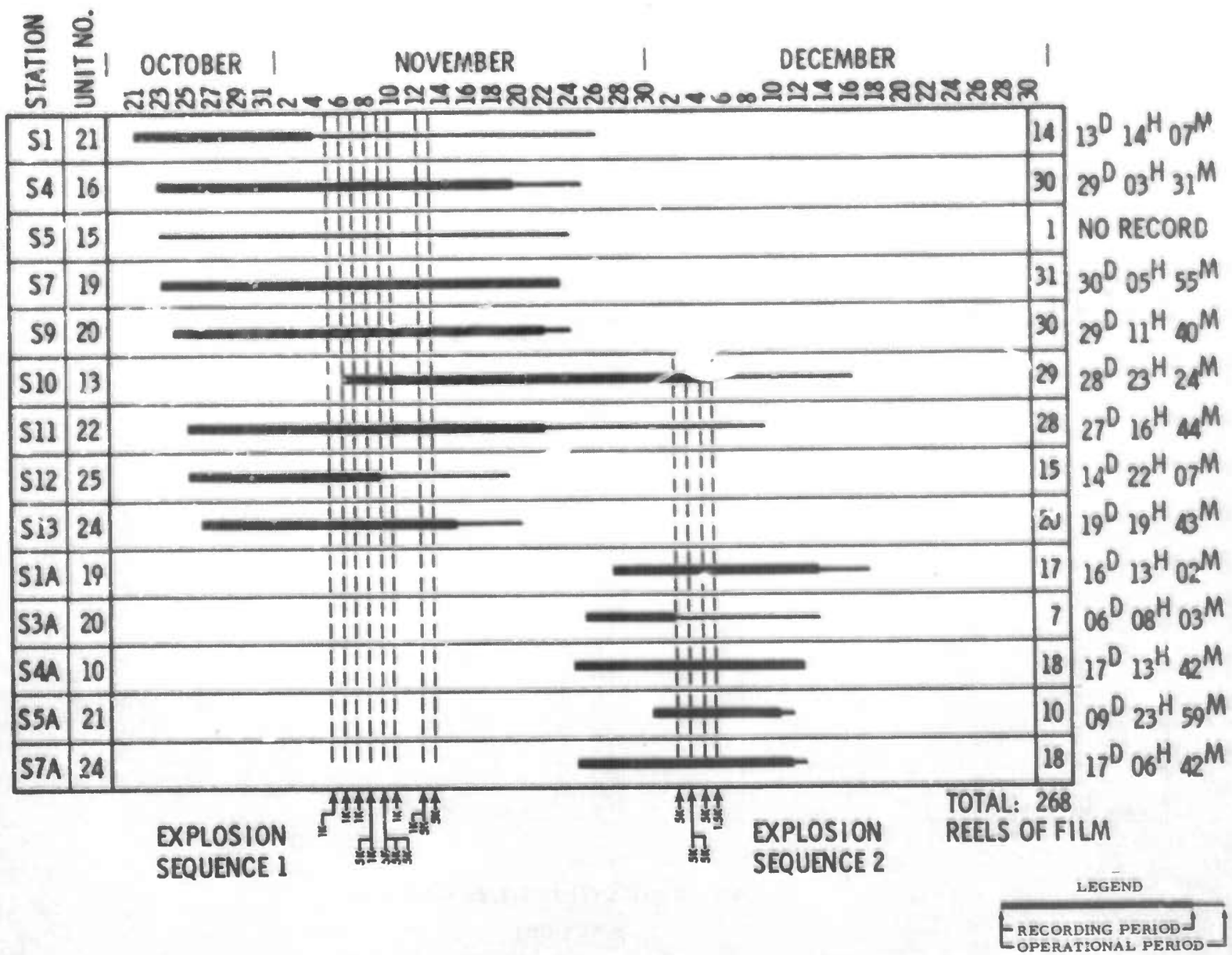

Figure II-1. Kurile Islands Experiment Instrument Recording Periods

SECTION III

DATA HANDLING AND BULLETIN PREPARATION

Magnetic tapes containing data recorded during the Kurile Islands Experiment were returned to Dallas upon completion of the experiment. Playback of the magnetic tape resulted in 268 reels of 16 mm film. The film data were analyzed by individual station and the phase data were punched on cards. All analysis was accomplished by three analysts to insure uniformity of measurements.

A computer program was written to convert the reduced arrival times (clock time) to Greenwich Civil Time (GCT). Resulting raw GCT times were corrected for tape recorder head-misalignment and clock drift. Output of the program was punched cards identical to the input data with the measured clock times replaced by the corrected GCT times.

The format of the reduced data cards was chosen for compatability with a series of programs (Automated Bulletin Process or ABP) available at the Seismic Data Laboratory (SDL) in Alexandria, Virginia. The purpose of the programs is to take arrival time information in chronological order by station event. Phase associations are based on comparisons of observed arrival times with computed arrival times determined using epicenter and station locations and standard Jeffreys-Bullen travel times.

The complete list of epicenters reported by the United States Coast and Geodetic Survey in the Preliminary Epicenter Determination (PDE) cards covering the experiment recording period were included in the first ABP using the reduced data. The resulting output identified all arrivals tentatively associated with the list of epicenters.

Chronologically merged data which did not associate with the list of epicenters were studied to determine the feasibility of determining preliminary epicenters using OBS data alone. A large number of obviously

small local and near regional events were well recorded by the station network. Since most station events contained both P- and S-wave arrivals, a program was written to determine apparent origin times using the recorded S-P intervals. These estimated origin times were then compared station event by station event to determine station combinations which had apparently recorded the same event. Preliminary epicenter determinations were attempted using the LOCATE program developed by SDL. P-phase arrival times from the station events along with an estimated origin time and location were input to the program. The least squares technique is employed by the program in determining epicenters using Jeffreys-Bullen travel times as modified by Herrin.

USC&GS epicenters obviously not recorded by the ocean-bottom stations were deleted from the epicenter list. All preliminary OBS epicenters and calibration explosions were added to the epicenter list. The ABP was repeated to obtain the final output.

A program was written to print the output of the ABP in a format similar to that presented in the VELA UNIFORM Array Station and Long Range Seismic Measurements (LRSM) bulletins.

SECTION IV
BULLETIN INTERPRETATION

Data recorded during the Kurile Islands Experiment is presented in the Appendix. The data are grouped into the following three categories:

- Associated station events
- Assumed associated station events
- Unassociated station events

Interpretation of the bulletin data is presented in two sections, epicenter data and phase data, with appropriate remarks for each category and subdivision.

A. EPICENTER DATA

1. USC&GS Epicenters

The first line of the epicenter data contains the following information:

- Date (GCT)
- Origin time (GCT)
- Latitude
- Longitude
- Geographic description of epicenter location

The second line of the epicenter data contains the following information:

- Depth (km)
- Magnitude (average m_b, Gutenberg and Richter, as

computed by the USC&GS using data from cooperating observatories. No magnitude is presented if a magnitude was not reported by the USC&GS)

2. OBS Preliminary Epicenters

OBS preliminary epicenter data is presented in a manner identical to the USC&GS epicenter data with the exception of the following:

- The geographic description of the epicenter location is replaced by "OBS PRELIMINARY EPICENTER" followed by the number of stations used to determine the preliminary epicenter
- No magnitude is presented for the OBS preliminary epicenters

3. Calibration Explosions

OBS calibration explosion data is presented in a manner identical to the USC&GS epicenter data with the exception of the following:

- The geographic description of the explosion location is replaced by "KURILE EXPLOSION"
- No magnitude is presented for the OBS calibration explosions

B. PHASE DATA

The column heading appearing at the top of each page of the bulletin applies to phase data. The headings are defined as follows:

1. Associated Station Events

a. DAY

Day and month on which the arrival occurred (GCT).

The day and month are listed only when the station designator changes.

b. STA

Station designator. The locations of the stations are presented in Figure I-1 and Table II-1.

c. PHASE

Type of phase recorded at the station. Prefixes are defined as follows:

- An "I" preceding the phase type indicates a sharp or sudden beginning of the phase motion. Direction of first motion is indicated by a "+" (up) or "-" (down)
- An "E" preceding the phase type indicates an emergent phase motion
- An "I" or "E" alone indicates an unidentified phase arrival
- Phase types enclosed by parenthesis indicates a phase identification which is suspect
- Hydroacoustic wave arrivals from the calibration explosions are designated by a "T"

d. C

Component on which the phase arrival was observed and measured. Component designators are as follows:

Z - vertical seismometer

X - first horizontal seismometer

Y - second horizontal seismometer

P - pressure transducer

e. TIME

Phase arrival time (GCT). Arrival times are measured to the nearest one-tenth second on all components.

f. AMP

Phase amplitude (one-half peak-to-peak) in millimicrons (mu) or microns (u) of ground displacement. The amplitudes have been corrected for instrument response and are presented to the nearest tenths of units. Amplitudes presented in microns are followed by a "U" after the tenths column. Amplitudes are measured from the largest pulse in the first few cycles when possible. Amplitudes reported as 999.9 indicate that the trace was "overdriven."

g. PER

Period of the phase in seconds. Phase periods are measured from the largest pulse in the first few cycles. Phases with amplitudes reported as 999.9 do not contain period measurements.

h. DIST

Distance from epicenter location to recording station. All distances are computed using geocentric coordinates and are reported to the nearest tenth of a degree.

i. AZI

Epicenter-to-station azimuth. All azimuths are clockwise from north and are reported to the nearest degree.

j. RES

Phase arrival time residual. All residuals are observed minus computed times (using Jeffreys-Bullen travel-time tables) and are reported to the nearest tenth of a second.

2. Assumed Associated Station Events

Assumed associated station events are those where the phase arrival times and station locations indicated a strong possibility of being associated. Preliminary epicenters are not reported for these events because of either of the following:

- Insufficient number of arrival times - a minimum of four stations is needed for convergence of a preliminary epicenter.
- Divergence occurred during preliminary epicenter determination - epicentral distances and azimuthal distribution of stations prevented convergence of some preliminary epicenter determinations.

Assumed associated station event phase cards are presented in the format of the associated station events with the exception of the following:

- Epicenter-to-station distances are computed from S-P times when possible
- The residual column contains an "*" each time the station designator changes

3. Unassociated Station Events

Unassociated station event phase cards are presented in the format of the associated station events with the exception that the epicenter-to-station distances are computed from S-P times where possible.

APPENDIX

KURILE ISLANDS EXPERIMENT DATA

DAY	STA	PHASE	C	TIME	CMP	PER	DIST	AZI	RES
22OCT	S1	ES	X	3 15 55.0			5.7		
22OCT	S1	EP	Z	8 44 39.6	121.0	.2	4.8		
		ES	X	45 35.2			4.8		
22OCT	S1	EP	Z	9 48 55.1	161.3	.4	T		
22OCT	S1	EP	Z	10 39 55.4			1.2		
		ES	Y	40 10.7			1.2		
22OCT	S1	EP	Z	11 18 24.0			.8		
		ES	X	34.5			.8		

22OCT 12 47 18.2 55.2N 162.0E NEAR E CST OF KAMCHATKA
H = 59 KM MAG = 5.4

22OCT	S1	EP	Z	12 50 52.6			15.8	35	-5.2

22OCT	S1	E	Z	12 53 38.6					
22OCT	S1	EP	Z	13 20 30.4	282.3	.6			
22OCT	S1	E	Z	15 55 13.4					
22OCT	S1	E	Z	16 15 41.2					
22OCT	S1	EP	Z	16 26 34.3			.5		
		ES	X	41.9			.5		
22OCT	S1	EP	Z	17 22 16.9	121.0	.2	.5		
		ES	X	22.8			.5		

22OCT 17 30 5.0 35.3N 141.3E NEAR E CST OF HONSHU, JAPAN
H = 33 KM MAG = 4.3

22OCT	S1	EP	Z	17 32 8.1	80.6	.2	8.8	208	-4.3
		ES	X	33 40.2			8.8	208	-11.0

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
22OCT	S1	E	Z	17 40 45.9					
22OCT	S1	EP	Z	19 54 47.8			2.2		
		ES	X	55 14.3			2.2		
22OCT	S1	EP	Z	20 12 1.1			1.0		
		ES	X	14.2			1.0		
22OCT	S1	EP	Z	22 50 16.3			3.1		
		ES	X	53.2			3.1		
22OCT	S1	EP	Z	23 22 17.6			.5		
		ES	Y	25.1			.5		
23OCT	S1	EP	Z	0 25 22.1			1.7		
		ES	X	42.9			1.7		
23OCT	S1	EP	Z	0 34 19.2	80.1	.2	3.5		
		ES	X	35 .5			3.5		
23OCT	S1	E	Z	0 37 45.9					
23OCT	2 14 15.0	35.5N	139.1E	NP S. CST OF HONSHU, JAPAN H = 33 KM MAG = 4.2					
23OCT	S1	EP	Z	2 16 29.5	128.2	.6	9.5	219	-2.7
23OCT	S1	EP	Z	2 24 21.9			.7		
		ES	X	31.4			.7		
23OCT	S1	EP	Z	2 28 31.5			5.2		
		ES	X	29 31.5			5.2		
23OCT	S1	E	Z	3 37 46.9	201.6	.5	T		
23OCT	S1	E	Z	4 9 9.4					
23OCT	S1	E	X	4 26 9.5					
23OCT	S1	EP	Z	4 39 6.2			3.6		
		ES	X	48.2			3.6		
23OCT	S1	EP	Z	5 55 21.0	121.0	.3	2.2		
		ES	Y	47.1			2.2		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
23OCT	S1	E	Z	6 15 19.0					
23OCT	7	9 20.9	51.0N	159.2E	OFF E CST OF KAMCHATKA				
					H = 38 KM		MAG = 5.2		
23OCT	S1	EP	Z	7 12 5.0			11.7	44	-3.9
23OCT	S1	EP	Z	7 59 3.3	927.4	.3	.7		
		ES	Y	12.6			.7		
23OCT	S1	E	Y	8 11 9.5					
23OCT	S1	EP	Z	8 15 55.5					
23OCT	S1	EP	Z	8 45 12.4			1.2		
		ES	X	27.2			1.2		
23OCT	S1	EP	Z	9 32 54.5	80.6	.1	2.1		
		ES	Y	33 19.9			2.1		
23OCT	S1	E	X	10 11 19.9					
23OCT	S1	EP	Z	10 58 10.1			.5		
		ES	X	18.1			.5		
23OCT	S1	EP	Z	11 22 4.4			.5		
		ES	Y	11.7			.5		
23OCT	S1	E	Z	11 41 57.6					
23OCT	12	15 17.8	51.1N	159.2E	OFF E CST OF KAMCHATKA				
					H = 33 KM		MAG = 4.8		
23OCT	S1	EP	Z	12 18 3.0			11.8	43	-3.8
		ES	X	20 4.7			11.8	43	-13.8
23OCT	S1	EP	Z	12 25 33.1			N		
		ES	::	26 58.5			N		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
23OCT	S1	E	X	14 3 47.1					
23OCT	S4	EP	Z	16 19 57.4			.6		
		ES	Y	20 6.5			.6		
23OCT	S1	E	X	18 17 54.3					
23OCT	S4	EP	Z	18 33 31.1			.6		
		ES	Y	39.5			.6		
23OCT	S1	EP	Z	18 35 30.7			1.6		
		ES	X	51.0			1.6		
23OCT	S4	EP	Z	20 23 50.1			2.2		
		ES	Y	24 16.3			2.2		
23OCT	S1	EP	Z	20 25 12.3			R		
		ES	X	26 57.8			R		
23OCT	S4	EP	Z	20 44 49.8	999.9				
23OCT	S1	EP	Z	20 45 16.4					
23OCT	S4	EP	Z	20 49 17.3			1.0		
		ES	Y	29.9			1.0		
23OCT	S4	EP	Z	21 43 10.1	999.9				
23OCT	S1	EP	Z	21 43 36.3	80.6	.1	2.8		
		ES	Y	44 9.6			2.8		
23OCT	S1	EP	Z	22 14 14.9			3.5		
		ES	X	56.0			3.5		
23OCT	S1	EP	Z	22 40 12.4			.5		
		ES	X	19.0			.5		
24OCT	S1	EP	Z	0 29 51.6					
24OCT	S	EP	Z	1 27 10.9	96.2	.1	2.2		*
		ES	Y	37.3			2.2		
24OCT	S7	EP	Z	1 27 24.3	32.1	.2	.6		*
		ES	X	32.7			.6		
24OCT	S1	EP	Z	1 27 41.9					*

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
24OCT	S7	EP	Z	1 47 20.8	80.1	.2	.5		
		ES	X	27.3			.5		
		E	X	48 54.7			.5		
24OCT	S4	EP	Z	1 47 45.8			1.3		
		ES	Y	48 1.9			1.3		
24OCT	S7	EP	Z	2 37 20.5	48.1	.2	.6		
		ES	X	29.0			.6		
24OCT	S1	EP	Z	2 49 2.2	121.0	.3	3.1		
		ES	X	39.0			3.1		
24OCT	S1	EP	Z	3 4 56.2			4.5		
		ES	X	5 48.4			4.5		
24OCT	S4	EP	Z	3 5 37.6	121.0	.2	1.2		
		ES	Y	52.7			1.2		
24OCT	S4	EP	Z	3 53 39.9	241.9	.2			
24OCT	S1	EP	Z	3 56 .7			.9		
		ES	X	12.7			.9		
24OCT	S7	EP	Z	5 1 29.1	48.1	.2	1.1		
		ES	X	43.7			1.1		
24OCT	S4	EP	Z	5 1 34.0	201.6	.3	1.3		
		ES	Y	50.7			1.3		
24OCT	S4	EP	Z	5 3 39.9	201.6	.3	1.1		
		ES	Y	54.6			1.1		
24OCT	S7	EP	Z	5 3 43.1	282.3	.3	.5		
		ES	X	50.1			.5		
24OCT	S7	E	Z	6 5 56.5					
24OCT	S7	E	Z	6 14 34.5					
24OCT	S4	EP	Z	6 31 9.9	161.3	.2	.6		
		ES	Y	18.6			.6		
24OCT	S1	EP	Z	9 1 27.1	362.9	.1	.5		
		ES	Y	34.4			.5		
24OCT	S4	EP	Z	9 17 25.9			.5		
		ES	Y	32.9			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
24OCT	S4	EP	Z	9 20 4.6			.5		
		ES	Y	11.2			.5		
24OCT	S7	EP	Z	9 21 39.3			1.5		
		ES	X	58.0			1.5		
24OCT	S7	EP	Z	9 24 17.5			1.7		
		ES	X	38.7			1.7		
24OCT	S1	EP	Z	10 25 33.0					
24OCT	S1	EP	Z	10 35 4.1			2.1		
		ES	Y	29.8			2.1		
24OCT	S1	EP	Z	11 32 40.7	241.9	.3	2.3		*
		E	Y	51.3			2.3		
		ES	Y	33 8.7			2.3		
24OCT	S4	EP	Z	11 33 3.9			4.1		*
		ES	Y	51.7			4.1		
24OCT	S7	E	Z	11 33 20.7					*
24OCT	S7	E	Z	11 34 23.7					
24OCT	S7	E	Z	12 10 10.9					
24OCT	S7	EP	Z	12 28 6.4			2.0		
		ES	X	30.8			2.0		
24OCT	S1	EP	Z	12 28 43.3	32.1	.1	4.6		
		ES	Y	29 36.6			4.6		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
24OCT	13 53 44.5	54.9N	165.8E	KOMANDORSKY IS REGION H = 33 KM		MAG = 4.9			
24OCT	S9	EP	Z	13 56 43.2	282.3	.2	12.9	35	-4.4
		E	Y	58 54.5			12.9	35	
24OCT	[illegible]	EP	Z	13 56 53.8	80.6	.2	13.8	40	-6.5
		E	X	57 7.7			13.8	40	
		E	X	59 17.0			13.8	40	
24OCT	S4	EP	Z	13 57 13.5			15.1	41	-3.6
		E	Y	38.8			15.1	41	
24OCT	S1	EP	Z	13 57 42.7			17.3	40	-1.9
24OCT	S9	E	Y	14 10 .8					
24OCT	S4	EP	Z	14 28 44.4					
24OCT	S1	EP	Z	14 37 44.1	121.0	.3	.5		
		ES	Y	51.3			.5		
24OCT	S1	EP	Z	14 58 25.2	80.1	.3	1.1		
		ES	Y	39.9			1.1		
24OCT	S4	EP	Z	14 58 51.9			2.8		
		ES	Y	59 25.3			2.8		
24OCT	15 0 16.0	51.2N	159.3E	OFF E CST OF KAMCHATKA H = 33 KM		MAG = 4.1			
24OCT	S9	EP	Z	15 1 58.4	725.8	.2	7.5	32	-7.3
		E	Y	3 13.3			7.5	32	
		E	Z	9 16.9			7.5	32	
24OCT	S4	EP	Z	15 2 33.2			9.8	44	-3.7
		ES	Y	4 13.3			9.8	44	-13.0
24OCT	S4	EP	Z	16 10 9.7					
24OCT	S1	ES	X	16 12 20.8					
24OCT	S1	EP	Z	17 0 17.3	80.1	.2	4.0		
		ES	X	1 4.4			4.0		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
24OCT	S4	EP	Z	17 0 35.0			1.8		
		ES	Y	57.3			1.8		
24OCT	S4	EP	Z	17 4 53.8	121.0	.1	.6		
		ES	Y	5 2.8			.6		
24OCT	S1	EP	Z	17 49 39.1			1.2		
		ES	X	54.4			1.2		
24OCT	S9	EP	Z	20 0 12.7	121.0	.2	1.0		
		ES	Y	26.3			1.0		
24OCT	S9	EP	Z	20 1 22.8			.5		
		ES	Y	29.7			.5		
24OCT	S7	EP	X	20 14 39.0			1.9		
		ES	X	15 2.7			1.9		
24OCT	S1	EP	Z	20 50 45.7	48.1	.2	2.7		
		ES	Y	51 17.7			2.7		
24OCT	S4	EP	Z	20 54 25.6	121.0	.2	.8		
		ES	Y	36.2			.8		
24OCT	S1	EP	Z	20 54 41.4	80.1	.1	1.8		
		ES	Y	55 3.4			1.8		
24OCT	S4	EP	Z	20 59 37.4	121.0	.2	.7		
		ES	Y	47.5			.7		
24OCT	S1	EP	Z	20 59 49.1			1.3		
		ES	X	21 0 5.9			1.3		
24OCT	S9	EP	Z	21 28 20.1	241.9	.2	R		
		ES	Y	29 35.8			R		
24OCT	S7	EP	Z	22 5 39.8			.8		
		ES	X	50.5			.8		
24OCT	S7	EP	Z	22 15 20.8			.5		
		ES	X	28.6			.5		
24OCT	S1	EP	Z	23 16 4.6	32.1	.1	.8		
		ES	X	15.7			.8		
25OCT	S4	EP	Z	0 7 57.4			1.2		
		ES	Y	8 12.4			1.2		
25OCT	S1	EP	Z	1 35 57.4			.7		
		ES	X	36 6.8			.7		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
25OCT	S9	EP	Z	1 36 35.3	80.6	.2	.9		
		ES	Y	45.3			.9		
		E	Y	37 40.1			.9		
25OCT	2	7 37.0	32.2N	142.2E	S OF HONSHU, JAPAN				
					H = 33 KM		MAG = 4.4		
25OCT	S1	EP	Z	2 10 15.9			11.4	198	-4.9
		ES	X	12 15.8			11.4	198	-12.6
25OCT	S7	E	Z	2 13 23.5			14.4	210	
25OCT	S9	E	Y	2 13 42.3			15.3	217	
25OCT	S1	EP	Z	3 1 39.1			3.4		
		ES	X	2 18.4			3.4		
25OCT	S7	EP	Z	3 16 13.3	64.1	.1	.5		
		ES	X	20.5			.5		
25OCT	S7	EP	Z	3 17 47.9	201.6	.1	.5		
		ES	X	53.8			.5		
25OCT	S1	EP	Z	3 23 14.4	201.6	.3	4.0		
		ES	Y	24 .4			4.0		
25OCT	S4	EP	Z	3 23 39.8	80.1	.2	R		
		ES	Y	24 46.0			R		
25OCT	S7	EP	Z	3 23 57.6			R		
		ES	Z	25 19.7			R		
25OCT	S4	EP	Z	3 39 13.3			.6		*
		ES	Y	22.4			.6		
25OCT	S7	EP	Z	3 39 27.0			1.3		*
		ES	Z	43.0			1.3		
25OCT	S1	EP	Z	3 39 30.6			1.7		*
		ES	X	51.4			1.7		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
25OCT	S7	EP	Z	3 48 24.6	201.6	.1	.5		
		ES	X	31.7			.5		
25OCT	S1	EP	Z	4 10 1.6			1.6		
		ES	X	21.4			1.6		
25OCT	S1	EP	Z	4 27 21.5					
25OCT	S4	EP	Z	4 35 28.6	241.9	.2	.5		
		ES	Y	35.2			.5		
25OCT	S7	EP	Z	5 58 29.2	443.5	.2	1.0		*
		ES	X	42.1			1.0		
25OCT	S4	EP	Z	5 58 34.8			1.1		*
		ES	Y	48.9			1.1		
25OCT	S1	EP	Z	5 59 8.8			2.9		*
		ES	Y	42.9			2.9		
25OCT	S7	EP	Z	6 36 33.0	201.6	.2	.5		
		ES	X	39.1			.5		
25OCT	S4	EP	Z	6 36 39.0			.9		
		ES	Y	51.3			.9		
25OCT	S9	EP	Z	8 31 53.7	362.9	.2	.3		
		ES	Y	57.3			.3		
25OCT 10 8 24.0		35.4N		139.1E	N S CST OF HONSHU, JAPAN				
					H = 42 KM		MAG = 4.1		
25OCT	S1	EP	Z	10 10 39.6	48.1	.2	9.6	218	-2.5
		ES	Y	12 22.3			9.6	218	-7.1
25OCT	S1	EP	Z	10 16 47.4			.5		
		ES	Y	54.7			.5		
25OCT	S1	EP	Z	11 20 55.4	201.6	.1	.5		
		ES	Y	21 1.2			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
25OCT	S1	EP	Z	11 38 25.7					
25OCT	S4	EP	Z	12 20 44.1			.5		
		ES	Y	51.1			.5		
25OCT	S4	EP	Z	12 40 20.8			.8		
		ES	Y	31.7			.8		
25OCT	S1	EP	Z	12 40 31.4			1.5		
		ES	X	49.7			1.5		
25OCT	S11	E	Z	14 26 26.1					
25OCT	S1	EP	Z	14 29 11.1			1.5		
		ES	Y	30.1			1.5		
25OCT	S11	E	Z	14 36 23.7					
25OCT	S11	EP	Z	14 51 26.3			.5		
		ES	Z	33.2			.5		
25OCT	S4	EP	Z	15 14 6.9			.5		
		ES	Y	14.1			.5		
25OCT	S4	EP	Z	15 19 41.9			.5		
		ES	Y	48.1			.5		
25OCT	S7	EP	Z	15 21 56.4			.4		
		ES	X	22 1.6			.4		
25OCT	S1	EP	Z	16 41 33.1	1.9U	.2	3.8		*
		ES	Y	42 17.2			3.8		
25OCT	S4	-IP	Z	16 41 56.3	725.8	.3	R		*
		ES	Y	42 58.0			R		
25OCT	S7	EP	Z	16 42 14.0	161.3	.2	N		*
		ES	X	43 32.0			N		
25OCT	S9	EP	Z	16 42 36.6	201.6	.2	R		*
		ES	Y	44 7.3			R		
25OCT	S11	EP	Z	16 42 43.4			R		*
		ES	Z	44 21.5			R		
25OCT	S11	EP	Z	17 17 42.0					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
25OCT 18 4 11.8		36.8N		138.2E	HONSHU,JAPAN H = 28 KM		MAG = 5.2		
25OCT	S1	EP	Z	18 6 21.5	282.3	.7	8.9	227	-.1
		E	Z	35.0			8.9	227	
		ES	X	8 15.5			8.9	227	13.4
25OCT	S7	EP	Z	18 7 2.7			12.5	232	-7.6
25OCT	S7	E	Z	18 9 33.7					
25OCT	S1	EP	Z	18 48 55.4					
25OCT	S1	EP	Z	19 0 18.1			3.6		*
		ES	Y	1 .4			3.6		
25OCT	S7	EP	Z	19 0 25.8	64.1	.2	1.8		*
		ES	X	48.3			1.8		
25OCT	S9	EP	Z	19 0 26.4	80.6	.2	.8		*
		ES	Y	37.3			.8		
25OCT	S11	EP	Z	19 0 36.5					*
25OCT	S1	EP	Z	19 12 42.4					
25OCT	S1	EP	Z	19 24 14.1	96.2	.3	R		
		ES	X	26 7.3			R		
25OCT	S7	EP	P	19 28 58.1			5.0		
		ES	X	29 55.5			5.0		
25OCT	S7	EP	Z	19 41 16.8			.8		
		ES	X	28.2			.8		
25OCT	S11	EP	Z	20 5 46.1					
25OCT	S9	EP	Z	20 5 59.1	161.3	.2	.8		
		ES	Y	6 9.5			.8		
25OCT	S7	EP	Z	21 9 22.8			.5		
		ES	X	30.6			.5		
25OCT	S1	EP	Z	21 34 20.6			1.8		
		ES	X	42.4			1.8		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
25OCT	S1	+IP	Z	23 9 47.5	1.2U	.2	.5		
		ES	X	53.8			.5		
25OCT	S4	EP	Z	23 10 12.4			3.5		
		ES	Y	52.3			3.5		
25OCT	S11	EP	Z	23 11 40.C			R		*
		ES	Z	12 47.8			R		
25OCT	S9	EP	Z	23 11 56.2	483.9	.3	1.2		*
		ES	Y	12 11.3			1.2		
25OCT	S4	EP	Z	23 12 6.9			R		*
		ES	Y	13 33.0			R		
25OCT	S1	EP	Z	23 12 29.0	161.3	.4	R		*
		ES	X	14 13.0			R		
25OCT	S4	EP	Z	23 36 14.9			1.0		
		ES	Y	28.0			1.0		
26OCT	S1	EP	Z	0 4 31.1			.6		
		ES	X	39.3			.6		
26OCT	S4	EP	Z	0 12 6.5			.6		
		ES	Y	15.3			.6		
26OCT	S7	EP	Z	0 12 9.4	64.1	.2	1.1		
		ES	X	23.5			1.1		
26OCT	S1	EP	Z	0 35 16.3	403.2	.3	1.1		
		ES	X	30.1			1.1		
26OCT	S7	EP	Z	0 35 25.8	64.1	.2	5.4		
		ES	X	36 27.9			5.4		
26OCT	S4	EP	Z	0 35 27.7			2.4		
		ES	Y	56.1			2.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
26OCT	S1	EP	Z	1 20 37.0	564.5	.4	3.9		*
		ES	X	21 22.6			3.9		
26OCT	S4	EP	Z	1 21 3.3			R		*
		ES	Y	22 8.0			R		
26OCT	S7	EP	Z	1 21 24.0			N		*
		ES	X	22 41.3			N		
26OCT	S9	EP	Z	1 21 32.3	80.6	.2	N		*
		ES	Y	23 14.5			N		
26OCT	S9	E	Y	1 30 30.2					
26OCT	S4	EP	P	1 52 2.9			.5		
		ES	Y	9.8			.5		
26OCT	S7	EP	Z	1 52 16.0			1.7		
		ES	X	37.2			1.7		
26OCT	S1	EP	Z	2 4 28.4	121.0	.2	1.0		
		ES	X	41.4	241	3	1.0		
26OCT	S7	EP	Z	2 8 47.5			.5		
		ES	X	53.3			.5		
26OCT	S4	EP	Z	2 18 30.0			.5		
		ES	Y	36.5			.5		
26OCT	S7	EP	Z	2 18 39.4			1.4		
		ES	X	56.6			1.4		
26OCT	S7	EP	Z	2 25 48.9	322.6	.3	.4		
		ES	X	54.1			.4		
26OCT	S7	EP	Z	2 33 42.8	403.2	.2	.8		
		ES	X	53.8			.8		
26OCT	S4	EP	P	2 33 47.1			.8		
		ES	Y	57.7			.8		
26OCT	S12	EP	Z	2 53 5.5	161.3	.3	3.5		
		ES	X	46.8			3.5		
26OCT	S9	EP	Z	2 53 46.7	64.1	.2	R		
		ES	Y	54 9.0			R		
26OCT	S11	EP	Z	3 32 26.0			.4		
		ES	Z	30.4			.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
26OCT	S12	EP	Z	3 46 57.7	80.6	.2	.4		
		ES	X	47 1.8			.4		
26OCT	S1	EP	Z	4 0 44.1			2.1		
		ES	Y	1 9.4			2.1		
26OCT	S4	EP	Z	4 38 37.8	121.0	.2	.5		
		ES	Y	44.7			.5		
26OCT	S7	EP	Z	4 38 53.0			1.9		
		ES	X	39 16.7			1.9		

26OCT 5 22 57.0 42.1N 142.5E HOKKAIDO,JAPAN REGION
H = 51 KM MAG = 4.4

26OCT	S1	EP	Z	5 23 43.7	1.1U	.4	3.0	251	
26OCT	S4	EP	Z	5 24 9.1	645.2	.2	5.1	241	-3.3
		ES	Y	25 3.7			5.1	241	-6.8
26OCT	S7	EP	Z	5 24 26.9	161.3	.2	6.6	245	-5.3
		ES	X	25 37.3			6.6	245	-10.4
26OCT	S9	EP	Z	5 24 49.7	362.9	.3	8.2	253	-5.7
		E	Z	56.8			8.2	253	
		E	Y	26 12.0			8.2	253	
26OCT	S11	EP	Z	5 24 57.5			8.7	243	-5.7
		E	Z	25 53.0			8.7	243	
26OCT	S12	EP	Z	5 25 14.7	80.6	.2	10.1	249	-7.2
		S(PP)	Z	25.3			10.1	249	-8.9
		E	X	26 56.0			10.1	249	
26OCT	S1	EP	Z	5 48 8.8	887.1	.2	1.0		
		ES	Y	21.7			1.0		
26OCT	S4	EP	Z	5 48 19.9			1.7		
		ES	Y	40.7			1.7		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
26OCT	6	3 10.0	46.7N	146.3E	OBS PRELIMINARY EPICENTER -- (4) H = 0 KM				
26OCT	S4	EP	Z	6 3 52.2			2.5	324	-.8
		ES	Y	59.4			2.5	324	1.1
26OCT	S7	EP	Z	6 4 2.9	121.0	.3	3.3	300	-1.5
		ES	X	19.8			3.3	300	-11.2
26OCT	S1	EP	Z	6 4 6.1			3.5	360	-1.1
26OCT	S9	EP	Z	6 4 25.6	201.6	.2	5.0	292	-2.1
		E	Y	56.4			5.0	292	
26OCT	S11	EP	Z	6 13 11.3					
26OCT	S11	EP	Z	6 41 54.9			.5		
		ES	Z	42 .2			.5		
26OCT	S11	EP	Z	7 0 25.7			.4		
		ES	Z	30.5			.4		
26OCT	S1	EP	Z	7 20 40.5			.8		
		ES	X	51.0			.8		
26OCT	S7	EP	Z	7 41 5.7			.9		
		ES	X	18.1			.9		
26OCT	S7	EP	Z	8 1 41.9			.8		
		ES	X	53.2			.8		
26OCT	8	24 35.0	45.1N	148.8E	OBS PRELIMINARY EPICENTER -- (4) H = 30 KM				
26OCT	S4	-IP	Z	8 24 44.4	403.2	.2	.5	28	-.9
		ES	Y	51.5			.5	28	1.4
26OCT	S7	EP	Z	8 24 55.3	121.0	.2	1.2	269	-.7
		E	Z	25 16.4			1.2	269	
26OCT	S1	EP	Z	8 25 15.1			2.6	42	-1.1
		ES	X	39.4			2.6	42	-5.6
26OCT	S9	EP	Z	8 25 19.8	121.0	.2	3.0	273	-1.5
		ES	Y	49.4			3.0	273	-5.2

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES	
26OCT	8 29 16.0	48.1N	153.8E	OBS PRELIMINARY EPICENTER -- (5) H = 150 KM						
26OCT	S11	EP	Z	8 29 49.1			1.7	18	1.1	
		E	Z	30 14.8			1.7	18		
26OCT	S12	EP	Z	8 29 50.2	483.9	.2	1.9	331		
		ES	X	30 16.9			1.9	331	.9	
26OCT	S9	EP	Z	8 30 5.4	725.8	.3	3.1	10	-.6	
		ES	Y	42.5			3.1	10	-1.6	
26OCT	S7	EP	Z	8 30 10.9	80.6	.1	3.7	36	-2.7	
		E	X	23.8			3.7	36		
		ES	X	31 3.1			3.7	36	5.3	
26OCT	S1	EP	Z	8 30 57.2	48.1	.2	7.2	44	-2.3	
		E	Y	32 58.2			7.2	44		
26OCT	S11	EP	Z	8 47 47.2						
26OCT	S7	EP	Z	9 7 29.4	48.1	.1	.5			
		ES	X	35.7			.5			
26OCT	S11	EP	Z	9 21 8.9						
26OCT	S1	EP	Z	9 46 43.9	241.9	.3	3.2		*	
		ES	Y	47 21.8			3.2			
26OCT	S7	EP	Z	9 47 19.3	64.1	.2	R		*	
		ES	X	48 26.1			R			
26OCT	S9	EP	Z	9 47 43.2	80.6	.3	1.6		*	
		E	Z	59.5			1.6			
		ES	Y	48 3.4			1.6			
26OCT	S12	EP	Z	11 10 41.7	282.3	.2	.5			
		ES	X	48.7			.5			
26OCT	S4	EP	Z	12 24 54.0			.5			
		ES	Y	25 .8			.5			

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
26OCT	S1	EP	Z	13 56 51.2			5.2		*
		ES	X	57 50.6			5.2		
26OCT	S4	EP	Z	13 57 16.9			R		*
		ES	Y	58 38.0			R		
26OCT	S7	EP	Z	13 57 36.0			R		*
		ES	X	59 11.0			R		
26OCT	S4	EP	Z	14 7 32.6	32.1	.2	.5		
		ES	Y	39.7			.5		
26OCT	S9	EP	Z	14 26 13.6	201.6	.2	.4		
		ES	Y	17.7			.4		
26OCT	S11	EP	Z	15 25 52.6					
26OCT	S7	EP	Z	15 27 46.3	161.3	.1	.5		
		ES	X	52.4			.5		
		E	X	29 33.9			.5		
26OCT	S11	EP	Z	15 45 47.0			3.3		
		ES	Z	46 26.1			3.3		
26OCT	S4	EP	Z	18 8 24.6			.8		
		ES	Y	35.3			.8		
26OCT	S11	EP	Z	17 24 17.0			2.3		
		ES	Z	44.9			2.3		
26OCT	S9	EP	Z	17 41 14.8	80.6	.3	4.8		
		ES	Y	42 9.6			4.8		
26OCT	S12	EP	Z	17 41 [illegible]			5.4		
		ES	X	42 24.[illegible]			5.4		
26OCT	S11	EP	Z	18 13 57.2			1.0		
		ES	Z	14 10.2			1.0		
26OCT	S11	EP	Z	20 3 50.4			1.8		
		ES	Z	4 12.5			1.8		
26OCT	S4	EP	Z	20 7 46.2	524.2	.2	.6		
		ES	Y	54.7			.6		
26OCT	S7	E	Z	21 19 32.9					
26OCT	S11	EP	Z	21 20 10.2			1.0		
		ES	Z	22.9			1.0		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
26OCT	S7	E	Z	21 21 36.5					
26OCT	S1	EP	Z	21 32 24.9			1.0		
		ES	X	37.8			1.0		
26OCT	S1	EP	Z	21 41 53.7			.7		
		ES	Y	42 3.3			.7		
26OCT	S7	EP	Z	21 50 3.1	80.6	.1	.5		
		ES	X	8.5			.5		
26OCT	S11	EP	Z	23 27 21.8					
26OCT	S11	EP	Z	23 30 20.5			5.7		
		ES	Z	31 26.2			5.7		
26OCT	S7	EP	Z	23 36 48.8	887.1	.1	.5		
		ES	X	55.3			.5		
26OCT	S9	EP	P	23 37 10.3			1.4		
		ES	Y	28.2			1.4		
26OCT	S1	EP	Z	23 39 19.7	282.3	.1	1.6		*
		E	Y	29.3			1.6		
		ES	Y	39.3			1.6		
26OCT	S4	EP	Z	23 39 34.3			2.5		*
		ES	Y	40 4.6			2.5		
26OCT	S7	EP	X	23 39 51.5			4.2		*
		ES	X	40 40.3			4.2		
26OCT	S9	EP	Z	23 40 15.0	241.9	.2	5.1		*
		E	Z	22.8			5.1		
		ES	Y	41 13.6			5.1		
26OCT	S12	EP	Z	23 40 38.2	32.1	.2	R		*
		ES	X	41 55.6			R		
27OCT	S11	EP	Z	0 30 7.2			R		
		ES	Z	31 42.1			R		
27OCT	S7	E	X	1 1 44.3					
27OCT	S7	E	X	1 4 2.2					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
27OCT	2 27 49.7	14.1N	145.3E	MARIANA IS					
				H = 125 KM			MAG = 5.2		
27OCT	S12	EP	Z	2 34 16.0	121.0	.6	33.3	198	-1.5
		E	Z	23.4			33.3	198	
27OCT	S1	E	X	2 39 10.3					
27OCT	S12	EP	Z	3 6 32.7	32.1	.2	1.4		*
		ES	X	49.8			1.4		
27OCT	S11	EP	Z	3 6 38.0					*
27OCT	S9	EP	Z	3 6 52.8	201.6	.2	2.6		*
		ES	Y	7 23.8			2.6		
27OCT	S1	EP	Z	3 26 36.8			.9		
		ES	Y	48.5			.9		
27OCT	S1	EP	Z	4 26 25.8			1.1		
		ES	X	40.0			1.1		
27OCT	S7	EP	X	4 57 35.4			.5		*
		ES	X	43.0			.5		
27OCT	S4	EP	Z	4 57 50.0			1.2		*
		ES	Y	58 5.6			1.2		
27OCT	S9	EP	P	4 57 59.8			1.8		*
		ES	Y	58 21.8			1.8		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
27OCT	5 57 58.0	73.4N	54.8E	NOVAYA ZEMLYA H = 0 KM		MAG = 6.3			
27OCT	S11	EP	Z	6 6 40.8	2.9U	.6	48.4	338	-2.7
27OCT	S4	EP	Z	6 6 42.1	645.2	.6	48.9	338	-5.0
27OCT	S12	EP	Z	6 6 45.8	999.9		49.0	338	-2.3
		E	Z	54.0			49.0	338	
		EPP	Z	8 43.3			49.0	338	1.2
27OCT	S7	EP	Z	6 6 43.2			49.0	338	-5.0
27OCT	S1	EP	Z	6 6 50.1	1.1U	.6	49.7	338	-3.3
27OCT	S9	EP	Z	6 6 51.7	7.3U	.9	49.8	338	-2.5
		EPCP	Z	8 25.1			49.8	338	[illegible]
		E(PP)	Z	55.0			49.8	338	5.2
		E	Z	9 38.5			49.8	338	
27OCT	S4	EP	Z	6 45 44.1			1.6		
		ES	Y	46 4.5			1.6		
27OCT	6 54 41.7	19.1N	145.3E	MARIANA IS H = 222 KM		MAG = 4.7			
27OCT	S12	EP	Z	7 0 18.1	80.1	.7	28.5	200	-.2
		E	Z	25.6			28.5	200	
27OCT	S1	EP	Z	7 25 5.7	322.6	.2	.6		
		ES		14.7			.6		
27OCT	S4	EP	Z	8 30 26.9	443.5	.1	.7		
		ES	Y	36.3			.7		
27OCT	S7	EP	Z	8 30 42.0			1.8		
		ES	Z	31 4.5			1.8		
27OCT	S1	EP	Z	8 30 44.0			1.6		
		ES	Y	31 3.3			1.6		
27OCT	S11	EP	Z	8 49 4.1					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
27OCT	9 18 15.5	20.2N	145.6E	MARIANA IS					
				H = 118 KM		MAG = 5.4			
27OCT	S12	EP	Z	9 23 51.4	112.2	.8	27.4	200	
		E	Z	24 24.4			27.4	200	
27OCT	9 20 53.0	44.7N	150.1E	OBS PRELIMINARY EPICENTER -- (6)					
				H = 15 KM					
27OCT	S7	EP	Z	9 21 4.3	403.2	.1	.5	214	-1.4
		ES	X	13.6			.5	214	2.8
		E	X	24 29.2			.5	214	
		E	X	27 18.1			.5	214	
27OCT	S4	+IP	Z	9 21 13.3	604.8	.2	1.2	89	-1.4
		ES	Y	27.2			1.2	89	-2.0
27OCT	S9	EP	Z	9 21 27.8	604.8	.2	2.1	263	-.2
		ES	Y	50.1			2.1	263	7.5
27OCT	S11	EP	Z	9 21 36.7			2.7	230	-.4
27OCT	S1	EP	Z	9 21 41.3			3.1	59	-1.6
		ES	Y	22 16.7			3.1	59	6.2
27OCT	S12	EP	Z	9 21 52.9			4.0	245	-2.2
		ES	X	22 34.4			4.0	245	-7.7
27OCT	S9	E	Z	9 23 12.2					
27OCT	S1	EP	Z	9 27 25.4	282.3	.5			
27OCT	S9	E	Y	9 28 28.0					
27OCT	S1	EP	Z	9 39 9.4					
		E	X	41 56.8					
		E	Z	42 19.0					
27OCT	S7	EP	Z	9 41 42.3			R		
		ES	X	43 21.6			R		
		E	X	44 56.2			R		
		E	P	48 49.1			R		
27OCT	S7	E	X	10 9 46.8					
27OCT	S13	EP	Z	10 12 15.5			5.1		
		ES	Y	13 13.8			5.1		
27OCT	S1	EP	Z	10 15 31.3	121.0	.2	3.3		
		ES	Y	16 10.4			3.3		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
27OCT	10 30 53.0	43.9N	148.3E	OBS PRELIMINARY EPICENTER -- (5) H = 0 KM					
27OCT	S4	-IP	Z	10 31 8.8	2.3U	.3	.8	190	-2.3
		ES	Y	13.7			.8	190	-7.6
27OCT	S1	EP	Z	10 31 21.8	241.9	.2	1.6	62	-.9
		ES	Y	44.6			1.6	62	11.2
27OCT	S7	EP	Z	10 31 27.1	80.6	.1	2.0	233	-1.4
		ES	X	54.9			2.0	233	19.5
27OCT	S9	EP	Z	10 31 50.5	645.2	.2	3.5	254	.2
		E	Z	58.5			3.5	254	
		ES	Y	32 28.5			3.5	254	4.9
27OCT	S11	EP	Z	10 31 58.7			4.2	234	-1.2
		E	Z	32 45.1			4.2	234	
27OCT	S1	EP	Z	11 7 53.0	241.9	.4	R		
		ES	X	9 19.2			R		
27OCT	S7	EP	Z	11 47 3.3	32.1	.1	.9		
		ES	X	15.8			.9		
27OCT	S7	EP	Z	11 55 46.1	64.1	.2	1.0		
		ES	X	58.9			1.0		
27OCT	S11	EP	Z	11 56 6.2					
27OCT	S1	EP	Z	12 49 13.8			.5		
		ES	X	20.3			.5		
27OCT	S13	E	Y	13 35 10.3	483.9	.3			

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
27OCT 14 21		4.8	22.2N	145.9E	N PACIFIC OCEAN H = 29 KM		MAG = 6.0		
27OCT	S4	EP	Z	14 26 5.4	524.2	.7	22.5	186	2.0
		E	Y	26.3			22.5	186	
		ES	Y	30 5.7			22.5	186	1.8
27OCT	S7	E	Z	14 26 21.3	121.0	.3	23.2	191	
		ES	X	30 24.4			23.2	191	8.7
		E	P	45 .0			23.2	191	
27OCT	S9	EPP	Z	14 26 32.7	483.9	.4	23.5	197	-11.8
		ES	Y	30 25.1			23.5	197	4.3
27OCT	S12	EP	Z	14 26 30.6	144.2	.9	25.4	200	-.2
		E(PP)	Z	27 9.2			25.4	200	-.7
		ES	X	31 10.1			25.4	200	17.2
27OCT	S1	EP	Z	14 21 49.5	1.6U	.8	T		
		ES	Y	29 29.5			T		
27OCT	S13	EP	Z	14 26 18.7					
		E	Y	27 7.0					
		ES	Y	31 35.7					
27OCT	S13	E	P	14 48 16.2					
		E	P	49 35.7					
27OCT	S1	EP	Z	15 28 5.8	2.1U	.2	.5		*
		ES	Y	12.2			.5		
27OCT	S9	EP	Z	15 29 30.0	161.3	.3	R		*
		ES	Y	31 3.0			R		
27OCT	S7	EP	Z	15 29 47.7			3.2		*
		ES	X	30 25.3			3.2		
27OCT	S9	EP	Z	15 52 47.4	121.0	.2	R		
		E	Z	53 3.7			R		
		ES	Y	54 27.1			R		
27OCT	S12	EP	Z	15 52 52.0	64.1	.4			
27OCT	S4	EP	Z	16 56 17.8	201.6	.1	.7		
		ES	Y	27.1			.7		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
27OCT	S7	EP	Z	16 57 58.3	161.3	.2	.5		
		ES	X	58 5.7			.5		
27OCT	S1	EP	Z	17 7 11.8	362.9	.2	2.1		
		ES	Y	37.7			2.1		
27OCT	S7	EP	Z	17 8 56.1			5.4		
		ES	X	9 57.5			5.4		
27OCT	S11	EP	Z	17 9 15.4					

27OCT 17 49 34.0 29.5N 142.2E S OF HONSHU, JAPAN
H = 20 KM MAG = 4.8

27OCT	S1	EP	Z	17 52 48.4	201.6	.3	14.0	195	-5.5
		ES	X	55 17.5			14.0	195	-12.9
27OCT	S9	ES	Y	17 56 36.1			T		
27OCT	S11	EP	Z	18 4 28.9					
27OCT	S1	EP	Z	18 19 22.7			.5		
		ES	X	29.3			.5		
27OCT	S1	EP	Z	18 36 21.3			1.5		
		ES	X	39.9			1.5		
27OCT	S7	EP	Z	20 22 21.7			.4		
		ES	X	26.6			.4		
27OCT	S13	EP	Z	20 36 1.6			.9		
		ES	Y	14.1			.9		
27OCT	S12	EP	Z	22 7 39.6			2.4		
		ES	X	8 8.2			2.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
27OCT 22 57 54.0		43.9N		147.7E	OBS PRELIMINARY EPICENTER -- (7) H = 35 KM				
27OCT	S4	EP	Z	22 58 10.8	999.9		1.0	216	-.4
		ES	Y	22.2			1.0	216	-1.4
27OCT	S1	EP	Z	22 58 15.0	766.1	.2	1.2	53	-.1
		ES	Y	30.3			1.2	53	-.3
27OCT	S7	EP	Z	22 58 29.7	241.9	.1	2.4	240	-1.5
		ES	X	59.4			2.4	240	.2
27OCT	S9	EP	Z	22 58 52.5	524.2	.3	4.0	256	-1.3
		ES	Y	59 34.3			4.0	256	-5.4
27OCT	S11	EP	Z	22 59 .8			4.6	237	-1.6
27OCT	S13	EP	Z	22 59 16.2			5.7	231	-2.3
		ES	Y	23 0 24.8			5.7	231	1.1
27OCT	S12	EP	Z	22 59 17.2	121.0	.2	5.9	247	-3.7
		ES	X	23 0 19.5			5.9	247	-8.5
27OCT	S7	EP	Z	23 13 2.0	806.5	.2	.4		
		ES	X	7.1			.4		
27OCT	S11	EP	Z	23 13 9.7					
27OCT 23 46 47.7		41.7N		141.9E	HOKKAIDO,JAPAN REG H = 71 KM		MAG = 5.3		
27OCT	S1	EP	Z	23 47 40.4	1.0U	.2	3.6	247	-2.1
		ES	X	48 20.4			3.6	247	-3.7
27OCT	S4	EP	Z	23 48 6.1	604.8	.5	5.7	241	-5.0
27OCT	S7	EP	Z	23 48 24.3	201.6	.1	7.2	244	-7.4
		ES	X	49 37.3			7.2	244	-15.0
27OCT	S9	EP	Z	23 48 46.1	1.3U	.3	8.7	252	-7.4
		E	Y	50 13.8			8.7	252	
27OCT	S11	EP	Z	23 48 53.8			9.3	243	-7.6
27OCT	S13	EP	Z	23 49 8.2			10.4	239	-7.7
		ES	Y	50 57.7			10.4	239	-13.7
27OCT	S12	EP	Z	23 49 11.0	282.3	.2	10.7	248	-8.9
		E(PP)	Z	18.7			10.7	248	-14.7
		E	X	50 58.3			10.7	248	
28OCT	S7	EP	Z	1 14 32.3			.8		
		ES	X	42.8			.8		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
28OCT	S1	EP	Z	1 28 48.6			.6		
		ES	Y	57.4			.6		
28OCT	S1	EP	Z	1 41 16.4	1.0U	.2	1.2		*
		ES	X	31.3			1.2		
28OCT	S4	EP	Z	1 41 17.4	362.9	.1	1.2		*
		E	Z	17.9			1.2		
		ES	Y	32.8			1.2		
28OCT	S7	EP	Z	1 41 34.7	32.1	.1	2.8		*
		ES	X	42 8.3			2.8		
28OCT	S9	EP	Z	1 41 58.2	161.3	.2	3.8		
		ES	Y	42 42.4			3.8		
28OCT	S11	EP	Z	2 11 12.2					*
28OCT	S9	EP	Z	2 11 21.3	161.3	.2	2.4		*
		ES	Y	49.7			2.4		
28OCT	S12	EP	Z	2 11 27.3			2.9		*
		ES	X	12 1.8			2.9		
28OCT	S12	EP	Z	2 36 58.0			2.2		
		ES	X	37 24.7			2.2		
28OCT	S1	EP	Z	2 46 48.3					
28OCT	S7	EP	Z	2 53 2.7	806.5	.2	.6		
		ES	X	11.4			.6		
28OCT	S9	EP	Z	2 53 21.9	121.0	.3	1.4		
		ES	Y	38.9			1.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIS	AZI	RES
28OCT	3 13 43.0	44.7N	148.9E	OBS PRELIMINARY EPICENTER -- (5) H = 60 KM					
28OCT	S4	EP	Z	3 13 53.5	999.9		.3	87	.2
		ES	Y	14 1.7			.3	87	1.6
28OCT	S7	EP	Z	3 14 4.9	80.6	.1	1.2	250	.7
		ES	X	23.9			1.2	250	3.1
28OCT	S1	EP	Z	3 14 19.6			2.4	50	-1.4
		ES	Y	49.3			2.4	50	-.4
28OCT	S9	ES	Y	3 15 1.0			2.9	266	-1.7
28OCT	S11	EP	Z	3 14 33.9			3.4	239	-1.0
28OCT	S7	EP	Z	3 20 52.0	80.6	.1	1.3		
		ES	X	21 8.5			1.3		
28OCT	S9	EP	Z	3 44 35.5	241.9	.3	5.0		
		ES	Y	45 33.4			5.0		
28OCT	S12	EP	Z	3 44 37.2			5.9		
		ES	X	45 45.2			5.9		
28OCT	S7	EP	Z	4 13 21.2			1.3		
		ES	X	37.4			1.3		
28OCT	S9	EP	Z	4 13 29.4	362.9	.2	.8		
		ES	Y	40.2			.8		
		E	Y	14 38.3			.8		
28OCT	S11	EP	Z	4 23 1.2					
28OCT	S1	EP	Z	5 9 7.3			1.1		
		ES	Y	21.2			1.1		
28OCT	S11	EP	Z	5 34 1.5					
28OCT	S1	EP	Z	6 8 1.8			1.0		
		ES	X	14.5			1.0		
28OCT	S11	EP	Z	7 17 24.4					
28OCT	S7	EP	Z	7 17 24.5			.5		
		ES	X	31.9			.5		
28OCT	S9	EP	Z	7 17 26.1	161.3	.2	2.5		
		ES	Y	56.1			2.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
28OCT	S1	EP	Z	7 56 3.2			.6		
		ES	X	12.1			.6		
28OCT	S4	EP	Z	8 51 53.9			.7		
		E	Z	56.9			.7		
		ES	Y	52 3.9			.7		
28OCT	S7	EP	Z	9 56 47.1	201.6	.2	1.1		
		ES	X	57 1.7			1.1		
28OCT	S13	EP	Z	12 21 24.4	121.0	.1	1.2		
		ES	Y	40.1			1.2		
28OCT	S11	EP	Z	12 21 35.3			2.0		
		ES	Z	59.9			2.0		
28OCT	S9	EP	Z	12 21 51.6	241.9	.2	3.0		
		ES	Y	22 26.8			3.0		
28OCT	S1	EP	Z	13 4 14.2			.5		
		ES	X	21.6			.5		

29OCT 13 20 30.6 35.8N 140.0E NR S. CST OF HONSHU, JAPAN
H = 83 KM MAG = 4.8

28OCT	S1	EP	Z	13 22 32.4	201.6	.4	8.8	216	-5.0
		ES	X	24 5.2			8.8	216	-10.9
28OCT	S4	EP	Z	13 23 .2			11.0	219	-6.3
		E	Y	24 51.3			11.0	219	
28OCT	S7	EP	Z	13 23 17.6			12.3	224	-6.1
		E	X	25 21.8			12.3	224	
28OCT	S9	EP	Z	13 23 33.1	121.0	.3	13.5	232	-6.6
		E	Y	25 49.1			13.5	232	
28OCT	S11	EP	Z	13 23 40.7			R		
		ES	Z	25 12.9			R		
28OCT	S11	EP	Z	14 28 6.3					
28OCT	S1	EP	Z	17 2 28.5	903.2	.2	.5		
		ES	Y	34.3			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
28OCT	17 35	7.4	51.1N	1[illegible] 1E	OFF E CST OF KAMCHATKA H = 33 KM		MAG = 4.4		
28OCT	S13	EP	Z	17 36 16.3	282.3	.3	4.9	43	-3.7
		E	Z	31.1			4.9	43	
		ES	Y	37 8.8			4.9	43	-7.1
28OCT	S12	EP	Z	17 36 21.3	121.0	.3	5.3	28	-5.0
		E	Z	23.9			5.3	28	
		ES	X	37 18.4			5.3	28	-8.8
		E	P	41 14.7			5.3	28	
		E	P	50.6			5.3	28	
28OCT	S11	EP	Z	17 36 35.6			6.1	39	-2.1
28OCT	S9	EP	Z	17 36 49.9	524.2	.2	7.3	32	-5.0
		ES	Y	38 5.0			7.3	32	-13.1
		E	Y	43 25.5			7.3	32	
28OCT	S7	EP	[illegible]	17 37 1.8			8.3	41	-6.2
		ES	X	38 32.6			8.3	41	-8.8
28OCT	S11	EP	Z	17 56 52.0			1.3		
		ES	Z	57 8.9			1.3		
28OCT	S7	EP	X	18 [illegible] 52.7			.5		
		ES	X	59.8			.5		
28OCT	S13	EP	Z	18 44 45.5			2.6		
		ES	Y	45 16.6			2.6		
28OCT	S7	EP	Z	18 45 20.1					*
		ES	X	48 13.9					
28OCT	S9	E	Z	18 46 14.5					*
		E	Y	47 43.7					
		E	Y	48 50.4					
28OCT	S13	EP	Z	18 47 8.4	161.3	.3	4.0		*
		ES	Y	54.7			4.0		
28OCT	S12	EP	Z	18 47 18.8	80.6	.2	4.4		*
		ES	X	48 10.2			4.4		
28OCT	S4	E	Z	19 28 .9					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
28OCT	S4	EP	Z	19 33 22.3	241.9	.1	.7		
		E	Z	22.8			.7		
		ES	Y	32.5			.7		
28OCT	S1	EP	Z	21 5 46.3	282.3	.4	4.3		
		ES	Y	6 35.7			4.3		
28OCT	S7	E	X	21 7 55.1					
28OCT	S7	E	X	21 13 50.6					
28OCT	S4	EP	Z	21 34 58.4	999.9		.3		*
		ES	Y	35 1.9			.3		
28OCT	S7	EP	Z	21 35 .2			2.4		*
		ES	X	29.2			2.4		
28OCT	S1	EP	Z	21 35 33.5			1.9		*
		ES	Y	57.0			1.9		
28OCT	S9	EP	Z	21 35 35.0	241.9	.3	2.3		*
		ES	Y	36 2.7			2.3		
28OCT	S12	EP	Z	21 39 11.0			1.2		
		ES	X	25.9			1.2		
28OCT	S13	EP	Z	21 40 3.4	241.9	.2	1.0		
		ES	Y	16.7			1.0		
28OCT	S13	EP	Z	22 1 30.3	241.9	.3	1.0		
		ES	Y	43.5			1.0		
28OCT	S11	EP	Z	22 1 49.9			1.9		
		ES	Z	2 12.9			1.9		
28OCT	S7	EP	Z	22 17 54.0	64.1	.1	.4		
		ES	X	59.2			.4		
28OCT	S11	EP	Z	22 33 51.2			.5		
		ES	Z	56.6			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
29OCT	0 45 40.0	51.1N	159.1E	OFF E CST OF KAMCHATKA					
				H = 33 KM			MAG = 4.3		
29OCT	S13	EP	Z	0 46 48.7	121.0	.3	4.9	43	-3.9
		E	Z	58.8			4.9	43	
		ES	Y	47 41.5			4.9	43	-7.0
29OCT	S12	EP	Z	0 46 53.5	80.6	.3	5.3	28	-5.4
		E	Z	47 3.5			5.3	28	
		ES	X	48.2			5.3	28	-11.6
		E	P	51 58.1			5.3	28	
29OCT	S11	EP	Z	0 47 6.2			6.1	39	-5.1
29OCT	S9	EP	Z	0 47 21.6	322.6	.2	7.3	32	-5.9
		ES	Y	48 36.7			7.3	32	-14.0
		E	Y	54 27.1			7.3	32	
29OCT	S7	EP	Z	0 47 33.1			8.3	41	-7.5
		ES	X	49 3.2			8.3	41	-10.8
29OCT	S4	E	Z	0 48 58.7			9.6	44	
		ES	Y	49 37.0			9.6	44	-9.5
29OCT	S1	EP	Z	0 48 35.5			11.3	43	-5.7
		ES	X	50 26.4			11.8	43	-13.0
29OCT	S1	EP	Z	1 13 59.6			1.1		
		ES	Y	14 13.9			1.1		
29OCT	S13	EP	P	1 44 3.6			4.9		*
		ES	Y	45 .3			4.9		
29OCT	S12	EP	Z	1 44 10.5			4.8		*
		ES	X	45 5.3			4.8		
29OCT	S9	EP	Z	1 44 36.4	201.6	.2	R		*
		ES	Y	45 52.1			R		
		E	Y	48 2.8			R		
29OCT	S13	EP	Z	2 12 25.0	161.3	.3	.7		
		ES	Y	34.8			.7		
29OCT	S12	EP	Z	2 12 29.8			1.3		
		ES	X	46.7			1.3		
		E	P	13 56.1			1.3		
29OCT	S1	EP	Z	2 22 4.4			.7		
		ES	Y	13.6			.7		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
29OCT	S1	EP	Z	2 36 28.9	483.9	.1	.5		
		ES	X	35.6			.5		
29OCT	2 39 29.4	39.2N	21.2E	GREECE					
				H = 20 KM		MAG = 5.7			
29OCT	S1	EP	Z	2 51 56.9	564.5	.7	84.2	320	-1.6
29OCT	S11	EP	Z	2 51 59.6	927.4	.8	84.4	324	-2.2
		E	Z	52 5.7			84.4	324	
29OCT	S13	EP	P	2 59 28.0			4.7		*
		ES	Y	3 0 22.1			4.7		
29OCT	S12	EP	Z	2 59 35.4	80.6	.2	4.6		*
		E	Z	49.5			4.6		
		ES	X	3 0 29.1			4.6		
29OCT	S11	EP	Z	2 59 48.3					*
29OCT	S9	EP	Z	3 0 1.7	161.3	.2	R		*
		ES	Y	1 16.9			R		
		E	Y	7 40.7			R		
29OCT	S4	EP	Z	3 42 25.1	80.6	.1	.7		
		ES	Y	34.7			.7		
29OCT	S7	EP	P	3 42 29.3			1.2		
		ES	X	44.7			1.2		
29OCT	S9	EP	Z	3 42 51.3	121.0	.2	2.4		
		ES	Y	43 19.7			2.4		
29OCT	S11	EP	Z	3 43 .5			3.0		
		ES	Z	35.8			3.0		
29OCT	S12	EP	Z	3 51 25.9	121.0	.2	4.8		
		ES	X	52 20.7			4.8		
29OCT	S7	EP	P	4 2 47.4			.5		
		ES	X	53.9			.5		
29OCT	S11	EP	Z	4 10 51.9			.4		
		ES	Z	56.6			.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
29OCT	S11	EP	Z	4 58 20.0			.9		
		ES	Z	32.0			.9		
29OCT	S1	EP	Z	5 48 28.6	443.5	.3	1.4		*
		ES	Y	45.9			1.4		
29OCT	S4	EP	Z	5 48 35.7	564.5	.3	4.0		*
		ES	Y	49 41.9			4.0		
29OCT	S7	EP	Z	5 49 13.3	322.6	.3	5.4		*
		ES	X	50 14.6			5.4		
29OCT	S9	EP	Z	5 49 34.2	443.5	.3	R		*
		ES	Y	50 46.8			R		
		E	Y	56 50.5			R		
29OCT	S11	EP	Z	5 49 44.7			R		
		ES	Z	51 6.6			R		*
29OCT	S13	EP	Z	5 49 59.6			R		
		ES	Y	51 33.4			R		*
29OCT	S12	EP	Z	5 50 .4	282.3	.3	R		*
		ES	X	51 33.4			R		
		E	P	59 51.8			R		

29OCT 6 30 22.0 41.8N 144.0E HOKKAIDO, JAPAN REG
H = 32 KM MAG = 4.7

29OCT	S1	EP	Z	6 30 57.5	685.5	.4	2.2	232	.6
		ES	Y	31 10.1			2.2	232	-12.3
29OCT	S4	EP	Z	6 31 24.9	725.8	.6	4.4	230	-2.8
		ES	Y	32 9.5			4.4	230	-8.8
29OCT	S7	EP	Z	6 31 42.6	282.3	.2	5.8	237	-5.3
		ES	X	32 43.6			5.8	237	-10.7
29OCT	S9	EP	Z	6 32 3.0	524.2	.7	7.3	247	-5.9
		E	Y	33 14.9			7.3	247	
		E	Y	39 12.3			7.3	247	
29OCT	S11	EP	Z	6 32 12.2			8.0	237	-6.5
		E	Z	33 35.1			8.0	237	
29OCT	S13	EP	Z	6 32 28.3			9.1	234	-6.1
		ES	Y	34 3.5			9.1	234	-13.6
29OCT	S12	EP	Z	6 32 28.4			9.3	244	-2.3
		E	Z	35.9			9.3	244	
		ES	X	34 11.0			9.3	244	-10.2
		E	P	41 54.6			9.3	244	
		E	P	42 40.5			9.3	244	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
29OCT	S1	EP	Z	8 9 .4					
		ES	Y	11 22.0			R		
							R		
29OCT	S7	EP	Z	8 53 47.9					
		ES	X	54.2			.5		
							.5		
29OCT	S1	EP	Z	9 49 15.4					
		ES	Y	50 6.6			4.4		
							4.4		
29OCT	S9	EP	Z	9 49 40.0	80.6	.1	5.9		
		ES	Y	50 47.4			5.9		
29OCT	S1	EP	Z	10 11 8.2	443.5	.3	3.1		*
		ES	Y	44.6			3.1		
29OCT	S4	EP	Z	10 11 45.6	322.6	.2	3.9		*
		ES	Y	12 31.3			3.9		
29OCT	S7	EP	Z	10 12 3.8	322.6	.3	.1		*
		ES	X	5.1			.1		
29OCT	S9	EP	Z	10 12 23.6	121.0	.3	R		*
		ES	Y	13 36.7			R		
29OCT	S11	EP	Z	10 12 34.2			R		*
		ES	Z	13 56.6			R		
29OCT	S12	EP	Z	10 12 49.5	201.6	.3	R		*
		ES	X	14 23.5			R		
29OCT	S11	EP	Z	12 2 14.8					
		ES	Z	19.1			.4		
							.4		
29OCT	S12	EP	Z	14 8 20.9	161.3	.2	.3		
		ES	X	24.8			.3		
29OCT	S11	EP	Z	14 16 9.7					
29OCT	S13	EP	Z	14 17 26.1					
		E	Z	30.8			1.3		
		ES	Y	42.4			1.3		
							1.3		
29OCT	S11	EP	Z	14 17 49.2					
		ES	Z	18 15.7			2.2		
							2.2		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
29OCT	S1	EP	Z	14 24 6.2	443.5	.2	1.2		*
		ES	X	21.2			1.2		
29OCT	S4	EP	Z	14 24 6.4	806.5	.2	1.2		*
		ES	Y	22.0			1.2		
29OCT	S7	EP	Z	14 24 24.4	282.3	.2	2.7		*
		ES	X	56.1			2.7		
29OCT	S9	EP	Z	14 24 46.7	241.9	.2	3.8		*
		ES	Y	25 31.3			3.8		
		E	Y	28 19.4			3.8		
29OCT	S11	EP	Z	14 25 44.8					
29OCT	S13	EP	Z	14 27 2.3	161.3	.3	1.6		
		ES	Y	22.7			1.6		
29OCT	S11	EP	Z	14 27 24.3			2.3		
		ES	Z	52.2			2.3		

29OCT 14 32 41.2 41.8N 144.1E HOKKAIDO,JAPAN REG
H = 41 KM MAG = 5.0

29OCT	S1	EP	Z	14 33 15.2	483.9	.3	2.1	231	-.1
29OCT	S4	EP	Z	14 33 42.7	999.9		4.3	230	-3.3
		ES	Y	34 30.2			4.3	230	-5.6
29OCT	S7	EP	Z	14 34 .0	766.1	.5	5.7	237	-6.0
		ES	X	35 3.7			5.7	237	-7.8
		E	P	40 44.6			5.7	237	
		E	X	47 54.6			5.7	237	
		E	X	49 4.2			5.7	237	
29OCT	S9	EP	Z	14 34 20.4	999.9		7.2	247	-6.5
		E	Y	35 32.1			7.2	247	
		E	Y	41 34.9			7.2	247	
29OCT	S11	EP	Z	14 34 30.4			7.9	237	-6.4
29OCT	S13	EP	Z	14 34 45.3	121.0	.5	9.1	233	-7.2
		ES	Y	36 21.8			9.1	233	-12.6
29OCT	S12	EP	Z	14 34 46.3	887.1	.5	9.2	244	-8.4
		E	X	36 20.6			9.2	244	
		E	P	42 17.1			9.2	244	
		E	P	44 51.4			9.2	244	
29OCT	S4	EP	Z	14 52 3.1	241.9	.1	.5		
		ES	Y	9.2			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
29OCT	S11	EP	Z	15 5 9.7					
29OCT	S13	EP	Z	15 5 19.3					*
		ES	Y	33.9			1.1		*
29OCT	S12	EP	Z	15 5 23.3	443.5	.2	1.1		
		ES	X	39.1			1.2		
29OCT	S9	EP	Z	15 5 27.7	224.6	.2	1.2		
		ES	Y	45.4			1.4		*
		E	Y	7 4.6			1.4		
							1.4		
29OCT	S4	EP	Z	17 29 29.2	80.6	.2			
		ES	Y	31.5			.2		
29OCT	S1	EP	Z	17 29 37.5			.2		
		ES	X	56.6			1.5		
29OCT	S7	E	Z	17 32 29.3			1.5		
29OCT	S9	EP	Z	17 32 32.4	80.6	.2			
		ES	Y	45.3			1.0		
29OCT	S11	EP	Z	17 39 42.4			1.0		
		ES	Z	47.7					
							.5		
							.5		
29OCT	S7	EP	Z	17 51 15.3	121.0	.1			
		ES	X	30.9			1.2		*
29OCT	S9	EP	Z	17 51 18.7	362.9	.2	1.2		
		ES	Y	30.7			.9		
		E	Y	52 34.6			.9		*
29OCT	S4	EP	Z	17 51 27.2			.9		
		ES	Y	52 6.1			3.3		*
							3.3		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
29OCT	18	2 35.0	44.4N	150.1E	OBS PRELIMINARY EPICENTER -- (8) H = 0 KM				
29OCT	S7	EP	Z	18 2 50.0	806.5	.2	.8	202	-3.1
		E	Z	3 2.6			.8	202	
29OCT	S4	EP	Z	18 2 56.8	999.9		1.2	103	-1.9
		ES	Y	3 13.0			1.2	103	.2
29OCT	S9	EP	Z	18 3 11.2	241.9	.2	2.2	255	-.4
		E	Z	13.9			2.2	255	
		ES	Y	35.2			2.2	255	16.8
		E	Y	5 24.6			2.2	255	
29OCT	S11	EP	Z	18 3 21.7			2.9	225	-1.9
29OCT	S1	EP	Z	18 3 23.6			3.0	64	-1.0
		ES	Y	57.9			3.0	64	16.9
29OCT	S12	EP	Z	18 3 37.2			4.1	242	-3.5
		ES	X	4 20.0			4.1	242	-11.3
		E	P	7 47.3			4.1	242	
29OCT	S13	EP	Z	18 ? 38.5			4.2	220	-2.8
		ES	Y	4 24.6			4.2	220	-8.1
29OCT	S1	EP	Z	18 33 51.4			4.5		
		ES	X	34 43.4			4.5		
29OCT	18	42 49.0	44.5N	150.0E	OBS PRELIMINARY EPICENTER -- (7) H = 0 KM				
29OCT	S7	EP	Z	18 43 .8	1.2U	.2	.7	210	-5.5
		E	Z	10.7			.7	210	
29OCT	S4	EP	Z	18 43 8.4	403.2	.4	1.1	99	-3.1
		ES	Y	15.8			1.1	99	-10.3
29OCT	S9	EP	Z	18 43 25.8	887.1	.2	2.2	258	-1.4
		ES	Y	49.0			2.2	258	16.2
		E	Y	45 22.6			2.2	258	
29OCT	S11	EP	Z	18 43 34.0			2.9	228	-3.3
		E	Z	44 6.1			2.9	228	
29OCT	S1	EP	Z	18 43 37.7	80.6	.3	3.0	62	-.5
		E	Y	44 24.1			3.0	62	
29OCT	S12	EP	Z	18 43 50.7	201.6	.2	4.1	244	-4.2
		ES	X	44 33.3			4.1	244	-12.4
29OCT	S13	EP	Z	18 43 54.3	161.3	.3	4.1	222	-.5
		ES	Y	44 37.8			4.1	222	-7.8

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
29OCT	S11	EP	Z	20 58 47.4					

29OCT 21 13 55.0 48.9N 155.9E OBS PRELIMINARY EPICENTER -- (7)
H = 0 KM

29OCT	S13	EP	Z	21 14 26.4	564.5	.2	1.9	47	-1.8
		E	Z	30.7			.9	47	
		E	Z	51.0			1.9	47	
29OCT	S12	EP	Z	21 14 36.2	403.2	.2	2.5	11	-1.1
		E	Z	44.1			2.5	11	
		E	X	15 7.3			2.5	11	
29OCT	S11	EP	Z	21 14 45.6			3.1	38	-.5
29OCT	S9	EP	Z	21 15 2.0	645.2	.2	4.4	26	-2.2
		ES	Y	58.7			4.4	26	
		E	Y	17 10.3			4.4	26	
29OCT	S7	EP	Z	21 15 13.5	80.6	.1	5.3	42	-3.3
		ES	X	16 15.7			5.3	42	-5.8
29OCT	S4	EP	Z	21 15 33.5	161.3	.2	6.6	48	-2.2
		E	Y	16 2.7			6.6	48	
29OCT	S1	EP	Z	21 16 2.5	161.3	.2	8.8	46	-3.8
		E	Y	52.4			8.8	46	

29OCT	S11	EP	Z	23 21 1.2					
		ES	Z	22 4.7			5.5		*
29OCT	S12	EP	Z	23 22 2.0			5.5		
		ES	X	24.7			1.9		*
29OCT	S9	EP	Z	23 22 4.8	161.3	.3	1.9		
		ES	Y	28.3			1.9		*
							1.9		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZ	RES
29OCT	23 38	5.0	47.9N	154.7E	OBS PRELIMINARY EPICENTER -- 171 H = 15 KM				
29OCT	S13	-IP	Z	23 38 16.1	282.3	.1	.6	68	-3.1
		E	Z	27.7			.6	68	
29OCT	S12	EP	Z	23 38 29.7	201.6	.2	1.5	347	-1.5
		E	Z	37.1			1.5	347	
		ES	[illegible]	50.4			1.5	347	4.5
29OCT	S11	EP	Z	23 38 35.7			1.8	39	-.5
29OCT	S9	EP	Z	23 38 52.0	121.0	.2	3.1	21	-3.0
		ES	Y	39 27.8			3.1	21	5.0
29OCT	S7	EP	Z	23 39 4.0	80.6	.1	4.0	45	-3.3
		ES	X	55.5			4.0	45	.7
29OCT	S4	EP	Z	23 39 23.9			5.4	51	-2.9
		ES	Y	40 24.5			5.4	51	-6.1
29OCT	S1	EP	Z	23 39 52.4			7.5	48	-4.8
		E	Y	40 18.4			7.5	48	
30OCT	S11	EP	Z	2 3 23.0					
30OCT	S13	E	Z	2 14 22.4	322.6	.4			
30OCT	S11	-IP	Z	3 7 53.9					
30OCT	S9	EP	Z	3 8 11.8	121.0	.2	1.5		
		ES	Y	30.0			1.5		
		E	Z	9 39.3			1.5		
30OCT	S11	EP	Z	3 36 23.9					.4
		ES	Z	28.7					.4
30OCT	S11	EP	Z	4 12 52.3					.5
		ES	Z	59.9					.5
30OCT	S9	EP	Z	4 13 5.2	121.0	.2	2.1		
		ES	Y	31.1			2.1		
30OCT	S1	EP	Z	4 54 46.9					1.5
		ES	X	55 5.5					1.5
30OCT	S13	EP	Z	6 12 2.1					.9
		ES	Y	13.6					.9
30OCT	S11	EP	Z	6 12 21.0					2.2
		ES	Z	47.5					2.2

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
30OCT	S7	EP	Z	6 45 25.4			2.5		
		ES	X	55.1			2.5		
30OCT	S11	E	Z	7 8 12.1					
30OCT	S13	EP	Z	7 19 32.0	161.3	.3	.7		
		ES	Y	41.6			.7		
30OCT	S9	EP	Z	7 39 14.2	80.6	.2	.3		
		ES	Y	17.0			.3		
30OCT	S11	E	Z	8 34 .8					
30OCT	S11	EP	Z	9 21 27.1			2.0		
		ES	Z	51.0			2.0		
30OCT	S11	EP	Z	9 33 17.2			1.4		
		ES	Z	35.2			1.4		
30OCT	S11	EP	Z	9 39 10.2			.4		
		ES	Z	15.3			.4		
30OCT	S11	E	Z	10 22 52.7					
30OCT	S1	EP	Z	10 49 7.4			.5		
		ES	X	14.3			.5		
30OCT	S9	EP	Z	11 35 13.5	161.3	.2	.5		
		ES	Y	18.9			.5		
30OCT	S4	EP	Z	12 6 39.9	725.8	.2	.5		*
		ES	Y	46.4			.5		
30OCT	S7	EP	Z	12 6 48.6	32.1	.1	1.4		*
		ES	X	7 6.6			1.4		
30OCT	S1	EP	Z	12 7 8.7			2.7		*
		ES	X	40.3			2.7		
30OCT	S9	EP	Z	12 7 11.5	241.9	.2	2.5		*
		ES	Y	41.5			2.5		
30OCT	S11	EP	Z	12 7 21.6	80.6	.2	3.2		*
		ES	Z	58.9			3.2		
30OCT	S11	EP	Z	12 21 58.0					
30OCT	S11	E	Z	12 37 32.0					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
30OCT	S7	EP	Z	13 5 45.3	80.6	.1	.6		
		ES	X	54.3			.6		

30OCT 13 27 18.0 44.9N 150.1E OBS PRELIMINARY EPICENTER -- (4)
H = 80 KM

30OCT	S7	EP	Z	13 27 32.1	322.6	.1	.4	232	1.0
		ES	X	49.6			.4	232	9.4
30OCT	S4	EP	Z	13 27 39.0	201.6	.1	1.2	79	-.8
		ES	Y	58.7			1.2	79	2.9
30OCT	S11	EP	Z	13 27 58.2			2.6	233	-.5
		E	Z	28 19.7			2.6	233	
30OCT	S1	EP	Z	13 28 5.5			3.2	56	-2.1
		ES	X	44.7			3.2	56	-.3
30OCT	S11	EP	Z	14 6 53.2			1.9		
		ES	Z	7 16.0			1.9		
30OCT	S12	EP	Z	14 7 5.0	80.6	.3	2.7		
		ES	X	37.2			2.7		
30OCT	S1	EP	Z	14 19 8.3	80.6	.1	1.8		
		ES	X	30.2			1.8		
30OCT	S11	EP	Z	14 46 40.8					
30OCT	S11	EP	Z	15 14 43.8					
30OCT	S7	EP	Z	15 38 46.4			.5		
		ES	X	53.7			.5		
30OCT	S11	EP	Z	15 45 12.2			1.3		
		ES	Z	28.8			1.3		
30OCT	S11	EP	Z	16 10 2.9					
30OCT	S11	EP	Z	16 46 5.9					*
30OCT	S13	EP	Z	16 46 [illegible].9	80.6	.2	.5		*
		ES	Y	47 4.6			.5		
30OCT	S9	EP	Z	16 47 19.0	80.6	.2	1.9		*
		ES	Y	41.7			1.9		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
30OCT	S11	EP	Z	17 9 57.1					
30OCT	S11	E	Z	17 29 35.0					
30OCT	S1	EP	Z	17 43 .1	322.6	.7	T		

30OCT 17 45 54.0 45.3N 147.1E OBS PRELIMINARY EPICENTER -- (5)
H = 0 KM

30OCT	S4	EP	Z	17 46 15.8	806.5	.4	1.2	303	-1.5
		ES	Y	24.6			1.2	303	-7.0
30OCT	S1	EP	Z	17 46 31.4			2.2	14	-.9
		ES	Y	53.5			2.2	14	15.7
30OCT	S7	EP	Z	17 46 31.6	161.3	.2	2.4	275	-3.8
		ES	X	52.5			2.4	275	12.4
		E	X	49 24.4			2.4	275	
		E	X	52 27.2			2.4	275	
30OCT	S11	EP	Z	17 47 1.9	64.1	.2	4.3	256	-.1
		E	Z	45.2			4.3	256	
30OCT	S9	EP	Z	17 46 48.7	32.1	.2	3.3		
		ES	Y	47 26.9			3.3		
30OCT	S4	EP	Z	17 49 14.6	403.2	.2	1.2		
		ES	Y	29.7			1.2		
30OCT	S9	EP	Z	17 49 38.2			2.2		
		ES	Y	50 4.7			2.2		
30OCT	S9	EP	Z	17 51 44.1	201.6	.3	3.3		
		ES	Y	52 23.1			3.3		
30OCT	S4	EP	Z	17 52 9.7	201.6	.2	.9		
		ES	Y	21.8			.9		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
30OCT	17 54 35.0	45.4N	150.3E	OBS PRELIMINARY EPICENTER -- (4) H = 40 KM					
30OCT	S7	EP	Z	17 54 43.1	1.7U	.3	.3	330	-.2
30OCT	S4	EP	Z	17 54 58.5	322.6	.4	1.5	60	-1.1
		ES	Y	55 14.8			1.5	60	-2.9
30OCT	S9	EP	Z	17 55 5.4	201.6	.1	2.0	283	-.9
		ES	Y	26.6			2.0	283	-2.9
		E	Y	56 40.7			2.0	283	
30OCT	S11	EP	Z	17 55 8.6			2.2	241	-1.0
		E	Z	33.4			2.2	241	
30OCT	S4	EP	Z	18 27 20.6	121.0	.3	1.2		*
		ES	Y	35.9			1.2		
30OCT	S1	EP	Z	18 27 20.6	241.9	.3	1.4		*
		ES	Y	37.9			1.4		
30OCT	S7	EP	Z	18 27 37.9	32.1	.1	1.5		*
		ES	X	56.6			1.5		
30OCT	S9	EP	Z	18 27 58.6	161.3	.2	3.5		*
		ES	Y	28 39.7			3.5		
30OCT	S11	EP	Z	18 28 8.8					*
30OCT	S7	EP	P	18 37 52.4			2.7		
		ES	X	38 24.0			2.7		
30OCT	19 4 18.0	35.7N	140.4E	NR E CST OF HONSHU, JAPAN H = 76 KM MAG = 4.5					
30OCT	S1	EP	Z	19 6 18.6	80.6	.2	8.8	214	-5.3
		ES	Y	7 51.3			8.8	214	-10.5
30OCT	S4	EP	Z	19 6 47.2			10.9	217	-5.7
		E	Y	8 35.5			10.9	217	
30OCT	S7	EP	Z	19 7 10.6			12.2	223	.7
		E	X	8 6.5			12.2	223	
30OCT	S9	EP	Z	19 7 18.5	80.6	.2	13.4	230	-7.0
		E	Y	9 33.3			13.4	230	
30OCT	S12	EP	Z	19 7 53.8	80.6	.2	15.5	231	1.0
		E	X	10 20.9			15.5	231	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
30OCT	S11	EP	Z	19 5 52.5	416.7	.4			
30OCT	S11	E	Z	19 9 58.5					

30OCT 19 14 23.0 45.3N 152.3E OBS PRELIMINARY EPICENTER -- (4)
H = 40 KM

30OCT	S9	EP	Z	19 14 34.8	604.8	.2	.6	301	-.2
		ES	Y	43.3			.6	301	1.7
		E	Y	15 20.6			.6	301	
30OCT	S11	EP	Z	19 14 43.9			1.3	202	-1.2
		E	Z	15 1.1			1.3	202	
30OCT	S7	EP	Z	19 14 44.2			1.3	82	-.5
		ES		55.7			1.3	82	-4.9
30OCT	S12	EP	L	19 14 58.2	121.0	.2	2.3	241	-1.5
		ES	K	15 24.4			2.3	241	-2.9
30OCT	S1	EP	Z	19 58 51.6			R		
		ES	Y	59 46.3			R		
30OCT	S7	EP	Z	19 59 44.3			R		
		ES	X	20 1 5.0			R		
30OCT	S11	EP	Z	20 1 54.6					
30OCT	S4	EP	Z	20 55 8.5	201.6	.1	1.9		*
		ES	Y	32.3			1.9		
30OCT	S7	EP	Z	20 55 21.5			3.1		*
		ES	X	58.0			3.1		
30OCT	S11	EP	Z	20 55 47.4					*
30OCT	S7	EP	Z	21 35 15.4			.5		
		ES	X	22.0			.5		
30OCT	S11	E	Z	21 54 58.9					
30OCT	S11	E	Z	22 9 33.2					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
30OCT	S1	EP	Z	22 14 16.9			4.1		*
		ES	Y	15 4.1			4.1		
30OCT	S7	EP	Z	22 14 33.5			5.1		*
		ES	X	15 31.7			5.1		
30OCT	S11	E	Z	22 14 54.1					*
30OCT	S11	E	Z	22 16 8.0					
30OCT	S7	EP	Z	23 2 11.8	64.1	.2	.5		
		ES	X	17.7			.5		
30OCT	S4	E	Z	23 53 14.1					*
30OCT	S7	EP	Z	23 53 18.0			1.7		*
		ES	X	38.6			1.7		
30OCT	S13	EP	Z	23 53 44.7	16.0	.2	.6		*
		ES	Y	52.8			.6		
30OCT 23 57 13.0 50.5N 178.7E RAT IS, ALEUTIAN IS H = 33 KM MAG = 4.5									
31OCT	S11	EP	Z	0 1 18.0			17.5	67	2.6
31OCT	S1	EP	Z	0 31 14.2			2.1		
		ES	Y	39.1			2.1		
31OCT	S1	EP	Z	0 56 48.1			2.9		*
		ES	Y	57 21.9			2.9		
31OCT	S11	EP	Z	0 57 45.2			R		*
		ES	Z	59 .8			R		
31OCT	S12	EP	Z	0 58 2.9	80.6	.3	2.2		*
		ES	X	29.3			2.2		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZ	RES
31OCT	S13	EP	Z	1 31 14.4			1.0		
		ES	Y	27.5			1.0		
31OCT	S11	EP	Z	1 31 43.5					
31OCT	S1	EP	Z	2 8 12.7			N		
		ES	Y	9 38.6			N		
31OCT	S11	EP	Z	2 11 43.1					
31OCT	S11	-IP	Z	2 14 47.7	1.9U	.2			*
31OCT	S12	EP	Z	2 14 57.3	121.0	.3	1.1		*
		E	Z	15 4.5			1.1		
		ES	X	11.4			1.1		
		E	X	16 4.9			1.1		
31OCT	S9	EP	Z	2 15 2.2	161.3	.2	1.1		*
		ES	Y	16.5			1.1		
		E	Y	16 26.0			1.1		
31OCT	S1	EP	Z	2 36 1.6	80.6	.2	.6		
		ES	Y	10.1			.6		
31OCT	S4	EP	Z	2 36 14.4			1.5		
		ES	Y	32.8			1.5		
31OCT	S7	EP	Z	2 53 7.7			.6		
		ES	X	16.6			.6		
31OCT	S1	EP	Z	3 18 14.7			.5		
		ES	Y	22.3			.5		
31OCT	S9	EP	Z	3 40 51.8	201.6	.5	T		
		E	Z	43 23.0			T		
31OCT	S11	EP	Z	3 43 .2					
31OCT	S7	EP	Z	3 49 17.1			.6		
		ES	X	26.1			.6		
31OCT	S7	EP	Z	4 28 .5			.6		
		ES	X	9.1			.6		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
31OCT	S12	EP	Z	5 13 11.8			2.5		
		ES	X	41.8			2.5		*
31OCT	S13	EP	Z	5 13 56.7	121.0	.1	1.6		
		ES	Y	14 16.1			1.6		*
31OCT	S11	EP	Z	5 14 22.1			1.6		
		ES	Z	41.8			1.6		*
31OCT	S4	EP	Z	5 24 3.1	201.6	.2	.7		
		ES	Y	12.3			.7		*
31OCT	S7	EP	Z	5 24 5.6	80.6	.1	1.0		
		ES	X	18.5			1.0		*
31OCT	S11	EP	Z	5 24 47.1			2.3		
		ES	Z	25 14.3			2.3		*
31OCT	S12	EP	Z	5 48 24.9	322.6	.3	4.8		
		ES	X	49 19.8			4.8		
31OCT	S11	EP	Z	5 52 18.0			1.0		
		ES	Z	31.1			1.0		*
31OCT	S12	EP	Z	5 52 28.7			1.8		
		ES	X	51.2			1.8		*
31OCT	S9	EP	Z	5 52 31.5			1.9		
		ES	Y	54.8			1.9		*
31OCT	S13	EP	Z	6 14 38.6	121.0	.2	1.1		
		ES	Y	52.8			1.1		*
31OCT	S11	EP	Z	6 14 46.0			1.5		
		ES	Z	15 4.7			1.5		*
31OCT	S12	EP	Z	6 14 51.2	80.6	.1	1.9		
		ES	X	15 14.6			1.9		*
31OCT	S9	EP	Z	6 15 1.8	80.6	.2	2.5		
		ES	Y	31.9			2.5		*
31OCT	S4	EP	Z	6 29 29.7	241.9	.4	1.4		
		ES	Y	46.9			1.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
31OCT	S7	EP	Z	6 29 46.0			2.8		
		ES	X	30 19.7			2.8		
31OCT	S7	EP	Z	6 39 59.6			.8		
		ES	X	40 10.5			.8		
31OCT	S4	EP	Z	6 40 37.3			3.4		
		ES	Y	41 17.3			3.4		
31OCT	S11	EP	Z	7 24 20.0			.5		
		ES	Z	25.8			.5		
31OCT	S7	EP	Z	7 52 25.7			.5		
		ES	X	32.8			.5		
31OCT	S11	EP	Z	7 57 10.4			1.1		
		ES	Z	24.8			1.1		
31OCT	S13	EP	Z	7 58 6.4			.5		
		ES	Y	12.5			.5		
31OCT	S11	EP	Z	9 38 22.0	121.0	.3			
31OCT	S11	E	Z	10 5 33.2					
31OCT	S7	EP	Z	10 23 33.5	32.1	.1	.5		
		ES	X	40.1			.5		
31OCT	S11	E	Z	10 36 29.3					
31OCT	S11	EP	Z	11 27 35.2					
31OCT	S11	EP	Z	12 24 52.8					
31OCT	S4	EP	Z	12 51 18.8	80.6	.1	.6		
		ES	Y	27.1			.6		
31OCT	S13	EP	Z	13 3 32.2			1.9		
		ES	Y	54.9			1.9		
31OCT	S11	EP	Z	13 3 48.4			3.1		
		ES	Z	4 24.8			3.1		
31OCT	S4	EP	Z	13 16 21.8			.9		
		ES	Y	33.4			.9		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
31OCT	S7	EP	Z	13 18 56.6	64.1	.2	1.8		*
		ES	X	19 19.1			1.8		
31OCT	S9	EP	Z	13 19 .2	443.5	.2	1.1		*
		ES	Y	14.4			1.1		
31OCT	S11	EP	Z	13 19 1.2			1.0		*
		ES	Z	14.6			1.0		

31OCT 13 36 59.0 29.8N 141.9E S OF HONSHU,JAPAN
H = 33 KM MAG = 4.3

31OCT	S1	E	Z	13 50 10.1			13.8	196	
		ESCS	Y	52 34.8			13.8	196	-7.5
31OCT	S1	EP	Z	13 53 57.1					
31OCT	S11	EP	Z	14 0 4.5					
31OCT	S11	EP	Z	15 4 12.0			1.2		
		ES	Z	27.3			1.2		
31OCT	S11	EP	Z	15 38 29.7					
31OCT	S1	EP	Z	15 38 50.4			2.5		
		ES	Y	39 20.6			2.5		
31OCT	S11	E	Z	16 0 33.8					
31OCT	S1	EP	Z	16 12 9.4			1.9		
		ES	X	32.1			1.9		
31OCT	S11	EP	Z	16 16 45.1					
31OCT	S9	EP	Z	16 25 48.7	121.0	.1	.4		
		ES	Y	53.3			.4		
31OCT	S7	EP	Z	16 35 50.4	999.9		.6		*
		ES	X	59.5			.6		
31OCT	S4	EP	Z	16 36 5.3	282.3	.2	1.3		*
		ES	Y	22.1			1.3		
31OCT	S11	EP	Z	16 36 17.2			2.4		*
		ES	Z	45.7			2.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
31OCT	S7	EP	Z	16 38 9.0	362.9	.4	.6		*
		ES	X	18.1			.6		
31OCT	S4	EP	Z	16 38 24.0	161.3	.2	1.4		*
		ES	Y	41.0			1.4		
31OCT	S11	EP	Z	16 39 38.3			.9		*
		ES	Z	50.0			.9		
31OCT	S13	EP	Z	16 39 50.7			1.5		*
		ES	Y	40 9.5			1.5		
31OCT	S1	EP	Z	17 34 5.9	121.0	.2	N		*
		ES	X	35 48.4			N		
31OCT	S7	EP	Z	17 34 29.9	48.1	.1	1.4		*
		ES	X	47.1			1.4		
31OCT	S4	EP	Z	17 34 38.5	241.9	.2	1.8		*
		ES	Y	35 .4			1.8		
31OCT	S11	EP	Z	17 34 46.0			2.3		*
		ES	Z	35 13.2			2.3		
31OCT	S12	EP	Z	17 35 2.9			3.4		*
		ES	X	42.6			3.4		
31OCT	S11	EP	Z	17 40 28.5			1.3		
		ES	Z	45.3			1.3		

31OCT 19 0 54.0 46.6N 152.9E OBS PRELIMINARY EPICENTER -- (7)
H = 75 KM

31OCT	S11	IP	Z	19 1 3.8	999.9		.1	325	-1.1
31OCT	S13	EP	Z	19 1 15.9	887.1	.2	1.2	211	-.7
		E	Z	30.6			1.2	211	
		E	P	2 18.3			1.2	211	
31OCT	S12	IP	Z	19 1 20.4	725.8	.3	1.6	276	-.7
		E	Z	39.8			1.6	276	
31OCT	S9	EP	Z	19 1 19.7	1.0U	.2	1.6	358	-1.6
		ES	Y	36.6			1.6	358	-4.4
		E	Y	2 32.6			1.6	358	
31OCT	S7	EP	Z	19 1 27.1	80.6	.1	2.2	48	-2.4
		ES	X	51.8			2.2	48	-4.2
31OCT	S4	EP	Z	19 1 48.9	403.2	.3	3.6	57	-.5
		ES	Y	2 26.5			3.6	57	-5.0
31OCT	S1	EP	Z	19 2 17.2	161.3	.2	5.8	51	-1.9
		ES	Y	3 23.5			5.8	51	-1.5

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
31OCT	19 53 58.0	45.0N	151.7E	OBS PRELIMINARY EPICENTER -- (5) H = 0 KM					
31OCT	S7	EP	Z	19 54 14.7	604.8	.4	.8	99	-2.2
		ES	X	31.6			.8	99	3.3
31OCT	S9	EP	Z	19 54 14.9	121.0	.2	.9	270	-3.0
		E	Z	16.7			.9	270	
		ES	Y	26.3			.9	270	-4.8
31OCT	S11	EP	Z	19 54 28.7	161.3	.2	1.8	212	-1.1
		E	Z	49.8			1.8	212	
31OCT	S4	EP	Z	19 54 35.3	80.6	.2	2.3	81	-2.5
		ES	Y	55 .9			2.3	81	18.1
31OCT	S12	EP	Z	19 54 42.0			2.8	240	-3.5
		ES	X	55 13.8			2.8	240	15.8
		E	X	57 57.2			2.8	240	
31OCT	20 0 49.0	55.6N	164.2E	KOMANDORSKY IS REG H = 33 KM MAG = 4.6					
31OCT	S13	EP	Z	20 3 9.8	121.0	.3	10.2	35	-6.6
		ES	Y	4 58.4			10.2	35	-12.6
31OCT	S12	EP	Z	20 3 16.7	161.3	.4	10.8	28	-7.0
		E	X	5 6.5			10.8	28	
		E	P	14 40.2			10.8	28	
31OCT	S11	EP	Z	20 3 28.7			11.5	34	-5.2
31OCT	S1	EP	Z	20 4 39.9			17.0	37	-5.3
31OCT	S9	EP	Z	20 17 5.5	121.0	.2	2.0		
		E	Z	13.2			2.0		
		ES	Y	29.9			2.0		
31OCT	S9	EP	Z	20 43 7.8			.3		
		ES	Y	11.7			.3		
31OCT	S1	EP	Z	20 45 41.1			.6		
		ES	Y	49.4			.6		
31OCT	S13	EP	Z	20 46 27.5	80.6	.1	1.2		
		ES	Y	42.9			1.2		
31OCT	S11	EP	Z	20 46 30.4	201.6	.2	1.4		
		ES	Z	47.5			1.4		
31OCT	S7	EP	Z	21 12 16.8	64.1	.2	.6		
		ES	X	25.8			.6		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
31OCT	S4	EP	Z	21 18 17.1	161.3	.2	.5		
		ES	Y	24.7			.5		
31OCT	S7	EP	Z	21 18 25.6			1.9		
		ES	X	48.3			1.9		
31OCT	S1	EP	Z	21 33 3.7	151.3	.2	4.4		
		ES	X	54.8			4.4		
31OCT	S9	EP	P	22 48 12.2			.4		
		ES	Y	16.9			.4		
31OCT	S7	EP	Z	22 51 26.4	241.9	.1	.5		
		ES	X	33.0			.5		
31OCT	S4	EP	Z	23 12 8.1			4.0		
		E	Y	21.6			4.0		
		ES	Y	54.7			4.0		
31OCT	S11	EP	Z	23 13 12.5					
31OCT	S11	EP	Z	23 45 44.7	282.3	.3			

31OCT 23 50 17.0 45.1N 151.5E OBS PRELIMINARY EPICENTER -- (6)
H = 30 KM

31OCT	S7	EP	Z	23 50 29.7	524.2	.3	.7	92	-.8
		ES	X	33.8			.7	92	-4.4
31OCT	S9	EP	Z	23 50 35.7	806.5	.2	1.1	276	-.2
		ES	Y	48.2			1.1	276	-1.5
		E	Z	51 53.1			1.1	276	
31OCT	S11	EP	Z	23 50 44.2			1.7	217	-1.4
31OCT	S4	EP	Z	23 50 51.7	161.3	.2	2.2	78	-.2
		ES	Y	51 18.2			2.2	78	2.3
31OCT	S12	EP	Z	23 50 59.4	80.6	.2	2.9	243	-3.0
		ES	X	51 31.6			2.9	243	-3.3
		E	X	53 37.3			2.9	243	
31OCT	S13	EP	Z	23 51 3.5	80.6	.4	3.0	213	-.5
		ES	Y	37.9			3.0	213	
1NOV	S11	EP	Z	0 26 37.9			1.6		
		ES	Z	57.9			1.6		
1NOV	S11	EP	Z	0 58 27.8					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
1NOV	S11	EP	Z	1 22 31.0					
1NOV	S7	EP	Z	2 15 35.0	80.6	.1	1.1		*
		ES	X	49.0			1.1		
1NOV	S11	EP	Z	2 15 37.0			1.3		*
		ES	Z	53.0			1.3		
1NOV	S9	EP	Z	2 15 38.5	201.6	.2	1.1		*
		ES	Y	52.9			1.1		

1NOV 2 22 45.9 40.4N 139.9E NEAR W CST OF HONSHU, JAPAN
H = 170 KM MAG = 4.3

1NOV	S1	EP	Z	2 24 6.6	403.2	.2	5.5	242	-1.0
		ES	X	25 7.6			5.5	242	-3.5
1NOV	S4	EP	Z	2 24 31.2	241.9	.3	7.6	239	-4.2
		ES	Y	25 51.5			7.6	239	-9.3
1NOV	S7	EP	Z	2 24 49.8	201.6	.2	9.1	243	-5.1
		E	Z	26 25.0			9.1	243	
1NOV	S9	EP	Z	2 25 11.3	161.3	.3	10.7	249	-3.9
		ES	Y	27 .7			10.7	249	-11.7
1NOV	S11	EP	Z	2 25 18.3			11.3	242	-5.0
		E	Z	27 15.9			11.3	242	
1NOV	S13	EP	Y	2 25 35.0			12.4	239	-2.1
		ES	Y	27 41.6			12.4	239	-10.2
1NOV	S12	EP	Z	2 25 35.1	201.6	.4	12.6	247	-5.5
		ES	X	27 43.5			12.6	247	-14.6
1NOV	S4	EP	Z	2 30 18.1	80.6	.1	.5		
		ES	Y	25.0			.5		
1NOV	S7	EP	Z	3 6 39.0	64.1	.2	.5		
		ES	X	45.5			.5		
1NOV	S11	EP	Z	4 4 37.7	443.5	.4			

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
1NOV	5	4 57.0	45.4N	151.5E	OBS PRELIMINARY EPICENTER -- (5) H = 0 KM				
1NOV	S7	EP	Z	5 5 14.1	282.3	.2	.7	69	-.3
		ES	K	28.7			.7	69	5.2
1NOV	S9	EP	Z	5 5 17.7	282.3	.2	1.1	291	-2.2
		E	Z	20.2			1.1	291	
		ES	Y	29.5			1.1	291	-4.8
1NOV	S11	EP	Z	5 5 24.0			1.5	224	-1.4
		E	Z	42.4			1.5	224	
1NOV	S4	EP	Z	5 5 31.2			2.3	70	-4.8
		ES	Y	49.1			2.3	70	7.9
		E	Y	6 4.9			2.3	70	
1NOV	S13	EP	Z	5 5 41.7			2.8	216	-1.8
		E	Y	6 16.7			2.8	216	
1NOV	S11	EP	Z	5 11 6.2			.3		
		ES	Z	9.9			.3		
1NOV	S11	EP	Z	5 32 30.6	161.3	.1	.4		
		ES	Z	43.1			.4		
1NOV	5	43 31.0	52.1N	173.1E	NEAR IS,ALEUTIAN IS H = 33 KM MAG = 4.3				
1NOV	S13	EP	Z	5 46 40.9	16.0	.4	13.2	63	2.6
		ES	Y	49 .6			13.2	63	-4.2
1NOV	S11	EP	Z	5 46 58.2			14.2	60	6.0

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
1NOV	S7	EP	Z	6 4 21.2			2.3		*
		ES	X	49.3			2.3		
1NOV	S9	EP	P	6 4 38.8			.9		*
		ES	Y	50.9			.9		
1NOV	S11	EP	Z	6 4 44.9			1.6		*
		ES	Z	5 5.3			1.6		
1NOV	S4	EP	Z	6 4 56.4			2.3		*
		ES	Y	5 24.3			2.3		
1NOV	S12	EP	Z	6 5 .9			2.5		*
		ES	X	31.2			2.5		
1NOV	S7	EP	Z	6 15 24.5			1.2		
		ES	X	39.9			1.2		
1NOV	S12	EP	Z	6 16 43.8	48.1	.2	1.9		
		ES	X	17 6.6			1.9		
1NOV	S11	EP	Z	6 25 40.4			.5		
		ES	Z	47.6			.5		
1NOV	S11	EP	Z	6 35 12.2	121.0	.2	.5		
		ES	Z	19.4			.5		

1NOV 6 56 56.0 45.3N 151.6E OBS PRELIMINARY EPICENTER -- (4)
H = 40 KM

1NOV	S7	EP	Z	6 57 10.6	403.2	.3	.8	77	-.2
		ES	X	26.1			.8	77	5.8
1NOV	S9	EP	Z	6 57 14.2	161.3	.2	1.0	287	-.2
		E	Z	16.6			1.0	287	
		ES	Y	26.9			1.0	287	-1.2
1NOV	S11	EP	Z	6 57 20.7			1.5	220	-.9
		E	Z	30.7			1.5	220	
1NOV	S13	EP	P	6 57 38.0			2.8	214	-1.8
		ES	Y	58 11.9			2.8	214	-1.1

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
1NOV 7 1 .4 43.2N 143.4E HOKKAIDO, JAPAN REG H = 127 KM MAG = 4.8									
1NOV	S1	-IP	Z	7 1 37.6	1.1U	.3	2.1	272	1.1
1NOV	S4	EP	Z	7 1 58.9	999.9		4.0	250	-1.7
		ES	Y	2 43.7			4.0	250	-3.0
1NOV	S7	EP	Z	7 2 17.2	999.9		5.5	252	-3.7
		ES	X	3 13.9			5.5	252	-9.4
1NOV	S9	EP	Z	7 2 39.5	1.5U	.2	7.1	259	-4.0
		E	Z	41.9			7.1	259	
1NOV	S11	EP	Z	7 2 45.4			7.6	248	-4.0
1NOV	S13	EP	Z	7 2 59.7	241.9	.4	8.6	242	-3.3
		ES	Y	4 25.7			8.6	242	-13.0
1NOV	S12	EP	Z	7 3 2.7	564.5	.3	9.0	253	-5.6
		E	Z	4 33.2			9.0	253	
		E	P	9 46.9			9.0	253	
		E	Z	10 53.0			9.0	253	
1NOV	S7	EP	Z	7 56 1.0	403.2	.3	.5		
		ES	X	7.0			.5		
1NOV	S4	-IP	Z	8 13 45.1	241.9	.1	.5		
		ES	Y	53.0			.5		
1NOV	S4	EP	Z	8 15 15.1	161.3	.2	1.2		
		ES	Y	31.0			1.2		
1NOV	S9	EP	Z	8 38 47.3	999.9				*
		E	Z	41 36.5					
1NOV	S11	EP	Z	8 39 7.5					*
1NOV	S7	EP	Z	8 39 12.6	32.1	.1	1.9		*
		ES	X	36.0			1.9		
		E	P	41 1.8			1.9		
1NOV	S1	EP	Z	8 39 24.0	241.9	.1	.5		*
		ES	X	29.5			.5		
1NOV	S13	EP	Z	8 40 34.0	322.6	.1	1.2		
		ES	Y	49.7			1.2		
1NOV	S12	EP	Z	8 40 48.0	161.3	.2	2.2		
		ES	X	41 14.3			2.2		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
1NOV	S11	E	Z	9 25 45.4					
1NOV	S11	EP	Z	9 47 38.3			.4		
		ES	Z	43.5			.4		
1NOV	S4	EP	Z	9 55 35.7	161.3	.1	.5		
		ES	Y	42.7			.5		
1NOV	S11	E	Z	11 2 18.4					
1NOV	S7	EP	Z	11 5 25.1	80.6	.1	1.2		
		ES	X	40.7			1.2		
1NOV	S11	EP	Z	11 5 38.5			1.4		
		ES	Z	55.5			1.4		
1NOV	S12	EP	Z	11 31 42.9	121.0	.1	.5		
		ES	X	49.2			.5		
1NOV	S13	EP	P	11 55 53.3			.9		
		ES	Y	56 5.5			.9		
1NOV	S7	EP	P	13 13 48.6			.6		
		ES	X	57.2			.6		
1NOV	S11	EP	Z	13 36 14.2			.5		
		ES	Z	19.8			.5		
1NOV	S4	EP	Z	13 49 26.9	161.3	.1	1.3		
		ES	Y	43.0			1.3		
1NOV	S11	EP	Z	13 54 6.9			1.0		
		ES	Z	19.9			1.0		
1NOV	S7	EP	Z	15 46 33.4	282.3	.1	.6		
		ES	X	48.3			.6		
1NOV	S4	EP	Z	15 46 42.9			.7		
		ES	Y	52.7			.7		
1NOV	S11	EP	Z	15 54 24.9					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
1NOV 16	1 24.0	45.3N	150.1E	OBS PRELIMINARY EPICENTER -- (7) H = 50 KM					
1NOV	S7	EP	Z	16 1 34.5	999.9		.3	300	.8
1NOV	S4	EP	Z	16 1 45.6	999.9		1.3	61	-.9
		ES	Y	2 .5			1.3	61	-2.4
1NOV	S9	EP	Z	16 1 57.0	524.2	.1	2.1	279	-.2
		ES	Y	2 20.8			2.1	279	-1.1
1NOV	S11	EP	Z	16 2 .4	403.2	.3	2.4	240	-.8
		E	Z	26.7			2.4	240	
1NOV	S1	EP	Z	16 2 15.8	80.6	.2	3.4	50	-.8
		ES	Y	55.0			3.4	50	-1.7
1NOV	S13	EP	Z	16 2 16.5			3.5	229	-.9
		ES	Y	55.1			3.5	229	-3.0
1NOV	S12	EP	Z	16 2 18.3	80.6	.2	3.7	254	-2.4
		ES	X	58.5			3.7	254	-5.5
1NOV	S7	EP	Z	16 14 52.0	161.3	.1	.5		
		ES	X	57.9			.5		
1NOV	S7	EP	Z	16 31 50.7	32.1	.1	1.1		
		ES	X	32 4.5			1.1		
1NOV	S11	EP	Z	16 47 2.7			.4		
		ES	Z	7.9			.4		
1NOV	S9	E	Z	16 47 38.3					
		E	Z	49 28.2					
1NOV	S11	+IP	Z	16 48 53.4	999.9		.4		*
		ES	Z	58.6			.4		
1NOV	S13	EP	Z	16 49 4.2			.9		*
		ES	Y	16.0			.9		
1NOV	S7	EP	Z	16 49 25.8			2.0		*
		ES	X	50.3			2.0		
1NOV	S13	EP	Z	17 0 41.4	201.6	.1	.5		
		ES	Y	47.8			.5		
1NOV	S11	EP	Z	17 0 53.9			1.4		
		ES	Z	1 11.8			1.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
1NOV	S13	EP	Z	17 18 29.4	161.3	.2	1.3		
		E	Z	32.6			1.3		
		ES	Y	46.0			1.3		
1NOV	S11	EP	Z	17 18 48.9					
1NOV	S13	EP	Z	17 44 51.6	80.6	.2	3.0		*
		ES	Y	45 27.5			3.0		
1NOV	S12	EP	Z	17 45 .0					*
		E	Z	43.6					
1NOV	S11	EP	Z	17 45 10.0					*
1NOV	S9	EP	Z	17 45 25.9	524.2	.2	5.3		*
		ES	Y	46 26.7			5.3		
1NOV	S13	EP	Z	17 54 27.3	282.3	.3	3.1		*
		E	Z	30.9			3.1		
		ES	Y	55 3.4			3.1		
1NOV	S12	EP	Z	17 54 35.5	80.6	.2	3.8		*
		E	Z	37.8			3.8		
		ES	X	55 19.8			3.8		
1NOV	S11	EP	Z	17 54 45.9					*
01		ES	Z	55 39.3					
1NOV	S9	EP	Z	17 55 1.9	524.2	.2	5.4		*
		ES	Y	56 3.0			5.4		
1NOV	S7	EP	Z	17 55 12.7	64.1	.1	R		*
		E	X	28.8			R		
		ES	X	56 28.9			R		
1NOV	S4	EP	Z	17 55 28.5			R		*
		ES	Y	59 55.4			R		
1NOV	S4	EP	Z	18 1 36.2	161.3	.1	.7		
		ES	Y	45.7			.7		
1NOV	S7	EP	Z	18 1 38.7	32.1	.1	1.1		
		ES	X	53.1			1.1		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
1NOV	S13	EP	Z	18 26 50.9	80.6	.2	3.8		*
		ES	Y	27 35.4			3.8		
1NOV	S11	EP	Z	18 27 .9	282.3	.2	4.4		*
		ES	Z	51.7			4.4		
1NOV	S12	EP	Z	18 27 5.2	201.6	.2	4.7		*
		ES	X	59.8			4.7		
1NOV	S7	EP	Z	18 27 14.9			.4		*
		ES	X	28 19.2			.4		
1NOV	S9	E	Z	18 27 15.8					*
		E	Y	28 16.9					
1NOV	S1	EP	Z	19 4 26.6			2.6		
		ES	Y	58.1			2.6		
1NOV	S4	EP	Z	20 18 47.1	80.6	.2	.6		
		ES	Y	55.3			.6		
1NOV	S11	EP	Z	20 48 27.1	161.3	.1	1.4		
		ES	Z	44.6			1.4		
1NOV	S11	EP	Z	22 14 23.2	201.6	.2	2.6		
		ES	Z	54.2			2.6		
1NOV	S1	EP	Z	22 31 21.5	241.9	.1	.8		
		ES	X	32.8			.8		
1NOV	S11	EP	Z	22 38 17.6					
1NOV	S1	EP	Z	22 47 41.0			1.1		
		ES	X	55.1			1.1		
1NOV	S4	EP	Z	22 48 40.1	161.3	.1	1.1		
		ES	Y	54.4			1.1		
1NOV	S4	EP	Z	22 51 9.9			.5		
		ES	Y	17.7			.5		
1NOV	S11	EP	Z	22 51 46.7			3.9		
		ES	Z	52 32.1			3.9		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
1NOV 23 14 36.0		43.4N	148.6E	OBS PRELIMINARY EPICENTER -- (6)					
				H = 0 KM					
1NOV	S4	EP	Z	23 14 58.0	999.9		1.3	176	-3.1
		ES	Y	15 9.5			1.3	176	-5.0
1NOV	S1	EP	Z	23 15 6.0			1.7	81	-.5
		ES	X	24.4			1.7	81	7.8
1NOV	S7	EP	Z	23 15 16.1	121.0	.1	2.2	219	1.7
		E	X	45.3			2.2	219	
1NOV	S9	EP	P	23 15 27.4			3.5	245	-5.0
		ES	Y	16 16.0			3.5	245	9.1
1NOV	S11	EP	Z	23 15 46.3			4.4	227	.8
		E	Z	16 33.8			4.4	227	
1NOV	S12	EP	Z	23 16 2.3	80.6	.2	5.6	239	-.1
		ES	X	17 1.6			5.6	239	-8.1
1NOV 23 50 30.0		46.8N	152.8E	OBS PRELIMINARY EPICENTER -- (5)					
				H = 0 KM					
1NOV	S11	+IP	Z	23 50 41.2	999.9		.3	335	.8
1NOV	S13	EP	Z	23 50 51.5	241.9	.2	1.1	219	-1.2
		E	Z	54.9			1.1	219	
		ES	Y	51 5.4			1.1	219	-1.8
1NOV	S12	EP	Z	23 50 56.4	201.6	.3	1.7	282	-4.3
		ES	X	51 15.1			1.7	282	4.4
1NOV	S9	EP	Z	23 50 58.5	241.9	.3	1.8	356	-4.0
		ES	Y	51 15.8			1.8	356	4.6
1NOV	S4	EP	Z	23 51 27.3			3.7	53	-2.3
		ES	Y	52 5.2			3.7	53	-2.5
2NOV	S1	-IP	Z	0 22 15.9	887.1	.2	.5		
		ES	X	22.5			.5		
2NOV	S4	EP	Z	0 30 17.9	80.6	.2	1.1		
		ES	Y	31.9			1.1		
2NOV	S11	EP	Z	1 2 51.3					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
2NOV	S11	EP	Z	1 36 46.0			2.3		*
		ES	Z	37 13.1			2.3		
2NOV	S13	EP	Z	1 36 50.6	80.6	.1	.5		*
		ES	Y	57.4			.5		
2NOV	S12	EP	Z	1 36 59.6	161.3	.2	.8		*
		ES	X	37 10.4			.8		
		E	X	38 23.4			.6		
2NOV	S12	EP	Z	1 50 10.8	32.1	.2	2.6		*
		ES	X	41.4			2.6		
		E	X	54 26.5			2.6		
2NOV	S11	EP	Z	1 50 25.3					*
2NOV	S9	EP	Z	1 50 40.1	161.3	.2	4.3		*
		ES	Y	51 30.2			4.3		
2NOV	S11	EP	Z	2 5 50.2	121.0	.3			
2NOV	S11	EP	Z	2 16 46.4	121.0	.3			
2NOV	S9	E	Z	2 48 40.4					
2NOV	3 39	2.0	44.8N	150.6E	OBS PRELIMINARY EPICENTER -- (4)				
				H = 10 KM					
2NOV	S7	EP	Z	3 39 9.9	999.9		.3	170	-1.9
		ES	X	16.0			.3	170	.2
2NOV	S4	EP	Z	3 39 28.1	161.3	.2	1.5	85	-1.2
		ES	Y	48.2			1.5	85	5.3
2NOV	S9	EP	Z	3 39 32.1	645.2	.2	1.7	264	-.1
		ES	Y	52.1			1.7	264	7.0
		E	Y	41 17.7			1.7	264	
2NOV	S11	EP	Z	3 39 41.7			2.4	226	-.2
		E	Z	40 12.7			2.4	226	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
2NOV	S11	EP	Z	4 56 37.8			4.6		*
		ES	Z	57 31.6			4.6		
2NOV	S9	EP	Z	4 56 44.0	161.3	.2	5.0		*
		ES	Y	57 41.4			5.0		
2NOV	S12	EP	Z	4 56 51.2			5.6		*
		ES	X	57 56.0			5.6		
2NOV	S7	EP	Z	5 1 5.0	32.1	.1	.5		
		ES	X	11.4			.5		
2NOV	S13	EP	Z	5 29 47.8	524.2	.2	1.3		*
		E	Z	51.0			1.3		
		ES	Z	30 4.3			1.3		
2NOV	S12	EP	Z	5 29 58.8	161.3	.3	2.1		*
		E	Z	30 7.5			2.1		
		ES	X	24.6			2.1		
		E	P	31 39.4			2.1		
2NOV	S11	EP	Z	5 30 8.1	64.1	.2			*
2NOV	S9	EP	Z	5 30 23.2	121.0	.2	3.6		*
		ES	Y	31 5.7			3.6		
2NOV	S11	EP	Z	7 28 54.3					
2NOV	S11	EP	Z	8 30 34.2					
2NOV	S11	EP	Z	9 7 8.2			.4		
		ES	Z	12.4			.4		

2NOV 9 14 5.0 37.7N 141.8E NR E CST OF HONSHU, JAPAN
H = 45 KM MAG = 4.2

2NOV	S1	EP	Z	9 15 42.8			6.5	214	2.9
		ES	X	16 43.2			6.5	214	-10.1
2NOV	S9	EP	Z	9 16 47.5	121.0	.3	11.1	233	3.2
		ES	Y	18 38.5			11.1	233	-9.9
2NOV	S12	EP	Z	9 17 13.4			13.2	233	1.0
		ES	X	19 26.4			13.2	233	-12.6

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
2NOV	S11	E	Z	9 19 1.7					
2NOV	S11	E	Z	9 50 32.3					
2NOV	S7	EP	Z	9 58 49.1	161.3	.1	1.0		*
		ES	X	59 2.7			1.0		
2NOV	S9	EP	Z	9 58 53.0	282.3	.2			*
		E	Z	59 7.7					
		E	Y	10 0 10.3					
2NOV	S11	EP	Z	9 59 1.1					*
2NOV	S12	EP	Z	9 59 16.9			3.6		*
		ES	X	58.5			3.6		
2NOV	S12	EP	Z	10 9 7.9	121.0	.3	R		
		ES	X	10 16.9			R		
2NOV	S11	EP	Z	10 9 16.7	201.6	.2			
2NOV	S1	EP	Z	10 35 44.3			N		
		ES	Y	37 15.0			N		
2NOV	S13	EP	Z	10 37 9.1			1.5		
		ES	Y	27.6			1.5		
2NOV	S11	EP	Z	10 37 12.3					
2NOV	S7	EP	Z	10 59 7.8	362.9	.2	.7		*
		ES	X	17.8			.7		
2NOV	S4	EP	Z	10 59 18.8	80.6	.2	1.2		*
		ES	Y	34.2			1.2		
2NOV	S11	EP	Z	10 59 42.9	161.3	.2			*
2NOV	S11	EP	Z	11 11 21.3	80.1	.2	1.1		
		ES	Z	35.9			1.1		
2NOV	S11	EP	Z	11 26 34.2			1.4		
		ES	Z	51.6			1.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
2NOV	S7	EP	Z	11 45 8.0	4(.2	.4	1.2		*
		ES	X	22.9			1.2		
2NOV	S9	EP	Z	11 45 20.3	121.0	.3	1.0		*
		ES	Y	33.8			1.0		
		E	Y	47 1.3			1.0		
2NOV	S4	EP	Z	11 45 23.3	161.3	.2	1.8		*
		ES	Y	45.1			1.8		
2NOV	S11	EP	Z	11 45 30.6	96.2	.2	2.2		*
		ES	Z	57.2			2.2		

2NOV 11 50 57.0 28.8N 139.3E BONIN IS REGION
H = 421 KM MAG = 4.3

2NOV	S1	EP	Z	11 54 13.8	161.3	.2	15.4	204	-1.1
		E	Y	57 15.2			15.4	204	
2NOV	S11	EP	Z	12 13 19.1					
2NOV	S11	EP	Z	12 24 27.0	208.3	.3			
2NOV	S11	EP	Z	13 24 22.9					
2NOV	S11	EP	Z	13 30 17.9	362.9	.2	.4		*
		ES	Z	22.5			.4		
2NOV	S12	EP	Z	13 30 24.5	121.0	.2	1.0		*
		ES	X	37.3			1.0		
		E	P	31 25.1			1.0		
2NOV	S9	EP	Z	13 30 31.9	201.6	.2	1.2		*
		ES	Y	47.6			1.2		
		E	Y	31 56.3			1.2		
2NOV	S11	EP	Z	14 28 37.8					
2NOV	S11	EP	Z	15 3 2.1			.5		
		ES	Z	9.2			.5		
2NOV	S11	EP	Z	15 18 46.3			.5		
		ES	Z	52.7			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
2NOV	S11	EP	Z	15 44 38.9	564.5	.2	.5		*
		ES	Z	45.7			.5		
2NOV	S9	EP	Z	15 44 47.0	80.6	.2	.8		*
		ES	Y	57.9			.8		
		E	Y	45 50.9			.8		
2NOV	S12	EP	Z	15 44 48.8			1.4		*
		ES	X	45 6.7			1.4		
		E	X	46 19.9			1.4		
2NOV	S1	EP	Z	16 43 34.4			3.6		
		ES	Y	44 16.6			3.6		

2NOV 17 25 48.0 43.1N 145.5E HOKKAIDO,JAPAN REGION
H = 63 KM MAG = 4.1

2NOV	S1	-IP	Z	17 26 2.0	8.7U	.4	.6	264	-.1
2NOV	S4	EP	Z	17 26 26.8	604.8	.3	2.7	235	-3.0
		E	Z	56.2			2.7	235	
2NOV	S7	EP	Z	17 26 47.1	80.6	.1	4.1	242	-3.3
		ES	X	27 34.4			4.1	242	-3.8
2NOV	S9	EP	Z	17 27 8.1	725.8	.2	5.7	253	-4.3
		ES	Y	28 5.2			5.7	253	-12.5
2NOV	S11	EP	Z	17 27 16.4	201.6	.2	6.3	240	-4.3
2NOV	S13	EP	Z	17 27 32.1	121.0	.3	7.4	235	-4.0
		ES	Y	28 54.8			7.4	235	-5.1
2NOV	S12	EP	Z	17 27 33.0	80.6	.3	7.7	247	-6.3
		E	Z	39.7			7.7	247	
		E	X	28 48.1			7.7	247	
		E	P	34 43.2			7.7	247	
2NOV	S11	-IP	Z	18 33 30.7	999.9		.4		
		ES	Z	35.4			.4		
2NOV	S9	EP	Z	18 33 56.6	322.6	.2	R		
		ES	Y	35 5.4			R		
2NOV	S11	EP	Z	18 52 34.9			.4		
		ES	Z	39.9			.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
2NOV	S12	EP	Z	19 33 24.1			R		*
		ES	X	35 35.1			R		
2NOV	S11	EP	Z	19 35 21.0					*
2NOV	S9	EP	Z	19 35 37.5	201.6	.2	1.1		*
		ES	Y	51.9			1.1		
2NOV	S11	EP	Z	21 42 25.0					
2NOV	S9	EP	Z	21 55 7.9	403.2	.2	.4		
		ES	Y	12.3			.4		
2NOV	S11	EP	Z	22 3 13.0			.4		
		ES	Z	17.4			.4		
2NOV	S7	EP	Z	22 10 16.4	64.1	.2	.6		
		ES	X	25.0			.6		
2NOV	S13	EP	Z	23 13 32.2	201.6	.3	2.3		*
		ES	Y	14 .0			2.3		
2NOV	S11	EP	Z	23 13 45.0	443.5	.2	2.2		*
		ES	Z	14 11.4			2.2		
2NOV	S12	EP	Z	23 13 47.7	161.3	.3	2.4		*
		ES	X	14 16.3			2.4		
2NOV	S9	EP	Z	23 14 1.0	241.9	.2	3.2		*
		ES	Y	38.9			3.2		
3NOV	S7	EP	Z	0 17 23.4	64.1	.1	.5		
		ES	X	30.2			.5		
3NOV	S4	EP	Z	1 19 44.0	241.9	.3	.5		
		ES	Y	50.5			.5		
3NOV	S11	EP	Z	1 42 13.6			.4		
		ES	Z	17.8			.4		
3NOV	S13	EP	P	1 45 19.1			1.5		
		ES	Y	37.2			1.5		
3NOV	S7	EP	Z	2 8 10.5			.5		
		ES	X	17.0			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
3NOV	2 24 43.0	40.6N	145.8E	OBS PRELIMINARY EPICENTER -- (5) H = 0 KM					
3NOV	S1	EP	Z	2 25 25.6	241.9	.2	2.6	189	-1.3
		E	X	57.0			2.6	189	
3NOV	S4	EP	Z	2 25 51.8	201.6	.3	4.5	207	-2.6
		ES	Y	26 41.2			4.5	207	-10.0
3NOV	S7	EP	Z	2 26 7.4			5.7	219	-3.6
		ES	X	27 9.4			5.7	219	-9.8
3NOV	S9	EP	Z	2 26 24.0	121.0	.4	6.9	233	-3.5
		ES	Y	27 36.3			6.9	233	-11.3
		E	Y	29 46.3			6.9	233	
3NOV	S11	EP	Z	2 26 39.4	201.6	.2	7.9	224	-2.2
		E	Z	28 1.2			7.9	224	
3NOV	S12	E	Z	2 28 24.1			9.0	233	
		ES	X	29 1.4			9.0	233	21.4
3NOV	S1	EP	Z	2 31 32.0			.5		
		ES	X	39.0			.5		
3NOV	S13	EP	P	2 55 52.4			1.5		*
		ES	Y	56 11.5			1.5		
3NOV	S12	EP	Z	2 56 3.3			2.8		*
		ES	X	36.1			2.8		
3NOV	S11	EP	Z	2 56 14.5			2.3		*
		ES	Z	42.4			2.3		
3NOV	S9	E	Z	2 57 8.6					
		E	Y	58 53.3					
3NOV	S13	EP	Z	2 57 42.8	80.6	.1	.7		
		ES	Y	52.0			.7		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
3NOV	S7	EP	Z	3 23 31.5	201.6	.4	1.0		*
		ES	X	45.2			1.0		
3NOV	S9	EP	Z	3 23 32.7			.8		*
		ES	Y	43.3			.8		
		E	Z	24 39.3			.8		
3NOV	S11	EP	Z	3 23 45.5					*
		E	Z	24 5.9					
3NOV	S1	E	Y	4 41 28.9					
3NOV	S11	EP	Z	4 54 33.8			1.3		
		ES	Z	50.3			1.3		
3NOV	S12	EP	Z	5 14 39.1			R		
		ES	X	16 32.5			R		
3NOV	S7	EP	Z	5 29 25.8	161.3	.2	.5		
		ES	X	32.7			.5		
3NOV	S4	EP	Z	5 49 11.1	80.6	.2	.7		
		ES	Y	21.0			.7		
3NOV	S9	EP	Z	5 49 47.7	161.3	.1	3.1		
		E	Z	55.5			3.1		
		ES	Y	50 24.6			3.1		
3NOV	S4	EP	Z	5 59 14.9	161.3	.3	.9		
		ES	Y	26.5			.9		
3NOV	S7	EP	Z	5 59 49.5					
		ES	X	57.4					
3NOV	S9	EP	Z	6 14 18.3	645.2	.2			*
		E	Z	23.9					
3NOV	S11	EP	Z	6 14 31.3			1.2		*
		ES	Z	46.2			1.2		
3NOV	S12	EP	Z	6 14 38.0	121.0	.2	1.5		*
		E	Z	46.0			1.5		
		ES	X	56.7			1.5		
		E	P	16 20.2			1.5		
		E	P	22.6			1.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
3NOV	S13	EP	P	7 1 51.4			.6		
		ES	Z	59.7			.6		
3NOV	S7	EP	Z	7 24 40.5	32.1	.1	1.6		
		ES	X	25 .7			1.6		
3NOV	S11	-IP	Z	7 30 12.1	999.9		.4		*
		ES	Z	17.2			.4		
3NOV	S9	EP	Z	7 30 24.2	80.6	.2	.9		*
		ES	Y	36.6			.9		
		E	Y	31 31.6			.9		
3NOV	S12	EP	Z	7 30 26.4					*
		E	Z	42.0					
		E	X	31 41.3					
		E	X	32 42.1					
3NOV	S13	EP	Z	7 32 .1	121.0	.2	1.3		
		ES	Y	16.4			1.3		
3NOV	S11	EP	Z	8 15 39.6			2.6		
		ES	Z	16 11.0			2.6		
3NOV	S9	EP	Z	8 15 51.0			2.9		
		ES	Y	16 25.1			2.9		
3NOV	S7	EP	Z	9 31 30.7			.5		
		ES	X	37.0			.5		
3NOV	S13	EP	Z	10 43 22.3	161.3	.1	1.2		*
		E	Z	25.6			1.2		
		ES	Y	37.4			1.2		
3NOV	S11	-IP	Z	10 43 25.7	362.9	.1	1.3		*
		ES	Z	42.4			1.3		
3NOV	S12	EP	Z	10 43 33.0			1.8		*
		ES	X	55.5			1.8		
3NOV	S9	EP	Z	10 43 40.2			2.4		*
		ES	Y	44 8.7			2.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
3NOV	S11	EP	Z	11 1 47.9	1.0U	.1	.5		
		ES	Z	53.9			.5		
		ET	Z	48 43.9			.5		
3NOV	S9	EP	Z	11 41 56.3			2.3		
		ES	Y	42 23.5			2.3		
3NOV	S13	EP	Z	11 41 57.0			5.4		
		ES	Y	42 59.9			5.4		
3NOV	S12	EP	Z	11 48 51.5	524.2	.3	.9		*
		E	Z	58.3			.9		
		ES	X	49 4.0			.9		
		E	P	49.5			.9		
3NOV	S13	EP	Z	11 48 56.4			1.4		*
		ES	Y	49 13.8			1.4		
3NOV	S9	EP	Z	11 48 58.0	322.6	.4	1.2		*
		ES	Y	49 13.1			1.2		
		E	P	50 21.6			1.2		
3NOV	S11	EP	Z	11 39 6.1					
3NOV	S9	EP	Z	12 4 12.2	121.0	.2	.2		
		ES	Y	14.6			.2		
3NOV	S13	E	Y	13 30 33.6					
3NOV	S11	EP	Z	13 30 37.5			2.4		
		ES	Z	31 6.3			2.4		
3NOV	S13	EP	Z	17 16 1.9			1.4		
		ES	Y	18.9			1.4		
3NOV	S13	EP	P	17 23 21.7			1.7		
		ES	Y	42.7			1.7		
3NOV	S11	EP	Z	17 23 43.1			3.0		
		ES	Z	24 18.0			3.0		
3NOV	S4	EP	Z	18 19 30.9			1.3		
		ES	Y	47.5			1.3		
3NOV	S11	EP	Z	18 42 6.3			.3		
		ES	Z	10.1			.3		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
3NOV	S13	EP	P	19 2 32.3			1.6		
		ES	Y	51.7			1.6		
3NOV	S1	EP	Z	19 47 34.5	685.5	.4	.7		
		ES	X	44.2			.7		
3NOV	S4	EP	Z	19 48 .8	362.9	.6	2.4		*
		ES	Y	29.6			2.4		
3NOV	S7	EP	Z	19 48 20.3	80.6	.2	3.9		*
		ES	X	49 5.2			3.9		
3NOV	S9	EP	Z	19 48 41.1	121.0	.2	4.8		*
		ES	Y	49 37.0			4.8		
3NOV	S11	EP	Z	19 48 48.9					*
3NOV	S12	EP	Z	19 49 6.6			R		*
		ES	X	50 22.5			R		
3NOV	S7	EP	Z	19 56 47.2	64.1	.1	.5		
		ES	X	53.9			.5		

3NOV 20 12 18.0 44.7N 149.1E OBS PRELIMINARY EPICENTER -- (7)
H = 35 KM

3NOV	S4	EP	Z	20 12 27.2	999.9		.4	88	.5
3NOV	S7	EP	Z	20 12 36.3	322.6	.4	1.1	247	-.8
3NOV	S1	EP	Z	20 12 55.9			2.5	52	-1.5
3NOV	S9	EP	Z	20 12 59.6	3.3U	.2	2.8	265	-1.7
		E	Z	13 29.6			2.8	265	
3NOV	S11	EP	Z	20 13 7.4	967.7	.2	3.3	238	-.8
		E	Z	46.4			3.3	238	
3NOV	S13	EP	Z	20 13 21.9			4.4	230	-2.6
		ES	Y	14 11.4			4.4	230	-4.3
3NOV	S12	EP	Z	20 13 23.7	161.3	.2	4.6	250	-3.5
		ES	X	14 13.1			4.6	250	-7.1
3NOV	S7	EP	Z	20 21 .5	403.2	.1	.5		
		ES	X	5.9			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
3NOV	S4	EP	Z	21 11 59.8	999.9		.9		*
		ES	Y	12 11.5			.9		
		E	P	16 49.9			.9		
3NOV	S7	EP	Z	21 12 12.8	161.3	.2	1.9		*
		ES	X	36.2			1.9		
3NOV	S11	EP	Z	21 12 39.5					*
3NOV	S9	EP	Z	21 12 42.6	80.6	.2	2.4		*
		ES	Y	13 11.6			2.4		
3NOV	S12	EP	Z	21 12 56.4			4.8		*
		ES	X	13 51.5			4.8		
3NOV	S7	EP	Z	21 25 42.1	32.1	.1	1.2		
		ES	X	57.8			1.2		
3NOV	S9	EP	Z	21 25 42.7	80.6	.2	1.0		
		ES	Y	56.0			1.0		
3NOV	S1	EP	Z	22 14 13.7	201.6	.2	N		*
		ES	Y	15 25.3			N		
3NOV	S7	EP	Z	22 14 49.4	32.1	.1	3.8		*
		ES	X	15 33.2			3.8		
3NOV	S11	EP	Z	22 15 14.3					*
3NOV	S12	EP	Z	22 15 30.6	121.0	.5			*
3NOV	S4	EP	Y	22 15 32.0					*
3NOV	S11	EP	Z	22 41 1.3					
3NOV	S9	EP	Z	23 6 6.1	80.6	.2	L		
		ES	Y	7 15.8			L		
3NOV	S7	EP	Z	23 30 35.6			.5		
		ES	X	42.6			.5		
3NOV	S7	EP	Z	23 57 2.9			.8		
		ES	X	13.4			.8		
4NOV	S7	EP	Z	0 38 12.0			2.2		
		ES	X	38.7			2.2		
4NOV	S13	EP	P	0 41 32.9			4.4		
		ES	Y	42 23.4			4.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
4NOV	S9	EP	Z	0 42 3.5	48.1	.2	L		
		ES	Y	43 19.4			L		
4NOV	S11	EP	Z	0 45 59.1			.5		
		ES	Z	46 5.6			.5		
4NOV	S4	-IP	Z	1 37 51.4	483.9	.2	.6		*
		ES	Y	59.9			.6		
4NOV	S9	EP	Z	1 38 36.0	80.6	.2	3.0		*
		ES	Y	39 11.0			3.0		
4NOV	S11	EP	Z	1 38 43.5					*
4NOV	S13	EP	Z	1 57 47.2			.5		
		ES	Y	54.8			.5		
4NOV	S11	EP	Z	1 58 6.3			1.7		
		ES	Z	27.7			1.7		
4NOV	S9	EP	Z	1 58 25.1	80.6	.2	2.3		
		ES	Y	52.4			2.3		
4NOV	S9	EP	Z	2 50 38.6	48.1	.2			
		E	Y	52 13.5					
4NOV	S13	EP	Z	2 51 41.9			.9		
		E	Z	45.2			.9		
		ES	Y	54.2			.9		
4NOV	S12	EP	Z	2 51 49.1	80.6	.2	1.5		
		ES	X	52 8.3			1.5		
4NOV		0 42.0		36.3N 140.8E	NR E CST OF HONSHU, JAPAN				
					H = 73 KM		MAG = 3.8		
4NOV	S9	EP	Z	3 3 41.1	80.6	.3	12.7	231	.1
		E	Y	5 37.2			12.7	231	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
4NOV	S1	EP	Z	3 1 28.8			R		
		ES	Y	3 52.6			R		
4NOV	S4	EP	Z	3 2 56.0			R		
		ES	Y	4 38.9			R		
4NOV	S11	EP	Z	3 51 36.3	645.2	.1	.5		
		ES	Z	44.1			.5		
4NOV	S11	EP	Z	4 49 40.1					
4NOV	S11	EP	Z	5 46 59.6					
4NOV	S13	EP	Z	6 31 42.9					
		E	Y	50.7					
		E	Y	33 18.7					
4NOV	S12	EP	Z	6 31 48.8	80.6	.3			
		E	X	33 31.3					
4NOV	S11	EP	Z	7 31 46.9					
4NOV	S9	E	Z	7 32 7.7					
		E	Y	26.1					
4NOV	S13	EP	Z	8 28 25.3	80.6	.3	1.1		
		ES	Y	40.0			1.1		
4NOV	S4	EP	Z	8 38 51.9	322.6	.3	.5		*
		ES	Y	59.8			.5		
		E	Y	39 2.9			.5		
4NOV	S11	EP	Z	8 39 26.5					*
4NOV	S9	EP	Z	8 39 31.9	80.6	.2	3.2		*
		ES	Y	40 9.1			3.2		
4NOV	S9	EP	Z	9 16 56.9	80.6	.2	.2		
		ES	Y	59.4			.2		
4NOV	S9	EP	Z	9 55 23.3	241.9	.2	.2		
		ES	Y	25.9			.2		
4NOV	S11	EP	Z	9 55 56.8					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
4NOV	S4	EP	Z	10 48 57.8	201.6	.4	2.1		*
		ES	Y	49 22.8			2.1		
4NOV	S9	EP	Z	10 49 37.2	121.0	.3	4.5		*
		ES	Y	50 30.0			4.5		
4NOV	S11	EP	Z	10 49 41.7			5.0		*
		ES	Z	50 39.1			5.0		
4NOV	S11	EP	Z	10 54 7.6			1.2		
		ES	Z	22.5			1.2		

4NOV 11 1 32.0 45.1N 151.6E OBS PRELIMINARY EPICENTER -- (6)
H = 40 KM

4NOV	S7	EP	Z	11 1 46.9	999.9		.8	92	.3
4NOV	S9	-IP	Z	11 1 49.6	999.9		1.0	276	-.3
4NOV	S11	EP	Z	11 1 59.3	322.6	.2	1.7	215	-.5
4NOV	S4	EP	Z	11 2 7.7	806.5	.3	2.3	78	
		E	Y	14.2			2.3	78	
		ES	Y	28.0			2.3	78	-6.5
4NOV	S12	+IP	Z	11 2 14.3	443.5	.2	2.9	243	-1.9
		E	Z	20.8			2.9	243	
		ES	X	44.3			2.9	243	-5.5
		E	P	4 56.6			2.9	243	
		E	P	5 7.3			2.9	243	
4NOV	S13	EP	Z	11 2 16.3	80.6	.3	3.0	212	-1.9
		ES	Y	49.9			3.0	212	-3.4
4NOV	S7	E	Z	11 7 12.7					
4NOV	S9	EP	Z	11 7 15.1	564.5	.2	.9		
		ES	Y	27.0			.9		
		E	Y	8 21.6			.9		
4NOV	S12	EP	Z	11 27 42.0	161.3	.2	.5		
		E	Z	44.1			.5		
		ES	X	47.9			.5		
4NOV	S9	EP	Z	11 28 16.2			1.6		
		ES	Y	36.0			1.6		
4NOV	S11	EP	Z	11 57 18.1	64.1	.2			

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
4NOV	S4	EP	Z	12 28 21.0	201.6	.2	.5		
		ES	Y	27.8			.5		
4NOV	S4	EP	Z	12 33 32.7			1.1		
		ES	Y	47.0			1.1		
4NOV	S11	EP	Z	13 37 20.2			.5		
		ES	Z	25.7			.5		
4NOV	S11	EP	Z	13 41 13.6	604.8	.3			

4NOV 14 34 19.0 46.0N 151.2E OBS PRELIMINARY EPICENTER -- (5)
H = 0 KM

4NOV	S7	EP	Z	14 34 39.6			1.0	29	-.3
		ES	X	55.1			1.0	29	.4
4NOV	S11	EP	Z	14 34 46.0	64.1	.2	1.3	249	1.1
		E	Z	35 4.7			1.3	249	
4NOV	S9	IP	Z	14 34 47.0	1.0U	.3	1.6	309	-1.8
		ES	Y	35 5.6			1.6	309	6.2
		E	Y	59.2			1.6	309	
4NOV	S4	EP	Z	14 34 55.5			2.3	55	-3.5
		ES	Y	35 20.9			2.3	55	17.0
4NOV	S12	EP	Z	14 35 2.5	32.1	.2	2.8	262	-3.4
		ES	X	34.2			2.8	262	16.9

4NOV	S7	EP	Z	14 58 48.2			.7		
		ES	X	57.3			.7		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
4NOV	S4	EP	Z	16 10 45.4	645.2	.2	.6		*
		ES	Y	54.1			.6		
4NOV	S7	EP	Z	16 10 56.5	483.9	.2	1.5		*
		ES	X	11 15.5			1.5		
4NOV	S9	EP	Z	16 11 18.1	645.2	.2	2.8		*
		E	Z	25.9			2.8		
		ES	Y	51.2			2.8		
4NOV	S11	EP	Z	16 11 24.3	201.6	.2	3.4		*
		ES	Z	12 3.6			3.4		
4NOV	S13	EP	Z	16 11 39.7			4.2		*
		E	Z	43.0			4.2		
		ES	Y	12 28.8			4.2		
4NOV	S12	EP	Z	16 11 41.0	201.6	.2	4.5		*
		E	Z	48.3			4.5		
		ES	X	12 32.8			4.5		
4NOV	S11	EP	Z	17 38 2.7					
4NOV	S11	EP	Z	17 41 40.8			.5		
		ES	Z	46.8			.5		
4NOV	S13	EP	Z	17 48 52.6			1.9		
		ES	Y	49 16.2			1.9		
4NOV	S7	EP	Z	18 7 58.8	32.1	.1	1.9		
		ES	Z	8 22.1			1.9		
4NOV	S11	EP	Z	18 9 1.1					
4NOV	S4	EP	Z	18 47 56.1	121.0	.1	.5		
		ES	Y	48 3.6			.5		
4NOV	S4	EP	Z	20 0 5.7	161.3	.1	.4		
		E	Z	6.1			.4		
		ES	Y	10.5			.4		
4NOV	S11	EP	Z	20 46 37.4					*
4NOV	S4	EP	Z	20 47 1.1	685.5	.3	.7		*
		ES	Y	10.4			.7		
4NOV	S7	EP	Z	20 47 5.2			1.0		*
		ES	X	18.9			1.0		
4NOV	S9	EP	Z	20 47 28.7	121.0	.2	2.4		*
		ES	Y	57.2			2.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
4NOV	S11	EP	P	21 8 51.0					
		ES	Z	55.3			.4		
							.4		
4NOV	S13	EP	Z	21 32 33.2					
		ES	Y	55.8			1.8		
							1.8		
4NOV	S11	EP	Z	21 33 1.6					
		ES	Z	27.4			2.1		
							2.1		
4NOV	S13	EP	Z	22 23 43.4	685.5	.2	1.2		*
		ES	Y	59.0			1.2		
4NOV	S11	EP	Z	22 23 44.1	1.3U	.2	1.3		*
		ES	Z	24 .3			1.3		
4NOV	S12	-IP	Z	22 23 53.2	524.2	.2	1.9		*
		ES	X	24 17.0			1.9		
4NOV	S9	-IP	Z	22 23 58.7	483.9	.2	2.2		*
		ES	Y	24 24.7			2.2		
		E	Y	25 34.4			2.2		
4NOV	S11	EP	Z	23 14 28.3					
4NOV	S12	EP	Z	23 15 35.2	80.6	.2	1.0		*
		ES	X	48.2			1.0		*
		E	Z	16 36.8			1.0		
4NOV	S9	EP	Z	23 15 42.8	161.3	.2	1.2		*
		ES	Y	58.4			1.2		
		E	Y	17 8.1			1.2		

4NOV 23 33 21.0 46.3N 153.8E OBS PRELIMINARY EPICENTER -- (4)
H = 0 KM

4NOV	S11	EP	Z	23 33 31.6	524.2	.2	.6	110	-4.6
4NOV	S12	EP	Z	23 33 38.8	80.6	.2	1.0	261	-2.9
		ES	X	51.4			1.0	261	-4.6
		E	P	34 36.3			1.0	261	
4NOV	S9	EP	Z	23 33 46.0	201.6	.2	1.4	23	-2.0
		ES	Y	34 1.9			1.4	23	1.5
		E	Z	35 14.3			1.4	23	
4NOV	S13	EP	P	23 33 46.8			1.4	181	-.5
		ES	Y	34 1.8			1.4	181	1.7

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
4NOV	S11	EP	Z	23 37 42.8	80.1	.2	R		*
		ES	Z	39 32.4			R		
4NOV	S9	E	Z	23 37 57.4					*
4NOV	S12	EP	Z	23 38 15.8	282.3	.2	R		*
		ES	X	40 1.6			R		
4NOV	S9	E	Z	23 39 4.7					
		E	Y	26.9					
5NOV	S13	EP	Z	1 15 22.6			4.0		
		ES	Y	16 9.7			4.0		
5NOV	S11	EP	Z	1 16 28.9					
5NOV	S11	EP	Z	2 0 34.8	362.9	.3			
5NOV	S9	E	Z	2 50 6.1					
5NOV	S11	EP	Z	2 59 54.1			.5		
		ES	Z	59.7			.5		
5NOV	S4	EP	Z	3 34 50.7	201.6	.1	.5		
		ES	Y	57.9			.5		
5NOV	S7	EP	Z	3 35 59.6			1.3		
		ES	X	36 15.9			1.3		
5NOV	S13	EP	Z	4 20 18.8			.6		*
		ES	Y	27.1			.6		
5NOV	S12	EP	Z	4 20 24.8			1.0		*
		ES	X	38.2			1.0		
5NOV	S11	EP	Z	4 20 25.6			.7		*
		ES	Z	35.4			.7		
5NOV	S11	EP	Z	5 18 10.7					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
5NOV	S4	EP	Z	6 27 37.1	999.9				*
5NOV	S7	EP	Z	6 27 52.8	833.3	.2	2.3		*
		ES	Z	28 20.1			2.3		
5NOV	S9	EP	Z	6 28 14.7	645.2	.3			*
		E	Y	23.6					
		E	Y	55.0					
5NOV	S11	EP	Z	6 28 19.4	322.6	.2	3.9		*
		ES	Z	29 4.8			3.9		
5NOV	S13	EP	Z	6 28 35.4			4.9		*
		ES	Y	29 32.1			4.9		
5NOV	S12	EP	Z	6 28 36.5	121.0	.2	5.1		*
		E	Z	44.5			5.1		
		ES	X	29 34.8			5.1		
5NOV	S11	EP	Z	6 42 59.3	362.9	.2			
5NOV	S9	EP	Z	6 43 9.8	80.6	.2	.9		
		ES	Y	21.7			.9		
5NOV	S7	E	Z	6 56 18.8					
5NOV	S9	E	Z	6 58 4.6					
5NOV	S13	EP	Z	7 2 38.3			2.6		
		ES	Y	3 8.8			2.6		
5NOV	S11	EP	Z	7 2 57.3					
5NOV	S11	EP	Z	7 49 11.5	161.3	.2	.5		
		ES	Z	17.7			.5		
5NOV	S9	EP	Z	7 49 21.2	80.6	.2	1.0		
		ES	Y	34.4			1.0		
5NOV	S11	EP	Z	8 29 43.1	282.3	.3	.5		*
		ES	Z	48.6			.5		
5NOV	S13	EP	Z	8 29 50.4			1.2		*
		ES	Y	30 6.0			1.2		
5NOV	S9	EP	Z	8 30 1.6	121.0	.2	1.5		*
		ES	Y	20.0			1.5		
		E	Y	31 20.5			1.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES	
5NOV	9	2 42.0	45.1N	151.0E	OBS PRELIMINARY EPICENTER -- (61) H = 40 KM					
5NOV	S9	EP	Z	9 2 57.0	1.7U	.4	.9	277	-.1	
		E	Z	3 8.8			.9	277		
5NOV	S7	EP	Z	9 2 57.8			.9	92	-.8	
5NOV	S11	EP	Z	9 3 7.5			1.6	211	-1.3	
		E	Z	25.6			1.6	211		
5NOV	S4	EP	Z	9 3 19.4	161.3	.2	2.4	79	-1.3	
		ES	Y	48.7			2.4	79	.8	
5NOV	S12	EP	Z	9 3 22.4			2.7	241	-2.1	
		ES	X	50.9			2.7	241	-5.7	
		E	P	5 56.9			2.7	241		
5NOV	S13	EP	Z	9 3 25.6			2.9	209	-1.7	
		ES	Y	57.9			2.9	209	-3.5	
5NOV	S4	EP	Z	9 17 16.4	201.6	.2	1.2			
		ES	Y	31.6			1.2			
5NOV	S4	EP	Z	9 35 11.8	161.3	.2	1.2			
		ES	Y	26.9			1.2			
5NOV	S11	EP	Z	9 54 21.3			5.0			
		ES	Z	55 18.6			5.0			
5NOV	S9	EP	Z	9 54 26.8	201.6	.2	5.2			
		E	Z	34.9			5.2			
		ES	Y	55 26.6			5.2			
5NOV	S7	EP	Z	9 59 47.4			.5		*	
		ES	X	53.2			.5			
5NOV	S4	EP	?	10 0 33.1	121.0	.2	3.4		*	
		ES		1 12.9			3.4			
5NOV	S9	EP	Z	10 1 9.0	241.9	.3	R		*	
		ES	Y	2 15.1			R			
5NOV	S11	EP	Z	10 1 11.8			5.9		*	
		ES	Z	2 19.6			5.9			
5NOV	S12	EP	Z	10 1 27.4	121.0	.2	R		*	
		E	?	34.9			R			
		ES	X	2 47.8			R			

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
5NOV	S7	EP	Z	10 9 19.6	32.1	.1	1.1		*
		FS	X	33.6			1.1		
5NOV	S9	EP	Z	10 9 19.7	322.6	.3	.9		*
		ES	Y	31.6			.9		
5NOV	S11	EP	Z	10 9 32.1			1.2		*
		ES	Z	47.2			1.2		
5NOV	S7	EP	Z	10 12 59.6	80.1	.2	.8		
		ES	X	13 10.8			.8		
5NOV	S9	EP	Z	10 53 1.9	241.9	.2	.9		
		ES	Y	13.5			.9		
		E	Y	54 6.3			.9		
5NOV	S11	EP	Z	10 53 13.4			2.0		
		ES	Z	37.7			2.0		
5NOV	S13	EP	Z	11 13 21.0			R		
		ES	Y	14 38.3			R		
5NOV	S12	E	Z	11 13 27.5	80.6	.2			
		E	X	14 47.8					
5NOV	S9	EP	Z	11 13 54.7	121.0	.3	R		
		ES	Y	15 33.9			R		
5NOV	S9	EP	Z	11 59 26.7	161.2	.3	R		
		ES	Y	12 0 52.0			R		
5NOV	S11	EP	Z	11 59 27.3					
5NOV	S11	EP	Z	12 41 58.0					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
5NOV	S12	EP	Z	13 0 8.8			R		*
		ES	X	1 32.3			R		
5NOV	S13	EP	Z	13 0 55.8	685.5	.2	1.0		*
		E	Z	59.0			1.0		
		ES	Y	1 9.5			1.0		
5NOV	S11	+IP	Z	13 1 4.7	322.6	.2	1.6		*
		ES	Z	24.4			1.6		
5NOV	S9	EP	Z	13 1 20.9	322.6	.2	2.6		*
		ES	Y	51.8			2.6		
5NOV	S7	EP	Z	13 1 27.6	64.1	.2	.5		*
		E	X	33.6			.5		
		ES	X	2 6.2			.5		
5NOV	S4	EP	Z	13 1 44.4	322.6	.2	4.4		*
		ES	Y	2 35.2			4.4		
5NOV	S7	EP	Z	13 27 19.2	161.3	.2	L		
		EP	X	28.3			L		
5NOV	S4	EP	Z	14 10 1.1			3.3		
		ES	Y	39.3			3.3		
5NOV	S7	EP	Z	14 42 11.0	32.1	.1	.5		
		ES	X	17.4			.5		
5NOV	S11	EP	Z	14 48 5.3	201.6	.4			
5NOV	S7	EP	Z	14 57 59.1	201.6	.2	.8		*
		ES	X	58 9.9			.8		
5NOV	S9	EP	Z	14 58 1.2	564.5	.2	.9		*
		ES	Y	12.7			.9		
		E	Z	59 3.2			.9		
5NOV	S11	EP	P	14 58 11.3			1.6		*
		ES	Z	30.9			1.6		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
5NOV 15 17 20.0 46.9N 153.3E OBS PRELIMINARY EPICENTER -- (6) H = 60 KM									
5NOV	S11	+IP	Z	15 17 32.7	1.3U	.2	.5	27	.7
		E	Z	40.6			.5	27	
5NOV	S13	EP	Z	15 17 35.8	725.8	.2	.8	206	-1.0
		E	Z	39.1			.8	206	
		ES	Y	46.6			.8	206	-2.0
5NOV	S12	EP	Z	15 17 43.5	362.9	.2	1.4	289	-.2
		ES	X	18 1.9			1.4	289	1.0
		E	P	45.7			1.4	289	
5NOV	S9	EP	Z	15 17 50.6	645.2	.2	1.9	6	-.5
		ES	Y	18 11.5			1.9	6	-2.5
		E	Z	19 17.1			1.9	6	
5NOV	S7	EP	Z	15 18 .6	64.1	.2	2.6	47	-.5
		ES	X	34.0			2.6	47	1.8
5NOV	S4	EP	Z	15 18 19.0	32.1	.2	4.0	55	-1.9
		ES	Y	19 5.4			4.0	55	-2.1
5NOV 16 6 20.0 45.0N 151.7E OBS PRELIMINARY EPICENTER -- (5) H = 35 KM									
5NOV	S7	EP	Z	16 6 35.1			.8	99	-.4
5NOV	S9	-IP	Z	16 6 37.2	999.9		.9	270	.6
5NOV	S11	EP	Z	16 6 46.9	403.2	.2	1.8	212	-1.6
		E	Z	7 9.6			1.8	212	
5NOV	S4	EP	Z	16 6 55.4	241.9	.3	2.3	81	-1.0
		ES	Y	7 12.1			2.3	81	-11.7
5NOV	S12	EP	Z	16 7 1.8	483.9	.2	2.8	240	-2.3
		E	Z	8.1			2.8	240	
		ES	X	32.0			2.8	240	-5.6
		E	P	9 20.7			2.8	240	
		E	P	51.3			2.8	240	
5NOV	S13	EP	Z	16 7 7.8	161.3	.2	3.0	210	.8
		ES	Y	43.3			3.0	210	.5
5NOV	S9	EP	Z	16 53 27.8	80.1	.2	2.5		
		ES	Y	57.3			2.5		
5NOV	S11	EP	Z	16 53 29.0			1.7		
		ES	Z	30.0			1.7		
5NOV	S11	EP	Z	16 56 7.9					

DAY	SYA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
5NOV 17 4 34.0 47.0N 152.9E OBS PRELIMINARY EPICENTER -- (5) H = 0 KM									
5NOV	S11	+IP	Z	17 4 46.6	1.0U	.1	.5	352	-1.4
		E	Z	54.1			.5	352	
5NOV	S13	EP	Z	17 4 52.7	241.9	.1	.9	224	-1.2
		E	Z	55.9			.9	224	
		ES	Y	5 4.9			.9	224	-2.1
5NOV	S12	EP	Z	17 4 59.3	322.6	.2	1.7	290	-5.1
		ES	X	5 18.4			1.7	290	3.9
5NOV	S7	EP	Z	17 5 13.4			2.5	41	-3.1
		E	X	44.7			2.5	41	
5NOV	S4	EP	Z	17 5 32.1	32.1	.2	3.9	52	-3.8
		ES	Y	6 14.8			3.9	52	-4.9
5NOV	S11	EP	Z	17 18 3.4			.5		
		ES	Z	11.4			.5		
5NOV	S7	EP	Z	18 50 50.4	64.1	.2	.5		
		ES	Y	57.9			.5		
5NOV	S11	EP	Z	19 33 13.7	483.9	.2	.4		
		ES	Z	17.9			.4		
5NOV	S11	EP	Z	20 46 10.1					
5NOV	S11	EP	Z	21 35 29.3					
5NOV 23 24 3.0 43.1N 148.1E KURILE EXPLOSION H = 0 KM									
5NOV	S7	EP	Z	23 24 48.2	241.9	.4	2.7	221	.2
		ES	X	25 8.7			2.7	221	12.4
		ET	Z	27 21.0			2.7	221	
5NOV	S9	EP	Z	23 25 5.1	201.6	.4	4.0	243	-1.9
		ET	P	29 5.8			4.0	243	
5NOV	S11	EP	P	23 25 17.7			4.9	227	-1.5
		ET	P	30 8.5			4.9	227	
5NOV	S12	EP	Z	23 25 32.5	161.3	.3	6.1	239	-3.5
		F	P	31 34.0			6.1	239	
			P	36.4			6.1	239	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
5NOV	S4	EP	Z	23 24 44.1	241.9	.4			

5NOV 23 59 42.0 44.2N 149.3E OBS PRELIMINARY EPICENTER -- (6)
H = 15 KM

5NOV	S4	EP	Z	23 59 55.5	999.9		.8	129	-2.5
6NOV	S7	EP	Z	0 0 3.2	403.2	.4	1.3	223	-2.2
6NOV	S9	EP	Z	0 0 24.9	967.7	.3	2.8	254	-1.8
		ES	Y	53.4			2.8	254	6.3
6NOV	S11	EP	Z	0 0 34.3	725.8	.1	3.5	230	-2.6
		E	Z	1 11.5			3.5	230	
6NOV	S12	EP	Z	0 0 50.1	161.3	.4	4.7	243	-4.5
		E	Z	56.8			4.7	243	
		ES	X	1 38.2			4.7	243	-13.5
		E	P	4 43.5			4.7	243	
		F	P	5 14.1			4.7	243	
6NOV	S13	EP	Z	0 0 51.0	80.6	.4	4.7	224	-3.1
		ES	Y	1 42.3			4.7	224	-8.4
6NOV	S7	EP	Z	0 8 51.0	48.1	.1	1.4		
		ES	X	9 8.6			1.4		
6NOV	S11	EP	Z	1 2 10.4					
6NOV	S13	EP	Z	1 2 30.9	322.6	.2	.5		
		E	Z	34.2			.5		
		ES	Y	[illegible]			.5		
6NOV	S11	EP	Z	2 10 [illegible].0					
6NOV	S13	EP	Z	3 33 2.4	725.8	.2	.6		*
		ES	Y	10.6			.6		
6NOV	S12	EP	Z	3 33 8.8	121.0	.2	1.0		*
		ES	X	22.3			1.0		
		E	P	34 12.1			1.0		
6NOV	S11	EP	Z	3 33 18.0					*
		ES	Z	33.8					
		F	P	38 36.6					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
6NOV	3 33	3.0	43.6N	148.3E	KURILE EXPLOSION H = 0 KM				
6NOV	S4	EP	Z	3 33 25.9	483.9	.3	1.1	187	.6
		ES	Y	33.6			1.1	187	-6.3
		ET	Y	52.2			1.1	187	
6NOV	S7	EP	Z	3 33 41.7	403.2	.4	2.2	227	.4
		ES	X	49.7			2.2	227	2.9
		E	P	35 46.7			2.2	227	
6NOV	S9	EP	Z	3 33 59.7	362.9	.3	3.7	249	-2.2
		E	P	37 41.7			3.7	249	
6NOV	S12	E	P	3 40 7.9					
		E	P	8.9					
6NOV	3 50 11.0	45.7N	151.0E	KURILE IS H = 33 KM	MAG = 4.5				
6NOV	S7	EP	Z	3 50 21.8	1.0U	.4	.7	31	-1.8
6NOV	S11	+IP	Z	3 50 33.7			1.6	241	-3.5
6NOV	S4	EP	Z	3 50 42.4	685.5	.5	2.0	59	-1.3
		E	Z	44.5			2.0	59	
		ES	Y	53.9			2.0	59	-14.2
6NOV	S13	EP	Z	3 50 51.9	564.5	.3	2.8	226	-2.1
		E	Z	51 24.1			2.8	226	
6NOV	S12	EP	Z	3 50 49.3	1.7U	.2	3.0	257	-8.1
		E	Z	51 20.8			3.0	257	
6NOV	S9	EP	Z	3 50 25.6	999.9				
6NOV	S11	+IP	Z	4 8 11.8	604.8	.1	1.1		
		ES	Z	26.2			1.1		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
6NOV	S13	EP	Z	5 7 6.3			1.0		*
		ES	Y	19.6			1.0		
6NOV	S12	EP	Z	5 7 15.4			1.7		*
		ES	X	36.7			1.7		
		E	P	8 49.7			1.7		
6NOV	S11	EP	Z	5 7 24.6	161.3	.2			*
		ES	Z	51.6					
6NOV	S9	EP	Z	5 7 40.5	201.6	.2	3.1		*
		ES	Y	8 17.3			3.1		
6NOV	S9	EP	Z	5 15 31.6	282.3	.3	.3		
		ES	Y	35.5			.3		
6NOV	S7	EP	Z	5 15 52.5			2.0		
		ES	X	16 16.9			2.0		
6NOV	S13	EP	Z	5 22 1.9			.5		
		E	Z	5.1			.5		
		ES	Y	9.3			.5		
6NOV	S7	EP	Z	5 25 49.3	604.8	.2	.5		
		ES	X	55.5			.5		
6NOV	S11	EP	Z	7 55 55.3	48.1	.3			*
6NOV	S13	EP	Z	7 56 26.8	241.9	.1	.5		*
		ES	Y	33.9			.5		
		E	Y	59 28.8			.5		
6NOV	S12	EP	Z	7 56 31.1	161.3	.2	.9		*
		ES	X	42.9			.9		
6NOV	S11	EP	Z	7 59 15.6					
6NOV	S4	EP	Z	7 59 57.5	121.0	.1	.6		
		ES	Y	8 0 5.7			.6		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
6NOV	S9	EP	Z	8 6 35.8	201.6	.2	.5		*
		ES	Y	42.9			.5		
6NOV	S11	EP	Z	8 6 44.9					*
6NOV	S12	EP	Z	8 6 48.1			1.4		*
		ES	X	7 5.5	80	2	1.4		
6NOV	S7	EP	Z	8 50 12.4	403.2	.4	.5		
		ES	X	19.6			.5		

6NOV 9 0 31.0 47.4N 154.7E OBS PRELIMINARY EPICENTER -- (4)
H = 85 KM

6NOV	S13	IP	Z	9 0 46.9	846.8	.3	.6	114	
		E	Z	49.0			.6	114	
		ES	Y	56.7			.6	114	-1.5
6NOV	S12	EP	Z	9 0 50.0	362.9	.2	1.0	341	-.7
		ES	X	1 1.0			1.0	341	-4.5
6NOV	S11	EP	Z	9 0 56.4			1.5	52	-.5
		E	Z	1 12.0			1.5	52	
6NOV	S9	EP	Z	9 1 11.8	201.6	.2	2.7	26	-1.2
		E	Z	20.3			2.7	26	
		ES	Y	37.0			2.7	26	-7.6
6NOV	S13	EP	Z	11 31 8.4			.5		
		ES	Y	14.2			.5		
6NOV	S4	EP	Z	11 43 52.4			.5		
		ES	Y	44 .4			.5		
6NOV	S11	EP	Z	12 7 8.0					
6NOV	S4	EP	Z	12 22 55.2			1.2		
		ES	Y	23 10.3			1.2		
6NOV	S11	EP	Z	12 48 56.7			1.4		
		ES	Z	49 14.2			1.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
6NOV	S13	EP	Z	13 2 17.4			2.2		*
		ES	Y	43.6			2.2		
6NOV	S12	EP	Z	13 2 29.7			3.1		*
		ES	X	3 6.3			3.1		
6NOV	S11	EP	Z	13 2 30.6			3.7		*
		ES	Z	3 13.3			3.7		
6NOV	S9	EP	Z	13 2 49.7			4.4		*
		ES	Y	3 40.8			4.4		
6NOV	S10	E	Z	13 4 11.9					
6NOV	S13	EP	P	13 22 36.4			2.6		
		ES	Y	23 6.9			2.6		
6NOV	S11	EP	Z	13 22 51.8					
6NOV	S9	E	Z	13 29 50.3					
		E	Y	32 24.3					
6NOV	S7	EP	Z	13 31 58.2	64.1	.1	.7		
		ES	X	32 8.0			.7		
6NOV	S11	EP	Z	13 32 13.3			1.6		
		ES	Z	33.1			1.6		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
6NOV 14 15 17.0 45.2N 152.3E OBS PRELIMINARY EPICENTER -- (7) H = 0 KM									
6NOV	S9	EP	Z	14 15 27.0	201.6	.3	.5	292	-4.4
		E	Z	31.8			.5	292	
		E	Z	39.3			.5	292	
6NOV	S7	EP	Z	14 15 40.8	241.9	.3	1.3	86	-1.0
		ES	X	51.5			1.3	86	-4.0
6NOV	S11	EP	Z	14 15 42.6	362.9	.2	1.4	201	-1.0
		E	Z	59.6			1.4	201	
6NOV	S10	EP	Z	14 15 56.0	161.3	.2	2.3	315	-.2
		E	X	16 23.6			2.3	315	
6NOV	S12	EP	Z	14 15 56.2	80.6	.2	2.4	239	-1.6
		E	Z	16 5.2			2.4	239	
		ES	X	22.9			2.4	239	20.4
		E	P	18 24.5			2.4	239	
6NOV	S13	EP	Z	14 16 1.1			2.7	204	-1.1
		ES	Y	30.4			2.7	204	19.7
6NOV	S4	EP	Z	14 16 .6			2.8	78	-2.6
		ES	Y	29.6			2.8	78	16.2
6NOV	S11	EP	Z	15 4 1.1	524.2	.3			
6NOV 15 22 49.0 44.3N 150.2E OBS PRELIMINARY EPICENTER -- (5) H = 0 KM									
6NOV	S7	EP	Z	15 23 5.4	403.2	.4	.9	195	-2.7
		ES	X	17.7			.9	195	-2.1
6NOV	S4	EP	Z	15 23 12.9	201.6	.4	1.3	107	-1.2
		ES	Y	30.1			1.3	107	2.6
6NOV	S9	EP	Z	15 23 24.3	121.0	.2	2.1	[illegible]	-1.7
		ES	Y	47.0			2.1	252	15.0
6NOV	S11	EP	Z	15 23 35.6			3.0	223	-2.4
6NOV	S10	EP	Z	15 23 40.8			3.2	283	-1.2
		ES	X	24 17.1			3.2	283	11.5

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
6NOV	15 37 44.0	46.6N	152.6E	OBS PRELIMINARY EPICENTER -- (4) H = 80 KM					
6NOV	S11	EP	Z	15 37 56.2			.3	290	-.2
		E	Z	38 2.3			.3	290	
6NOV	S13	EP	Z	15 38 8.1	121.0	.2	1.4	219	-.2
		E	Z	16.8			1.4	219	
		ES	Y	25.3			1.4	219	-.5
6NOV	S12	EP	Z	15 38 13.0			1.8	275	-.9
		ES	X	35.7			1.8	275	.1
6NOV	S10	EP	Z	15 38 32.0			3.3	335	-2.5
		ES	X	39 11.1			3.3	335	-1.5
6NOV	S12	EP	Z	18 15 8.4	80.6	.2	.9		
		ES	X	20.9			.9		
6NOV	S11	EP	Z	18 20 2.5	266.1	.3	.5		*
		ES	Z	9.8			.5		
6NOV	S13	EP	Z	18 20 15.0			1.4		*
		ES	Y	32.2			1.4		
6NOV	S9	E	Z	18 20 32.8					*
6NOV	S4	EP	Z	18 31 49.3	80.6	.2	1.1		
		E	Z	54.4			1.1		
		ES	Y	32 3.1			1.1		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
6NOV	S13	EP	Z	19 21 51.2	685.5	.2	1.0		*
		ES	Z	22 4.5			1.0		
6NOV	S11	EP	Z	19 21 54.7	1.2U	.2			*
6NOV	S12	EP	Z	19 22 1.1	2.3U	.3			*
6NOV	S9	EP	Z	19 22 10.1	846.8	.2	2.2		*
		ES	Y	36.7			2.2		
6NOV	S7	EP	Z	19 22 17.8			2.9		*
		ES	X	52.1			2.9		
6NOV	S10	-IP	Z	19 22 30.8	604.8	.3	3.7		*
		ES	X	23 13.9			3.7		
		E	X	26 24.0			3.7		
6NOV	S4	EP	Z	19 22 34.5			4.0		*
		ES	Y	23 20.5			4.0		
6NOV	S4	EP	Z	20 2 44.0			.6		
		ES	Y	52.3			.6		
6NOV	S11	EP	Z	20 29 40.3					
6NOV	S13	EP	Z	20 29 43.0	241.9	.3	.6		
		E	Z	46.2			.6		
		ES	Y	51.6			.6		
6NOV	S13	EP	P	21 9 4.1			1.4		
		ES	Y	21.2			1.4		
6NOV	S11	EP	Z	21 9 15.5					
6NOV	S7	EP	Z	21 29 25.6	32.1	.1	1.1		*
		ES	X	40.2			1.1		
6NOV	S9	EP	Z	21 29 27.7	161.3	.2	.9		*
		ES	Y	39.5			.9		
		E	Y	30 37.5			.9		
6NOV	S11	EP	Z	21 29 36.7					*
6NOV	S10	EP	Z	21 29 56.9			1.9		*
		ES	X	30 20.5			1.9		
6NOV	S11	EP	Z	21 36 18.9					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
6NOV	S4	EP	Z	21 55 12.1	604.8	.2	.5		*
		ES	Y	20.0			.5		
6NOV	S7	EP	Z	21 55 22.3	32.1	.2	1.4		*
		ES	X	40.0			1.4		
6NOV	S11	EP	Z	21 55 32.8					*
6NOV	S9	EP	Z	21 55 43.2	161.3	.3	2.5		*
		ES	Y	56 12.9			2.5		
6NOV	S9	EP	Z	22 30 56.6	121.0	.3	.8		
		ES	Y	31 7.4			.8		
6NOV	S11	EP	Z	22 31 3.6					
6NOV	S7	EP	Z	22 32 .4			1.6		
		ES	X	19.8			1.6		
6NOV	S9	EP	Z	22 34 55.2	80.6	.2	.9		
		ES	Y	35 7.2			.9		
6NOV	S13	EP	Z	22 42 5.1			1.3		
		ES	Y	21.6			1.3		
6NOV	S13	E	Y	23 28 30.6					
6NOV	S7	EP	Z	23 36 47.5			1.2		
		ES	X	37 3.2			1.2		
6NOV	S9	EP	Z	23 37 2.0	80.6	.2	2.0		
		ES	Y	25.1			2.0		
7NOV	S11	-IP	Z	0 43 8.8			.5		*
		ES	Z	14.8			.5		
7NOV	S13	EP	Z	0 43 18.8	121.0	.2	1.0		*
		ES	Y	32.2			1.0		
7NOV	S12	EP	Z	0 43 23.2					*
		ES	X	41.5					
7NOV	S9	EP	Z	0 43 26.6	80.6	.2	1.4		*
		ES	Y	44.0			1.4		
		E	Z	44 42.9			1.4		
7NOV	S7	EP	Z	0 43 35.1			2.8		*
		ES	X	44 8.8			2.8		
7NOV	S10	EP	Z	0 43 54.3			2.4		*
		ES	X	44 23.2			2.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
7NOV	S9	EP	Z	1 19 52.0			2.5		
		ES	Y	20 21.7			2.5		
7NOV	S7	EP	Z	2 17 37.9	64.1	.1	.6		
		ES	X	46.5			.6		
7NOV	S7	EP	Z	3 38 27.7	32.1	.1	.6		
		ES	X	36.4			.6		
7NOV	S7	EP	Z	3 39 49.8			.5		
		ES	X	57.1			.5		

7NOV 4 3 2.0 43.0N 149.2E KURILE EXPLOSION
H = 0 KM

7NOV	S4	EP	Z	4 3 35.0	201.6	.4	1.8	163	1.1
		ES	Y	41.1			1.8	163	-1.9
		E	P	5 1.1			1.8	163	
7NOV	S7	EP	Z	4 3 41.0			2.3	204	-1.1
		E	Z	41.4			2.3	204	
		E	X	5 38.1			2.3	204	
		ET	P	52.1			2.3	204	
7NOV	S9	EP	Z	4 3 54.7	282.3	.3	3.4	235	-2.5
		E	Z	4 32.8			3.4	235	
		ET	P	7 14.0			3.4	235	
7NOV	S11	EP	Z	4 4 9.3			4.4	219	-2.5
		ET	P	8 27.3			4.4	219	
7NOV	S12	EP	Z	4 4 23.0	161.3	.4	5.5	233	-4.0
		E	Z	30.1			5.5	233	
		ES	X	5 31.0			5.5	233	-2.5
		ET	P	9 48.2			5.5	233	
7NOV	S13	EP	Z	4 4 27.2			5.7	217	-2.6
		ET	P	10 11.5			5.7	217	
7NOV	S10	-IP	Z	4 8 .1	483.9	.1	L		
		E	Y	10 27.0			L		
7NOV	S4	EP	Z	4 27 47.2			1.3		
		ES	Y	28 4.1			1.3		
7NOV	S4	EP	Z	4 52 33.7			1.2		
		ES	Y	49.1			1.2		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
7NOV	S13	EP	P	5 19 23.4			.7		
		ES	Y	33.4			.7		
7NOV	S4	EP	Z	5 30 25.4			1.3		
		ES	Y	42.3			1.3		
7NOV	S9	EP	Z	6 17 37.5			1.7		
		ES	Y	58.4			1.7		
7NOV	S7	EP	Z	6 17 46.7			1.1		
		ES	X	18 .6			1.1		
7NOV	S4	EP	Z	6 21 37.9			.5		
		ES	Y	45.4			.5		
7NOV	S4	EP	Z	7 4 59.2			1.3		
		ES	Y	5 15.9			1.3		
7NOV	S11	EP	Z	7 6 24.6					

7NOV 8 2 25.0 45.8N 149.2E OBS PRELIMINARY EPICENTER -- (5)
M = 0 KM

7NOV	S7	EP	Z	8 2 59.9	201.6	.2	1.1	306	1.8
		ES	X	3 21.9			1.1	306	9.4
7NOV	S4	EP	Z	8 2 56.3	725.8	.3	1.2	24	-3.0
		ES	Y	3 13.7			1.2	24	.5
7NOV	S11	EP	Z	8 3 20.5			2.7	257	-.3
		E	Z	57.1			2.7	257	
7NOV	S9	EP	Z	8 3 18.3			2.8	288	-3.4
		ES	Y	53.0			2.8	288	20.2
7NOV	S10	EP	Z	8 3 39.6			4.4	301	-5.0
		ES	X	4 29.2			4.4	301	-10.3

7NOV	S13	E	Y	8 22 32.6					
		E	Z	31 10.0	403	3			
		ES	Y	22.0					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
7NOV	8 30 43.0	46.2N	153.6E	OBS PRELIMINARY EPICENTER — (7) H = 0 KM					
7NOV	S11	-IP	Z	8 30 52.9	999.9		.5	126	-4.2
7NOV	S12	EP	Z	8 31 4.7	2.5U	.3	1.1	257	-1.2
7NOV	S9	EP	Z	8 31 5.9	999.9		1.3	19	-2.0
		E	X	51.9	846.8	.5	2.4	63	-.7
7NOV	S10	EP	Z	8 31 25.3	80.6	.3	2.4	63	
		ES	X	37.7			2.7	345	-2.5
		E	X	53.6			2.7	345	1.9
		E	P	34 16.5			2.7	345	
7NOV	S4	EP	Z	8 31 43.0	645.2	.3	2.7	345	
		F	Y	58.6			3.9	65	-2.5
		ES	Y	32 25.4			3.9	65	
							3.9	65	-5.4
7NOV	S11	E	Z	9 7 22.0					
7NOV	S11	EP	Z	9 20 13.6			1.1		
		ES	Z	27.7			1.1		
7NOV	S4	EP	Z	9 56 34.1	80.6	.2	.5		
		ES	Y	42.1			.5		
7NOV	S9	EP	Z	10 49 54.9			R		
		ES	Y	51 32.4			R		
7NOV	S11	EP	Z	10 50 56.7	161.3	.2	.4		*
		ES	Z	51 1.9			.4		
7NOV	S13	EP	P	10 51 6.1			1.2		*
		ES	Y	21.2			1.2		
7NOV	S12	EP	Z	10 51 8.8	80.6	.2	1.2		*
		ES	X	24.1			1.2		
7NOV	S7	EP	Z	10 53 30.2	403.2	.3	.6		
		ES	X	38.7			.6		
7NOV	S12	EP	Z	10 53 42.2	322.6	.2	.5		
		ES	X	49.3			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
7NOV	11 24 17.0	43.9N	40.9E	OBS PRELIMINARY EPICENTER -- (5) H = 0 KM					
7NOV	S4	EP	Z	11 24 31.5	80.6	.2	.8	159	-4.3
		ES	Y	38.1			.8	159	-8.9
7NOV	S7	EP	Z	11 24 47.3	322.6	.2	1.7	224	-.6
		ES	X	25 7.7			1.7	224	9.9
7NOV	S9	EP	Z	11 25 6.9	80.6	.3	3.1	251	-1.7
		ES	Y	38.4			3.1	251	9.2
7NOV	S11	EP	Z	11 25 16.4	32.1	.2	3.9	230	-2.9
7NOV	S10	EP	Z	11 25 20.6			4.1	276	-2.0
		ES	Y	26 7.8			4.1	276	-5.3
7NOV	S9	E	Z	11 49 12.4					
7NOV	S11	EP	Z	12 2 30.5					
7NOV	S11	+IP	Z	12 19 6.2	1.3U	.2			
7NOV	S9	EP	Z	12 20 23.7			1.2		
		ES	Y	39.3			1.2		
7NOV	S11	+IP	Z	12 32 .6	887.1	.2	.5		
		ES	Z	6.5			.5		
7NOV	S9	EP	Z	13 32 16.9			1.5		
		ES	Y	36.0			1.5		
7NOV	S9	EP	Z	14 5 50.3					
		E	Y	6 8.0					
		E	Y	7 21.4					
7NOV	S7	EP	Z	14 5 52.9			1.5		
		ES	X	6 11.9			1.5		
7NOV	S11	EP	Z	14 22 5.7	201.6	.2	.5		
		ES	Z	11.3			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
7NOV	14 27 26.0	44.0N	148.3E	OBS PRELIMINARY EPICENTER -- (6) H = 105 KM					
7NOV	S4	EP	Z	14 27 44.0	655.2	.4	.7	191	
		ES	Y	54.8			.7	191	-2.7
7NOV	S7	EP	Z	14 27 58.[illegible]	201.6	.2	1.9	235	
		ES	X	28 21.8			1.9	235	-.8
7NOV	S9	EP	Z	14 28 18.5	362.9	.2	3.5	255	-1.3
		E	Z	26.5			3.5	255	
		ES	Y	52.9			3.5	255	-7.6
7NOV	S11	EP	Z	14 28 27.5	282.3	.2	4.2	235	-1.1
7NOV	S10	EP	Z	14 28 32.4			4.6	277	-1.7
		E	Z	29 18.1			4.6	277	
		ES	X	19.8			4.6	277	-6.6
7NOV	S12	EP	Z	14 28 43.6			5.5	246	-2.6
		ES	X	29 38.0			5.5	246	-10.?
7NOV	14 47 47.0	44.0N	148.5E	OBS PRELIMINARY EPICENTER -- (4) H = 110 KM					
7NOV	S7	EP	Z	14 48 17.7			1.8	233	-.8
		ES	X	42.1			1.8	233	.6
7NOV	S9	EP	Z	14 48 36.9			3.4	254	-2.1
		ES	Y	49 23.4			3.4	254	5.1
7NOV	S11	EP	Z	14 48 45.9			4.0	233	-2.2
		E	Z	49 40.8			4.0	233	
7NOV	S10	EP	Z	14 48 50.4			4.4	277	-2.8
		ES	Y	49 44.5			4.4	277	.5
7NOV	S7	EP	Z	14 54 27.0			R		
		E	X	55 30.8			R		
		ES	X	56 31.8			R		
7NOV	S9	EP	Z	14 54 46.2	80.6	.2	R		
		ES	Y	56 3.9			R		
7NOV	S12	EP	Z	14 55 2.2	121.0	.2	R		
		ES	X	56 33.7			R		
7NOV	S9	EP	Z	15 12 42.7			4.7		
		ES	Y	13 37.3			4.7		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
7NOV	S7	EP	Z	15 31 12.8	80.6	.5	1.6		*
		ES	X	32.2			1.6		
7NOV	S9	EP	Z	15 31 30.5			2.4		*
		ES	Y	59.4			2.4		
7NOV	S10	EP	Z	15 31 51.8			4.1		*
		ES	X	32 39.2			4.1		
7NOV	S4	EP	Z	15 47 57.9			1.4		
		ES	Y	48 15.6			1.4		
7NOV	S11	¿P	Z	16 19 29.4	80.6	.2	.3		
		ES	Z	33.2			.3		
7NOV	S7	EP	Z	17 1 55.4			1.1		
		ES	X	2 9.3			1.1		
7NOV	S11	EP	Z	17 47 58.2			.6		
		ES	Z	48 6.4			.6		

7NOV 18 41 1.0 46.9N 151.3E KURILE IS
H = 57 KM MAG = 4.6

7NOV	S11	-IP	Z	18 41 30.7	999.9		1.2	290	-7.8
7NOV	S7	EP	Z	18 41 38.9	999.9		1.8	17	-7.6
7NOV	S13	EP	Z	18 41 39.2	999.9		1.8	247	-7.4
		ES	Z	42 1.6			1.8	247	31.8
7NOV	S9	+IP	Z	18 41 40.3	999.9		2.2	329	3.7
7NOV	S12	EP	Z	18 41 46.1	3.1U	.3	2.7	281	2.8
7NOV	S4	EP	Z	18 41 53.5	999.9		3.0	41	6.6
		E	Z	42 27.9			3.0	41	
7NOV	S10	EP	Z	18 42 3.4	725.8	.2	4.0	326	1.9
		E	X	5.3			4.0	326	
		ES	X	40.7			4.0	326	-7.1

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES	
7NOV 20 6 22.0 46.0N 153.0E OBS PRELIMINARY EPICENTER -- (4) H = 33 KM										
7NOV	S11	EP	Z	20 6 33.2			.5	180	.6	
		E	Z	7 8.6			.5	180		
7NOV	S9	EP	Z	20 6 38.4	645.2	.2	1.0		-1.3	
		E	Z	46.5			1.0			
		E	Y	7 16.9			1.0			
7NOV	S12	EP	Z	20 6 48.1	161.3	.2	1.6	254	.1	
		E	X	7 35.1			1.6	254		
7NOV	S10	EP	Z	20 7 1.1	161.3	.1	2.6	335	-1.8	
		E	X	2.7			2.6	335		
7NOV	S10	EP	Z	20 7 57.3	80.6	.1	.2			
		ES	Y	59.0			.2			
7NOV	S11	EP	Z	20 32 8.7	80.6	.1	.4			
		ES	Z	13.2			.4			
7NOV	S11	EP	Z	21 15 27.8						
7NOV	S12	EP	Z	21 15 38.9			1.2			
		ES	X	54.7			1.2			
7NOV	S9	EP	Z	21 15 45.7	121.0	.2	1.5			
		ES	Y	16 4.2			1.5			
7NOV	S11	EP	Z	22 33 2.6			1.2			
		ES	Z	18.2			1.2			
7NOV	S4	EP	Z	23 25 4.8	282.3	.2	.5			*
		ES	Y	11.3			.5			
7NOV	S7	EP	Z	23 25 19.4			1.5			*
		ES	X	38.2			1.5			
7NOV	S11	EP	Z	23 25 31.9	241.9	.3				*
7NOV	S9	EP	Z	23 25 40.1	121.0	.3	2.9			*
		ES	Y	26 13.9			2.9			
7NOV	S11	EP	Z	23 32 1.6	282.3	.2	.4			
		ES	Z	6.7			.4			

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
7NOV	S9	EP	Z	23 32 11.9	80.6	.2	.9		
		ES	Y	24.2			.9		
		E	Y	33 17.4			.9		
8NOV	S4	EP	Z	0 26 44.6	161.3	.2	.8		
		ES	Y	56.0			.8		
8NOV	S9	E	Z	0 37 46.2					
8NOV	S13	E	Y	0 55 30.6					
8NOV	S13	EP	Z	1 15 33.9			3.9		*
		ES	Y	16 19.8			3.9		
8NOV	S11	EP	Z	1 15 52.2					*
8NOV	S9	EP	Z	1 16 7.9	80.6	.2	5.4		*
		ES	Y	17 9.6			5.4		
8NOV	S9	EP	Z	1 44 51.8	161.3	.1	.4		
		ES	Y	56.1			.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
8 NOV	1 50	2.9	44.0N	149.3E	KURILE EXPLOSION H = 0 KM				
8 NOV	S4	EP	Z	1 50 24.9	999.9		.9	139	2.4
		ES	Y	37.8			.9	139	2.7
		ET	P	58.5			.9	139	
8 NOV	S7	EP	Z	1 50 32.2	241.9	.6	1.4	218	2.2
		ES	X	41.9			1.4	218	-.4
		ET	P	51 47.5			1.4	218	
8 NOV	S9	EP	Z	1 50 50.0	201.6	.5	2.8	251	-.1
		ES	Y	51 17.7			2.8	251	15.6
		ET	P	53 36.7			2.8	251	
8 NOV	S11	EP	Z	1 51 1.6			3.6	228	.3
		ET	P	54 34.6			3.6	228	
8 NOV	S10	EP	Z	1 51 4.3			3.8	277	-.2
		ES	X	44.0			3.8	277	-3.7
		ET	P	54 55.4			3.8	277	
8 NOV	S12	EP	Z	1 51 17.2			4.8	241	-1.3
		ES	X	52 7.7			4.8	241	-11.2
		ET	P	56 2.7			4.8	241	
		E	P	4.4			4.8	241	
8 NOV	S13	ET	P	1 56 13.9			4.8	223	
8 NOV	S9	EP	Z	3 27 58.9	48.1	.2	.6		
		ES	Y	28 7.9			.6		
8 NOV	S11	EP	Z	3 28 3.7					
8 NOV	S13	EP	P	3 46 2.4			2.0		
		ES	Y	26.8			2.0		
8 NOV	S11	EP	Z	4 44 27.8	121.0	.2			
8 NOV	S9	EP	Z	4 44 38.4			.9		
		ES	Y	50.3			.9		
		E	Y	45 45.0			.9		
8 NOV	S8	EP	Z	5 2 54.8	322.6	.2	.4		
		ES	Y	59.3			.4		
8 NOV	S7	EP	Z	5 25 38.5			1.0		
		ES	X	51.6			1.0		
8 NOV	S12	EP	Z	5 50 11.1					
		E	X	14.7					
8 NOV	S11	EP	Z	6 0 35.8	403.2	.1			

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
8 NOV	6 17	13.0	45.4N	151.6E	OBS PRELIMINARY EPICENTER -- (5) H = 0 KM				
8 NOV	S7	EP	Z	6 17 30.3	201.6	.2	.8	70	-1.1
		ES	X	40.1			.8	70	-1.9
8 NOV	S9	EP	Z	6 17 31.9	282.3	.2	1.1	292	-3.1
		ES	Y	43.8			1.1	292	-5.9
8 NOV	S11	EP	Z	6 17 40.2			1.5	222	-.5
8 NOV	S4	EP	Z	6 17 49.8	80.6	.2	2.3	71	-3.2
		E	Y	18 20.3			2.3	71	
8 NOV	S10	EP	Z	6 17 58.9			2.8	311	-.5
		ES	X	18 24.3			2.8	311	14.4
8 NOV	S11	EP	Z	6 19 25.4	524.2	.1			
8 NOV	S4	EP	Z	6 34 38.7			.5		
		ES	Y	44.7			.5		
8 NOV	S11	E	P	6 38 29.4					
8 NOV	S4	EP	Z	6 43 20.9	161.3	.3	.6		
		ES	Y	29.0			.6		
8 NOV	6 53	2.5	44.4N	149.0E	KURILE EXPLOSION H = 0 KM				
8 NOV	S4	EP	Z	6 53 16.6	1.3U	.4	.5	127	.9
		ES	Y	22.8			.5	127	2.8
8 NOV	S7	EP	Z	6 53 30.4	201.6	.2	1.3	236	2.5
		ES	X	42.7			1.3	236	1.5
		ET	P	54 38.9			1.3	236	
8 NOV	S9	EP	Z	6 53 50.8	241.9	.3	2.9	260	-.1
		ET	P	56 43.3			2.9	260	
8 NOV	S11	EP	Z	6 53 59.9			3.5	235	.5
		ET	P	57 29.9			3.5	235	
8 NOV	S10	EP	X	6 54 11.1			4.1	283	3.3
		ES	Y	52.6			4.1	283	-5.3
9 NOV	S12	EP	Z	6 54 15.0			4.8	247	-2.9
		ET	P	59 4.8			4.8	247	
8 NOV	S10	EP	Z	6 58 13.9	403.2	.1	L		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
8NOV	S11	EP	Z	7 32 9.6			1.0		
		ES	Z	23.2			1.0		
8NOV	S9	EP	Z	7 32 11.9	121.0	.2	1.4		
		ES	Y	29.9			1.4		
8NOV	S7	EP	Z	8 5 6.8			1.9		
		ES	X	29.5			1.9		
8NOV	S4	EP	Z	8 5 51.0	201.6	.2	.5		
		ES	Y	57.2			.5		

8NOV 8 10 27.0 44.4N 148.8E OBS PRELIMINARY EPICENTER -- (5)
H = 0 KM

8NOV	S4	EP	Z	8 10 34.1	846.8	.2	.4	141	-4.0
		ES	Y	40.7			.4	141	-1.4
8NOV	S7	EP	Z	8 10 53.8	32.1	.1	1.4	240	-.3
		ES	X	11 18.4			1.4	240	11.9
8NOV	S9	EP	Z	8 11 15.8	322.6	.2	3.1	260	-1.6
		E	Z	23.8			3.1	260	
		ES	Y	51.3			3.1	260	15.8
8NOV	S11	EP	P	8 11 22.7			3.6	236	-2.8
8NOV	S10	EP	Z	8 11 31.6			4.2	282	-2.7
		ES	X	12 23.6			4.2	282	-3.2

8NOV	S7	EP	Z	8 44 54.1	48.1	.2	.5	
		ES	X	45 .8			.5	
8NOV	S12	EP	Z	9 9 24.5	121.0	.2	.3	
		ES	X	28.2			.3	

8NOV	S13	EP	Z	9 45 19.1			1.3	*
		ES	Y	35.6			1.3	
8NOV	S12	EP	Z	9 45 31.1	80.6	.2	2.0	*
		ES	X	55.5			2.0	
8NOV	S11	EP	Z	9 45 32.8				*

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
8 NOV	S11	EP	P	9 51 41.7					
8 NOV	S11	EP	P	10 21 11.9					
8 NOV	S4	EP	Z	10 27 33.3	443.5	.2	1.9		
		ES	Y	56.4			1.9		
8 NOV	S7	EP	Z	10 27 41.5	80.1	.1	4.0		
		ES	X	28 28.6			4.0		
8 NOV	S9	EP	Z	10 28 13.6	201.6	.1			
		E	Y	29 2.9					
		E	Y	26.8					
8 NOV	S11	EP	Z	10 28 17.9					
8 NOV	S10	EP	Z	10 28 29.7			.3		
		ES	X	33.1			.3		
8 NOV	S10	E	X	10 29 34.0					
8 NOV	S13	EP	Z	10 45 16.3	80.6	.2	1.8		
		ES	Y	39.9			1.8		
8 NOV	S4	EP	Z	11 29 56.1	967.7	.3	.5		*
		ES	Y	30 2.0			.5		
8 NOV	S7	EP	Z	11 30 14.0	32.1	.1	1.8		*
		ES	X	36.3			1.8		
8 NOV	S9	EP	Z	11 30 36.2	121.0	.2	3.0		*
		ES	Y	31 11.2			3.0		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
8NOV 11 35 57.0		52.4N		173.0E NR IS, ALEUTIAN IS H = 41 KM			MAG = 4.9		
8NOV	S12	EP	Z	11 38 54.9			13.0	56	-6.8
		ES	X	41 12.0			13.0	56	-14.1
		E	P	52 10.8			13.0	56	
		E	P	53 23.8			13.0	56	
8NOV	S13	EP	Z	11 39 .9	161.3	.4	13.2	62	-3.1
		ES	Y	41 18.3			13.2	62	-12.1
		E	Y	52 11.0			13.2	62	
8NOV	S11	EP	Z	11 39 18.4			14.3	58	.3
8NOV	S11	EP	Z	11 50 20.2					
8NOV	S7	EP	Z	12 7 22.2	32.1	.1	1.6		*
		ES	X	42.2			1.6		
8NOV	S11	EP	Z	12 7 34.8			2.5		*
		ES	Z	8 5.0			2.5		
8NOV	S9	EP	Z	12 7 37.1	121.0	.2	2.5		*
		ES	Y	8 6.6			2.5		
8NOV	S11	EP	P	13 12 24.9					
8NOV	S12	EP	Z	13 12 31.6			2.4		
		ES	X	13 .1			2.4		
8NOV 13 15 22.0		35.2N		139.8E NEAR S CST OF HONSHU, JAPAN H = 91 KM			MAG = 4.5		
8NOV	S4	EP	Z	13 17 56.4	121.0	.5	11.6	218	-9.0
		E	Y	19 5 .9			11.6	218	
8NOV	S9	EP	Z	13 18 36.2	161.3	.3	14.0	230	-1.7
		E	Y	21 51.1			14.0	230	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
8NOV	S10	EP	Z	13 19 33.6	322.6	.8	R		
		ES	X	20 52.9			R		
8NOV	S12	E	X	13 21 42.7					
8NOV	S4	EP	Z	13 33 27.2			.5		
		ES	Y	33.5			.5		

8NOV 13 35 38.0 45.5N 150.0E OBS PRELIMINARY EPICENTER -- (7)
H = 0 KM

8NOV	S7	EP	Z	13 35 53.7	999.9		.5	315	1.5
8NOV	S4	EP	Z	13 36 1.4	362.9	.2	1.3	52	-2.6
		E	Z	2.2			1.3	52	
		E	Y	10.8			1.3	52	
		ES	Y	19.0			1.3	52	2.1
8NOV	S9	EP	Z	13 36 12.6	241.9	.3	2.2	284	-3.3
		ES	Y	36.8			2.2	284	15.2
		E	Y	37 51.5			2.2	284	
8NOV	S11	EP	Z	13 36 13.2			2.3	246	-4.7
		E	Z	42.2			2.3	246	
8NOV	S13	EP	Z	13 36 30.9			3.4	232	-2.7
		E	Y	46.2			3.4	232	
		ES	Y	37 11.1			3.4	232	8.1
8NOV	S12	EP	Z	13 36 32.0	32.1	.2	3.7	257	-6.2
		E	X	37 1.8			3.7	257	
8NOV	S10	EP	Z	13 36 33.9	403.2	.2	3.8	301	-4.7
		E	Z	35.2			3.8	301	
		ES	X	37 16.0			3.8	301	-3.5

8NOV	S4	EP	Z	13 50 21.1			.6		
		ES	Y	29.6			.6		
8NOV	S7	EP	Z	13 50 27.3	64.1	.1	1.1		
		ES	Y	41.9			1.1		
8NOV	S4	EP	Z	14 46 10.3			1.0		
		ES	Y	23.4			1.0		
8NOV	S4	EP	Z	16 52 12.0			1.7		
		ES	Y	33.1			1.7		
8NOV	S11	EP	P	17 31 32.7			1.2		
		ES	Z	47.5			1.2		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
8NOV	S4	EP	Z	17 53 35.4			3.3		
		ES	Y	54 14.5			3.3		
8NOV	S12	EP	Z	18 39 20.2	201.6	.2	.6		*
		ES	X	29.2			.6		
8NOV	S13	EP	Z	18 39 26.3	80.6	.2	1.0		*
		ES	Y	41.8			1.0		
8NOV	S11	EP	Z	18 39 37.9					*
8NOV	S11	EP	Z	21 9 3.5	403.2	.1	.4		
		ES	Z	8.4			.4		
8NOV	S13	EP	Z	21 27 52.5			1.2		
		ES	Y	28 7.4			1.2		
8NOV	S11	EP	Z	21 28 13.2					
8NOV	S11	EP	Z	22 43 53.5			.5		
		ES	Z	58.9			.5		
8NOV	S11	EP	Z	23 5 39.8					
8NOV	S9	EP	Z	23 44 10.3	201.6	.3	R		
		ES	Y	45 21.1			R		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
9NOV	0 9	4.0	44.5N	151.2E	KURILE EXPLOSION H = 0 KM				
9NOV	S7	EP	Z	0 9 25.2	241.9	.2	.8	142	3.0
		E	X	10 4.1			.8	142	
9NOV	S9	EP	Z	0 9 31.2	725.8	.5	1.4	249	.8
		ES	Y	38.5			1.4	249	-4.7
		ET	P	10 46.5			1.4	249	
9NOV	S4	EP	Z	0 9 40.8			1.9	94	2.2
		E	Z	53.2			1.9	94	
		E	Y	10 53.4			1.9	94	
9NOV	S11	EP	Z	0 9 44.9	806.5	.3	2.4	213	-.3
		ET	P	11 56.0			2.4	213	
9NOV	S10	EP	Z	0 9 47.6	241.9	.4	2.6	291	-.2
		E	X	10 17.6			2.6	291	
		ET	P	12 22.9			2.6	291	
9NOV	S12	EP	Z	0 9 58.3	80.6	.3	3.4	236	-1.4
		ES	X	10 26.2			3.4	236	-3.0
		ET	P	13 17.1			3.4	236	
9NOV	S13	EP	Z	0 10 3.3	161.3	.5	3.7	211	.3
		E	Y	14.6			3.7	211	
		ET	P	13 40.5			3.7	211	
9NOV	S11	EP	Z	2 48 9.7					
9NOV	S9	EP	Z	2 48 25.1	80.6	.2	.9		
		ES	Y	37.5			.9		
		E	Z	49 46.2			.9		
9NOV	S11	EP	P	2 52 14.5					
9NOV	S11	EP	Z	3 12 33.8			.4		
		ES	Z	38.7			.4		
9NOV	S9	EP	Z	4 4 13.4	121.0	.2	.2		
		ES	Y	15.5			.2		
9NOV	S11	EP	Z	4 5 42.6					
9NOV	S11	EP	Z	4 22 41.8	403.2	.2	.5		
		ES	Z	47.2			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
9NOV	S13	EP	Z	4 57 54.7	80.6	.2	2.0		*
		E	Z	58.4			2.0		
		ES	Y	58 19.2			2.0		
9NOV	S12	EP	Z	4 58 .9			R		*
		ES	X	30.7			R		
		E	P	5 0 8.5			R		
9NOV	S11	EP	Z	4 58 12.4			3.3		*
		ES	Z	50.6			3.3		
9NOV	S9	EP	Z	4 58 27.1	121.0	.2			*
		E	Y	50.3					
		E	Y	59 14.2					

9NOV 6 44 4.1 43.5N 151.9E KURILE EXPLOSION
H = 0 KM

9NOV	S9	EP	Z	6 44 31.1	604.8	.4	1.7	208	-4.0
		ES	Y	41.8			1.7	208	-3.1
		ET	P	46 1.4			1.7	208	
9NOV	S7	EP	Z	6 44 36.3	96.2	.5	1.9	148	-1.7
		ES	X	46 18.2			1.9	148	
9NOV	S10	EP	Z	6 44 37.7	201.6	.4	2.0	267	-1.1
		ES	X	58.9			2.0	267	12.8
		ET	P	46 31.3			2.0	267	
9NOV	S4	EP	Z	6 44 44.1			2.7	114	-5.8
		ES	Y	45 20.7			2.7	114	21.3
9NOV	S11	EP	Z	6 44 50.3	161.3	.2	3.1	195	-4.9
		E	Z	46 22.8			3.1	195	
		E	Z	47 17.5			3.1	195	
		ET	P	36.9			3.1	195	
9NOV	S12	EP	Z	6 44 59.1	161.3	.2	3.8	219	-5.6
		ES	X	45 38.6			3.8	219	-7.0
		ET	P	48 34.5			3.8	219	
9NOV	S13	EP	Z	6 45 12.0	48.1	.2	4.4	199	-1.4
		ES	Y	46 15.5			4.4	199	7.4
		ET	P	49 22.4			4.4	199	

9NOV	S12	EP	Z	6 46 28.2	564.5	.2	5.1		
		ES	X	47 27.3			5.1		
9NOV	S4	EP	Z	6 46 45.1	121.0	.2	1.3		
		ES	Y	47 1.5			1.3		
9NOV	S13	E	Y	6 47 3.5					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
9NOV	S9	EP	Z	6 47 41.8	4.4U	.3	3.0		
		ES	Y	48 17.6			3.0		
9NOV	S11	EP	Z	7 25 37.5	80.1	.2	1.9		
		ES	Z	26 1.1			1.9		
9NOV	S11	EP	Z	7 28 54.4			.3		
		ES	Z	58.2			.3		
9NOV	S7	EP	Z	8 15 6.2			.5		
		ES	X	12.8			.5		
9NOV	S9	EP	Z	8 52 48.6	161.3	.2	.3		
		ES	Y	52.5			.3		

9NOV 9 24 16.0 46.4N 153.0E UBS PRELIMINARY EPICENTER -- (5)
H = 65 KM

9NOV	S11	EP	Z	9 24 23.7	1.5U	.2	.1	180	-1.9
		E	Z	29.0			.1	180	
9NOV	S13	EP	Z	9 24 39.4			1.4	205	-.8
		ES	Y	54.8			1.4	205	-3.0
9NOV	S9	EP	Z	9 24 40.0	121.0	.2	1.4		-.3
		ES	Y	54.1			1.4		-3.8
		E	Z	25 51.4			1.4		
9NOV	S12	EP	Z	9 24 40.4	80.6	.4	1.5	268	-1.5
		ES	X	59.0			1.5	268	-1.6
9NOV	S7	EP	Z	9 24 50.2	32.1	.1	2.2	53	-.3
		ES	X	25 18.4			2.2	53	2.2
9NOV	S10	E	Z	9 25 34.5	241.9	.2	3.0	338	
		ES	X	37.8			3.0	338	.7
9NOV	S4	EP	Z	9 25 8.4			3.6	60	-2.5
		ES	Y	47.1			3.6	60	-5.6

9NOV	S13	EP	Z	10 0 47.9			1.0		
		ES	Y	1 1.0			1.0		
9NOV	S11	EP	Z	10 1 9.4	241.9	.3			
9NOV	S4	EP	Z	10 21 40.9	121.0	.3	.9		
		ES	Y	52.4			.9		
9NOV	S11	EP	P	10 38 37.7					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
9NOV	10 49 43.0	46.3N	153.1E	OBS PRELIMINARY EPICENTER -- (7) H = 0 KM					
9NOV	S11	-IP	Z	10 49 51.5	999.9		.2	161	.0
9NOV	S9	EP	Z	10 50 2.5	645.2	.2	1.3	3	-5.8
		ES	Y	14.1			1.3	3	-7.5
		E	P	51 9.6			1.3	3	
9NOV	S13	EP	Z	10 50 11.2			1.5	200	.7
		ES	Y	33.9			1.5	200	11.4
		E	Y	52 23.0			1.5	200	
9NOV	S12	EP	Z	10 50 6.6	201.6	.1	1.5	264	-3.9
		ES	X	22.7			1.5	264	.1
		E	P	51 19.4			1.5	264	
9NOV	S7	EP	Z	10 50 19.3	32.1	.1	2.2	56	-1.3
		E	X	56.4			2.2	56	
		E	X	52 11.2			2.2	56	
9NOV	S10	EP	Z	10 50 34.6			2.9	339	3.8
		ES	Y	52.8			2.9	339	9.0
		E	Y	52 58.1			2.9	339	
9NOV	S4	EP	Z	10 50 38.5	80.6	.2	3.6	62	-3.1
		ES	Y	51 19.3			3.6	62	1.5
9NOV	S11	EP	Z	10 51 56.6	999.9				*
9NOV	S9	EP	Z	10 52 19.1	846.8	.3	4.8		*
		ES	Y	53 14.7			4.8		
9NOV	S4	EP	Z	10 52 43.6			3.5		*
		ES	Y	53 24.5			3.5		
9NOV	S11	EP	Z	11 7 37.1			.5		
		ES	Z	43.3			.5		
9NOV	S11	EP	Z	11 8 49.8					
9NOV	S11	EP	P	11 12 51.6					
9NOV	S11	+IP	Z	11 19 4.1	846.8	.2			
9NOV	S13	EP	Z	11 19 19.2			1.2		
		ES	Y	34.0			1.2		
9NOV	S11	EP	Z	11 39 16.6	725.8	.2			
9NOV	S9	EP	Z	11 39 27.6			.9		
		ES	Y	39.5			.9		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
9NOV	S11	EP	Z	11 41 58.4	483.9	.3			
9NOV	S11	EP	Z	11 45 31.1			1.8		
		ES	Z	53.1			.8		
9NOV	S13	EP	Z	12 29 43.6			.7		
		ES	Y	52.9			.7		
9NOV	S11	EP	P	12 29 59.0					
9NOV	S11	EP	Z	12 46 36.0			.5		
		ES	Z	43.9			.5		
9NOV	S11	EP	P	12 57 6.8					

9NOV 13 3 3.0 44.3N 150.3E OBS PRELIMINARY EPICENTER -- (4)
H = 40 KM

9NOV	S7	EP	Z	13 3 18.2	80.6	.1	.8	191	-.5
		ES	X	32.0			.8	191	2.8
9NOV	S4	EP	Z	13 3 25.7	80.6	.2	1.4	106	-.2
		ES	Y	43.0			1.4	106	.3
9NOV	S9	EP	Z	13 3 35.0			2.1	251	-.8
		ES	Y	57.1			2.1	251	-3.1
9NOV	S11	EP	Z	13 3 46.4	64.1	.2	2.9	222	-1.6
		E	Z	4 17.7			2.9	222	
9NOV	S4	EP	Z	13 7 50.7	282.3	.2	.5		
		ES	Y	56.9			.5		
9NOV	S11	EP	P	13 11 4.7			.5		
		ES	Z	10.1			.5		
9NOV	S11	EP	P	13 12 48.2			.5		
		ES	Z	54.3			.5		
9NOV	S11	EP	P	13 20 53.0			.4		
		ES	Z	57.9			.4		
9NOV	S11	-IP	Z	13 55 58.7	2.0U	.2	.4		
		ES	Z	56 2.8			.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
9NOV	S9	EP	Z	13 56 9.5	846.8	.2			
		E	Y	21.0					
		E	Z	57 16.9					
9NOV	S12	EP	Z	14 2 13.6	121.0	.3	1.2		
		E	Z	20.9			1.2		
		ES	X	28.6			1.2		
9NOV	S11	+IP	Z	14 15 1.2	403.2	.2	.5		
		ES	Z	7.0			.5		
9NOV	S7	EP	Z	14 15 6.3			.5		
		ES	X	12.2			.5		
9NOV	S13	EP	Z	14 24 53.6			3.1		*
		ES	Y	25 29.7			3.1		
9NOV	S11	EP	Z	14 25 12.3	161.3	.2	4.1		*
		ES	Z	26 .0			4.1		
9NOV	S9	EP	Z	14 25 26.9	161.3	.2	5.3		*
		ES	Y	26 27.0			5.3		
9NOV	S7	EP	Z	14 25 45.2	241.9	.1	.5		*
		ES	X	51.6			.5		
9NOV	S11	EP	Z	14 59 7.7			.5		
		ES	Z	15.7			.5		
9NOV	S4	EP	Z	15 10 42.6			1.4		
		ES	Y	11 .3			1.4		
9NOV	S7	EP	Z	16 7 43.6			1.1		
		ES	X	57.9			1.1		
9NOV	S4	EP	Z	16 7 52.0			1.6		
		ES	Y	8 12.1			1.6		
9NOV	S13	EP	P	16 11 37.2			2.0		
		ES	Y	12 1.2			2.0		
9NOV	S11	EP	P	16 18 50.6			.4		
		ES	Z	55.1			.4		
9NOV	S7	EP	Z	16 58 40.3			.9		
		ES	X	52.4			.9		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
9NOV	S11	EP	Z	17 34 59.2			.5		
		ES	Z	35 6.1			.5		
9NOV	S9	EP	Z	17 35 12.9	80.6	.2	1.8		
		ES	Y	35.4			1.8		
9NOV	S13	EP	Z	18 25 18.6			R		
		ES	Y	27 14.2			R		
9NOV	S11	EP	Z	18 25 36.9	121.0	.2			

9NOV 18 47 55.0 44.5N 149.8E OBS PRELIMINARY EPICENTER -- (4)
H = 30 KM

9NOV	S7	EP	Z	18 48 9.7	32.1	.1	.8	219	-.5
		ES	X	22.5			.8	219	2.6
9NOV	S4	EP	Z	18 48 11.5	241.9	.3	1.0	101	-.8
		ES	Y	23.1			1.0	101	-1.6
9NOV	S9	EP	Z	18 48 31.6	241.9	.2	2.3	259	-.5
		ES	Y	57.0			2.3	259	-.7
9NOV	S11	EP	Z	18 48 40.6	80.6	.1	3.0	230	-1.1
9NOV	S11	EP	Z	19 28 8.4	121.0	.3	.5		
		ES	Z	14.9			.5		
9NOV	S7	EP	Z	19 32 50.8	32.1	.1	.7		
		ES	X	33 .0			.7		
9NOV	S4	EP	Z	19 39 31.0	80.6	.1	1.2		
		ES	Y	45.8			1.2		
9NOV	S11	EP	Z	20 47 53.2	32.1	.2	1.0		
		ES	Z	48 6.8			1.0		
9NOV	S4	EP	Z	21 33 43.7			.5		
		ES	Y	50.7			.5		
9NOV	S4	EP	Z	21 42 39.3			1.4		
		E	Z	40.7			1.4		
		ES	Y	57.1			1.4		
9NOV	S7	EP	Z	21 42 41.2			1.2		
		ES	X	56.6			1.2		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
9NOV	S11	EP	Z	17 34 59.2			.5		
		ES	Z	35 6.1			.5		
9NOV	S9	EP	Z	17 35 12.9	80.6	.2	1.8		
		ES	Y	35.4			1.8		
9NOV	S13	EP	Z	18 25 18.6			R		
		ES	Y	27 14.2			R		
9NOV	S11	EP	Z	18 25 36.9	121.0	.2			

9NOV 18 47 55.0 44.5N 149.8E OBS PRELIMINARY EPICENTER -- (4)
H = 30 KM

9NOV	S7	EP	Z	18 48 9.7	32.1	.1	.8	219	-.5
		ES	X	22.5			.8	219	2.6
9NOV	S4	EP	Z	18 48 11.5	241.9	.3	1.0	101	-.8
		ES	Y	23.1			1.0	101	-1.6
9NOV	S9	EP	Z	18 48 31.6	241.9	.2	2.3	259	-.5
		ES	Y	57.0			2.3	259	-.7
9NOV	S11	EP	Z	18 48 40.6	80.6	.1	3.0	230	-1.1
9NOV	S11	EP	Z	19 28 8.4	121.0	.3	.5		
		ES	Z	14.9			.5		
9NOV	S7	EP	Z	19 32 50.8	32.1	.1	.7		
		ES	X	33 .0			.7		
9NOV	S4	EP	Z	19 39 31.0	80.6	.1	1.2		
		ES	Y	45.8			1.2		
9NOV	S11	EP	Z	20 47 53.2	32.1	.2	1.0		
		ES	Z	48 6.8			1.0		
9NOV	S4	EP	Z	21 33 43.7			.5		
		ES	Y	50.7			.5		
9NOV	S4	EP	Z	21 42 39.3			1.4		
		E	Z	40.7			1.4		
		ES	Y	57.1			1.4		
9NOV	S7	EP	Z	21 42 41.2			1.2		
		ES	X	56.6			1.2		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
10NOV	S11	EP	Z	0 57 7.1	201.6	.2	1.7		*
		ES	Z	27.7			1.7		
10NOV	S7	EP	Z	0 57 9.2			2.6		*
		ES	X	40.1			2.6		
10NOV	S9	EP	Z	0 57 16.7	604.8	.2	2.2		*
		ES	Y	43.5			2.2		
10NOV	S10	EP	Z	0 59 24.3			.2		
		E	Z	25.5			.2		
		ES	Y	26.6			.2		
10NOV	S13	EP	Z	1 2 17.8	80.6	.3	3.2		
		ES	Y	55.5			3.2		
10NOV	S11	EP	P	1 2 35.5			4.9		
		ES	Z	3 31.5			4.9		
10NOV	S11	EP	Z	1 47 28.6	121.0	.2	.5		
		ES	Z	35.8			.5		
10NOV	S7	EP	Z	2 24 58.5			5.5		
		ES	Z	26 1.6			5.5		
10NOV	3 2 32.5	31.9S	68.4W	SAN JUAN PROVINCE, ARGENTINA H = 113 KM MAG = 6.0					
10NOV	S13	EPKP1	Z	3 21 54.4	604.8	.8	144.4	79	-1.1
10NOV	S10	EPKP1	Z	3 21 53.9	282.3	.7	144.4	85	-1.6
		EPKP2	Z	22 1.1			144.4	85	4.9
10NOV	S11	EPKP1	Z	3 21 56.6	846.8	.6	145.2	80	-.2
10NOV	S9	EPKP1	Z	3 21 57.2	443.5	.6	145.4	82	
10NOV	S7	EPKP2	Z	3 22 3.2			147.1	80	-3.2
10NOV	S4	EPKP1	Z	3 22 5.6			148.6	79	3.2
		EPKP2	Z	11.0			148.6	79	-1.4
10NOV	S9	EP	Z	3 17 42.2	32.1	.2	.6		
		ES	Y	51.2			.6		
10NOV	S10	EP	Z	3 18 15.0	80.6	.1	.2		
		ES	Y	16.7			.2		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
9NOV	S4	EP	Z	22 22 .5	322.6	.2	.5		
		ES	Y	8.0			.5		
9NOV	S9	EP	Z	22 53 52.4	201.6	.2	2.4		
		ES	Y	54 21.1			2.4		
9NOV	S13	EP	Z	22 57 50.1	161.3	.3	1.0		
		ES	Y	58 2.7			1.0		
9NOV	S9	EP	Z	22 58 5.3	161.3	.2	2.8		
		ES	Y	38.4			2.8		
9NOV	S13	EP	Z	23 21 43.8	80.6	.2	.5		
		ES	Y	49.2			.5		

9NOV 23 23 3.0 45.6N 152.1E KURILE EXPLOSION
H = 0 KM

9NOV	S9	EP	Z	23 23 22.2	1.0U	.5	.9	314	-.1
		ES	Y	35.9			.9	314	1.6
		ET	P	24 10.3			.9	314	
9NOV	S11	EP	Z	23 23 23.7	1.0U	.5	1.1	215	-1.7
		ET	P	24 20.7			1.1	215	
9NOV	S7	EP	Z	23 23 28.3	685.5	.5	1.2	67	1.3
		E	X	24 37.4			1.2	67	
9NOV	S13	EP	Z	23 23 41.9	201.6	.4	2.4	211	-2.0
		ES	Y	51.1			2.4	211	2.5
		ET	P	26 3.1			2.4	211	
9NOV	S10	E	Z	23 24 .1	241.9	.4	2.6	319	
		ES	X	15.1			2.6	319	19.9
		ET	P	26 30.9			2.6	319	
9NOV	S4	EP	Z	23 23 49.1	121.0	.5	2.7	69	.5
		ES	Y	24 1.5			2.7	69	3.6
		ET	P	26 30.6			2.7	69	
		E	P	45.2			2.7	69	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
10NOV	S11	EP	Z	3 25 57.9			2.0		
		ES	Z	26 22.5			2.0		
10NOV	S11	EP	Z	3 29 25.2			.2		
		ES	Z	27.2			.2		
10NOV	S11	EP	P	3 36 3.3			.5		
		ES	Z	8.7			.5		
10NOV	S11	EP	Z	3 43 11.3			.5		
		ES	Z	47.5			.5		
10NOV	S7	E	X	4 33 50.6					
10NOV	S7	EP	Z	4 59 44.7			1.2		
		ES	X	5 0 .3			1.2		
10NOV	S4	EP	Z	5 5 9.3	443.5	.3	.9		
		ES	Y	21.5			.9		
10NOV	S9	EP	Z	5 5 51.5	161.3	.2	3.6		
		ES	Y	6 34.1			3.6		
10NOV	S11	EP	P	5 5 59.9			.9		
		ES	Z	6 11.8			.9		
10NOV	S7	EP	Z	5 6 30.4			2.9		
		ES	X	7 4.4			2.9		
10NOV	S11	EP	Z	5 30 42.5			R		
		ES	Z	31 58.3			R		
10NOV	S13	E	P	5 33 30.2					
10NOV	S11	EP	P	6 19 28.9			1.8		
		ES	Z	51.4			1.8		
10NOV	S9	EP	Z	6 20 5.7	322.6	.3			

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
10NOV	6 25	4.0	46.3N	153.0E	KURILE EXPLOSION H = 0 KM				
10NOV	S11	+IP	Z	6 25 7.5	999.9		.2	180	-4.8
10NOV	S9	EP	Z	6 25 28.7	362.9	.2	1.3		-.6
		ES	Y	40.8			1.3		-1.8
		ET	P	26 49.0			1.3		
10NOV	S13	EP	Z	6 25 26.7	201.6	.3	1.5	203	-5.2
		ES	Y	51.3			1.5	203	7.5
		ET	P	26 47.5			1.5	203	
10NOV	S7	EP	Z	6 25 38.7			2.1	55	-2.0
10NOV	S10	E	Z	6 26 1.1			2.9	338	
		ES	X	25.4			2.9	338	19.6
		ET	P	28 54.1			2.9	338	
10NOV	S4	EP	Z	6 31 14.3	32.1	.2	.5		
		ES	Y	21.1			.5		
10NOV	S4	EP	Z	6 36 5.2	80.6	.2	2.1		
		ES	Y	30.1			2.1		
10NOV	S13	EP	Z	7 20 28.0			.7		
		ES	Y	37.2			.7		
10NOV	S11	EP	P	7 20 46.6					
10NOV	S11	EP	Z	9 0 40.5					
10NOV	S9	EP	Z	9 38 32.3	443.5	.2	.7		*
		ES	Y	41.8			.7		
		E	Y	39 21.6			.7		
10NOV	S7	EP	Z	9 38 39.9			1.9		*
		ES	X	39 3.7			1.9		
10NOV	S4	EP	Z	9 39 [illegible].5			2.8		*
		ES	Y	37.1			2.8		
10NOV	S9	EP	Z	10 29 8.4	241.9	.2			
		E	Y	19.4					
		E	Y	30 15.2					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
10NOV	S11	EP	Z	10 48 56.5	80.6	.1	.4		
		ES	Z	49 1.1			.4		
10NOV	S7	-IP	Z	11 25 9.5	161.3	.1	.9		*
		ES	X	21.7			.9		
10NOV	S4	EP	Z	11 25 10.2	121.0	.2	.8		*
		ES	Y	21.0			.8		
10NOV	S11	EP	P	11 25 37.6			2.7		*
		ES	Z	26 9.9			2.7		
10NOV	S9	E	Y	11 29 59.0					
10NOV	S7	EP	Z	11 34 37.7	48.1	.1	1.0		
		ES	X	50.3			1.0		
10NOV	S7	EP	Z	12 54 18.8	32.1	.1	.5		
		ES	X	25.1			.5		
10NOV	S11	EP	Z	13 22 31.5			.5		
		ES	Z	38.3			.5		
10NOV	S11	EP	P	13 29 14.2			.4		
		ES	Z	18.6			.4		
10NOV	S7	EP	Z	13 33 40.5	32.1	.1	.5		
		ES	X	47.2			.5		
10NOV	S9	EP	Z	14 0 37.6			.7		
		ES	Y	47.3			.7		
10NOV	S11	EP	Z	15 49 23.9			.5		
		ES	Z	30.1			.5		
10NOV	S11	EP	Z	16 6 37.2	403.2	.2	.5		
		ES	Z	42.9			.5		
10NOV	S9	EP	Z	16 26 59.8	80.6	.1	.7		
		ES	Y	27 9.3			.7		
10NOV	S11	EP	P	16 27 8.7					
10NOV	S7	+IP	Z	16 37 42.5	241.9	.1	.5		
		ES	X	48.9			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
10NOV	S11	EP	P	18 15 7.0					
10NOV 19 12 54.0		46.2N	153.6E	OBS PRELIMINARY EPICENTER -- (5) H = 0 KM					
10NOV	S11	-IP	Z	19 13 3.8	999.9		.5	126	-4.3
10NOV	S9	EP	Z	19 13 17.0	483.9	.2	1.3	19	-1.9
		ES	Y	30.0			1.3	19	-2.4
		E	P	14 26.4			1.3	19	
10NOV	S13	EP	Z	19 13 21.2			1.5	186	-.6
		ES	Y	41.3			1.5	186	7.7
10NOV	S7	EP	Z	19 13 34.9			2.4	63	-.3
		E	Z	43.7			2.4	63	
10NOV	S4	EP	Z	19 13 53.7			3.9	65	-2.8
		ES	Y	14 36.8			3.9	65	-5.0
10NOV	S13	EP	Z	19 32 3.8			5.8		
		ES	Y	33 10.8			5.8		
10NOV	S11	EP	Z	21 35 9.9	64.1	.1	.4		
		ES	Z	13.9			.4		
10NOV	S7	EP	Z	21 54 21.2			1.5		
		ES	X	39.8			1.5		
		E	Z	55 40.9			1.5		
10NOV	S11	EP	P	21 54 39.7					
10NOV	S10	EP	Z	21 54 58.9	201.6	.2	.3		
		ES	X	55 2.7			.3		
10NOV	S13	EP	Z	21 55 57.3			1.6		
		ES	Y	56 16.8			1.6		
10NOV	S7	EP	Z	23 10 30.9			.5		
		ES	Y	37.3			.5		
10NOV	S11	EP	Z	23 52 19.8	48.1	.1	.4		
		ES	Z	24.2			.4		
11NOV	S4	EP	Z	0 43 8.7			.5		
		ES	Y	15.5			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
11NOV	S7	EP	Z	0 43 25.0			1.6		
		ES	X	45.3			1.6		
11NOV	1 34 37.0	51.4N	176.2E	RAT IS, ALEUTIAN IS					
				H = 33 KM	MAG = 4.6				
11NOV	S9	EP	Z	1 38 26.6	80.6	.3	16.7	59	-3.3
		E	Y	41 3.2			16.7	59	
11NOV	S13	E	Z	1 40 32.7	121.0	.5			
11NOV	S13	EP	Z	2 7 42.9	999.9				*
11NOV	S11	EP	P	2 7 56.5			2.2		*
		ES	Z	8 23.1			2.2		
11NOV	S9	EP	Z	2 8 13.9	48.1	.2	2.2		*
		E	Z	17.2			2.2		
		ES	Y	40.1			2.2		
11NOV	S4	EP	Z	2 8 51.2			4.5		*
		ES	Y	9 43.5			4.5		
11NOV	S10	EP	Z	2 9 9.8	161.3	.1	.1		*
		ES	X	11.0			.1		
11NOV	S11	EP	P	2 42 18.0			.4		
		ES	Z	23.0			.4		
11NOV	S4	EP	Z	3 32 48.3	201.6	.2	.5		
		ES	Y	54.7			.5		
11NOV	S10	E	Z	3 34 28.3					
11NOV	S11	EP	P	3 43 42.4					
11NOV	S4	EP	Z	3 57 52.6			1.3		
		ES	Y	58 9.5			1.3		
11NOV	S11	EP	P	4 45 3.2			.5		
		ES	Z	9.7			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
11NOV	S4	EP	Z	5 16 35.3			1.8		
		ES	Y	57.7			1.8		
11NOV	S11	EP	P	6 17 44.8			.5		
		ES	Z	51.5			.5		
11NOV	S7	EP	Z	6 35 31.2			.5		
		ES	X	38.9			.5		
11NOV	S11	EP	P	6 53 17.0			.5		
		ES	Z	22.6			.5		
11NOV	S11	EP	P	7 15 13.2					
11NOV	S11	EP	Z	7 28 35.2	403.2	.1	.4		
		ES	Z	39.9			.4		
11NOV	S7	EP	Z	7 35 52.3			.6		
		ES	X	36 1.1			.6		
11NOV	S4	EP	Z	10 38 53.4			R		*
		ES	Y	40 35.4			R		
11NOV	S7	EP	Z	10 39 10.6	32.1	.1	5.2		*
		E	X	16.5			5.2		
		ES	X	40 10.6			5.2		
11NOV	S9	E	Z	10 39 27.2					*
		E	Y	41 40.3					
11NOV	S11	EP	P	10 39 32.6			R		*
		ES	Z	41 47.1			R		
11NOV	S10	EP	Z	10 42 11.9	201.6	.2	.2		
		ES	X	14.4			.2		
11NOV	S7	-IP	Z	11 54 21.5	64.1	.1	.5		
		ES	X	26.9			.5		
11NOV	S11	EP	P	13 16 29.8			.4		
		ES	Z	34.6			.4		
11NOV	S7	EP	Z	13 46 40.1			.5		
		ES	X	45.5			.5		
11NOV	S13	EP	P	14 26 27.1			2.5		
		ES	Y	57.0			2.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
11NOV	S11	EP	Z	14 26 49.9	201.6	.3			
11NOV	S4	EP	Z	14 49 12.4	362.9	.1	.5		
		ES	Y	18.4			.5		
11NOV	S11	EP	Z	15 4 36.2	362.9	.2	1.3		
		ES	Z	53.1			1.3		
11NOV	S10	EP	Z	15 5 52.2	282.3	.3	.3		
		ES	X	55.1			.3		
11NOV	S11	EP	Z	15 27 13.8			.5		
		ES	Z	19.8			.5		
11NOV	S4	EP	Z	15 27 54.6			2.2		
		ES	Y	28 20.7			2.2		
11NOV	S4	EP	Z	15 37 12.3			2.3		
		ES	Y	40.4			2.3		
11NOV	S10	EP	Z	15 39 13.0	201.6	.3	.5		
		ES	X	20.8			.5		
11NOV	16	3 38.0	50.3N	155.5E	KURILE IS				
				H = 145 KM		MAG = 4.9			
11NOV	S13	-IP	Z	16 4 19.9	999.9		2.9	22	-4.1
		ES	Y	52.6			2.9	22	-6.5
11NOV	S11	+IP	Z	16 4 36.4	685.5	.3	4.2	23	-4.6
		E	P	5 20.3			4.2	23	
11NOV	S9	-IP	Z	16 4 53.0	999.9		5.6	17	-6.8
		E	P	5 48.9			5.6	17	
11NOV	S7	EP	Z	16 5 4.0	64.1	.1	6.2	31	-3.8
		E	X	15.7			6.2	31	
		ES	X	6 9.5			6.2	31	-7.2
11NOV	S10	EP	Z	16 5 8.9	999.9		6.7	5	-6.1
		E	Z	6 18.0			6.7	5	
11NOV	S4	EP	Z	16 5 19.5	241.9	.2	7.4	38	-4.3
		ES	Y	6 38.3			7.4	38	-7.9
11NOV	S4	EP	Z	16 51 4.8	121.0	.2	.8		
		ES	Y	15.8			.8		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
11NOV	S7	EP	Z	16 51 23.7			1.5		
		ES	X	42.7			1.5		
11NOV	S4	EP	Z	17 25 56.2			L		
		ES	Y	29 3.4			L		
11NOV	S13	EP	Z	17 51 43.4	121.0	.2	3.3		*
		ES	Y	52 22.6			3.3		
11NOV	S11	EP	P	17 52 .6			4.6		*
		ES	Z	54.4			4.6		
11NOV	S9	EP	Z	17 52 16.5	161.3	.2	5.3		*
		ES	Y	53 17.3			5.3		
11NOV	S10	EP	Z	17 52 26.0			N		*
		ES	Y	53 43.7			N		
11NOV	S7	E	Z	17 52 26.7					*
11NOV	S11	+IP	Z	17 59 48.5	1.9U	.2	.4		
		ES	Z	52.6			.4		
11NOV	S7	IP	Z	18 20 .9	443.5	.1	1.1		
		ES	X	15.1			1.1		
11NOV	S4	EP	Z	18 52 47.9			.3		
		ES	Y	51.6			.3		
11NOV	S7	EP	Z	19 38 56.0			.7		*
		ES	X	39 5.5			.7		
		E	?	56.2			.7		
11NOV	S11	EP	P	19 39 14.5			2.2		*
		ES	Z	41.1			2.2		
11NOV	S10	EP	Z	19 39 41.6	161.3	.2	.2		*
		ES	Y	43.0			.2		
11NOV	S7	E	X	21 0 48.8					
11NOV	S11	EP	P	21 8 30.1					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
11NOV	S4	EP	Z	21 22 35.5			.6		
		ES	Y	43.7			.6		
11NOV	S11	+IP	Z	23 24 15.1	322.6	.1	.7		
		ES	Z	24.8			.7		
11NOV	S13	EP	Z	23 58 53.3			3.0		
		ES	Y	59 28.3			3.0		
11NOV	S11	EP	P	23 58 59.9			5.0		
		ES	Z	59 57.7			5.0		
12NOV	S7	EP	Z	4 33 47.5	32.1	.1	2.5		
		ES	X	34 17.2			2.5		
12NOV	S4	EP	Z	5 22 6.8	80.6	.2	1.4		
		ES	Y	24.7			1.4		
12NOV	S7	EP	Z	5 22 18.0	32.1	.1	2.3		*
		ES	Y	45.5			2.3		
		E	X	23 18.7			2.3		
12NOV	S9	EP	Z	5 22 38.3	362.9	.2			*
		E	Z	46.9					
		E	Y	23 18.3					
		E	Y	55.8					
12NOV	S11	EP	P	5 22 40.6			3.7		*
		ES	Z	23 24.0			3.7		
12NOV	S4	EP	Z	5 23 5.9	121.0	.2	.8		*
		ES	Y	16.6			.8		
12NOV	S10	EP	Z	5 23 48.0	80.6	.1	.5		
		ES	X	53.3			.5		
12NOV	S10	F	X	5 24 33.4					
12NOV	S11	+IP	Z	5 43 45.5			.5		
		ES	Z	51.8			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
12NOV	5 55	3.9	46.1N	153.5E	KURILE EXPLOSION H = 0 KM				
12NOV	S11	+IP	Z	5 55 15.7			.5	139	-2.6
		ET	P	34.9			.5	139	
12NOV	S9	EP	Z	5 55 26.7	524.2	.4	1.2	18	-.4
		E	Z	31.6			1.2	18	
		ES	Y	37.6			1.2	18	-3.8
		ET	P	56 29.3			1.2	18	
12NOV	S13	EP	Z	5 55 35.8			1.6	188	2.5
		ES	Y	47.8			1.6	188	3.6
		ET	P	57 3.1			1.6	188	
12NOV	S7	EP	Z	5 55 49.0	121.0	.3	2.3	64	5.4
		ES	X	57.3			2.3	64	8.7
		ET	P	58 .8			2.3	64	
12NOV	S10	E	Z	5 56 21.7			2.6	343	
		E	X	26.4			2.6	343	
		ET	P	58 22.2			2.6	343	
12NOV	S7	E	X	6 11 6.0					
12NOV	S11	-IP	Z	6 38 3.3	403.2	.2	.4		
		ES	Z	7.8			.4		
12NOV	S4	EP	Z	6 44 53.2			.7		
		ES	Y	45 2.7			.7		
12NOV	S11	EP	Z	6 55 45.9			.4		
		ES	Z	51.0			.4		
12NOV	S11	EP	Z	7 0 22.2			.5		
		ES	Z	29.1			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
12NOV	7 48	6.0	46.4N	152.6E	OBS PRELIMINARY EPICENTER -- (5) H = 0 KM				
12NOV	S11	+IP	Z	7 48 14.2	927.4	.2	.3	250	-1.5
		E	Z	18.9			.3	250	
12NOV	S9	EP	Z	7 48 30.1	121.0	.2	1.4	349	-3.0
		E	Z	33.2			1.4	349	
		ES	Y	45.2			1.4	349	-.2
		E	Z	49 42.2			1.4	349	
12NOV	S13	EP	Z	7 48 30.5			1.5	214	-4.0
		ES	Y	44.3			1.5	214	-1.7
12NOV	S7	EP	Z	7 48 41.4			1.9	48	1.0
		E	X	49 10.1			1.9	48	
12NOV	S4	EP	Z	7 48 59.4			3.4	58	-1.4
		ES	Y	49 38.3			3.4	58	9.9
12NOV	S10	E	Z	7 49 25.0					
12NOV	S9	EP	Z	8 33 33.5	121.0	.3	.8		
		ES	Y	44.3			.8		
12NOV	S13	EP	Z	9 45 54.5	282.3	.2	1.3		*
		ES	Y	46 11.0			1.3		
12NOV	S11	EP	Z	9 46 5.2			2.0		*
		ES	Z	29.3			2.0		
12NOV	S9	EP	Z	9 46 21.9	201.6	.2	3.0		*
		ES	Y	56.8			3.0		
12NOV	S7	EP	Z	9 46 28.6	32.1	.1	3.8		*
		ES	X	47 12.4			3.8		
12NOV	S7	EP	Z	10 1 39.7	32.1	.1	.5		
		ES	X	45.0			.5		
12NOV	S7	EP	Z	11 17 56.5					
		ES	X	18 14.9			1.5		
		E	X	19 28.0			1.5		
12NOV	S11	EP	P	11 20 55.4			1.5		

DAY	STA	PHASE C		TIME	AMP	PER	DIST	AZI	RES
12NOV 11 50 31.6		23.8S		67.6W	CHILE-ARGENTINA BORDER REG				
					H = 126 KM		MAG = 5.6		
12NOV	S4	EPKP1	Z	12 9 50.3			144.0	67	-2.0
12NOV 12 49 43.6		41.8N		144.1E	HOKKAIDO, JAPAN REGION				
					H = 33 KM		MAG = 5.8		
12NOV	S4	EP	Z	12 50 44.8	241.9	.2	4.3	230	-3.8
		E	Z	45.8	999	9	4.3	230	
12NOV	S7	EP	Z	12 51 4.7	1.8U	.1	5.7	237	-3.8
		E	Z	52 10.1			5.7	237	
12NOV	S9	EP	Z	12 51 23.2	645.2	.2	7.2	247	-6.3
		E	Z	52 37.2			7.2	247	
		E	Y	55 22.8			7.2	247	
12NOV	S11	EP	Z	12 51 32.9	999.9		7.9	237	-6.5
12NOV	S10	EP	Z	12 51 32.8	564.5	.4	7.9	260	-6.5
		ES	X	52 54.7			7.9	260	-14.2
12NOV	S13	EP	Z	12 51 49.5	806.5	.0	9.1	233	-5.7
		ES	Y	53 24.1			9.1	233	-13.2
12NOV	S11	EP	Z	13 15 51.8					
12NOV 13 28 23.0		41.6N		143.8E	HOKKAIDO, JAPAN REGION				
					H = 54 KM		MAG = 4.1		
12NOV	S4	EP	Z	13 29 23.8	564.5	.3	4.6	230	-8.1
		E	Y	52.1			4.6	230	
		E	Y	30 9.5			4.6	230	
12NOV	S7	EP	Z	13 29 44.0	161.3	.1	6.0	237	-7.8
		ES	X	30 46.7			6.0	237	-13.8
12NOV	S9	EP	Z	13 30 2.5	403.2	.2	7.5	246	-10.0
		E	Z	10.6			7.5	246	
		E	Y	31 15.2			7.5	246	
12NOV	S11	EP	Z	13 30 11.4			8.2	237	-10.9
		ES	Z	31 35.5			8.2	237	-19.6
12NOV	S10	EP	Z	13 30 13.9	241.9	.3	8.2	259	-8.1
		E	K	31 31.5			8.2	259	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
12NOV	S10	EP	Z	13 37 58.0	241.9	.6	1.5		
		ES	X	38 17.0			1.5		
12NOV	S13	EP	Z	13 41 19.1	121.0	.2	1.0		
		ES	Y	32.2			1.0		
12NOV	S11	EP	Z	13 41 37.2			2.5		
		ES	Z	42 6.9			2.5		
12NOV	S11	EP	Z	13 52 50.5			3.3		
		ES	Z	53 28.8			3.3		

12NOV 13 56 15.0 40.7N 144.2E OFF E CST OF HONSHU, JAPAN
H = 33 KM MAG = 4.5

12NOV	S7	EP	Z	13 57 39.6	48.1	.1	6.4	229	-9.8
		E	X	58 40.6			6.4	229	
		E	X	14 1 57.1			6.4	229	
		E	X	7 4.0			6.4	229	
12NOV	S9	EP	Z	13 57 58.7	604.0	.4	7.8	239	-9.6
		E	Z	58 7.2			7.8	239	
		E	Y	59 11.6			7.8	239	
		E	Y	14 5 .8			7.8	239	
12NOV	S10	EP	Z	13 58 10.5	322.6	.3	8.3	253	-4.6
		E	X	59 29.6			8.3	253	
12NOV	S13	EP	Z	13 58 27.8			9.8	228	-9.0
		E		59 59.4			9.8	228	
12NOV	S4	EP	Z	13 57 20.5	846.8	.3	5.1	220	-10.3
		E	Y	27.9			5.1	220	
		E	Y	58 06.7			5.1	220	
12NOV	S11	EP	Z	13 58 08.2			8.6	231	-12.1
		ES	Z	59 30.6			8.6	231	-26.9

12NOV	S10	EP	Z	14 5 49.9	201.6	.3	1.0		
		ES	Y	6 3.1			1.0		
12NOV	S4	EP	Z	14 6 35.4			.5		
		ES	Y	43.0			.5		
12NOV	S7	EP	Z	15 43 4.7			1.0		
		ES	X	18.1			1.0		
		E	X	56.0			1.0		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
12NOV	S4	EP	Z	15 49 47.5					
		E	Y	56.4					
		E	Y	50 33.1					
12NOV	S7	EP	Z	15 50 7.2			5.4		
		ES	X	51 9.8			5.4		
12NOV	S4	EP	Z	16 39 3.8					
		ES	Y	11.3			.5		
							.5		
12NOV	S11	EP	Z	16 43 59.5					
12NOV	S4	EP	Z	16 55 .9					
		ES	Y	8.4			.5		
							.5		
12NOV	S4	EP	Z	17 4 8.1	121.0	.3	3.8		*
		ES	Y	52.9			3.8		
12NOV	S7	EP	Z	17 4 28.7	32.1	.1	5.4		*
		ES	X	5 30.2			5.4		
12NOV	S9	EP	Z	17 4 46.6	121.0	.3	R		*
		ES	Y	5 58.3			R		
12NOV	S11	EP	P	17 4 55.7			R		*
		ES	Z	6 18.8			R		
12NOV	S10	EP	Z	17 4 58.0	80.6	.3	R		*
		ES	X	6 17.6			R		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
12NOV 17 15 53.0 41.5N 144.3E HOKKAIDO,JAPAN REGION H = 33 KM MAG = 4.6									
12NOV	S4	EP	Z	17 16 54.9	1.5U	.5	4.4	225	-4.4
		E	Z	17 5.1			4.4	225	
		ES	Y	42.4			4.4	225	-7.9
12NOV	S7	EP	Z	17 17 14.9	32.1	.1	5.8	233	-4.1
		ES	X	18 17.6			5.8	233	-7.8
		E	X	22 9.9			5.8	233	
		E	X	23 54.3			5.8	233	
12NOV	S9	EP	Z	17 17 33.6	685.5	.3	7.3	244	-5.6
		E	Y	18 46.3			7.3	244	
		E	Y	24 40.1			7.3	244	
		E	Z	25 11.7			7.3	244	
12NOV	S10	EP	Z	17 17 44.7	282.3	.4	7.9	258	-3.3
		ES	X	19 4.5			7.9	258	-12.5
12NOV	S11	EP	Z	17 17 42.7			8.0	235	-7.2
		E	Z	19 5.4			8.0	235	
12NOV	S13	EP	Z	17 17 37.6	161.3	.7	R		
		ES	Y	19 34.1			R		
12NOV	S10	EP	Z	17 25 34.0	322.6	.3	2.3		
		ES	X	26 2.0			2.3		
12NOV	S4	EP	Z	17 31 10.9	201.6	.2	.5		
		ES	Y	17.7			.5		
12NOV 17 33 52.0 45.1N 151.7E KURILE IS H = 33 KM MAG = 4.8									
12NOV	S7	EP	Z	17 34 13.4	999.9		.8	92	6.2
12NOV	S9	EP	Z	17 34 8.3	999.9		.9	277	-.3
12NOV	S11	+IP	Z	17 34 15.5	2.1U	.3	1.7	213	-3.7
12NOV	S4	EP	Z	17 34 32.3	806.5	.2	2.3	79	3.7
12NOV	S10	EP	Z	17 34 32.1	806.5	.2	2.5	306	.5
		ES	X	35 2.1			2.5	306	.5
12NOV	S13	EP	Z	17 34 33.7	241.9	.3	3.0	211	-4.0
		E	Z	35 3.2			3.0	211	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
12NOV	S4	EP	Z	17 49 28.4	887.1	.3	3.9		*
		E	Z	38.5			3.9		
		ES	Y	50 14.1			3.9		
12NOV	S7	EP	Z	17 49 48.0	161.3	.1	5.3		*
		ES	X	50 48.8			5.3		
12NOV	S9	EP	Z	17 50 7.0	564.5	.3	R		*
		E	Z	25.4			R		
		ES	Y	51 19.5			R		
		E	Y	57 33.2			R		
12NOV	S11	EP	P	17 50 16.2			R		*
		ES	Z	51 40.5			R		
12NOV	S10	EP	Z	17 50 18.9	241.9	.3	R		*
		ES	X	51 38.1			R		
12NOV	S13	EP	Z	17 50 35.3	80.6	.3	R		*
		ES	Y	52 10.6			R		
12NOV	S10	EP	Z	17 58 51.9			1.9		
		ES	X	59 15.1			1.9		
12NOV	S4	EP	Z	18 29 42.7	201.6	.1	.4		
		ES	Y	47.7			.4		

12NOV 18 45 1.0 15.6S 167.3E NEW HEBRIDES IS
H = 40 KM MAG = 5.2

12NOV	S9	EP	Z	18 55 18.8	161.3	.5	61.7	164	1.5
12NOV	S7	EP	Z	18 55 27.4			62.3	162	5.8
12NOV	S4	EP	Z	18 55 20.9	201.6	.8	62.4	159	-1.1
12NOV	S11	EP	Z	18 55 27.0	524.2	.6	63.1	165	.1
12NOV	S13	EP	Z	18 55 37.3	241.9	.6	64.1	166	3.9
12NOV	S11	EP	Z	19 11 32.0			.5		
		ES	Z	38.8			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
12NOV	S7	EP	Z	19 24 10.9	80.6	.1	.9		*
		ES	X	22.6			.9		
12NOV	S4	EP	Z	19 24 17.5	121.0	.3	1.3		*
		E	Y	29.7			1.3		
		ES	Y	34.3			1.3		
12NOV	S10	EP	Z	19 24 29.0			4.4		*
		ES	Y	25 19.5			4.4		
12NOV	S11	EP	Z	19 24 38.8	121.0	.1	2.7		*
		ES	Z	25 10.9			2.7		
12NOV	S9	E	Y	19 24 49.3					*
		E	Y	27 40.6					
		E	Y	29 5.4					
12NOV	S7	E	Z	19 27 2.1					*
12NOV	S4	EP	Z	19 27 9.3	121.0	.3	1.3		*
		E	Y	20.8			1.3		
		ES	Y	25.5			1.3		
12NOV	S11	EP	Z	19 27 30.1	64.1	.2	2.7		*
		ES	Z	28 1.8			2.7		
12NOV	S10	EP	Z	19 27 36.3	80.6	.3	2.9		*
		ES	Y	28 10.6			2.9		
12NOV	S13	E	Z	19 28 32.3	201.6	.3			*
12NOV	S7	EP	Z	19 45 38.5			.9		*
		ES	X	50.8			.9		
12NOV	S4	EP	Z	19 45 48.3			1.3		*
		ES	Y	46 5.0			1.3		
12NOV	S11	EP	P	19 46 7.5			2.6		*
		ES	Z	38.8			2.6		
12NOV	S11	EP	P	19 56 26.3					
12NOV	S9	EP	Z	19 56 44.6	80.6	.2	1.2		
		ES	Y	59.9			1.2		
12NOV	S11	-IP	Z	20 0 9.8	967.7	.1	.4		
		ES	Z	14.8			.4		
12NOV	S4	EP	Z	20 10 8.0	121.0	.2	.5		
		ES	Y	15.4			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
12NOV	S13	EP	Z	20 10 25.1	161.3	.3	1.2		*
		ES	Y	40.6			1.2		
12NOV	S9	EP	Z	20 10 25.2	201.6	.2	1.2		*
		ES	Y	40.7			1.2		
		E	Z	11 35.2			1.2		
12NOV	S7	EP	Z	20 10 36.4			2.2		*
		ES	X	11 2.9			2.2		
12NOV	S4	EP	Z	20 10 55.6			3.3		
		ES	Y	11 34.4			3.3		
12NOV	S10	EP	Z	20 11 19.1	80.6	.1	.2		
		ES	Y	20.7			.2		

12NOV 20 30 38.0 47.0N 152.6E OBS PRELIMINARY EPICENTER -- (7)
H = 0 KM

12NOV	S11	-IP	Z	20 30 44.3	1.2U	.1	.6	331	-8.7
		E	Z	50.0			.6	331	
12NOV	S13	EP	Z	20 30 57.4	201.6	.2	1.1	232	-2.7
		E	Z	31 .7			1.1	232	
		ES	Y	13.1			1.1	232	-1.8
12NOV	S7	EP	Z	20 31 17.9			2.4	37	-.7
		E	X	32 4.5			2.4	37	
12NOV	S4	EP	Z	20 31 36.2			3.7	50	-1.3
		ES	Y	32 20.3			3.7	50	4.5
12NOV	S9	EP	M	20 30 59.6	322.6	.2	1.3	352	-14.1
		E	Z	31 01.8			1.3	352	-4.6
		ES	Y	15.9			1.3	352	
		E	Z	32 25.9			1.3	352	
12NOV	S10	E	X	20 31 49.0					
12NOV	S4	EP	Z	20 44 41.7			5.8		
		ES	Y	45 48.7			5.8		
12NOV	S7	-IP	Z	21 58 17.7	362.9	.2	.8		
		ES	X	28.9			.8		
12NOV	S4	EP	Z	21 58 27.0	121.0	.3	1.4		
		ES	Y	44.8			1.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
12NOV	S13	-IP	Z	22 24 59.0	241.9	.1	.5		
		ES	Y	25 5.4			.5		
12NOV	S11	EP	Z	22 25 10.6			1.1		
		ES	Z	25.2			1.1		

12NOV 23 4 58.8 41.7N 144.2E HOKKAIDO, JAPAN REGION
H = 33 KM MAG = 4.7

12NOV	S4	EP	Z	23 6 .0	483.9	.3	4.3	228	-3.8
		E	Z	1.3			4.3	228	
		ES	Y	47.7			4.3	228	-5.1
12NOV	S7	EP	Z	23 6 20.2	201.6	.2	5.7	235	-3.6
		ES	X	7 19.7			5.7	235	-9.8
		E	P	12 56.8			5.7	235	
12NOV	S9	EP	Z	23 6 39.0	1.7U	.4	7.2	246	-5.4
		E	Z	47.5			7.2	246	
		E	Y	7 51.0			7.2	246	
		E	Y	13 43.5			7.2	246	
12NOV	S10	EP	Z	23 6 48.1	362.9	.5	7.9	259	-5.9
		E	X	33 56.6			7.9	259	
		E	X	14 33.7			7.9	259	
12NOV	S11	EP	Z	23 6 49.2			7.9	236	-5.5
		ES	Z	8 10.7			7.9	236	-13.7
12NOV	S13	EP	Z	23 7 5.2	80.6	.3	9.1	233	-5.4
		ES	Y	8 40.0			9.1	233	-12.9

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
12NOV 23 31		3.0	46.3N	153.0E	KURILE EXPLOSION H = 0 KM				
12NOV	S11	+IP	Z	23 31 8.3			.2	180	-3.0
12NOV	S9	EP	Z	23 31 27.8	806.5	.5	1.3		-.5
		ES	Y	40.3			1.3		-1.3
		ET	P	32 47.9			1.3		
12NOV	S13	EP	Z	23 31 27.3	564.5	.6	1.5	203	-3.6
		ES	Y	38.2			1.5	203	-4.6
		ET	P	32 50.2			1.5	203	
12NOV	S7	EP	Z	23 31 38.7			2.1	55	-1.0
		ES	Z	32 10.7			2.1	55	-24.7
12NOV	S10	EP	Z	23 31 49.0			2.9	338	-2.2
		ES	X	32 5.1			2.9	338	-.2
		ET	P	34 53.2			2.9	338	
12NOV	S4	EP	Z	23 31 57.6			3.6	61	-3.1
		E	Y	32 7.4			3.6	61	
		ES	Y	40.0			3.6	61	5.2
		ET	P	35 40.3			3.6	61	
12NOV	S4	+IP	Z	23 48 5.7	645.2	.2	.6		
		ES	Y	14.4			.6		
13NOV	S7	EP	Z	0 11 17.1	80.6	.1	.5		
		ES	X	23.0			.5		
13NOV	S4	EP	Z	0 51 7.9	121.0	.1			
		E	Y	52 10.1					
13NOV	S4	EP	Z	0 58 6.5	999.9				*
		E	Z	23.3					
13NOV	S7	-IP	Z	0 58 24.9	483.9	.3	2.5		*
		ES	X	55.2			2.5		
13NOV	S9	EP	Z	0 58 45.3	564.5	.2	3.8		*
		E	Z	53.5			3.8		
		ES	Y	59 29.5			3.8		
13NOV	S11	+IP	Z	0 58 49.9	64.1	.1	4.3		*
		ES	Z	59 39.4			4.3		
13NOV	S10	EP	Z	0 59 1.9	403.2	.2	5.1		*
		ES	X	1 0 .5			5.1		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
13NOV	S11	EP	P	1 21 17.6			.4		
		ES	Z	22.5			.4		
13NOV	S4	EP	Z	2 7 3.2	201.6	.2	.5		
		ES	Y	9.0			.5		
13NOV	S13	EP	Z	2 10 54.1	80.6	.3	1.5		
		ES	Y	11 12.9			1.5		
13NOV	S11	EP	P	2 52 48.8			.4		
		ES	Z	54.0			.4		

13NOV 2 56 30.2 41.4N 144.3E HOKKAIDO, JAPAN REGION
H = 63 KM MAG = 4.3

13NOV	S4	EP	Z	2 57 30.1	846.8	.2	4.5	225	-7.3
		E	Y	37.7			4.5	225	
		ES	Y	58 14.9			4.5	225	-14.1
13NOV	S7	EP	Z	2 57 49.6	64.1	.1	5.9	233	-7.0
		ES	Y	58 51.5			5.9	233	-12.0
		E	P	3 4 29.1			5.9	233	
13NOV	S9	EP	Z	2 58 8.6	846.8	.3	7.3	244	-7.9
		E	Y	59 20.0			7.3	244	
		E	Y	3 5 22.7			7.3	244	
13NOV	S10	EP	Z	2 58 18.9	121.0	.1	7.9	257	-6.1
		E	X	59 38.2			7.9	257	
		E	Y	3 6 6.8			7.9	257	
13NOV	S11	EP	Z	2 58 17.5			8.1	234	-9.8
		ES	Z	59 40.3			8.1	234	-17.9
13NOV	S13	EP	Z	2 58 34.4			9.2	231	-8.9
		E	Y	3 0 8.7			9.2	231	

13NOV	S13	EP	Z	3 4 44.5	241.9	.1			

13NOV	S7	-IP	Z	3 49 5.7	403.2	.2	.8		*
		ES	X	16.6			.8		
13NOV	S4	EP	Z	3 49 7.5	121.0	.2	.8		*
		ES	Y	18.1			.8		
13NOV	S11	EP	P	3 49 33.3					*

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
13NOV	3 51 26.0	45.CN		151.5E	OBS PRELIMINARY EPICENTER -- (6) H = 0 KM				
13NOV	S7	EP	Z	3 51 33.8			.7	100	-4.1
13NOV	S9	EP	Z	3 51 44.4	443.5	.2	1.1	271	-3.6
		ES	Y	57.8			1.1	271	-5.0
13NOV	S11	EP	Z	3 51 53.9	80.1	.2	1.8	216	-5.0
13NOV	S4	EP	Z	3 51 58.9	161.3	.3	2.2	81	-4.9
		ES	Y	52 9.4			2.2	81	-.1
		E	Y	29.0			2.2	81	
13NOV	S10	EP	Z	3 52 5.7	161.3	.1	2.6	303	-4.3
		ES	X	36.7			2.6	303	20.0
13NOV	S13	EP	Z	3 52 12.3			3.1	212	-5.0
		ES	Y	48.0			3.1	212	10.7
13NOV	S7	EP	Z	4 10 3.2	443.5	.2	.9		*
		ES	X	14.7			.9		
13NOV	S9	EP	Z	4 10 8.8	282.3	.2	1.0		*
		ES	Y	22.4			1.0		
		E	Y	11 23.3			1.0		
13NOV	S11	EP	P	4 10 18.5					*
13NOV	S7	EP	Z	5 5 35.4	403.2	.1	.6		*
		ES	X	43.7			.6		
13NOV	S4	EP	Z	5 5 46.2			1.3		*
		ES	Y	6 2.2			1.3		
13NOV	S11	EP	P	5 6 1.0					*
13NOV	S11	EP	P	5 33 54.5			.4		
		ES	Z	59.6			.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
13NOV	S 48	3.0		47.0N 153.9E KURILE EXPLOSION H = 0 KM					
13NOV	S13	EP	Z	5 48 15.9	604.8	.4	.7	176	-3.4
		E	Z	18.0			.7	176	
		E	Z	24.0			.7	176	
		ET	P	50.4			.7	176	
13NOV	S11	EP	P	5 48 18.6			.8	51	-2.6
		E	P	49 7.3			.8	51	
13NOV	S9	EP	Z	5 48 37.6	201.6	.4	2.1	17	-2.1
		E	Z	49 3.6			2.1	17	
		ET	P	50 41.1			2.1	17	
13NOV	S7	EP	Z	5 48 42.6	887.1	.3	3.0	50	-10.2
		ES	X	54.7			3.0	50	-14.8
		E	P	51 55.4			3.0	50	
13NOV	S10	E	Z	5 49 12.8			3.4	352	
		ES	Y	34.7			3.4	352	7.5
		ET	P	52 25.8			3.4	352	
13NOV	S4	ET	P	5 53 42.1					
13NOV	S4	EP	Z	6 26 .2	161.3	.2	1.7		
		ES	Y	21.2			1.7		
13NOV	S11	EP	P	6 38 26.5					
		ES	Z	31.2			.4		
							.4		
13NOV	6 42 49.0			44.8N 149.2E OBS PRELIMINARY EPICENTER -- (4) H = 50 KM					
13NOV	S4	EP	Z	6 43 1.0	443.5	.2	.5	77	-.1
		ES	Y	9.0			.5	77	.9
13NOV	S7	EP	Z	6 43 08.2			1.0	251	.9
		ES	X	22.4			1.0	251	1.5
13NOV	S9	EP	Z	6 43 30.2	322.6	.2	2.7	267	-1.0
		E	Z	38.1			2.7	267	
		ES	Y	58.6			2.7	267	-4.5
13NOV	S11	EP	Z	6 43 36.4			3.2	23°	-1.2
		E	Z	44 9.7			3.2	239	
13NOV	S10	EP	Z	6 43 48.2	161.3	.2	4.0	289	-1.8
		ES	Y	44 34.2			4.0	289	-2.5

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
13NOV	S7	EP	Z	7 58 43.1	999.9		.9		
		ES	X	55.0			.9		
13NOV	S11	EP	P	8 19 33.5			1.0		
		ES	Z	46.6			1.0		
13NOV	S11	EP	Z	9 42 50.7			.6		
		ES	Z	59.4			.6		
13NOV	S11	EP	Z	10 8 17.1	201.6	.1	1.0		
		ES	Z	30.7			1.0		
13NOV	S7	EP	Z	10 13 35.4	64.1	.1	1.2		
		ES	Z	50.8			1.2		
13NOV	S4	EP	Z	10 24 11.1	201.6	.2	.5		
		ES	Y	17.0			.5		
13NOV	S11	EP	P	10 53 15.7			.5		
		ES	Z	22.0			.5		
13NOV	S13	EP	Z	11 43 17.7	282.3	.2	.5		
		E	Z	21.0			.5		
		ES	Y	25.1			.5		
13NOV	S11	EP	Z	11 43 25.9	48.1	.2	1.1		
		ES	Z	40.0			1.1		
13NOV	S7	EP	Z	12 55 57.2			1.2		
		ES	X	56 12.0			1.2		
13NOV	S4	EP	Z	12 59 26.9	282.3	.2	.5		
		ES	Y	32.5			.5		
13NOV	S11	+IP	Z	13 32 8.3	1.2U	.2	.5		
		ES	Z	14.6			.5		
13NOV	S13	EP	Z	15 6 31.2	121.0	.1	1.1		
		ES	Y	45.0			1.1		
13NOV	S11	EP	Z	15 6 38.4	121.0	.2	1.6		
		ES	Z	57.8			1.6		
13NOV	S4	EP	P	15 12 28.0			2.5		
		ES	Y	58.3			2.5		
13NOV	S7	EP	Z	15 27 48.2	322.6	.1	.5		
		ES	X	56.2			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
13NOV	S4	EP	Z	16 33 18.4			.6		
		ES	Y	26.5			.6		
13NOV	S7	EP	Z	16 33 29.8			1.5		
		ES	X	48.1			1.5		
13NOV	S4	EP	Z	17 2 43.8			.6		
		ES	Y	52.7			.6		
13NOV	S7	EP	Z	17 2 54.8			1.5		
		ES	X	3 13.8			1.5		
13NOV	S7	EP	Z	17 56 38.3	32.1	.1	.9		
		ES	X	50.7			.9		
13NOV	S9	EP	Z	18 6 41.8	201.6	.2	.2		
		ES	Y	43.3			.2		
13NOV	S7	EP	Z	18 11 40.7	201.6	.1	.5		
		ES	X	46.9			.5		
13NOV	S7	EP	Z	18 14 14.7	80.6	.1	.5		
		ES	X	21.0			.5		
13NOV	S7	EP	Z	18 22 23.1			1.6		
		ES	X	42.9			1.6		
13NOV	S11	EP	Z	18 26 25.9	64.1	.1	.5		
		ES	Z	32.0			.5		
13NOV	S11	EP	Z	21 2 47.3	282.3	.1	.4		
		ES	Z	52.3			.4		

13NOV 21 10 4.0 53.7N 169.3E KOMANDORSKY IS REGION
H = 33 KM MAG = 4.7

13NOV	S13	EP	Y	21 12 50.5			11.5	53	1.5
		E	Y	14 39.8			11.5	53	
13NOV	S9	EP	Z	21 13 14.3	201.6	.2	13.7	45	-3.9
		E	Y	15 28.7			13.7	45	
		E	Y	24 54.6			13.7	45	
		E	Y	26 56.7			13.7	45	
13NOV	S10	EP	Z	21 13 17.9	161.3	.3	14.0	39	-3.8
		E	X	15 40.1			14.0	39	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
13NOV	S11	EP	Z	21 23 39.6					
		ES	Z	59.0			1.6		
							1.6		
13NOV	S10	EP	Z	21 27 12.9					
		ES	X	28 2.6			4.3		
		E	X	29 29.5			4.3		
							4.3		
13NOV	S4	EP	Z	22 10 40.2					
		ES	Y	58.0			1.4		
							1.4		
13NOV	S11	EP	Z	22 52 53.0					
		ES	Z	53 5.7			1.0		
							1.0		
14NOV	S4	EP	Z	0 34 6.3					
		ES	Y	54.1			R		
							R		
14NOV	S11	EP	Z	0 40 29.8					
		ES	Z	40.2			.8		
							.8		
14NOV	S4	EP	Z	1 39 30.6					
		ES	Y	40 8.4			R		
							R		

14NOV 3 8 31.3 2.0N 99.1E N SUMATRA
H = 181 KM MAG = 5.3

14NOV	S9	EP	Z	3 18 45.7	322.6	.4	63.8	244	-.2
		EPCP	Z	19 14.1			63.8	244	-6.2
14NOV	S13	EP	Z	3 18 56.8	362.9	.5	65.4	244	
14NOV	S7	EP	Z	3 57 54.9					
		ES	X	58 10.9			1.3		
							1.3		
14NOV	S11	EP	P	3 58 2.2					
		ES	Z	20.7			1.5		
							1.5		
14NOV	S7	EP	Z	4 34 24.1	32.1	.1	1.2		*
		ES	X	39.3			1.2		
14NOV	S11	EP	Z	4 34 35.0			1.6		*
		ES	Z	55.0			1.6		
14NOV	S9	E	Y	4 34 36.1					*
		E	Y	35 33.0					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
14NOV	S11	EP	P	8 24 26.7			.3		
		ES	Z	30.0			.3		
14NOV	S7	EP	Z	9 12 8.1	32.1	.1	1.3		*
		ES	X	24.1			1.3		
14NOV	S11	EP	P	9 12 13.3			1.5		*
		ES	Z	32.5			1.5		
14NOV	S9	E	Y	9 12 21.9					*
		E	Y	13 27.6					
14NOV	S13	EP	Z	10 17 7.0	362.9	.2	.7		
		E	Z	10.3			.7		
		ES	Y	16.5			.7		
14NOV	S11	EP	Z	10 17 23.1			1.4		
		ES	Z	40.4			1.4		
14NOV	S11	EP	P	10 48 20.1			2.8		*
		ES	Z	53.5			2.8		
14NOV	S13	EP	Z	10 48 21.8	80.6	.2	4.4		*
		ES	Y	49 12.4			4.4		
14NOV	S7	EP	Z	10 48 23.5			3.3		*
		ES	X	49 1.8			3.3		
14NOV	S9	EP	Z	10 48 29.6	685.5	.3	3.4		*
		ES	Y	49 9.2			3.4		
14NOV	S10	EP	Z	10 48 51.9			5.0		*
		ES	X	49 49.7			5.0		
14NOV	S4	EP	Z	10 54 16.4			.5		
		ES	Y	23.8			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
14NOV	S10	EP	Z	11 31 7.0	161.3	.2	5.4		*
		ES	X	32 8.7			5.4		
14NOV	S7	EP	Z	11 31 16.1	282.3	.2	.5		*
		ES	X	23.8			.5		
14NOV	S9	EP	Z	11 31 16.3	483.9	.2	.9		*
		ES	Y	28.3			.9		
		E	P	32 25.6			.9		
14NOV	S11	EP	P	11 31 25.6			1.4		*
		ES	Z	43.5			1.4		
14NOV	S4	EP	Z	11 31 34.4			3.0		*
		ES	Y	32 10.1			3.0		
14NOV	S13	EP	Z	12 44 9.3	161.3	.4	1.9		*
		E	Z	18.0			1.9		
		ES	Y	33.0			1.9		
		E	Y	45 39.9			1.9		
14NOV	S11	EP	Z	12 44 23.6			2.8		*
		ES	Z	57.3			2.8		
14NOV	S10	EP	Z	12 44 42.3			4.2		*
		ES	X	45 30.6			4.2		
14NOV	S9	EP	Z	12 45 14.0	725.8	.2	R		*
		ES	Y	46 22.5			R		
		E	Z	48 28.2			R		
14NOV	S7	EP	Z	12 45 25.3	201.6	.1	.7		*
		ES	X	35.0			.7		
14NOV	S4	EP	Z	12 45 26.5	161.3	.2	.9		*
		ES	Y	38.1			.9		
14NOV	S11	E	Z	12 47 36.6					
14NOV	S4	EP	Z	14 1 55.3			4.7		
		ES	Y	2 49.6			4.7		
14NOV	S9	EP	Z	14 2 30.3	241.9	.2	R		
		E	Z	38.8			R		
		ES	Y	3 48.9			R		
14NOV	S11	EP	P	14 41 41.4			.3		
		ES	Z	45.1			.3		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
14NOV	S7	EP	Z	16 29 49.0	241.9	.2	1.1		*
		ES	X	30 3.6			1.1		
14NOV	S11	EP	P	16 29 57.3			1.7		*
		ES	Z	30 18.7			1.7		
14NOV	S4	EP	Z	16 30 1.1	201.6	.2	1.9		*
		ES	Y	24.9			1.9		
14NOV	S13	EP	Z	16 30 11.9			2.7		*
		ES	Y	44.5			2.7		
14NOV	S9	E	Y	16 30 19.3					*
		E	Y	31 18.1					
14NOV	S10	EP	Z	16 30 21.5	241.9	.2	3.4		*
		E	Z	22.9			3.4		
		E	Z	28.4			3.4		
		ES	X	31 1.2			3.4		
14NOV	S4	EP	Z	17 58 40.6	161.3	.2	.8		
		ES	Y	51.6			.8		
14NOV	S7	EP	Z	17 58 49.4			1.5		
		ES	X	59 8.2			1.5		
14NOV	S7	EP	Z	18 12 59.0			1.5		
		ES	X	13 18.2			1.5		
14NOV	S4	EP	Z	20 11 10.1			.8		
		ES	Y	21.4			.8		
14NOV	S7	EP	Z	20 11 39.0			1.7		
		ES	X	12 .4			1.7		
14NOV	S10	EP	Z	20 12 59.5	161.3	.2	.2		
		ES	X	13 1.5			.2		
14NOV	S4	EP	Z	20 53 16.9			R		
		ES	Y	54 41.7			R		
14NOV	S7	EP	Z	20 54 25.3			1.3		*
		ES	X	42.2			1.3		
14NOV	S9	EP	Z	20 54 44.7	282.3	.2	1.9		*
		ES	Y	55 7.7			1.9		
		E	Z	56 5.1			1.9		
		E	Z	57 19.6			1.9		
14NOV	S11	EP	P	20 54 53.4			3.1		*
		ES	Z	55 29.4			3.1		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
14NOV	S11	EP	P	21 50 18.9			1.2		
		ES	Z	34.5			1.2		
14NOV	S11	EP	Z	21 57 42.4	322.6	.1	1.9		
		ES	Z	58 5.4			1.9		
14NOV	S13	EP	Z	21 57 58.0			1.4		
		ES	Y	58 15.4			1.4		
14NOV	S11	EP	Z	22 14 4.6	362.9	.2	1.4		
		ES	Z	22.4			1.4		
14NOV	S9	E	Y	22 14 44.9					
14NOV	S13	EP	Z	23 1 11.6	999.9				*
14NOV	S11	EP	Z	23 1 19.4	201.6	.2	1.5		*
		ES	Z	38.0			1.5		
14NOV	S9	EP	Z	23 1 23.3	201.6	.2	3.0		*
		E	Z	38.2			3.0		
		ES	Y	58.3			3.0		
		E	Z	3 14.9			3.0		
14NOV	S7	E	Z	23 1 52.3					*
14NOV	S4	EP	Z	23 2 9.9			R		*
		ES	Y	3 3.1			R		
15NOV	S11	EP	Z	2 3 45.6	282.3	.1	.5		
		ES	Z	50.9			.5		
15NOV	S11	EP	Z	2 32 1.2			N		*
		ES	Z	33 42.8			N		
15NOV	S4	EP	Z	2 32 30.3	685.5	.3	.8		*
		ES	Y	40.7			.8		
15NOV	S7	EP	Z	2 32 39.8	121.0	.1	2.1		*
		ES	X	33 5.0			2.1		
15NOV	S9	EP	Z	2 32 59.3	806.5	.2	3.2		*
		ES	Y	33 37.1			3.2		
15NOV	S10	EP	Z	2 33 18.0	483.9	.2	4.7		*
		ES	X	34 12.7			4.7		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
15NOV	S11	-IP	Z	2 37 38.8	999.9		.4		*
		ES	Z	44.0			.4		
15NOV	S13	EP	Z	2 37 48.5	80.6	.2	1.1		*
		ES	Y	38 3.1			1.1		
15NOV	S9	EP	Z	2 37 56.8			1.4		*
		ES	Y	38 14.8			1.4		
		E	Z	39 17.6			1.4		
15NOV	S13	EP	Z	3 3 35.0	80.6	.1	.8		
		ES	Y	45.7			.6		
15NOV	S11	EP	P	3 3 41.9					
15NOV	S11	+IP	Z	3 33 49.9	362.9	.1	.4		
		ES	Z	54.1			.4		
15NOV	S7	EP	Z	6 41 4.1			.4		
		ES	X	8.2			.4		
15NOV	7 45 41.0	45.2N	150.3E	OBS PRELIMINARY EPICENTER -- (4) H = 85 KM					
15NOV	S7	EP	Z	7 45 52.2	524.2	.2	.2	294	-1.1
		ES	X	57.1			.2	294	-5.3
15NOV	S4	EP	Z	7 46 5.2			1.4	68	-.6
		ES	Y	21.7			1.4	68	-1.9
15NOV	S9	EP	Z	7 46 11.6			1.9	277	-1.1
		ES	Y	33.3			1.9	277	-2.6
15NOV	S11	EP	Z	7 46 16.5			2.3	236	-1.1
		E	Z	43.7			2.3	236	
15NOV	S7	EP	Z	7 58 22.1			1.0		
		ES	X	34.8			1.0		
15NOV	S9	EP	Z	9 43 14.0	161.3	.2	.2		
		ES	Y	16.5			.2		
15NOV	S11	-IP	Z	10 9 39.4	1.1U	.1	1.1		
		ES	Z	54.1			1.1		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES	
15NOV 10 20 39.0		41.8N		143.5E	HOKKAIDO, JAPAN REGION H = 45 KM		MAG = 4.0			
15NOV	S4	EP	Z	10 21 41.6	241.9	.3	4.6	233	-6.9	
		ES	Y	22 28.2			4.6	233	-13.8	
15NOV	S7	EP	Z	10 22 1.9			6.1	239	-6.9	
15NOV	S9	EP	Z	10 22 17.3	121.0	.2	7.6	249	-12.9	
		ES	Y	23 33.0			7.6	249	-23.2	
		E	Y	29 58.6			7.6	249		
15NOV	S10	EP	Z	10 22 27.0			8.4	261	-12.5	
		ES	X	23 50.2			8.4	261	-24.4	
15NOV	S11	EP	P	10 22 31.9			8.3	239	-7.5	
		E	Z	23 53.1			8.3	239		
15NOV	S10	EP	Z	10 30 11.9			2.6			
		ES	X	42.7			2.6			
15NOV	S11	EP	Z	10 30 14.6	80.6	.1	1.4			
		ES	Z	32.3			1.4			
15NOV	S7	EP	Z	10 36 53.3	32.1	.1	1.5			*
		ES	X	37 11.9			1.5			
15NOV	S4	EP	Z	10 36 58.1			1.7			*
		ES	Y	37 19.6			1.7			
15NOV	S9	E	Y	10 37 35.1						*
15NOV	S10	EP	Z	10 38 12.9			.2			
		ES	X	14.9			.2			
15NOV	S10	EP	Z	11 12 26.1	161.3	.3	.3			
		ES	X	29.0			.3			
15NOV	S7	EP	Z	11 52 12.1	80.1	.1	.6			
		ES	X	20.7			.6			
15NOV	S7	EP	Z	12 26 38.0	32.1	.1	.5			
		ES	X	44.6			.5			
15NOV	S4	EP	Z	14 48 24.6	80.6	.2	.5			
		ES	Y	31.6			.5			

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
15NOV	S11	EP	P	14 57 46.2			.6		
		ES	Z	54.4			.6		
15NOV	S9	E	Z	14 59 58.8					
15NOV	S10	EP	Z	15 0 28.7			.3		
		ES	Y	31.7			.3		
15NOV	S4	EP	Z	15 38 37.9			.6		
		ES	Y	46.6			.6		
15NOV	16 19	7.4	51.2N	176.6W	ANDREANOF IS, ALEUTIAN IS H = 49 KM MAG = 5.0				
15NOV	S4	EP	Z	16 24 17.1	241.9	.8	24.1	62	-2.5
15NOV	S7	EP	Z	17 3 29.7	282.3	.1	.6		
		ES	X	38.2			.6		
15NOV	S4	EP	Z	17 3 40.1			1.1		
		ES	Y	54.4			1.1		
15NOV	S7	EP	Z	17 27 47.3	161.3	.1	1.6		
		ES	X	28 7.2			1.6		
15NOV	S9	EP	Z	17 27 58.7	161.3	.2	2.3		
		ES	Y	28 26.6			2.3		
15NOV	S11	E	Z	18 52 8.5					
15NOV	S7	EP	Z	20 45 .2	32.1	.1	.5		
		ES	X	6.7			.5		
15NOV	S7	EP	Z	23 18 56.4	32.1	.1	.5		
		ES	X	19 4.2			.5		
16NOV	S10	EP	Z	0 [illegible] 33.7	161.3	.2	.3		
		ES	Y	37.0			.3		
16NOV	S4	EP	Z	0 7 34.4	161.3	.1	2.1		
		ES	Y	8 .3			2.1		
16NOV	S7	EP	Z	0 7 51.8			3.1		
		ES	X	8 28.3			3.1		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
16NOV	S9	E	Y	0 9 1.7					
16NOV	S7	E	Z	1 2 31.8					
16NOV	S7	EP	Z	1 21 21.5			.8		
		ES	X	32.4			.8		
16NOV	S9	EP	Z	2 4 53.2	121.0	.2	1.5		
		ES	Y	5 12.1			1.5		
16NOV	S11	EP	P	2 21 2.5					
16NOV	S7	EP	Z	2 25 40.0	201.6	.1	1.4		
		ES	X	57.4			1.4		
16NOV	S9	E	Y	2 26 24.4					
16NOV	S7	EP	Z	2 49 11.1	64.1	.2	.5		
		ES	X	17.2			.5		
16NOV	S9	E	Y	2 59 53.6					
16NOV	S11	EP	P	4 1 3.2					
16NOV	S9	E	Y	4 1 52.8					

16NOV 4 35 7.0 39.8N 142.1E NR E COAST OF HONSHU, JAPAN
H = 33 KM MAG = 4.1

16NOV	S7	EP	Z	4 37 7.5			8.2	232	1.2
		ES	X	38 37.9			8.2	232	-.8
16NOV	S9	EP	Z	4 37 24.2	201.6	.3	9.6	241	-1.5
		ES	Y	39 3.7			9.6	241	-9.8
		E	Y	46 47.2			9.6	241	
16NOV	S10	EP	Z	4 37 34.0	241.9	.4	10.1	252	1.4
		ES	X	39 19.1			10.1	252	-6.6
16NOV	S11	EP	P	4 37 34.9			10.4	234	-1.9
		E	Z	39 31.1			10.4	234	

16NOV	S10	EP	Z	4 47 8.5			4.7		
		ES	X	48 2.6			4.7		
16NOV	S11	EP	Z	5 2 21.8			2.5		
		ES	Z	51.6			2.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
16NOV	S9	EP	Z	5 2 33.5	201.6	.2	2.2		
		ES	Y	3 .2			2.2		
16NOV	S7	E	Z	5 24 34.6					
16NOV	S7	E	Z	5 27 27.4					
16NOV	S7	EP	Z	6 26 32.9			1.3		
		ES	X	49.7			1.3		
16NOV	S11	EP	Z	6 33 53.0					
16NOV	S4	EP	Z	6 48 29.9	524.2	.3	.5		
		ES	Y	37.0			.5		
16NOV	S7	EP	Z	6 48 52.9			.5		
		ES	X	49 .5			.5		
16NOV	S4	EP	Z	7 3 4.2			.5		
		ES	Y	11.8			.5		
16NOV	S11	EP	P	7 44 29.3					
16NOV	S9	EP	Z	7 44 39.0	121.0	.3	2.1		
		ES	Y	45 4.0			2.1		
16NOV	S11	EP	P	9 55 46.6			.5		
		ES	Z	52.4			.5		
16NOV	S11	EP	P	10 56 45.5			3.4		
		ES	Z	57 25.0			3.4		
16NOV	S11	EP	Z	11 53 9.9	201.6	.2	.5		
		ES	Z	15.2			.5		
16NOV	S11	EP	Z	11 55 59.1	833.3	.1	.6		*
		ES	Z	59.0			.6		
16NOV	S9	EP	Z	11 56 6.0	725.8	.3	2.5		*
		ES	Y	36.0			2.5		
16NOV	S10	EP	Z	11 56 25.8	161.3	.1	4.0		*
		E	Z	32.9			4.0		
		ES	X	57 12.8			4.0		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
16NOV	S11	EP	Z	12 19 19.3	443.5	.3	2.4		
		ES	Z	47.5			2.4		
16NOV	S11	EP	P	14 28 8.6			.4		
		ES	Z	12.7			.4		
16NOV	S11	EP	P	14 33 42.3			.9		*
		ES	Z	54.6			.9		
16NOV	S7	EP	Z	14 34 7.2			3.5		*
		ES	X	48.0			3.5		
16NOV	S9	E	Z	14 34 23.7					*
16NOV	S9	E	Z	15 3 37.1					
16NOV	S11	EP	Z	15 18 5.4			.3		
		ES	Z	9.3			.3		
16NOV	S11	EP	Z	16 10 46.5	241.9	.2	1.9		
		ES	Z	11 10.3			1.9		
16NOV	S9	EP	Z	16 11 2.9	161.3	.1	2.9		
		ES	Y	37.1			2.9		
16NOV	S11	EP	P	17 25 50.2			.8		
		ES	Z	26 1.1			.8		
16NOV	S9	E	Y	17 26 22.8					
16NOV	S9	E	Y	17 32 51.4					
16NOV	S10	EP	Z	17 33 28.3	80.6	.1	.1		
		ES	Y	28.7			.1		
16NOV 18 15 46.1		30.8N		142.0E	S OF HONSHU, JAPAN				
				H = 33 KM		MAG = 4.3			
16NOV	S10	EP	Z	18 19 23.2			16.2	222	-10.0
		E	X	22 11.0			16.2	222	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
16NOV	S11	EP	Z	18 17 28.9			.4		
		ES	Z	33.6			.4		
16NOV	S7	E	Z	19 20 11.8					
16NOV	S7	EP	Z	19 20 11.8					
		ES	X	19.2					
16NOV	S7	EP	Z	19 51 22.4			5.5		*
		ES	X	52 25.6			5.5		
16NOV	S9	EP	Z	19 51 41.6	201.6	.2	R		*
		E	Z	49.2			R		
		ES	Y	52 57.8			R		
16NOV	S10	EP	Z	19 51 58.2			.3		*
		ES	X	52 1.9			.3		
16NOV	S10	EP	Z	19 53 28.9			.3		
		ES	Y	32.1			.3		

16NOV 20 44 1.3 46.6N 153.7E KURILE IS
H = 33 KM MAG = 4.8

16NOV	S11	-IP	Z	20 44 10.0	999.9		.5	78	-1.6
16NOV	S9	EP	Z	20 44 24.8	999.9		1.7	17	-3.7
16NOV	S7	EP	Z	20 44 44.5	1.2U	.6	2.7	55	1.7
		E	Z	45 36.3			2.7	55	
16NOV	S10	EP	Z	20 44 42.2	604.8	.6	3.0	348	-5.8
		E	Y	47.7			3.0	348	
		ES	X	45 13.6			3.0	348	-9.9
16NOV	S4	EP	Z	20 45 1.7	1.4U	.4	4.1	61	-1.9
		ES	Y	43.9			4.1	61	-7.6
16NOV	S11	EP	P	20 51 19.6			.8		
		ES	Z	30.5			.8		
16NOV	S9	E	Y	20 51 49.8					
		E	Y	52 42.7					
		E	Z	53 16.0					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
16NOV	S11	EP	P	21 2 17.1					
		ES	Z	26.7			.7		
							.7		
16NOV	S9	E	Z	21 2 48.4					
16NOV	S11	EP	P	23 34 5.3					
		ES	Z	14.1			.6		
							.6		
17NOV	S11	EP	P	0 24 19.8					
		ES	Z	26.9			.5		
							.5		
17NOV	S4	EP	Z	2 24 7.2	80.6	.2			
		ES	Y	17.4			.7		
							.7		
17NOV	S9	E	Z	2 38 12.3					
17NOV	S11	EP	P	3 58 13.4					
		ES	Z	17.5			.4		
							.4		
17NOV	S4	EP	Z	4 29 2.1					
		ES	Y	12.9			.8		
							.8		
17NOV	S7	EP	Z	4 29 3.9	80.6	.1			
		ES	X	16.1			.9		
							.9		
17NOV	S11	EP	Z	4 34 1.5	564.5	.1			
		ES	Z	6.5			.4		
							.4		
17NOV	S9	E	Y	5 27 14.5					
17NOV	S7	EP	Z	5 47 4.6	32.1	.1			
		ES	X	17.7			1.0		
							1.0		
17NOV	S11	EP	Z	5 47 16.6					
		ES	Z	38.1			1.7		
							1.7		
17NOV	S9	E	Y	6 12 5.4					
17NOV	S7	EP	Z	6 50 59.9					
		ES	X	51 10.0			.7		
							.7		
17NOV	S7	EP	Z	9 12 56.3					
		ES	X	13 12.6			1.3		
							1.3		
17NOV	S9	EP	Z	9 13 7.2	241.9	.2			
		ES	Y	31.6			2.0		
							2.0		
17NOV	S11	EP	Z	11 32 25.5	96.2	.3			
		ES	Z	33 6.3			3.5		
							3.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
17NOV	S9	E	Z	11 33 33.6					
17NOV	S7	EP	Z	11 53 30.0	80.6	.1	.5		*
		ES	X	38.0			.5		
17NOV	S4	EP	Z	11 53 36.6			1.3		*
		ES	Y	52.6			1.3		
17NOV	S11	EP	P	11 53 57.1			2.7		*
		ES	Z	54 29.1			2.7		
17NOV	S9	E	Y	11 54 7.7					*
		E	Y	55 51.1					
17NOV	S7	EP	Z	12 19 18.4			.6		
		ES	X	27.5			.6		
17NOV	S4	EP	Z	13 14 7.7	121.0	.2	.8		
		ES	Y	18.1			.8		
17NOV	S7	EP	Z	14 0 7.9	80.6	.1	.5		
		ES	X	15.3			.5		
17NOV	S11	EP	P	15 11 27.1			.6		
		ES	Z	35.5			.6		
17NOV	S4	+IP	Z	15 53 7.8	1.0U	.2	.4		*
		ES	Y	11.8			.4		
17NOV	S7	EP	Z	15 53 27.0	161.3	.1	2.2		*
		ES	X	53.1			2.2		
17NOV	S9	EP	P	15 53 46.0			2.8		*
		ES	Y	54 19.3			2.8		
17NOV	S10	EP	Z	15 54 40.6			.5		*
		ES	Y	47.0			.5		
17NOV	S7	E	Z	17 27 6.9					
17NOV	S7	EP	Z	17 32 16.8	282.3	.1	.8		
		ES	X	27.7			.8		
17NOV	S9	E	Y	17 32 54.1					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
17NOV	S9	E	Y	17 37 51.2					
17NOV	S7	EP	Z	18 57 34.6	161.3	.1	.5		
		ES	X	42.4			.5		
17NOV	S7	EP	Z	19 18 54.7			.9		
		ES	X	19 6.9			.9		

17NOV 19 27 5.0 46.2N 153.6E KURILE IS
H = 33 KM MAG = 4.4

17NOV	S11	-IP	Z	19 27 15.8	999.9		.5	126	.2
17NOV	S9	+IP	Z	19 27 30.6	999.9		1.3	19	4.1
		E	P	47.6			1.3	19	
		E	P	28 55.9			1.3	19	
17NOV	S10	EP	Z	19 27 47.9	282.3	.4	2.7	345	1.5
		E	X	28 4.2			2.7	345	
		ES	X	19.2			2.7	345	1.3
17NOV	S7	EP	Z	19 27 49.9	645.2	.3	2.4	63	7.0
17NOV	S4	EP	Z	19 28 7.2	887.1	.2	3.9	65	3.1
		ES	Y	53.4			3.9	65	3.9

17NOV	S11	-IP	Z	19 37 8.4	483.9	.2	2.0		*
		ES	Z	32.5			2.0		
17NOV	S9	EP	Z	19 37 16.1	645.2	.2	2.3		*
		ES	Y	44.1			2.3		
		E	Y	39 18.3			2.3		
17NOV	S7	E	Z	19 37 37.7			N		*
17NOV	S10	EP	Z	19 38 24.2	80.6	.2	.3		*
		ES	Y	27.7			.3		

17NOV	S11	EP	Z	20 6 31.4	322.6	.2	1.5		
		ES	Z	50.5			1.5		
17NOV	S9	E	Y	20 7 10.5					
17NOV	S9	E	Y	20 9 34.2					
17NOV	S11	EP	Z	20 11 8.3	241.9	.2	.3		
		ES	Z	11.9			.3		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
17NOV	S7	EP	Z	21 52 56.6	121.0	.2			
		ES	X	53 2.4			.5		
							.5		
17NOV	S11	EP	Z	22 54 16.4					
		ES	Z	21.5			.4		
							.4		
17NOV	S11	EP	P	23 11 14.5					
		ES	Z	31.2			1.3		*
17NOV	S9	EP	Z	23 11 30.0	80.6	.2	1.3		
		ES	Y	56.8			2.2		*
17NOV	S7	EP	Z	23 11 49.3			2.2		
		ES	X	12 35.9			4.0		*
							4.0		
17NOV	S11	EP	P	23 20 19.9					
		ES	Z	34.8			1.2		*
17NOV	S9	EP	Z	23 20 20.6	201.6	.2	1.2		
		ES	Y	51.3			2.6		*
17NOV	S7	EP	Z	23 20 42.8			2.6		
		ES	X	21 31.6			4.2		*
		E	X	48.0			4.2		
							4.2		
18NOV	S7	E	Z	0 29 29.4					
18NOV	S11	EP	P	2 1 28.5					
		ES	Z	45.0			1.3		
							1.3		
18NOV	S11	EP	Z	3 43 14.3					
		ES	Z	37.3			1.9		
							1.9		
18NOV	S7	EP	Z	5 33 14.8					
		E	X	18.3			.5		
		ES	X	20.8			.5		
							.5		
18NOV	S4	+IP	Z	5 54 13.6	322.6	.1			
		ES	Y	21.3			.5		
							.5		
18NOV	S7	EP	Z	5 54 25.7					
		ES	X	31.8			.5		
		E	X	43.6			.5		
							.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
18NOV	S7	EP	Z	6 48 36.6			4.7		*
		ES	X	49 30.8			4.7		
18NOV	S9	EP	Z	6 48 54.9	121.0	.3	5.1		*
		ES	Y	49 53.8			5.1		
18NOV	S10	EP	Z	6 49 6.3			6.0		*
		ES	X	50 15.3			6.0		
18NOV	S7	E	Z	7 4 39.4					
18NOV	S7	EP	Z	8 7 6.7			2.0		
		ES	X	30.8			2.0		
18NOV	S11	EP	Z	8 47 43.1			5.8		*
		ES	Z	48 49.9			5.8		
18NOV	S9	EP	Z	8 48 4.7	80.6	.2	R		*
		ES	Y	49 17.0			R		
18NOV	S7	EP	Z	8 48 22.8			R		*
		ES	X	49 42.2			R		
18NOV	S10	EP	Z	8 49 43.2	241.9	.0	.3		*
		ES	Y	46.3			.3		
18NOV	S7	E	Z	9 5 58.7					
18NOV	S7	EP	Z	9 15 52.9	80.6	.1	.5		
		ES	X	16 .5			.5		
18NOV	S7	EP	Z	10 23 17.1			3.4		
		E	X	25.1			3.4		
		ES	X	57.0			3.4		
18NOV	S4	EP	Z	10 23 17.8	403.2	.2	.7		
		ES	Y	28.0			.7		
18NOV	S7	E	X	10 48 51.1					
18NOV	S7	EP	Z	11 2 7.1			.5		
		ES	X	13.0			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
18NOV	S7	EP	Z	11 30 46.9			.9		
		E	X	52.1			.9		
		ES	X	59.2			.9		
		E	X	31 52.0			.9		
18NOV	S11	EP	P	11 32 30.2			.5		
		ES	Z	35.8			.5		

18NOV 11 38 19.0 46.4N 151.0E OBS PRELIMINARY EPICENTER -- (5)
H = 0 KM

18NOV	S7	EP	Z	11 38 48.1	564.5	.3	1.3	15	3.6
		ES	X	39 11.1			1.3	15	13.3
18NOV	S11	+IP	Z	11 38 45.7	806.5	.2	1.4	267	.?
		E	Z	39 7.7			1.4	267	
18NOV	S9	EP	Z	11 38 52.3	1.7U	.2	2.0	316	-1.8
		ES	Y	39 18.7			2.0	316	17.5
		E	P	40 5.1			2.0	316	
18NOV	S4	EP	Z	11 38 57.5	161.3	.2	2.5	45	-3.5
		E	Y	39 28.2			2.5	45	
18NOV	S10	-IP	Z	11 39 15.0	604.8	.1	3.8	319	-4.4
		E	Z	15.8			3.8	319	
		E	Z	17.1			3.8	319	
		ES	X	59.6			3.8	319	-.3

18NOV	S11	EP	P	14 3 12.2			1.5		*
		ES	Z	31.4			1.5		
18NOV	S7	E	X	14 3 29.2					*
18NOV	S9	E	Y	14 3 40.9					*
18NOV	S10	EP	Z	14 4 22.0	80.6	.1	.2		*
		ES	Y	24.2			.2		

18NOV	S4	EP	Z	15 15 34.9			.7		
		ES	Y	44.3			.7		
18NOV	S7	EP	Z	15 15 37.0			1.0		
		ES	X	50.6			1.0		
18NOV	S11	EP	Z	15 53 44.3	403.2	.2	1.8		
		ES	Y	54 6.4			1.8		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
18NOV	S7	EP	Z	16 30 15.9			.7		
		ES	X	25.5			.7		
18NOV	S7	EP	Z	17 6 48.7	443.5	.1	.4		
		ES	X	52.9			.4		
		E	X	7 25.3			.4		
18NOV	S4	EP	Z	17 7 4.7			1.5		
		ES	Y	23.3			1.5		
18NOV	S7	EP	Z	19 13 30.0			.2		
		ES	X	32.2			.2		
18NOV	S7	E	X	19 28 24.9					
18NOV	S7	E	Z	20 2 23.3					
18NOV	S7	EP	Z	20 3 49.5	32.1	.1	.5		
		ES	X	57.4			.5		
18NOV	S7	EP	Z	20 16 45.3			5.3		
		ES	X	17 45.6			5.3		
18NOV	S10	EP	Z	20 17 12.7	121.0	.3	R		
		ES	Y	18 32.3			R		
18NOV	S9	E	Z	20 18 14.2					
18NOV	S7	E	X	21 6 23.6					
18NOV	S11	EP	Z	21 10 49.0					*
18NOV	S9	EP	Z	21 11 5.6	161.3	.2	3.0		*
		ES	Y	40.7			3.0		
18NOV	S7	EP	Z	21 11 20.3			4.5		*
		ES	X	12 12.7			4.5		
18NOV	S10	E	Z	21 12 9.3					*
18NOV	S9	E	Z	21 40 21.0					
18NOV	S4	EP	Z	23 42 28.1	201.6	.2	1.0		
		ES	Y	41.6			1.0		
18NOV	S11	EP	Z	23 51 10.1	403.2	.3	.5		
		ES	Z	16.2			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
19NOV	S7	EP	Z	0 9 49.3					
		ES	X	11 0.2			R		
							R		
19NOV	S7	EP	Z	1 17 25.9	80.6	.2	2.0		
		ES	X	50.0			2.0		
19NOV	S7	EP	Z	1 22 44.1					
		ES	X	50.3			.5		
		E	X	23 46.3			.5		
							.5		

19NOV 2 3 24.0 49.0N 153.0E OBS PRELIMINARY EPICENTER -- (5)
H = 150 KM

19NOV	S11	EP	Z	2 4 10.3	362.9	.3	2.5		4.7
		E	Z	44.8			2.5		
19NOV	S9	EP	Z	2 4 26.6	725.8	.2	4.0		1.5
		ES	Y	5 9.1			4.0		-3.0
19NOV	S7	EP	Z	2 4 26.0			4.2	23	-2.0
		E	X	34.6			4.2	23	
		E	X	46.2			4.2	23	
		ES	X	5 11.8			4.2	23	-5.5
		E	X	29.8			4.2	23	
19NOV	S4	EP	Z	2 4 46.7	403.2	.2	5.3	34	4.3
		ES	Y	5 49.1			5.3	34	5.9
19NOV	S10	EP	Z	2 4 46.7	241.9	.2	5.5	349	2.1
		E	Z	47.5			5.5	349	
		E	Z	49.8			5.5	349	
		ES	Y	5 45.4			5.5	349	-1.7

19NOV	S11	EP	Z	2 44 10.9					
		ES	Z	14.8			.3		
							.3		
19NOV	S7	E	Z	3 48 38.7					
19NOV	S7	EP	Z	4 2 37.4	604.8	.2	.5		
		ES	X	43.4			.5		
19NOV	S11	EP	P	4 3 3.3					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
19NOV	4 11 53.0	45.1N	150.7E	OBS PRELIMINARY EPICENTER -- (4) H = 0 KM					
19NOV	S7	EP	Z	4 12 3.3	645.2	.2	.1	104	2.8
		ES	X	4.8			.1	104	.5
19NOV	S4	EP	Z	4 12 19.0			1.6	74	-3.1
		ES	Y	39.0			1.6	74	5.6
19NOV	S9	EP	Z	4 12 20.7	80.6	.2	1.6	274	-2.4
		ES	Y	39.8			1.6	274	5.3
19NOV	S11	EP	Z	4 12 27.3			2.1	230	-3.0
		E	Z	52.0			2.1	230	
19NOV	S7	EP	Z	4 34 29.6	121.0	.1	.5		
		ES	X	35.8			.5		
19NOV	S11	EP	Z	5 9 13.4			.4		
		ES	Z	17.4			.4		
19NOV	5 19 56.1	37.6N	141.3E	NEAR E CST OF HONSHU, JAPAN H = 67 KM MAG = 5.1					
19NOV	S4	EP	Z	5 21 58.3	322.6	.3	8.9	220	-6.1
		ES	Y	23 29.4			8.9	220	-14.7
19NOV	S7	EP	Z	5 22 19.3	96.2	.3	10.2	226	-3.0
		ES	X	24 2.4			10.2	226	-13.8
		E	Z	31 13.2			10.2	226	
19NOV	S9	EP	Z	5 22 32.1	362.9	.4	11.5	234	-7.2
		E(PP)	Z	43.3			11.5	234	-10.1
		E	Y	24 26.7			11.5	234	
		E	P	32 52.3			11.5	234	
19NOV	S10	EP	Z	5 22 36.7	322.6	.5	11.8	244	-6.2
		E(PP)	Z	40.4			11.8	244	-16.9
		E	X	24 34.6			11.8	244	
		E	X	33 21.7			11.8	244	
		E	P	44.4			11.8	244	
19NOV	S11	EP	P	5 22 44.9			12.4	228	-7.0
		E	Z	24 49.9			12.4	228	
19NOV	S11	EP	Z	5 34 10.4					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
19NOV	S11	EP	P	6 36 15.8					
		ES	Z	21.3			.5		
							.5		
19NOV	7 31 14.0	40.5N	142.7E	NEAR E CST OF HONSHU, JAPAN					
				H = 33 KM			MAG = 4.3		
19NOV	S4	EP	Z	7 32 38.1	1.3U	.6	6.0	228	-4.2
		ES	Y	33 39.8			6.0	228	-10.7
19NOV	S7	EP	Z	7 32 59.4	201.6	.5	7.4	234	-2.6
		E	Z	34 18.5			7.4	234	
		E	X	40 13.6			7.4	234	
19NOV	S9	EP	Z	7 33 14.8	604.8	.5	8.8	243	-7.1
		E	Y	28.9			8.8	243	
		E	Y	34 45.0			8.8	243	
		E	P	41 44.7			8.8	243	
19NOV	S10	EP	Z	7 33 23.1	403.2	.5	9.4	255	-6.7
		E	X	34 58.6			9.4	255	
		E	P	42 40.0			9.4	255	
19NOV	S11	EP	P	7 33 25.9			9.6	235	-6.6
		E	Z	35 4.0			9.6	235	
19NOV	S11	EP	P	8 59 48.6					
19NOV	S9	EP	Z	9 0 5.5	80.6	.3	5.3		
		ES	Y	1 6.0			5.3		
19NOV	S7	E	Z	9 14 15.7					
19NOV	S11	EP	Z	9 48 12.7					
		ES	Z	21.5			.6		
							.6		
19NOV	S11	EP	P	13 8 53.7					
		ES	Z	9 17.5			1.9		*
19NOV	S9	EP	Z	13 9 1.8	80.6	.2	1.9		
		ES	Y	30.7			2.4		*
19NOV	S7	E	X	13 9 24.0			2.4		
19NOV	S10	E	Z	13 10 10.7					*
									*

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
19NOV	S11	EP	P	13 20 23.3			3.4		*
		ES	Z	21 3.2			3.4		
19NOV	S9	EP	Z	13 20 39.3	201.6	.2	4.2		*
		E	Z	48.9			4.2		
		ES	Y	21 28.2			4.2		
19NOV	S10	EP	Z	13 20 50.6			5.6		*
		ES	Y	21 54.7			5.6		
19NOV	S7	EP	Z	13 20 55.3	32.1	.1	5.4		*
		ES	X	21 56.5			5.4		
19NOV	S11	-IP	Z	15 57 43.1	604.8	.2	.5		
		ES	Z	49.7			.5		
19NOV	S9	EP	Z	15 57 58.3	201.6	.2	1.2		
		ES	Y	58 13.1			1.2		
		E	Z	59 24.9			1.2		
19NOV	S4	EP	Z	16 32 2.9	201.6	.2	.8		*
		ES	Y	13.3			.8		
		E	Y	33 23.9			.8		
19NOV	S7	EP	Z	16 32 15.9			1.7		*
		E	X	21.1			1.7		
		ES	X	37.2			1.7		
		E	X	34 5.1			1.7		
19NOV	S10	EP	Z	16 33 42.2	30.6	.1	.1		*
		ES	X	43.4			.1		
19NOV	S11	EP	P	16 53 32.4			.5		
		ES	Z	38.0			.5		
19NOV	S11	EP	P	17 20 41.8			.6		
		ES	Z	50.6			.6		
19NOV	S9	E	Y	17 21 13.1					
		E	Z	22 34.8					
19NOV	S11	EP	P	17 32 37.6			.7		
		ES	Z	47.1			.7		
19NOV	S4	EP	Z	17 44 22.5	201.6	.2	.6		
		ES	Y	31.4			.6		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
19NOV	S7	EP	Z	17 44 28.3	80.6	.1	1.0		
		ES		41.5			1.0		
19NOV	S7	IP	Z	17 52 47.1	322.6	.2	.7		*
		ES	X	56.7			.7		
19NOV	S9	EP	Z	17 52 55.1	362.9	.2	1.1		*
		ES	Y	53 9.5			1.1		
		E	Y	54 15.1			1.1		
19NOV	S11	EP	P	17 53 .1			1.6		*
		ES	Z	19.4			1.6		
19NOV	S7	EP	Z	19 22 30.0			.7		
		ES	X	39.7			.7		
19NOV	S11	EP	Z	20 10 13.6			1.3		*
		[illegible]	Z	29.9			1.3		
19NOV	S9	EP	Z	20 10 28.7	564.5	.2	2.2		*
		ES	Y	55.6			2.2		
19NOV	S7	EP	Z	20 10 38.0	201.6	.1	2.8		*
		E	X	44.8			2.8		
		E	X	11 .7			2.8		
		ES	X	11.1			2.8		
19NOV	S10	EP	Z	20 10 49.4	604.8	.3	3.8		*
		E	Z	51.1			3.8		
		ES	X	11 34.1			3.8		
19NOV	S4	EP	Z	20 10 52.4			3.9		*
		ES	Y	11 38.3			3.9		
19NOV	S7	EP	Z	20 56 21.4			3.7		
		ES	X	57 5.0			3.7		
19NOV	S7	EP	Z	21 38 25.1			1.1		
		ES	X	39.1			1.1		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
19NOV	S11	EP	Z	21 53 23.5			2.6		*
		ES	Z	54.0			2.6		
19NOV	S9	EP	Z	21 53 39.1	322.6	.2	3.3		*
		ES	Y	54 17.5			3.3		
		E	Y	57 18.9			3.3		
19NOV	S10	EP	Z	21 53 51.8	121.0	.2	4.4		*
		E	X	54 10.2			4.4		
		ES	Y	43.0			4.4		
		E	X	58 42.7			4.4		
19NOV	S7	EP	Z	21 53 56.2	80.6	.2	4.7		*
		E	X	54 5.8			4.7		
		ES	X	50.5			4.7		
19NOV	S7	EP	Z	22 55 41.8			N		
		E	X	56 41.8			N		
		ES	X	57.1			N		
19NOV	S9	E	Y	22 57 24.3					
19NOV	S11	EP	Z	23 12 15.7	201.6	.2	.5		
		ES	Z	21.1			.5		
19NOV	S11	EP	P	23 37 32.9					
20NOV	S7	EP	Z	0 22 47.3	322.6	.3	.5		
		E	Z	50.2			.5		
		ES	X	53.9			.5		
20NOV	S7	EP	Z	0 36 3.3	80.6	.2	1.7		
		ES	X	24.4			1.7		
20NOV	S9	E	Y	0 36 50.0					
20NOV	S11	EP	Z	1 0 22.8	999.9		L		*
20NOV	S9	EP	Z	1 0 40.6	282.3	.2	1.5		*
		ES	Y	59.6			1.5		
		E	Z	1 57.2			1.5		
20NOV	S7	EP	Z	1 0 54.0			2.3		*
		E	X	1 10.2			2.3		
		ES	X	21.1			2.3		
20NOV	S10	EP	Z	1 1 2.2			3.1		*
		ES	X	38.3			3.1		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
20NOV	S10	EP	Z	2 17 40.8			.2		
		ES	Y	42.9			.2		
20NOV	S4	EP	Z	2 25 17.7	121.0	.2	.8		*
		ES	Y	28.7			.8		
20NOV	S7	EP	Z	2 25 19.4	403.2	.2	.9		*
		ES	X	31.6			.9		
20NOV	S9	EP	Z	2 25 40.1	241.9	.3	2.3		*
		ES	Y	26 7.1			2.3		
		E	Y	27 21.7			2.3		
20NOV	S11	EP	P	2 25 45.6			2.8		*
		ES	Z	26 18.4			2.8		
20NOV	S7	EP	Z	2 48 46.8	1.7U	.2			*
20NOV	S9	EP	Z	2 49 7.9	483.9	.2	2.1		*
		E	Z	15.9			2.1		
		ES	Y	32.7			2.1		
20NOV	S11	EP	P	2 49 12.9			2.8		*
		ES	Z	46.2			2.8		
20NOV	S10	EP	Z	2 49 26.6			3.5		*
		ES	X	50 7.5			3.5		
		E	Y	53 18.2			3.5		
20NOV	S11	EP	P	3 29 28.1			1.1		
		ES	Z	42.0			1.1		
20NOV	S4	EP	Z	3 49 48.2	201.6	.2	.8		
		ES	Y	59.6			.8		
20NOV	S4	EP	Z	4 8 33.0	161.3	.1	1.3		*
		ES	Y	49.1			1.3		
20NOV	S7	EP	Z	4 8 43.3			2.0		*
		ES	X	9 7.8			2.0		
20NOV	S9	EP	Z	4 9 1.8	201.6	.2	3.1		*
		E	Z	9.9			3.1		
		ES	Y	38.6			3.1		
20NOV	S10	EP	Z	4 9 21.5	161.3	.2	4.6		*
		ES	X	10 14.6			4.6		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
20NOV	S11	EP	P	4 58 14.0			.7		
		ES	Z	23.9			.7		
20NOV	S9	EP	Z	4 58 28.6	80.6	.2	1.3		
		ES	Y	44.9			1.3		
		E	Z	59 58.8			1.3		
20NOV	S9	EP	Z	5 7 25.9	80.6	.2	2.5		
		ES	Y	55.3			2.5		
20NOV	S11	EP	P	9 6 20.5					
20NOV	S9	EP	Z	9 6 37.1	403.2	.2	R		
		ES	Y	8 3.0			R		
20NOV	S11	EP	P	10 50 53.5			.8		
		ES	Z	51 4.7			.8		
20NOV	S9	EP	Z	10 51 12.2	121.0	.2	1.9		
		ES	Y	35.3			1.9		
20NOV	S7	EP	Z	11 33 15.0	201.6	.3	3.5		*
		ES	X	56.0			3.5		
20NOV	S9	EP	Z	11 33 34.0	201.6	.2	4.7		*
		E	Z	41.7			4.7		
		ES	Y	34 28.1			4.7		
20NOV	S11	EP	P	11 33 38.6					*
20NOV	S10	EP	Z	11 33 50.5					*
20NOV	S11	EP	P	11 42 20.2			.5		
		ES	Z	26.1			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
20NOV 12 29 14.0 45.6N 151.3E OBS PRELIMINARY EPICENTER -- (5) H = 0 KM									
20NOV	S7	EP	Z	12 29 30.2	999.9		.7	50	-.9
		E	X	36 10.3			.7	50	
20NOV	S9	EP	Z	12 29 38.2	1.0U	.2	1.3	297	-1.7
		E	Z	54.4			1.3	297	
20NOV	S11	EP	P	12 29 41.6			1.5	233	-.4
		E	Z	30 2.4			1.5	233	
20NOV	S4	EP	Z	12 29 47.9	161.3	.3	2.2	64	-4.2
		ES	Y	30 11.3			2.2	64	13.6
20NOV	S10	EP	Z	12 30 1.2	443.5	.3	3.1	311	-3.3
		ES	X	35.8			3.1	311	13.0
		E	P	33 21.5			3.1	311	
20NOV 14 6 54.0 45.3N 151.9E OBS PRELIMINARY EPICENTER -- (4) H = 50 KM									
20NOV	S9	EP	Z	14 7 9.6	645.2	.2	.8	291	-.5
		ES	Y	21.4			.8	291	.3
		E	Y	8 10.1			.8	291	
20NOV	S7	EP	Z	14 7 11.5			1.0	80	-.8
20NOV	S11	EP	P	14 7 18.1			1.4	213	-.1
		E	Z	36.6			1.4	213	
20NOV	S10	EP	Z	14 7 32.4	201.6	.2	2.5	312	-1.5
		E	Z	39.3			2.5	312	
		ES	Y	8 2.9			2.5	312	-1.2
		E	Y	10 58.0			2.5	312	
20NOV	S9	EP	Z	14 30 41.1	282.3	.2	1.0		
		ES	Y	53.7			1.0		
		E	Y	31 49.4			1.0		
20NOV	S7	EP	Z	14 30 42.1	403.2	.3	1.1		
		ES	X	56.2			1.1		
20NOV	S4	EP	Z	15 25 26.5			1.9		
		ES	Y	49.7			1.9		
20NOV	S10	EP	Z	15 27 18.2	80.6	.1	.3		
		ES	Y	21.8			.3		
20NOV	S11	EP	Z	16 40 12.7			.6		
		ES	Z	21.4			.6		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
20NOV	S11	EP	Z	17 17 20.2			1.6		
		ES	Z	39.7			1.6		
20NOV	S10	EP	Z	17 17 [illegible]			4.2		
		ES	X	18 44.0			4.2		
20NOV	S7	EP	Z	17 31 8.7			R		*
		ES	X	32 55.9			R		
20NOV	S10	EP	Z	17 31 13.5			1.8		*
		ES	X	35.6			1.8		
		E	Y	33 24.5			1.8		
20NOV	S9	EP	Z	17 31 21.4			R		*
		ES	Y	33 12.7			R		
20NOV	S7	EP	Z	17 39 49.3			R		
		ES	X	41 23.4			R		
20NOV	S11	EP	Z	17 52 5.1			.3		
		ES	Z	9.0			.3		
20NOV	S11	EP	Z	18 56 31.5	282.3	.2	3.2		
		ES	Z	57 9.6			3.2		
20NOV	S4	EP	Z	19 13 52.2	604.8	.3	.6		*
		ES	Y	14 .5			.6		
20NOV	S7	EP	Z	19 14 3.8					*
		ES	X	21.9					
20NOV	S9	EP	Z	19 14 22.1	887.1	.3	2.5		*
		ES	Y	51.5			2.5		
		E	Z	17 15.2			2.5		
20NOV	S10	EP	Z	19 14 37.7	80.6	.1	3.7		*
		ES	X	15 20.6			3.7		
		E	X	19 7.0			3.7		
20NOV	S7	E	X	19 25 40.9					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
20NOV	S4	EP	Z	19 27 4.1	80.6	.2	.9		*
		ES	Y	16.0			.9		
20NOV	S7	EP	Z	19 27 24.4			2.1		*
		ES	X	50.1			2.1		
20NOV	S9	EP	P	19 27 42.3			3.3		*
		ES	Y	28 21.5			3.3		
20NOV	S10	EP	Z	19 28 46.2			.3		*
		ES	Y	49.9			.3		
20NOV	S11	EP	Z	20 6 19.4			.5		
		ES	Z	24.8			.5		
20NOV	S7	EP	Z	20 40 11.3			1.7		
		ES	X	32.4			1.7		
20NOV	S11	+IP	Z	21 4 .8	403.2	.2	.4		
		ES	Z	5.3			.4		
20NOV	S7	EP	Z	22 1 16.1	999.9		.4		
		ES	X	21.3			.4		
20NOV	S11	EP	P	22 1 44.9			2.2		
		ES	Z	2 11.2			2.2		
20NOV	S7	EP	Z	23 7 49.2			3.8		
		ES	X	8 33.3			3.8		

20NOV 23 10 51.0 44.0N 151.1E OBS PRELIMINARY EPICENTER -- (4)
H = 50 KM

20NOV	S7	EP	Z	23 11 11.1	80.6	.2	1.2	160	-1.1
		ES	X	27.7			1.2	160	
		E	X	12 54.9			1.2	160	
20NOV	S9	EP	Z	23 11 17.5	201.6	.3	1.7	234	-1.3
		ES	Y	40.5			1.7	234	1.3
20NOV	S10	EP	Z	23 11 29.3			2.5	279	-1.6
		ES	Y	52.5			2.5	279	-8.6
		E	Y	14 19.8			2.5	279	
20NOV	S11	EP	P	23 11 32.9			2.8	209	-2.1
		E	Z	12 11.2			2.8	209	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
20NOV	S9	E	Z	23 13 47.9	322.6	.2			
		E	Y	15 15.4					
20NOV	S7	EP	Z	23 52 58.5	80.6	.1	1.2		
		ES	X	53 13.3			1.2		
21NOV	S11	EP	P	0 31 30.3					
		ES	Z	38.6			.6		
							.6		
21NOV	S7	EP	Z	1 6 25.5	241.9	.2	.5		
		E	Z	28.7			.5		
		ES	X	32.4			.5		
21NOV	S9	EP	Z	1 27 14.4	241.9	.2	2.3		
		ES	Y	41.5			2.3		
21NOV	S7	EP	Z	1 47 5.5			1.8		
		ES	X	27.1			1.8		
21NOV	S11	EP	P	1 47 10.4			2.2		
		ES	Z	36.7			2.2		
21NOV	2 16 39.0	44.3N	149.0E	OBS PRELIMINARY EPICENTER -- (5) H = 0 KM					
21NOV	S4	EP	Z	2 16 49.0	403.2	.3	.5	136	-4.4
		ES	Y	59.7			.5	136	1.2
21NOV	S7	EP	Z	2 17 6.5	524.2	.3	1.4	233	1.3
		ES	X	28.9			1.4	233	10.9
21NOV	S9	EP	Z	2 17 25.3	282.3	.2	2.9	258	-2.5
		ES	Y	18 2.0			2.9	258	19.2
21NOV	S11	EP	Z	2 17 31.8			3.6	233	-5.0
		E	Z	16 15.8			3.6	233	
21NOV	S10	EP	Z	2 17 41.5	80.6	.1	4.1	281	-2.6
		ES	Y	18 32.2			4.1	281	-1.8
		E	Y	22 13.5			4.1	281	
21NOV	S7	EP	Z	2 25 8.2	201.6	.1	.4		
		E	Z	11.4			.4		
		ES	X	12.9			.4		
21NOV	S11	EP	P	3 53 40.7			1.2		
		ES	Z	55.5			1.2		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
21NOV	S9	EP	Z	4 16 26.4	121.0	.3	4.1		
		ES	Y	17 14.3			4.1		
21NOV	S11	EP	P	4 59 24.9			.5		
		ES	Z	31.6			.5		
21NOV	S7	E	Z	5 14 2.4					
21NOV	S7	EP	Z	5 15 5.4	80.6	.1	.5		
		ES	X	11.9			.5		
21NOV	S7	EP	Z	5 17 16.6			.8		
		ES	X	27.2			.8		
21NOV	S7	EP	Z	5 18 9.6			.5		
		ES	X	15.5			.5		
21NOV	S7	EP	Z	7 0 44.6			.7		
		ES	X	53.9			.7		
21NOV	S11	EP	P	7 2 15.1			1.0		
		ES	Z	27.8			1.0		
21NOV	S7	EP	Z	7 11 5.4			.5		
		ES	X	11.7			.5		
21NOV	S7	E	Z	8 57 53.7					
21NOV	S11	EP	P	9 28 9.7			.8		
		ES	Z	20.4			.8		
21NOV	9 34 28.0	43.8N	148.7E	OBS PRELIMINARY EPICENTER -- (5) H = 0 KM					
21NOV	S4	+IP	Z	9 34 43.1	604.9	.3	.9	170	-4.5
		ES	Y	51.7			.9	170	-8.5
21NOV	S7	EP	Z	9 35 1.6	80.6	.1	1.9	225	.2
		ES	X	9.9			1.9	225	.3
		E	X	23.0			1.9	225	
21NOV	S9	EP	Z	9 35 19.4	322.6	.3	3.3	250	-2.6
		E	Z	28.5			3.3	250	
		ES	Y	52.8			3.3	250	5.0
		E	Y	38 42.4			3.3	250	
21NOV	S11	EP	P	9 35 29.0			4.1	230	-3.8
21NOV	S10	EP	Z	9 35 33.7	80.6	.1	4.3	274	-2.0
		ES	Y	36 19.8			4.3	274	-8.6
		E	Y	40 16.5			4.3	274	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
21NOV	S7	EP	Z	10 36 44.1			5.0		
		ES	X	37 41.7			5.0		
21NOV	S9	EP	Z	10 37 56.7	121.0	.3	1.0		
		ES	Y	38 9.8			1.0		
21NOV	S7	EP	Z	11 17 45.4			.4		
		ES	X	50.4			.4		
21NOV	S4	EP	Z	12 12 29.2	201.6	.2	.5		*
		ES	Y	35.9			.5		
21NOV	S7	EP	Z	12 12 45.0	201.6	.1	1.2		*
		ES	X	13 .6			1.2		
21NOV	S9	EP	Z	12 13 3.2	161.3	.3	1.7		*
		ES	Y	24.1			1.7		
21NOV	S11	EP	P	12 13 13.5					*
21NOV 12 19 27.3		46.7N		152.5E	KURILE IS				
					H = 40 KM		MAG = 5.6		
21NOV	S11	-IP	Z	12 19 39.7	999.9		.4	300	2.9
21NOV	S9	EP	Z	12 19 54.6	999.9		1.7	349	-1.0
21NOV	S7	EP	Z	12 20 4.6	999.9		2.1	41	4.0
		E	X	9.5			2.1	41	
21NOV	S10	EP	Z	12 20 16.9	999.9		3.4	335	-2.4
		E	Z	31.3			3.4	335	
21NOV	S4	EP	Z	12 20 22.4	999.9		3.5	53	2.3
21NOV	S11	EP	Z	12 31 27.0	241.9	.2	.5		
		ES	Z	32.3			.5		
21NOV	S11	EP	Z	1. 45 23.0			1.5		
		ES	Z	42.0			1.5		
21NOV	S11	EP	P	13 6 11.0			.5		
		ES	Z	17.7			.5		
21NOV	S11	EP	P	13 33 21.2					
21NOV	S9	EP	Z	13 53 59.8	322.6	.2	R		
		ES	Y	55 34.0			R		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
21NOV 15 20 21.0 46.2N 152.9E OBS PRELIMINARY EPICENTER -- (4) H = 0 KM									
21NOV	S11	-IP	Z	15 20 27.6	1.2U	.1	.3	193	-3.4
21NOV	S9	EP	Z	15 20 42.4	322.6	.2	1.2	357	-2.5
		ES	Y	58.3			1.2	357	-.6
		E	Y	22 4.1			1.2	357	
21NOV	S7	EP	Z	15 20 53.2	241.9	.3	2.0	57	-2.9
		ES	X	21 17.7			2.0	57	14.5
21NOV	S10	EP	Z	15 21 5.3			2.8	336	-2.9
		ES	X	41.7			2.8	336	21.4
		E	X	14 12.2			2.8	336	
21NOV	S11	EP	Z	16 30 30.3			4.8		
		ES	Z	31 25.6			4.8		
21NOV 17 1 58.0 44.4N 149.6E OBS PRELIMINARY EPICENTER -- (4) H = 110 KM									
21NOV	S7	EP	Z	17 2 18.5	564.5	.3	1.0	222	-.8
		ES	X	39.0			1.0	222	3.5
		E	X	5 20.6			1.0	222	
		E	X	6 7.4			1.0	222	
21NOV	S9	EP	Z	17 2 36.8	403.2	.3	2.5	257	-1.3
		E	Z	39.8			2.5	257	
		ES	Y	3 7.3			2.5	257	-1.2
21NOV	S11	EP	P	17 2 45.5			3.2	230	-2.0
		E	Z	3 29.5			3.2	230	
21NOV	S10	EP	Z	17 2 52.0			3.7	284	-2.1
		E	Z	3 2.0			3.7	284	
		ES	Y	36.5			3.7	284	-.2
		E	Y	7 9.7			3.7	284	
		E	Y	21.8			3.7	284	
21NOV	S11	EP	Z	17 22 1.0	362.9	.2	.5		
		ES	Z	6.7			.5		
21NOV	S10	E	Z	17 23 13.9					
21NOV	S11	EP	Z	17 34 16.0			.6		
		ES	Z	24.4			.6		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
21NOV	S11	EP	Z	17 47 48.0			.5		*
		ES	Z	53.5			.5		
21NOV	S9	E	Y	17 48 20.2					*
		E	Z	49 18.2					
21NOV	S10	EP	Z	17 49 59.0			.2		*
		ES	X	50 .9			.2		
21NOV	S7	E	Z	18 38 48.9					
21NOV	S7	EP	Z	18 51 56.5			1.7		
		ES	X	52 17.3			1.7		
21NOV	19 18 31.9	36.3N	137.4E	HONSHU, JAPAN H = 252 KM			MAG = 4.3		
21NOV	S7	EP	Y	19 21 33.3	241.9	.4	13.3	233	1.1
		ES	X	23 59.3			13.3	233	4.4
21NOV	S9	EP	Z	19 21 50.6	322.6	.4	14.7	239	1.4
		ES	Y	24 22.0			14.7	239	-3.7
21NOV	S10	EP	Z	19 22 .0			15.1	247	6.1
		E	X	11.6			15.1	247	
		ES	Y	24 35.3			15.1	247	.8
21NOV	S11	EP	Z	20 2 47.4			.5		
		ES	Z	53.3			.5		
21NOV	S7	EP	Z	21 46 21.3			1.6		
		ES	X	41.5			1.6		
21NOV	S7	EP	Z	22 10 1.9			.8		
		E	X	5.5			.8		
		ES	X	13.3			.8		
21NOV	S9	E	Z	22 54 31.3					
		E	Y	56 19.7					
		E	Y	23 3 47.7					
21NOV	S7	EP	Z	23 3 22.0			.6		
		ES	X	31.0			.6		
		E	X	5 25.3			.6		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
22NOV	S11	EP	Z	0 6 31.3			.4		*
		ES	Z	36.2			.4		
22NOV	S9	EP	Z	0 6 46.0	201.6	.2	1.1		*
		ES	Y	7 .6			1.1		
		E	Z	59.4			1.1		
22NOV	S7	EP	Z	0 6 50.7			2.9		*
		ES	X	7 24.6			2.9		
22NOV	S7	EP	Z	1 18 51.5			.5		
		ES	X	58.3			.5		
22NOV	S7	EP	Z	5 32 9.7			1.1		
		ES	X	24.2			1.1		
22NOV	S7	EP	Z	6 12 20.5			.8		
		ES	X	31.5			.8		
22NOV	6 29 53.5	53.2N	146.7E	SEA OF OKHOTSK					
				H = 453 KM		MAG = 5.6			
22NOV	S7	EP	Z	6 31 6.7			4.0	321	-2.9
22NOV	S9	EP	Z	6 31 17.6	999.9		5.4	309	-4.9
		E	P	32 21.1			5.4	309	
22NOV	S10	EP	Z	6 31 37.6	999.9		7.1	312	-3.2
		ES	X	32 59.8			7.1	312	-5.8
22NOV	S7	EP	Z	6 55 29.3			.5		
		ES	X	35.9			.5		
22NOV	S7	EP	Z	8 2 15.1			N		
		E	X	31.6			N		
		ES	X	3 29.2			N		
22NOV	S9	EP	Z	8 2 32.4	80.6	.3	R		
		ES	Y	3 56.7			R		
22NOV	S7	EP	Z	9 9 11.7			.9		
		ES	X	23.4			.9		
		E	X	10 23.6			.9		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
22NOV	S7	EP	Z	9 11 59.0			.9		
		ES	X	12 11.5			.9		
22NOV	S7	EP	Z	10 5 46.6			.6		
		ES	X	55.6			.6		
22NOV	S7	E	X	10 6 53.6					
22NOV	S7	EP	Z	12 17 51.8			.5		
		ES	X	58.1			.5		
22NOV	S7	EP	Z	12 44 51.0			R		
		E	X	45 4.9			R		
		E	X	46 10.5			R		
		ES	X	26.6			R		
		E	Z	47 42.0			R		
22NOV	S9	EP	Z	12 46 14.8	121.0	.2	2.2		
		ES	Y	41.1			2.2		
22NOV	S9	EP	Z	12 50 31.8	362.9	.3	1.2		*
		ES	Y	46.8			1.2		
		E	Y	51 41.7			1.2		
22NOV	S7	EP	Z	12 50 44.6	80.6	.1	2.3		*
		E	Z	46.3			2.3		
		ES	X	51 12.7			2.3		
22NOV	S10	EP	Z	12 50 54.0			2.8		*
		ES	X	51 27.6			2.8		
		E	Y	53 59.2			2.8		
22NOV	S9	EP	Z	13 46 14.6	403.2	.2	2.8		*
		ES	Y	47.5			2.8		
22NOV	S7	EP	Z	13 46 17.4			.5		*
		ES	X	23.2			.5		
		E	X	33.0			.5		
22NOV	S10	EP	Z	13 46 35.5	362.9	.2	4.3		*
		ES	Y	47 25.4			4.3		
22NOV	S9	E	Y	16 0 48.7					
22NOV	S7	EP	Z	16 14 38.1			1.1		
		ES	X	52.6			1.1		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
22NOV	S7	EP	X	17 9 40.7			2.5		0
		E	X	10 5.4			2.5		
		ES	X	18.4			2.5		
		E	X	12 44.5			2.5		
22NOV	S9	EP	Z	18 26 52.6	161.3	.2	1.9		
		ES	Y	27 16.3			1.9		
22NOV	S9	E	Y	19 3 23.5					
22NOV	S7	EP	Z	21 44 30.7	121.0	.3	1.6		
		ES	X	50.8			1.6		
		E	X	46 49.4			1.6		
22NOV	S9	E	Y	21 44 55.7					
		E	Y	46 2.8					
22NOV	S7	EP	Z	22 6 56.7	645.2	.4			
22NOV	S7	EP	Z	22 11 56.0			1.7		
		ES	X	12 17.3			1.7		
22NOV	S7	EP	Z	23 20 .8			.9		
		ES	X	13.3			.9		
23NOV	S7	EP	Z	4 0 32.7			4.4		
		E	X	40.7			4.4		
		ES	X	1 23.1			4.4		
		E	X	38.2			4.4		
23NOV	S10	EP	Z	9 26 6.3			2.4		
		E	Y	17.0			2.4		
		ES	X	35.4			2.4		
		E	X	28 57.1			2.4		
23NOV	S10	EP	Z	19 5 6.8	80.6	.2	R		
		ES	X	6 29.3			R		
24NOV	S10	EP	Z	2 58 49.6	604.8	.1	4.6		
		ES	Y	59 42.5			4.6		
24NOV	S7A	EP	Z	12 12 43.3			1.3		
		ES	X	59.8			1.3		
24NOV	S10	EP	Z	13 10 51.9			1.9		
		ES	Y	11 14.8			1.9		
24NOV	S7A	EP	P	13 10 52.4			1.8		
		ES	X	11 14.1			1.8		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
24NOV	S10	EP	Z	14 11 9.8			3.1		
		ES	X	45.9			3.1		
24NOV	S7A	EP	Z	14 11 41.3			2.3		
		ES	X	12 8.3			2.3		
24NOV	S7A	EP	Z	16 14 20.6			.5		
		ES	Z	28.2			.5		
24NOV	S7A	EP	Z	17 17 .6	121.0	.1	.5		
		ES	X	8.6			.5		
24NOV	S7A	EP	Z	18 26 17.9	322.6	.2	1.9		
		ES	X	40.8			1.9		
24NOV	S10	E	Z	18 26 46.9	362.9	.2	4.1		
		E	Z	54.7			4.1		
		ES	Y	27 34.5			4.1		
24NOV	S7A	EP	Z	18 49 6.5			1.7		
		ES	X	27.2			1.7		
24NOV	S10	EP	Z	18 50 31.8			3.2		
		ES	Y	51 9.9			3.2		
24NOV	S7A	EP	Z	18 52 31.1	999.9		2.6		
		ES	Z	53 2.0			2.6		
24NOV	S10	EP	Z	18 53 12.7	999.9		5.4		
		ES	Y	54 15.7			5.4		
24NOV	S10	E	X	19 21 52.1					

24NOV 20 9 8.0 43.8N 145.7E HOKKAIDO, JAPAN REGION
H = 124 KM MAG = 4.7

24NOV	S7A	EP	Z	20 9 59.0	483.9	.4	3.4	244	-1.7
		E	Z	10 36.1			3.4	244	
24NOV	S10	EP	Z	20 10 37.6	403.2	.2	6.4	275	-4.0
		ES	Y	11 40.0			6.4	275	-14.4
25NOV	S4A	EP	Z	0 45 47.9	161.3	.1	.5		
		ES	X	55.9			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
25NOV	S4A	EP	Z	1 28 21.2	80.6	.2	3.2		
		ES	X	58.8			3.2		
25NOV	S4A	EP	Z	1 43 22.4	201.6	.1	.9		
		ES	Y	34.5			.9		
25NOV	S4A	EP	Z	3 31 2.3	121.0	.2	.8		
		ES	X	13.2			.8		
25NOV	S4A	EP	Z	4 3 23.2	161.3	.2	1.7		
		ES	X	43.9			1.7		
25NOV	S7A	EP	Z	4 3 40.1			3.0		
		ES	X	4 15.3			3.0		
25NOV	S4A	EP	Z	5 22 56.8			1.8		
		E	X	58.0			1.8		
		ES	X	23 19.3			1.8		
25NOV	S10	EP	Z	5 23 47.8			5.4		
		E	Z	57.8			5.4		
		ES	Y	24 49.1			5.4		
25NOV	S7A	EP	Z	5 53 14.1			3.2		
		ES	Y	51.5			3.2		
25NOV	S4A	EP	Z	6 2 40.2			.7		
		ES	X	50.2			.7		
25NOV	S7A	EP	Z	7 34 39.6	725.8	.3	1.3		*
		ES	X	56.1			1.3		
25NOV	S4A	EP	Z	7 34 43.0	161.3	.3	1.4		*
		ES	Y	35 .6			1.4		
25NOV	S10	EP	Z	7 35 1.0			2.7		*
		ES	X	32.6			2.7		
25NOV	S10	E	Y	8 42 7.2					
25NOV	S10	EP	Z	11 10 46.9	80.6	.2	1.4		
		ES	X	11 4.2			1.4		
25NOV	S7A	EP	Z	11 48 54.6	121.0	.1	1.5		
		ES	Y	49 13.5			1.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
25NOV	S10	EP	Z	13 6 25.5			3.6		
		ES	Y	7 8.1			3.6		
		E	Y	8 57.1			3.6		
25NOV	S4A	EP	Z	13 59 9.9	282.3	.2	.5		
		ES	Y	16.7			.5		
25NOV	S7A	EP	P	13 59 18.2			1.1		
		ES	Y	32.3			1.1		
25NOV	S4A	EP	Z	19 33 7.3	999.9		L		*
25NOV	S7A	EP	Z	19 33 16.2	999.9		1.7		*
		ES	Z	37.6			1.7		
25NOV	S10	EP	Z	19 33 59.1	403.2	.4	4.5		*
		ES	X	34 50.9			4.5		
25NOV	S4A	EP	Z	19 47 44.5	64.1	.2	1.8		
		ES	Y	48 6.5			1.8		
26NOV	S3A	EP	Z	3 31 45.5	282.3	.2	.9		
		ES	X	57.1			.9		
26NOV	S3A	E	Y	5 18 38.9					
26NOV	S3A	EP	Z	5 27 30.5	161.3	.3	.9		
		ES	X	42.8			.9		
		E	X	29 13.4			.9		
26NOV	S10	EP	Z	5 28 12.9			R		
		ES	Y	30 44.5			R		
26NOV	S3A	EP	Z	5 36 12.5	564.5	.2	1.8		*
		ES	Z	34.8			1.8		
		E	Z	42 49.5			1.8		
26NOV	S4A	EP	Z	5 36 27.5	241.9	.2	3.0		*
		E	Z	29.3			3.0		
		ES	X	37 2.8			3.0		
26NOV	S7A	EP	Z	5 36 44.2	403.2	.2	4.2		*
		ES	Y	37 32.7			4.2		
26NOV	S10	EP	Z	5 37 13.5			R		*
		ES	X	38 29.8			R		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
26NOV	S3A	E	Z	6 35 56.4	161.3	.2			
26NOV	S3A	E	Z	7 3 8.6	483.9	.3			
26NOV	S3A	EP	Z	7 40 59.0			R		
		ES	X	42 32.2			R		
26NOV	S3A	EP	Z	8 56 44.4	161.3	.1	R		
		ES	X	57 56.7			R		
26NOV	S4A	EP	Z	8 56 58.2	80.6	.2	4.1		
		ES	X	57 46.2			4.1		
26NOV	S4A	EP	Z	9 15 4.0	241.9	.2	.6		
		ES	X	12.3			.6		
26NOV	S4A	EP	Z	9 42 56.8	80.6	.3	.8		
		ES	X	43 7.3			.8		
26NOV	S4A	EP	Z	9 44 .5			3.7		
		ES	X	43.9			3.7		
26NOV	S3A	E	P	10 59 54.0					
26NOV	S3A	E	Z	11 37 15.1					
26NOV	S3A	EP	Z	11 42 7.4			1.3		
		ES	X	24.3			1.3		
26NOV	S3A	E	Z	13 32 29.0					
26NOV	S3A	E	P	13 42 29.0					
26NOV	S3A	EP	Z	14 33 33.8			.5		
		ES	X	41.8			.5		

26NOV 17 5 8.0 42.7N 144.5E HOKKAIDO, JAPAN REGION
H = 54 KM MAG = 3.9

26NOV	S3A	EP	Z	17 5 45.2	524.2	.3	2.3	248	.5
		ES	X	6 12.3			2.3	248	.0
26NOV	S4A	EP	Z	17 6 1.0	241.9	.2	3.5	237	-.9
		E	Z	4.3			3.5	237	
		E	Y	16.6			3.5	237	
		ES	Y	37.6			3.5	237	-5.3
26NOV	S10	EP	Z	17 6 51.9			7.4	266	-4.4
		ES	Y	8 6.6			7.4	266	-13.6

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
26NOV	S7A	EP	Z	17 10 18.4	161.3	.2	4.3		
		ES	Y	11 8.2			4.3		
26NOV	S3A	EP	Z	17 22 8.1			R		
		ES	X	25 .8			R		
26NOV	S7A	EP	Z	18 31 39.8	443.5	.1	.5		*
		ES	X	47.1			.5		
26NOV	S4A	EP	Z	18 31 54.6	161.3	.2	1.4		*
		ES	X	32 12.0			1.4		
26NOV	S3A	EP	Z	18 32 17.8			3.8		*
		ES	X	33 1.8			3.8		
26NOV	S3A	EP	Z	18 37 35.7			3.7		
		ES	X	38 18.9			3.7		
26NOV	S7A	EP	Z	18 48 40.2	564.5	.2	.5		
		ES	X	47.5			.5		
26NOV	S3A	EP	Z	19 4 30.0			4.2		
		ES	X	5 18.8			4.2		
26NOV	S10	EP	Z	20 1 12.9	80.6	.2	2.0		
		ES	Y	36.9			2.0		
26NOV	S3A	EP	Z	20 1 37.1			3.6		
		ES	X	2 19.4			3.6		
26NOV	S3A	E	Z	20 24 29.7	443.5	.3			
26NOV	S3A	EP	Z	20 39 38.7			3.9		
		ES	X	40 24.2			3.9		
26NOV	S3A	EP	Z	21 2 15.3			3.2		
		ES	X	53.4			3.2		
27NOV	S3A	EP	Z	0 3 9.9			R		
		ES	X	4 58.1			R		
27NOV	S10	EP	Z	0 6 31.9			.6		
		ES	X	40.8			.6		
27NOV	S7A	EP	Z	0 20 56.0			.8		
		ES	X	21 07.1			.8		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
27NOV	S4A	EP	Z	0 20 58.5	121.0	.2	1.2		
		ES	X	21 13.4			1.2		
27NOV	S10	EP	Z	0 22 47.9			R		
		ES	Y	24 18.7			R		
27NOV	S3A	EP	Z	2 13 42.3			1.7		
		ES	X	14 3.4			1.7		
27NOV	S4A	EP	Z	2 13 54.4	80.6	.2	2.1		
		ES	X	14 20.3			2.1		
27NOV	S7A	EP	Z	2 41 9.1			.5		*
		ES	X	15.6			.5		
27NOV	S4A	EP	Z	2 41 21.4	80.6	.2	1.1		*
		ES	X	36.1			1.1		
27NOV	S10	EP	Z	2 42 55.9			R		*
		ES	Y	44 20.7			R		
27NOV	S3A	EP	Z	4 52 51.4	161.3	.3	.5		
		ES	X	58.8			.5		
27NOV	S7A	EP	Z	5 27 4.0	322.6	.2	4.1		
		ES	X	51.2			4.1		
27NOV	S4A	EP	Z	5 27 18.7	161.3	.2	1.5		
		ES	X	37.9			1.5		
27NOV	S7A	EP	Z	6 27 57.3			1.9		
		ES	Y	28 20.8			1.9		
27NOV	S7A	EP	Z	7 10 20.5			R		
		ES	X	11 29.9			R		
27NOV	S7A	EP	Z	8 29 43.2			1.5		
		ES	Y	30 1.6			1.5		
27NOV	S7A	E	Z	9 4 15.4					
27NOV	S4A	EP	Z	9 4 22.8	80.6	.2	2.4		
		ES	X	51.5			2.4		
27NOV	S4A	EP	Z	9 15 17.2	282.3	.2	.5		
		ES	Y	24.0			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
27NOV 11 1 10.0	49.5N	155.8E	KURILE IS						
				H = 40 KM			MAG = 4.9		
27NOV	S7A	EP	Z	11 2 36.2	201.6	.3	5.8	42	1.1
		E	Z	3 49.2			5.8	42	
27NOV	S10	EP	Z	11 2 32.9	483.9	.3	5.9	8	-4.6
		E	Z	34.7			5.9	8	
		ES	Y	3 34.4			5.9	8	-10.7
		E	Y	6 47.7			5.9	8	
27NOV	S4A	EP	Z	11 2 51.3	322.6	.3	6.9	44	.1
		E	Z	52.4			6.9	44	
		ES	X	4 7.0			6.9	44	-2.5
27NOV	S3A	EP	Z	11 3 9.8	322.6	.2	8.3	42	.4
		E	X	16.7			8.3	42	
		ES	X	4 43.5			8.3	42	.4
27NOV	S1A	E	Z	11 3 20.6	241.9	.2	8.3	41	
		ES	X	4 58.4			8.3	41	15.4
		E	X	6 6.3			8.3	41	
27NOV 12 48 2.0	48.1N	155.0E	KURILE IS						
				H = 28 KM			MAG = 4.5		
27NOV	S7A	EP	Z	12 49 10.0	846.8	.5	4.4	50	.8
		E	Z	50 2.9			4.4	50	
		E	X	53 16.3			4.4	50	
		E	X	32.4			4.4	50	
27NOV	S10	EP	Z	12 49 5.1	322.6	.2	4.5	4	-4.6
		E	Z	7.2			4.5	4	
		ES	Y	52.0			4.5	4	-10.0
		E	X	53 37.6			4.5	4	
27NOV	S4A	EP	Z	12 49 25.9	999.9		5.6	51	
		ES	Y	50 27.0			5.6	51	-3.7
27NOV	S3A	EP	Z	12 49 43.7	604.8	.2	6.9	47	.8
		E	Z	46.3			6.9	47	
		ES	Z	51 4.9			6.9	47	1.2
27NOV	S1A	EP	Z	12 49 54.4	282.3	.3	7.7	48	-1.1
		E	X	50 6.0			7.7	48	
27NOV	S3A	EP	Z	14 10 50.8	403.2	.3	.6		
		ES	X	59.0			.6		
27NOV	S7A	EP	Z	15 36 19.0			1.2		
		ES	X	34.3			1.2		
27NOV	S7A	E	X	15 37 9.4					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
27NOV	S10	EP	Z	15 37 47.5	161.3	.3	3.0		
		ES	X	38 22.4			3.0		
27NOV	S1A	EP	Z	16 30 44.7	161.3	.4	3.5		
		ES	X	31 25.6			3.5		
27NOV	S1A	EP	Z	18 1 27.4	806.5	.3	1.4		*
		ES	X	45.2			1.4		
27NOV	S3A	EP	Z	18 1 29.2	564.5	.1	2.3		*
		ES	X	56.2			2.3		
27NOV	S4A	EP	Z	18 1 38.5	999.9		N		*
		E	Y	2 1.1			N		
27NOV	S7A	EP	Z	18 1 53.8	241.9	.2	2.9		*
		ES	X	2 28.3			2.9		
27NOV	S10	EP	Z	18 2 32.7	322.6	.1	5.4		*
		ES	Y	3 35.6			5.4		
27NOV	S7A	EP	Z	18 32 41.5			1.0		
		ES	Y	54.9			1.0		
27NOV	S7A	EP	P	19 20 3.6			1.0		
		ES	X	17.1			1.0		
27NOV	S7A	EP	P	19 48 41.2			.5		
		ES	X	48.6			.5		
27NOV	S4A	EP	Z	21 43 33.9	161.3	.2	.6		
		ES	Z	42.8			.6		
27NOV	S1A	EP	Z	21 43 51.8	80.1	.2	3.9		
		ES	X	44 37.2			3.9		
27NOV	S4A	EP	Z	21 46 47.9	999.9		.6		
		ES	X	56.3			.6		
27NOV	S7A	EP	Z	23 23 39.6			1.0		
		ES	Y	53.2			1.0		
27NOV	S3A	EP	Z	23 44 3.4			4.4		
		ES	X	54.3			4.4		
27NOV	S3A	EP	Z	23 46 45.4			2.2		
		ES	X	47 12.0			2.2		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
28NOV	S7A	EP	P	1 16 50.8			.5		
		ES	Y	58.5			.5		
28NOV	S7A	EP	Z	2 32 26.1	201.6	.1	.5		
		ES	X	32.3			.5		
28NOV	S10	E	r	3 54 12.6					
28NOV	S4A	EP	Z	4 41 30.8	121.0	.2	2.0		
		ES	X	54.8			2.0		
28NOV	S7A	EP	Z	4 41 50.5			1.1		
		ES	X	42 4.3			1.1		
28NOV	S3A	EP	Z	4 52 59.3			1.5		
		ES	X	53 18.2			1.5		
28NOV	S1A	EP	Z	4 53 22.5	161.3	.1	.5		
		ES	X	28.5			.5		
28NOV	S4A	EP	Z	6 27 45.9	121.0	.2	1.7		
		ES	X	28 7.3			1.7		
28NOV	S3A	E	Z	6 28 11.8	1.2U	.2			
28NOV	S7A	EP	Z	7 7 30.2	201.6	.2	1.1		
		ES	X	44.3			1.1		
28NOV	S4A	EP	Z	8 25 39.5	282.3	.2	N		*
		E	Y	43.0			N		
		E	X	26 .2			N		
28NOV	S3A	EP	Z	8 25 56.9	766.1	.3	3.0		*
		E	X	59.5			3.0		
		ES	X	26 32.1			3.0		
28NOV	S1A	EP	Z	8 26 5.5	201.6	.2	.9		*
		ES	X	17.5			.9		
28NOV	S10	EP	Z	8 26 8.5	322.6	.2	3.8		*
		ES	Y	52.4			3.8		
28NOV	S4A	EP	Z	9 44 36.3	1.2U	.2	N		
		E	Z	44.8			N		
		E	Z	45 7.2			N		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
28NOV	S1A	EP	Z	9 54 56.4			.5		
		ES	X	55 4.2			.5		
28NOV	S3A	EP	Z	9 55 .4			.9		
		ES	X	12.9			.9		
28NOV	S7A	EP	Z	10 4 7.8	403.2	.1	.5		*
		ES	P	14.6			.5		
28NOV	S4A	EP	Z	10 4 22.7	524.2	.2	1.4		*
		E	Y	28.1			1.4		
		ES	Y	40.6			1.4		
28NOV	S3A	EP	Z	10 4 42.1			3.8		*
		ES	X	5 26.2			3.8		
28NOV	S10	EP	Z	10 4 45.4	201.6	.2	3.1		*
		ES	X	5 22.1			3.1		
		E	Y	8 15.6			3.1		
28NOV	S1A	EP	Z	10 4 52.2			1.9		*
		ES	X	5 15.2			1.9		

28NOV 11 49 29.0 54.0N 160.9E NEAR E CST OF KAMCHAIKA
H = 33 KM MAG = 4.3

28NOV	S10	EP	Z	11 52 6.9	241.9	.3	11.2	20	-2.5
		ES	Y	54 1.4			11.2	20	-12.9
28NOV	S3A	EP	Z	11 52 37.4			13.7	36	-5.2
28NOV	S1A	EP	Z	11 52 48.5			13.7	36	5.9
		E	X	53 5.4			13.7	36	
28NOV	S4A	EP	Z	12 0 1.4	121.0	.2	.7		
		ES	Y	11.7			.7		
28NOV	S7A	EP	Z	12 0 3.0	48.1	.2	.9		
		ES	Y	14.5			.9		
28NOV	S7A	EP	P	13 55 27.9			1.3		
		ES	Y	44.5			1.3		
28NOV	S1A	EP	Z	15 22 11.3			.5		
		ES	X	19.2			.5		
28NOV	S3A	EP	Z	16 3 11.1			.5		
		ES	X	18.0			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
28 NOV	S1A	EP	Z	16 3 13.9					
		ES	X	22.2			.6		
							.6		
28 NOV	S3A	EP	Z	16 4 51.5					
		ES	X	58.7			.5		
							.5		
28 NOV	S3A	EP	Z	20 32 59.0					
		ES	X	33 24.8			2.1		
							2.1		
28 NOV	S3A	EP	Z	22 44 36.2	846.8	.1	.6		*
		ES	X	44.3			.6		
28 NOV	S1A	EP	Z	22 44 39.3	201.6	.1	.9		*
		E	X	47.4			.9		
		ES	X	51.5			.9		
28 NOV	S4A	EP	Z	22 44 50.6	241.9	.2	1.4		*
		ES	Y	45 8.4			1.4		
29 NOV	S7A	EP	Z	0 45 7.6					
		ES	Z	10.3			.3		
							.3		
29 NOV	S1A	EP	Z	1 40 4.6	161.3	.1	.5		
		ES	X	11.1			.5		
29 NOV	S A	EP	Z	3 37 8.0	201.6	.1	.5		
		ES	X	15.1			.5		
29 NO	S1A	EP	Z	5 28 10.0					
		ES	X	22.1			.9		
							.9		
29 NOV	S7A	EP	Z	8 15 23.2					
		ES	Z	32.4			.7		
							.7		
29 NOV	S10	E	Y	8 16 41.2					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
29NOV 14 8 13.8 42.2N 143.4E HOKKAIDO,JAPAN REGION H = 33 KM MAG = 4.1									
29NOV	S1A	EP	Z	14 9 .0	322.6	.2	3.3	246	-3.8
		E	X	4.6			3.3	246	
		E	X	25.2			3.3	246	
29NOV	S3A	EP	Z	14 9 10.7	443.5	.2	3.3	246	6.3
		ES	X	54.9			3.3	246	12.8
29NOV	S4A	EP	Z	14 9 25.6	999.9		4.5	238	4.5
		ES	Y	10 16.5			4.5	238	3.7
29NOV	S7A	EP	Z	14 9 41.3	322.6	.3	5.7	239	3.3
		E	Z	10 45.9			5.7	239	
29NOV	S10	EP	Z	14 10 16.3	80.6	.3	8.3	284	1.2
		ES	Y	11 43.3			8.3	264	-5.8
		E	Y	18 21.5			8.3	264	
29NOV 14 59 .0 44.3N 150.6E OBS PRELIMINARY EPICENTER -- (5) H = 0 KM									
29NOV	S7A	EP	Z	14 59 18.2	846.8	.5	1.2	155	-5.0
		E	Z	33.3			1.2	155	
29NOV	S4A	EP	Z	14 59 32.6	524.2	.2	1.6	105	3.6
		ES	Y	44.0			1.6	105	3.8
		E	Y	58.7			1.6	105	
29NOV	S10	EP	Z	14 59 49.3			3.0	284	.3
		E	Y	15 0 26.7			3.0	284	
		E	Y	3 9.3			3.0	284	
29NOV	S3A	EP	Z	14 59 50.9	322.6	.3	2.4	72	-9.7
		ES	Z	54.2			2.4	72	8.3
		E	X	15 0 32.3			2.4	72	
29NOV	S1A	EP	Z	14 59 59.7	161.3	.1	3.2	68	7.4
		ES	X	15 0 15.5			3.2	68	1.3
29NOV	S7A	EP	Z	16 29 18.7			.5		
		ES	Z	25.3			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
29NOV 17 16 34.0		41.5N		144.2E	HOKKAIDO, JAPAN REGION H = 40 KM		MAG = 4.5		
29NOV	S1A	EP	Z	17 17 08.4	1.5U	.2	.9	227	-3.2
		ES	X	19.9			.9	227	-19.9
29NOV	S3A	EP	Z	17 17 20.0	685.5	.7	3.2	230	-2.8
		ES	X	48.0			3.2	23	-10.2
29NOV	S4A	EP	Z	17 17 36.4	999.9		4.5	226	-5.1
		E	Y	42.0			4.5	226	
		ES	Y	18 21.3			4.5	226	-12.1
29NOV	S7A	EP	Z	17 17 52.0	564.5	.5	5.7	229	-5.0
		E	P	18 51.4			5.7	229	
29NOV	S10	EP	Z	17 18 21.8	282.3	.6	8.0	258	-8.1
		E	Z	38.5			8.0	258	
		E	Y	19 42.9			8.0	258	
		E	Y	22 53.1			8.0	258	
		E	Y	25 57.7			8.0	258	
29NOV	S10	EP	Z	19 53 18.9	80.6	.3	4.7		
		ES	Y	54 13.3			4.7		
		E	Y	58 34.0			4.7		
29NOV	S3A	EP	Z	21 1 49.8	282.3	.2			
29NOV	S1A	EP	Z	21 1 51.7	322.6	.2	1.6		
		ES	X	2 11.2			1.6		
29NOV	S10	E	Y	23 41 2.0					
		E	Y	43 53.8					
30NOV	S1A	EP	Z	0 1 45.6	403.2	.1	.8		
		ES	X	56.2			.8		
30NOV	S3A	EP	Z	0 1 47.4			.8		
		ES	X	57.9			.8		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
30NOV	0 4 36.0	46.9N	152.7E	KURILE IS					
				H = 33 KM		MAG = 4.4			
30NOV	S7A	EP	Z	0 5 16.7	403.2	.4	2.5	50	2.0
		E	Z	36.1			2.5	50	
		E	P	7 22.1			2.5	50	
30NOV	S10	EP	Z	0 5 25.1	80.6	.2	3.5	339	-4.6
		ES	X	6 2.6			3.5	339	-8.2
		E	Y	8 47.4			3.5	339	
30NOV	S4A	EP	Z	0 5 33.8	201.6	.2	3.7	52	2.2
		E	Z	34.9			3.7	52	
		ES	X	6 12.8			3.7	52	-1.4
30NOV	S3A	EP	Z	0 5 52.9	282.3	.3	5.0	47	2.6
		ES	X	6 48.1			5.0	47	.5
30NOV	S1A	E	Z	0 6 2.5			5.0	47	
		ES	X	7 7.4			5.0	47	19.8
30NOV	0 30 27.7	30.7N	141.9E	S OF HONSHU,JAPAN					
				H = 20 KM		MAG = 4.7			
30NOV	S1A	EP	Z	0 33 29.5			13.0	198	-3.2
		ES	X	35 46.1			13.0	198	-12.6
30NOV	S3A	EP	Z	0 33 39.9			13.6	201	-2.1
		ES	X	36 01.1			13.6	201	-12.7
		E	P	47 25.2			13.6	201	
30NOV	S1A	EP	Z	0 46 4.7			N		
		E	X	48.5			N		
		E	X	47 38.0			N		
30NOV	S1A	EP	Z	0 49 29.4			.5		
		ES	X	35.5			.5		
30NOV	S3A	EP	P	1 6 37.2			1.6		
		ES	X	56.8			1.6		
30NOV	S4A	EP	Z	2 13 20.4	322.6	.2	.5		*
		ES	X	27.6			.5		
30NOV	S3A	EP	Z	2 13 31.9			1.4		*
		ES	X	49.3			1.4		
30NOV	S1A	EP	Z	2 13 47.4			2.0		*
		ES	X	14 11.7			2.0		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES	
30NOV	S1A	EP	Z	2 45 19.6			3.7			
		ES	X	46 2.4			3.7			
30NOV	3 36 33.0	38.2N	141.3E	NR E COAST OF HONSHU, JAPAN H = 34 KM MAG = 4.0						
30NOV	S1A	EP	Z	3 38 10.1	161.3	.2	7.1	223	-7.1	
		E	X	39 21.3			7.1	223		
		ES	X	55.0			7.1	223	17.2	
30NOV	S3A	EP	Z	3 38 22.8			7.1	228	5.6	
		ES	X	39 39.6			7.1	228	1.8	
30NOV	S10	EP	Z	5 12 56.6	80.6	.2	4.0			
		ES	Y	13 42.7			4.0			
30NOV	S7A	E	Z	5 13 43.9	322.6	.1				
30NOV	S7A	E	Z	5 20 32.5	1.8U	.5				
30NOV	S4A	EP	Z	5 20 37.3	999.9		L			
30NOV	S3A	EP	Z	5 20 53.2	403.2	.4	2.3			
		ES	X	21 20.3			2.3			
		E	X	53.0			2.3			
30NOV	S1A	EP	Z	5 21 2.9	48.1	.2	3.0			
		ES	X	38.0			3.0			
30NOV	S10	EP	Z	5 21 4.7	443.5	.3	3.2			
		E	Z	6.4			3.2			
		ES	X	41.9			3.2			
		E	Y	24 45.7			3.2			
30NOV	S10	EP	Z	8 51 9.9	403.2	.3	4.1			*
		ES	Y	57.4			4.1			
		E	Y	55 15.2			4.1			
30NOV	S3A	EP	Z	8 51 45.3			R			*
		ES	X	53 4.6			R			
30NOV	S1A	EP	Z	8 51 54.9			1.2			*
		ES	X	52 10.0			1.2			

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
30 NOV	S4A	EP	Z	10 23 21.1	483.9	.1	.9		
		ES	Y	33.0			.9		
30 NOV	S4A	EP	Z	11 50 15.3	282.3	.1	.5		
		ES	Y	21.2			.5		
30 NOV	S1A	EP	Z	16 42 31.5			4.6		
		ES	X	43 24.5			4.6		
30 NOV	S10	EP	Z	18 31 16.6			2.2		
		ES	Y	43.2			2.2		
30 NOV	S1A	EP	Z	21 43 37.1			.8		
		ES	X	47.5			.8		
01 DEC	S10	EP	Z	0 53 52.7			4.2		
1		ES	X	54 42.0			4.2		
1 DEC	S1A	EP	Z	3 27 17.0			R		
		ES	X	29 4.2			R		
1 DEC	S4A	EP	Z	3 29 35.6			L		
		E	X	50.7			L		
1 DEC	S10	EP	Z	3 29 39.0			4.7		
		ES	Y	30 33.6			4.7		
1 DEC	S1A	EP	Z	3 37 19.2			1.8		
		ES	X	40.9			1.8		
1 DEC	S1A	EP	Z	3 46 53.4	403.2	.1	.5		
		ES	X	47 1.4			.5		
1 DEC	S4A	EP	Z	3 47 15.6			L		
		E	Y	37.6			L		

1 DEC 4 56 58.2 14.0S 167.1E NEW HEBRIDES IS
H = 132 KM MAG = 6.1

1 DEC	S4A	EP	Z	5 7 .4	362.9	.8	60.8	159	1.7
		E	Z	11.9			60.8	159	
		EPCP	Z	29.7			60.8	159	-11.1

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
1DEC	S1A	E	Z	6 11 6.5					
		E	X	19.2			L		
1DEC	S3A	E	Z	6 11 54.3	403.2	.2			
1DEC	S7A	EP	Z	9 24 33.3	64.1	.2	2.8		
		ES	Z	25 6.9			2.8		
1DEC	S10	E	Y	9 25 14.9					
1DEC	S10	EP	Z	10 51 57.7	121.0	.3	3.6		
		ES	Y	52 39.9			3.6		
		E	Z	56 46.4			3.6		
1DEC	S10	EP	Z	11 41 53.5	121.0	.3	R		
		ES	Y	43 18.7			R		
1DEC	S4A	EP	Z	13 29 34.8	322.6	.2	1.0		
		ES	Y	47.9			1.0		
1DEC	S1A	EP	Z	13 29 36.0			1.7		
		ES	X	57.4			1.7		

1DEC 15 21 3.6 40.7N 142.0E NR E COAST OF HONSHU, JAPAN
H = 33 KM MAG = 3.9

1DEC	S1A	EP	Z	15 22 10.8	604.8	.3	4.2	235	4.4
		ES	X	59.2			4.2	235	4.5
1DEC	S3A	EP	Z	15 22 22.3			5.0	236	4.7
		ES	X	23 17.7			5.0	236	3.1
1DEC	S4A	EP	Z	15 22 38.8	201.6	.2	6.2	232	3.1
		ES	Y	23 43.1			6.2	232	-3.8
1DEC	S10	EP	Z	15 23 27.2	161.3	.4	9.8	257	2.1
		ES	Y	25 5.2			9.8	257	-9.9
		E	Y	33 52.0			9.8	257	
1DEC	S10	EP	Z	15 51 2.3	201.6	.2	2.4		
		ES	Y	30.8			2.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
1DEC 16 46 38.0		44.8N	150.9E	DBS PRELIMINARY EPICENTER -- (5) H = 0 KM					
1DEC	S7A	-IP	Z	16 46 54.9	806.5	.2	.9	128	-2.4
1DEC	S4A	EP	Z	16 47 7.1	282.3	.2	1.7	86	-2.1
		ES	Y	17.5			1.7	86	-1.4
		E	Y	27.0			1.7	86	
1DEC	S3A	EP	Z	16 47 25.1			2.8	63	.6
		E	X	58.2			2.8	63	
1DEC	S10	EP	Z	16 47 25.1	564.5	.2	2.9	295	-1.0
		E	Z	26.6			2.9	295	
		ES	Y	57.9			2.9	295	18.1
		E	Y	50 44.1			2.9	295	
1DEC	S1A	EP	Z	16 47 33.7			3.6	61	-2.1
		ES	X	48 5.7			3.6	61	-4.5
1DEC	S4A	EP	Z	17 19 51.7	241.9	.2	.6		
		ES	Y	20 .2			.6		
1DEC	S7A	EP	P	17 19 51.9			.7		
		ES	Z	20 1.2			.7		
1DEC	S7A	EP	Z	17 58 11.0			1.3		
		ES	Z	27.1			1.3		
1DEC	S10	EP	Z	18 20 17.9			3.4		
		ES	Y	52.8			3.4		
		E	X	44 1.2			3.4		
1DEC 18 56 23.1		41.6N	139.6E	HOKKAIDO, JAPAN REGION H = 173 KM MAG = 5.4					
1DEC	S1A	EP	Z	18 57 41.0	846.8	.3	5.3	255	-1.2
		E	X	43.5			5.3	255	
1DEC	S3A	EP	Z	18 57 51.3	201.6	.1	6.1	254	-.9
1DEC	S4A	EP	Z	18 58 4.1	999.9		7.2	248	-2.8
		E	Z	59 19.0			7.2	248	
1DEC	S7A	EP	Z	18 58 19.3	999.9		8.4	247	-3.2
		E	Z	59 46.0			8.4	247	
1DEC	S10	EP	Z	18 58 55.1	604.8	.7	11.2	265	-4.4
		E	Z	56.7	564	3	11.2	265	
		E(PP)	Z	59.0			11.2	265	-17.9
		E	Z	19 0 50.5			11.2	265	
		E	Y	7 21.0			11.2	265	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
1DEC	S7A	EP	P	20 36 33.9			1.0		
		ES	Z	46.5			1.0		
1DEC	S10	EP	Z	20 37 10.2	80.6	.2	3.5		
		ES	X	50.6			3.5		
1DEC	S4A	EP	Z	21 7 59.9	282.3	.2	1.7		
		ES	Y	8 21.4			1.7		
1DEC	S1A	EP	Z	21 29 6.1			.5		
		ES	X	12.4			.5		
1DEC	S1A	E	X	21 35 50.7					
1DEC	S1A	EP	Z	21 44 11.2			1.7		
		ES	X	32.5			1.7		
1DEC	S3A	E	Z	22 24 51.1	201.6	.1			
1DEC	S1A	EP	Z	22 24 51.2	201.6	.1	.9		
		ES	X	25 3.2			.9		
1DEC	S4A	EP	Z	22 25 8.4	121.0	.2	1.6		
		ES	X	28.8			1.6		
1DEC	S4A	EP	Z	22 41 38.1	80.6	.2	2.3		
		ES	Y	42 6.1			2.3		
1DEC	S4A	EP	Z	22 42 36.0	80.6	.2	1.8		
		ES	Y	58.4			1.8		
1DEC	S10	EP	Z	22 42 41.0			2.3		
		ES	Y	43 8.8			2.3		
1DEC	S4A	+1P	Z	22 51 46.8	645.2	.1	.5		*
		E	Y	51.6			.5		
		ES	Y	53.4			.5		
1DEC	S3A	EP	Z	22 52 1.4	161.3	.2	1.3		*
		ES	X	17.7			1.3		
1DEC	S1A	EP	Z	22 52 12.8			3.2		*
		ES	X	50.7			3.2		
1DEC	S10	EP	Z	22 52 36.7			3.9		*
		ES	Y	53 22.6			3.9		
		E	Y	57 14.4			3.9		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
1DEC	S4A	EP	Z	23 6 56.4	725.8	.2	.3		
		ES	Y	7 8.2			.9		
1DEC	S10	EP	Z	23 7 33.3			.6		
		ES	X	8 15.8			3.6		
1DEC	S4A	EP	Z	23 41 55.8	161.3	.2	.8		
		E	Z	57.7			.8		
		ES	Y	42 6.5			.8		
1DEC	S1A	EP	Z	23 42 20.1			2.9		
		ES	X	54.3			2.9		
2DEC	S1A	EP	Z	0 49 57.5			5.1		
		ES	X	50 55.7			5.1		
2DEC	S10	EP	Z	1 20 17.7			2.8		
		E	Y	50.5			2.8		
		E	Y	23 35.1			2.8		
2DEC	S5A	EP	Z	3 17 4.9	403.2	.2	1.0		
		ES	Z	18.3			1.0		
2DEC	S4A	EP	Z	3 17 10.3			1.3		
		E	Z	12.1			1.3		
		ES	X	27.0			1.3		
2DEC	S5A	EP	Z	3 20 53.2	161.3	.2	.7		
		ES	Z	21 3.4			.7		
2DEC	S4A	EP	Z	3 21 35.0			.1		
		ES	Y	35.1			.1		
2DEC	S5A	EP	Z	3 23 55.5	564.5	.2	R		
		E	Z	24 1.9			R		
		E	Z	57.4			R		
2DEC	S10	EP	Z	3 24 18.5	161.3	.2	.2		
		ES	Y	21.0			.2		
		E	Y	25 35.5			.2		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
2DEC	6 57 20.0	45.2N	151.1E	OBS PRELIMINARY EPICENTER -- (4) H = 0 KM					
2DEC	S5A	EP	Z	6 57 52.0	282.3	.2	1.9	18	-1.6
		ES	Y	58 12.4			1.9	18	10.7
		E	Z	59 40.1			1.9	18	
		E	Z	47.9			1.9	18	
2DEC	S4A	EP	Z	6 57 52.6	604.8	.2	1.9	74	-1.4
		ES	Y	58 12.9			1.9	74	11.2
2DEC	S10	EP	Z	6 58 7.7	80.6	.3	2.9	303	-1.2
		ES	X	42.9			2.9	303	18.8
		E	Y	7 1 35.4			2.9	303	
2DEC	S1A	EP	Z	6 58 21.5			3.9	57	-.7
		ES	X	59 13.8			3.9	57	7.0
2DEC	S1A	EP	Z	7 8 12.5			.9		
		ES	X	24.5			.9		
2DEC	S5A	EP	Z	8 38 20.2	161.3	.2	2.3		
		ES	Y	47.6			2.3		
2DEC	S4A	EP	Z	8 38 25.3	282.3	.2	L		
2DEC	9 31 17.6	3.2N	128.1E	N OF HALMAHERA H = 92 KM MAG = 5.8					
2DEC	S1A	EP	Z	9 39 12.2	1.2U	.7	43.0	208	2.6
2DEC	S4A	EP	Z	9 39 27.3	241.9	.6	45.1	209	1.2
		E	Z	44.9			45.1	209	
2DEC	S5A	EP	Z	10 46 40.8			R		
		ES	Z	47 57.3			R		
2DEC	S10	EP	Z	10 46 51.4			3.5		
		ES	X	47 32.4			3.5		
2DEC	S4A	EP	Z	13 31 36.8			.8		
		ES	Y	48.1			.8		
2DEC	S4A	EP	Z	14 22 3.4	282.3	.2	1.2		
		ES	Y	19.0			1.2		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
2DEC	S5A	EP	Z	14 22 15.6	121.0	.2	2.2		
		ES	Z	41.9			2.2		
2DEC	S4A	EP	Z	15 26 4.5	201.6	.2	.5		
		ES	Y	12.3			.5		
2DEC	S4A	EP	Z	16 37 57.2	403.2	.2	.6		*
		E	Z	58.3			.6		
		ES	X	38 5.8			.6		
2DEC	S1A	EP	Z	16 38 7.3			2.2		*
		ES	X	34.0			2.2		
2DEC	S5A	EP	Z	16 38 11.4	80.6	.2	1.8		*
		ES	Y	33.2			1.8		
2DEC	S7A	EP	Z	18 9 8.8			2.7		*
		ES	Z	41.3			2.7		
2DEC	S10	EP	Z	18 9 11.1	201.6	.1	4.2		*
		ES	Y	10 .0			4.2		
2DEC	S5A	EP	Z	18 9 21.1	80.6	.2	4.8		*
		ES	X	10 16.5			4.8		
2DEC	S1A	EP	Z	21 38 55.3	524.2	.2	L		*
2DEC	S4A	EP	Z	21 39 13.8	645.2	.2	1.5		*
		E	Y	27.4			1.5		
		ES	Y	33.0			1.5		
2DEC	S5A	EP	Z	21 39 22.2	483.9	.2	2.3		*
		E	Z	24.8			2.3		
		ES	Y	50.3			2.3		
2DEC	S10	EP	Z	21 40 1.9			5.1		*
		ES	X	41 .6			5.1		
2DEC	S10	EP	Z	21 45 10.2			3.4		
		ES	X	49.6			3.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
2DEC 22 30		2.8	43.0N	150.4E	KURILE EXPLOSION				
				H = 0 KM					
2DEC	S5A	+IP	Z	22 30 13.4	999.9		.4	168	-1.7
		E	P	20.9			.4	168	
2DEC	S1A	EP	Z	22 30 50.8			2.9	92	.3
		E	X	33 8.3			2.9	92	
		ET	P	50.0			2.9	92	
2DEC	S10	EP	Z	22 30 46.1			3.1	260	-8.0
		ES	Y	31 25.5			3.1	260	11.4
		E	P	33 56.6			3.1	260	
2DEC	S4A	ET	P	22 32 33.6			L		
2DEC 23 46 55.2		43.9N	149.0E	KURILE IS REGION					
				H = 98 KM	MAG = 4.1				
2DEC	S5A	EP	Z	23 47 14.7	161.3	.8	1.0	298	-1.5
2DEC	S1A	EP	Z	23 47 27.5	161.3	.2	2.0	67	-.1
2DEC	S10	EP	Z	23 47 49.4	645.2	.2	4.1	276	-6.9
		ES	Y	48 33.4			4.1	276	-9.5
2DEC	S4A	-IP	Z	23 47 2.2	999.9		.9	156	-12.3
3DEC	S5A	EP	Z	3 58 7.4			1.5		
		ES	Y	26.6			1.5		
3DEC 5 21		2.9	43.7N	149.7E	KURILE EXPLOSION				
				H = 0 KM					
3DEC	S5A	EP	Z	5 21 18.5	201.6	.3	.5	304	1.5
		ES	Y	23.0			.5	304	1.2
		ET	P	49.2			.5	304	
3DEC	S4A	EP	Z	5 21 32.1	403.2	.3	1.3	139	3.4
		ES	Y	22 1.6			1.3	139	19.8
		E	Y	38.0			1.3	139	
3DEC	S7A	EP	Z	5 21 36.4	362.9	.3	1.7	186	3.1
		E	Z	22 50.3			1.7	186	
		ET	P	23 11.1			1.7	186	
3DEC	S1A	EP	Z	5 21 46.8	403.2	.5	2.4	76	2.9
		E	X	22 39.5			2.4	76	
		ET	P	24 3.8			2.4	76	
3DEC	S10	EP	Z	5 22 3.3			3.5	273	3.0
		ET	P	25 30.5			3.5	273	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
3DEC	S4A	EP	Z	6 20 6.8	322.6	.2	.5		
		E	Z	7.3			.5		
		ES	X	13.0			.5		
3DEC	S5A	EP	Z	6 20 24.3	80.6	.2	1.2		
		ES	Y	39.4			1.2		
3DEC	S10	EP	Z	6 21 43.6					
3DEC	S1A	EP	Z	9 9 31.6	161.3	.2	1.3		
		ES	X	48.5			1.3		
3DEC	S1A	EP	Z	9 50 52.7			3.2		
		ES	X	51 30.5			3.2		
3DEC	S7A	EP	P	9 58 53.8			1.3		
		ES	Z	59 10.1			1.3		
3DEC	S4A	EP	Z	13 44 49.9	80.1	.2	.1		
		ES	X	51.2			.1		
3DEC	S4A	EP	Z	15 22 23.6	161.3	.2	1.2		*
		ES	Y	39.2			1.2		
3DEC	S5A	EP	X	15 22 29.4			1.8		*
		ES	X	51.1			1.8		
3DEC	S10	EP	Z	15 22 50.9	80.6	.2	3.5		*
		ES	Y	23 31.5			3.5		
3DEC	S7A	EP	Z	16 58 4.0	999.9				*
3DEC	S4A	EP	Z	16 58 12.1	322.6	.3	.9		*
		ES	X	23.9			.9		
3DEC	S5A	EP	Z	16 58 22.5	201.6	.2	1.8		*
		ES	Y	44.3			1.8		
3DEC	S10	EP	P	16 58 50.1			3.2		*
		ES	Y	59 27.7			3.2		
3DEC	S10	EP	Z	19 37 32.1			3.8		
		ES	Y	38 16.2			3.8		
3DEC	S7A	EP	P	21 27 27.0			R		
		ES	Z	29 58.3			R		
		ET	P	31 13.6			R		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
3DEC	S1A	EP	Z	22 6 .9	604.8	.3	R		
		ES	X	7 53.0			R		
		E	P	11 49.6			R		
3DEC	S4A	EP	Z	22 7 28.7	282.3	.5	T		
3DEC	S5A	EP	Z	22 7 32.4	80.6	.2	R		
		E	Y	52.2			R		
		ES	X	8 46.1			R		
3DEC	S10	EP	Z	22 8 12.6	32.1	.3			
		E	Y	9 51.8					
		E	Y	18 3.0					
3DEC	S5A	EP	Z	22 14 3.4	241.9	.4			
		E	Z	50.5					

3DEC 22 49 3.1 44.4N 149.0E KURILE EXPLOSION
H = 0 KM

3DEC	S4A	EP	Z	22 49 15.2	999.9		.5	131	-1.4
		E	Z	18.8			.5	131	
3DEC	S5A	EP	Z	22 49 30.5	443.5	.5	1.4	317	1.4
		E	Z	45.8			1.4	317	
		ET	P	50 57.2			1.4	317	
3DEC	S1A	E	Z	22 49 48.7	806.5	.4	2.2	55	
		ES	X	55.8			2.2	55	9.0
		E	P	51 43.4			2.2	55	
3DEC	S10	EP	Z	22 50 09.0			4.1	283	.6
		ES	Y	58.1			4.1	283	-.4
		E	P	54 21.1			4.1	283	
3DEC	S4A	EP	Z	23 30 33.3	201.6	.2	1.6		
		ES	Y	52.6			1.6		
4DEC	S5A	EP	Z	1 12 30.5	241.9	.2	1.1		
		ES	Y	44.5			1.1		
4DEC	S1A	EP	Z	1 53 57.4	161.3	.1	.6		
		ES	X	54 6.3			.6		
4DEC	S5A	EP	Z	4 1 44.0			2.4		
		ES	Y	2 12.9			2.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
4DEC	S5A	EP	Z	4 42 30.9			5.9		
		ES	Z	43 38.4			5.9		
4DEC	S5A	EP	P	6 38 59.4					
		E	Z	39 13.1					
4DEC	S4A	EP	Z	9 48 18.0	403.2	.2	.9		*
		ES	Y	29.9			.9		
4DEC	S1A	EP	Z	9 48 26.5			1.6		*
		ES	X	46.4			1.6		
4DEC	S7A	EP	Z	9 48 31.9			1.8		*
		ES	X	54.0			1.8		
4DEC	S5A	EP	Z	9 48 33.0	201.6	.2	N		*
		E	Z	36.0			N		
		E	Y	58.2			N		
4DEC	S7A	EP	Z	12 1 54.5			.9		
		ES	X	2 6.9			.9		
4DEC	S1A	EP	Z	12 38 51.7			1.7		
		ES	X	39 12.2			1.7		
4DEC	S5A	EP	Z	13 42 34.8	443.5	.2	.4		
		ES	Y	39.7			.4		
4DEC	S1A	EP	Z	15 56 31.5			5.6		*
		ES	X	57 36.4			5.6		
4DEC	S4A	EP	Z	15 56 57.7	80.6	.3	N		*
		ES	X	58 19.6			N		
4DEC	S5A	EP	Z	15 57 4.3	121.0	.2			*
		E	Z	12.3					
		E	Y	58 35.2					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
4DEC 16 24 27.9		38.7N		144.2E OFF E COAST OF HONSHU,JAPAN H = 33 KM MAG = 4.0					
4DEC	S1A	EP	Z	16 25 35.5	403.2	.4	4.8	202	-4.0
		ES	X	26 29.0			4.8	202	-5.6
		E	X	30 25.0			4.8	202	
4DEC	S5A	EP	Z	16 25 59.0	403.2	.4	6.6	226	-5.7
		E	Z	26 3.5			6.6	226	
		ES	Y	27 9.5			6.6	226	-10.0
		E	Z	34 14.9			6.6	226	
4DEC	S4A	EP	Z	16 26 2.2	403.2	.3	6.8	210	-5.8
		E	Z	13.8			6.8	210	
		ES	X	27 11.4			6.8	210	-14.0
4DEC	S7A	ES	Y	16 27 39.6			7.9	215	-12.7
4DEC	S10	EP	Z	16 26 34.9	80.6	.3	9.2	241	-7.0
		E	Y	28 5.9			9.2	241	
4DEC	S7A	EP	P	19 13 21.6			.7		
		ES	X	31.0			.7		
4DEC	S1A	EP	Z	20 42 47.7			2.9		
		ES	X	43 22.0			2.9		
4DEC	S5A	EP	Z	20 43 9.4	403.2	.2	4.3		
		E	Z	16.5			4.3		
		ES	Y	59.2			4.3		
4DEC	S5A	EP	Z	21 32 4.0	121.0	.2	1.3		
		ES	Y	20.6			1.3		
4DEC	S1A	EP	Z	22 9 2.5			1.5		
		ES	X	21.6			1.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
4DEC 22 24		3.0	44.6N	150.9E	KURILE EXPLOSION H = 0 KM				
4DEC	S5A	EP	Z	22 24 28.3	685.5	.4	1.3	20	.5
		E	Z	36.4			1.3	20	
		ES	Y	46.5			1.3	20	5.0
		ET	P	25 35.8			1.3	20	
4DEC	S10	EP	Z	22 24 47.9	121.0	.4	2.8	291	-2.2
		E	Y	25 32.1			2.8	291	
		ET	P	27 38.1			2.8	291	
4DEC	S1A	EP	Z	22 24 58.0			3.5	64	-1.6
		ET	P	28 30.2			3.5	64	
4DEC	S4A	E	Z	22 24 51.0					
		ET	P	25 24.6					
4DEC	S5A	EP	Z	23 21 32.4	725.8	.3			
5DEC	S5A	EP	P	2 12 58.3			4.6		
		ES	Z	13 51.8			4.6		
5DEC	S5A	E	Z	3 5 24.9	524.2	.4			
5DEC	3 22	3.1	44.5N	151.4E	KURILE EXPLOSION H = 0 KM				
5DEC	S7A	EP	Z	3 22 32.7	322.6	.3	1.3	129	3.7
		ET	P	23 50.1			1.3	129	
5DEC	S5A	EP	Z	3 22 27.3	241.9	.2	1.4	36	-1.8
		E	Z	34.0			1.4	36	
		ES	Y	42.8			1.4	36	.8
		ET	P	23 33.7			1.4	36	
5DEC	S1A	EP	Z	3 23 7.0			3.8	68	3.1
		ET	P	26 59.5			3.8	68	
5DEC	S4A	E	Z	3 24 4.6					
		ET	P	44.4					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
5DEC	S1A	EP	Z	3 30 47.6			4.8		*
		ES	X	31 42.8			4.8		
5DEC	S4A	EP	Z	3 31 1.8	201.6	.2	R		*
		E	X	21.1			R		
		E	X	32 .7			R		
5DEC	S5A	EP	Z	3 31 18.6	645.2	.2	R		*
		E	Z	25.7			R		
		ES	Y	32 31.0			R		
5DEC	S7A	E	Z	3 56 43.6	362.9	.2			
5DEC	S4A	EP	Z	5 15 29.8	121.0	.3	N		*
		E	Y	16 18.9			N		
		ES	X	30.6			5.0		
5DEC	S1A	EP	Z	5 15 33.4	362.9	.2	5.0		*
5DEC	S5A	EP	Z	5 15 47.4	403.2	.2	5.5		*
		ES	Y	16 50.8			5.5		
5DEC	S5A	EP	Z	11 53 57.7	483.9	.2	.4		
		ES	Y	54 2.8			.4		
5DEC	S4A	EP	Z	14 22 48.6	443.5	.3	.6		
		ES	X	57.1			.6		
5DEC	S7A	E	Y	14 22 59.9					
5DEC	S5A	EP	Z	13 12 45.9			1.2		
		ES	Y	13 .7			1.2		
5DEC	S5A	EP	Z	17 44 26.6	201.6	.1	.4		
		ES	Y	31.1			.4		
5DEC	S1A	E	Z	18 0 17.2					
5DEC	S7A	E	Z	18 18 28.9	161.3	.2			
5DEC	S1A	EP	Z	19 9 21.2			3.2		
		ES	X	59.2			3.2		
5DEC	S7A	EP	Z	19 14 31.0	403.2	.2	.5		
		ES	X	36.5			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
5DEC	S4A	EP	Z	19 14 42.4	121.0	.3	1.0		
		ES	X	55.8			1.0		
5DEC	S5A	EP	Z	19 29 56.7	80.6	.2	R		
		ES	Y	30 59.7			R		
5DEC	S1A	EP	Z	22 51 53.7			2.4		
		ES	X	52 22.2			2.4		
6DEC	S1A	EP	Z	0 25 26.5	604.8	.2	.5		
		ES	X	33.0			.5		
6DEC	S7A	EP	Z	4 33 29.3	443.5	.1	.9		*
		ES	X	41.8			.9		
6DEC	S4A	EP	Z	4 33 45.6	564.5	.3	2.1		*
		E	Z	48.2			2.1		
		ES	X	34 10.5			2.1		
6DEC	S5A	EP	Z	4 33 46.3	201.6	.1	2.1		*
		ES	Y	34 12.0			2.1		
		E	Z	36 2.2			2.1		
6DEC	S1A	EP	Z	4 34 15.5			4.3		*
		ES	X	35 5.5			4.3		
6DEC	S5A	E	Z	5 4 40.6	282.3	.4			
6DEC	S1A	EP	Z	7 1 37.7			1.5		
		ES	X	56.0			1.5		
6DEC	S5A	EP	Z	7 2 45.8			1.9		
		ES	X	3 9.2			1.9		
6DEC	S1A	EP	Z	7 15 24.4			1.0		
		ES	X	38.0			1.0		

5DEC 7 18 39.9 50.1N 159.8E KURILE IS REGION
H = 27 KM MAG = 5.4

6DEC	S7A	ES	Y	7 22 3.0			8.2	51	-9.1
5DEC	S4A	EP	Z	7 20 52.4	121.0	.2	9.4	51	-3.8
		E	Z	55.8			9.4	51	
		ES	X	22 28.1			9.4	51	-13.6

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
6DEC	S1A	EP	Z	7 19 38.5					
		ES	X	20 17.0			3.3		
		E	Z	21 21.0			3.3		
		E	Z	22 11.2			3.3		
							3.3		
6DEC	S4A	EP	Z	7 19 44.6	161.3	.2	2.6		
		ES	X	20 15.5			2.6		
6DEC	S5A	EP	Z	7 20 3.0	161.3	.2			
		E	Z	10.3					
6DEC	S5A	E	Z	7 20 41.7	121.0	.2			
		E	Z	46.7					
		E	Z	52.2					
		E	Z	21 3.0					
		E	Z	22 20.2					
6DEC	S5A	E	Z	7 26 3.6	282.3	.3			
		E	Z	29 26.3					
		E	Z	30 2.1					
6DEC	S5A	EP	Z	7 52 45.7	282.3	.1	.7		
		ES	X	55.5			.7		
6DEC	S1A	EP	Z	7 54 53.6	201.6	.1	.6		
		ES	X	55 2.3			.6		
6DEC	S4A	EP	Z	7 55 12.4	201.6	.3	1.7		
		ES	X	32.9			1.7		

6DEC 10 45 2.0 41.9N 141.1E HOKKAIDO, JAPAN REGION
H = 127 KM MAG = 4.3

6DEC	S1A	EP	Z	10 46 3.5	201.6	.3	4.2	254	-1.8
		E	Z	50.6			4.2	254	
6DEC	S4A	EP	Z	10 46 27.1	846.8	.3	6.1	245	-3.7
		ES	X	47 09.5			6.1	245	-10.3
6DEC	S5A	EP	Z	10 46 38.6	766.1	.3	6.9	261	-3.7
		E	P	46.0			6.9	261	
		ES	X	47 49.4			6.9	261	-10.9

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
6DEC	S4A	EP	Z	10 58 14.8			4.6		*
		ES	X	59 7.7			4.6		
6DEC	S5A	EP	Z	10 58 32.2	564.5	.2			*
		E	P	39.4					
6DEC	S1A	E	Z	10 58 58.4	201.6	.1			*
6DEC	S5A	EP	Z	10 59 39.7	403.2	.2	L		
		E	Z	45.5			L		
6DEC	S1A	EP	Z	12 1 23.9	48.1	.2	R		
		ES	X	3 11.2			R		
6DEC	S5A	EP	Z	12 1 41.6	564.5	.2	L		
		E	P	48.5			L		
		E	Y	58.7			L		
6DEC	S4A	EP	Z	12 2 .3	161.3	.3	2.4		
		E	Y	7.0			2.4		
		ES	X	29.4			2.4		
6DEC	S5A	EP	Z	13 49 59.3			1.5		
		ES	Y	50 17.6			1.5		
6DEC	S5A	EP	Z	16 2 41.5	322.6	.2	4.9		
		ES	Y	3 38.5			4.9		
6DEC	S4A	EP	Z	16 2 44.8	80.6	.3	N		
		E	X	3 42.4			N		
6DEC	S5A	EP	Z	19 51 46.5	685.5	.2	.8		*
		E	Z	53.3			.8		
		ES	Y	57.9			.8		
6DEC	S7A	EP	Z	19 51 53.4	241.9	.2	1.6		*
		ES	X	52 12.9			1.6		
6DEC	S4A	EP	Z	19 51 53.6	322.6	.3	L		*
		E	Z	53.1			L		
6DEC	S1A	EP	Z	19 52 13.8			1.6		*
		ES	X	34.2			1.6		
6DEC	S1A	EP	Z	20 48 34.2	604.8	.1	.8		
		ES	Z	45.2			.8		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
7DEC	S4A	EP	Z	1 46 23.1	201.6	.6			
		E	Y	31.0			L		
		E	Y	42.2			L		
							L		

7DEC 4 15 22.1 46.9N 153.7E KURILE ISLANDS
H = 40 KM MAG = 4.5

7DEC	S7A	EP	Z	4 16 7.8	80.1	.2	3.0	58	-1.2
		ES	X	45.8			3.0	58	1.2
7DEC	S4A	EP	Z	4 16 24.2	443.5	.2	4.2	57	-1.7
		ES	X	17 11.1			4.2	57	-3.8
7DEC	S5A	EP	Z	4 16 17.6	282.3	.2	4.2	34	-8.3
		E	Z	21.1			4.2	34	
		E	Y	58.7			4.2	34	
		E	Z	19 3.2			4.2	34	
7DEC	S1A	EP	Z	4 16 52.5			6.3	51	-2.6
		ES	X	18 15.8			6.3	51	8.8

7DEC 6 50 34.8 33.0N 137.6E S OF HONSHU, JAPAN
H = 348 KM MAG = 4.1

7DEC	S1A	EP	Z	6 53 22.2	161.3	.2	12.3	218	.7
		ES	X	55 37.1			12.3	218	3.4
7DEC	S5A	EP	Z	6 53 47.1	403.2	.4	14.4	228	1.7
		ES	Y	56 25.7			14.4	228	7.8
7DEC	S4A	E	Z	6 53 53.5	121.0	.5	14.4	220	
		ES	X	56 19.7			14.4	220	.9
		E	X	23.1			14.4	220	

7DEC	S4A	EP	Z	7 12 8.2	80.6	.2			
		E	X	14.9			L		
		E	Y	17.9			L		
							L		
7DEC	S4A	EP	Z	8 32 40.4					
		E	Z	41.4			N		
		E	Y	50.9			N		
		E	X	33 41.2			N		
							N		
7DEC	S1A	EP	X	8 32 57.0					
		ES	X	33 10.2			1.0		
							1.0		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
7DEC	S5A	EP	Z	9 31 46.2			4.6		
		ES	Z	32 39.7			4.6		
7DEC	S4A	EP	Z	9 31 52.1	48.1	.2	N		
		E	X	32 51.2			N		
7DEC	S4A	EP	Z	9 49 46.7	80.6	.1	.5		
		ES	X	54.0			.5		
7DEC	S1A	EP	Z	11 40 11.6			4.2		*
		ES	X	41 .6			4.2		
7DEC	S4A	EP	Z	11 40 36.4	121.0	.2	N		*
		E	Y	46.9			N		
		E	Y	41 42.4			N		
7DEC	S5A	EP	Z	11 40 46.0	161.3	.2	R		*
		ES	Z	42 .4			R		
7DEC	S5A	E	Z	13 39 28.9	887.1	.4			
7DEC	S5A	EP	Z	13 50 54.1			5.5		
		ES	Z	51 57.5			5.5		
7DEC	S1A	EP	Z	14 16 15.4			4.9		
		ES	X	17 11.4			4.9		
		E	?	21 16.6			4.9		
7DEC	S5A	EP	Z	14 16 45.9			1.5		
		ES	Y	17 4.6			1.5		
		E	Z	23 12.6			1.5		
7DEC	S1A	EP	Z	14 41 35.2			3.5		
		ES	X	42 16.3			3.5		
7DEC	S5A	EP	Z	14 42 17.3			5.0		
		ES	Z	43 14.5			5.0		
7DEC	S5A	EP	Z	15 14 25.5	121.0	.2	R		
		F	Z	34.6			R		
		ES	Y	15 41.1			R		
		E	Z	21 44.9			R		
		E	Z	57.8			R		
7DEC	S1A	EP	Z	15 15 2.0			R		
		ES	X	16 44.7			R		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES	
7DEC 16 59 29.2	11.9N	142.6E	S OF MARIANA IS							
			H = 33 KM		MAG = 5.1					
7DEC	S5A	EP	P	17 5 54.4			32.1	194	-1.0	
7DEC	S7A	EP	Z	17 3 51.3	564.5	.3	.7			
		ES	X	4 .6			.7		*	
7DEC	S4A	EP	Z	17 3 59.5	201.6	.2	L			
		E	X	4 8.3			L		*	
		E	X	13.4			L			
7DEC	S5A	EP	Z	17 4 9.5	80.6	.2	2.0			
		ES	Y	33.5			2.0		*	
7DEC	S1A	EP	Z	17 4 27.2			4.5			
		ES	X	5 19.8			4.5		*	
7DEC 17 17 42.0	44.3N	151.7E	KURILE IS REGION							
			H = 26 KM		MAG = 5.8					
7DEC	S5A	EP	Z	17 18 5.1	999.9		1.4	49	-.3	
7DEC	S4A	-IP	X	17 18 21.7	999.9		2.3	99	2.3	
7DEC	S1A	EP	Z	17 18 45.3	999.9		3.9	71	3.0	
7DEC	S5A	E	Z	17 35 42.0						
		E	X	49.4						
7DEC	S5A	EP	Z	19 15 36.0			1.8			
		ES	Y	57.7			1.8			
8DEC	S4A	-IP	Z	0 44 1.0	999.9		L			
		E	Z	12.8			L		*	
8DEC	S1A	EP	Z	0 44 10.6	403.2	.4	1.9			
		ES	X	33.8			1.9		*	
8DEC	S7A	EP	Z	0 44 12.3	483.9	.2	1.9			
		ES	X	35.0			1.9		*	
8DEC	S5A	EP	Z	0 44 17.8	1.5U	.2	2.2			
		ES	Y	44.3			2.2		*	

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
8DEC	S5A	EP	Z	3 26 48.6			1.9		
		ES	Z	27 12.0			1.9		
8DEC	S1A	EP	Z	5 47 1.1	201.6	.2	1.5		
		ES	X	20.3			1.5		
8DEC	S5A	E	Y	5 48 14.0			L		
8DEC	S4A	+IP	Z	5 51 20.2	999.9		L		*
8DEC	S5A	EP	Z	5 51 22.8	5.4U	.2	L		*
		E	Y	24.9			L		
		E	P	52 32.1			L		
8DEC	S1A	EP	Z	5 51 45.8	161.3	.1	2.4		*
		ES	X	52 15.0			2.4		
8DEC	S1A	EP	Z	6 17 48.9	161.3	.1	.6		
		ES	X	57.0			.6		
8DEC	S4A	EP	Z	6 24 52.6	80.6	.2	L		
		E	Y	54.6			L		
8DEC	S7A	E	Z	9 28 59.7	201.6	.2			
8DEC	S5A	EP	Z	9 31 40.3	201.6	.3	.5		
		ES	X	47.4			.5		
8DEC	S4A	EP	Z	9 48 9.3	121.0	.3	4.1		*
		E	Y	21.3			4.1		
		ES	X	57.1			4.1		
8DEC	S1A	EP	Z	9 48 19.6			5.1		*
		ES	X	49 18.8			5.1		
8DEC	S5A	EP	Z	9 48 25.2	766.1	.3	5.4		*
		ES	Y	49 26.4			5.4		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
8DEC	S4A	EP	Z	13 2 48.9	999.9		.7		*
		E	X	49.6			.7		
		ES	X	58.6			.7		
8DEC	S5A	-IP	Z	13 3 .4	725.8	.3			*
8DEC	S1A	EP	Z	13 3 4.2	121.0	.2	1.9		*
		ES	X	27.0			1.9		
8DEC	S7A	E	?	13 3 4.9	241.9	.4			*

8DEC 14 5 49.8 39.8N 141.4E HONSHU, JAPAN
H = 73 KM MAG = 4.1

8DEC	S1A	EP	Z	14 7 7.0	443.5	.3	5.1	230	1.6
8DEC	S4A	EP	Z	14 7 34.6	121.0	.2	7.2	229	.1
		ES	Y	8 51.0			7.2	229	-4.7
8DEC	S5A	EP	Z	14 7 40.2	362.9	.4	7.6	245	.6
		ES	Y	8 59.8			7.6	245	-5.3

8DEC 15 2 59.4 56.1N 164.7E KOMANDORSKY IS REGION
H = 33 KM MAG = 4.8

8DEC	S4A	EP	Z	15 6 30.1	121.0	.6	15.3	36	-4.7
		E	Y	35.9			15.3	36	
		E	Y	47.3			15.3	36	
8DEC	S5A	EP	Z	15 6 30.5	201.6	.3	15.7	31	-9.1
		E	Z	32.3	564	4	15.7	31	
		E	Z	9 12.4			15.7	31	
8DEC	S1A	EP	Z	15 6 56.8	80.6	.2	17.4	36	-4.7
		E	X	7 19.2			17.4	36	

8DEC	S5A	E	Z	15 22 31.1	483.9	.3			
8DEC	S1A	EP	Z	18 45 9.3			1.2		
		ES	X	25.1			1.2		
8DEC	S4A	EP	Z	21 42 39.6			N		
		E	Z	44.8			N		
		E	Y	43 20.6			N		
8DEC	S5A	E	Y	21 43 14.3					
8DEC	S1A	EP	Z	22 52 .5	564.5	.1	.5		
		ES	X	8.0			.5		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
8DEC	S4A	EP	Z	22 52 24.8	201.6	.2	N		
		E	X	48.4			N		
8DEC	S7A	EP	Z	23 28 32.9	403.2	.2	.5		
		ES	Y	38.6			.5		
8DEC	S4A	EP	Z	23 28 46.0	121.0	.2	1.1		
		ES	X	29 .3			1.1		
9DEC	S5A	E	Y	0 41 29.5					
9DEC	S4A	EP	Z	1 20 23.5			1.1		
		E	X	32.0			1.1		
		ES	X	37.4			1.1		
9DEC	S4A	EP	Z	2 45 47.9	999.9		L		*
		E	Y	49.9			L		
		E	X	55.7			L		
9DEC	S5A	EP	Z	2 45 56.7	161.3	.2	1.0		*
		ES	Z	46 10.4			1.0		
9DEC	S1A	EP	Z	2 46 13.4			2.3		*
		ES	X	41.4			2.3		
9DEC	S4A	EP	Z	5 58 56.6	161.3	.1	2.6		*
		E	Y	59 5.9			2.6		
		ES	X	28.1			2.6		
9DEC	S5A	EP	Z	5 58 58.3	833.3	.2	R		*
		E	P	59 5.5			R		
		ES	Y	6 0 35.0			R		
9DEC	S1A	EP	Z	5 59 21.7			1.8		*
		ES	X	43.6			1.8		
		E	X	6 1 23.1			1.8		
9DEC	S4A	EP	Z	6 16 32.6	201.6	.2	.8		
		ES	X	43.0			.8		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
9DEC	S1A	EP	Z	7 46 27.1	121.0	.1	2.2		*
		ES	X	54.0			2.2		
9DEC	S4A	-IP	Z	7 47 3.4	999.9		L		*
		E	X	8.1			L		
9DEC	S5A	EP	Z	7 47 15.7	416.7	.2	1.4		*
		E	P	22.9			1.4		
		ES	Y	33.6			1.4		
9DEC	S1A	EP	Z	10 8 4.5			N		
		ES	X	10 38.5			N		
9DEC	S1A	EP	Z	12 20 57.3			.6		
		ES	X	21 6.2			.6		
9DEC	S5A	EP	Z	12 28 23.8	201.6	.2	.9		
		ES	Y	35.3			.9		
9DEC	S1A	EP	Z	12 39 56.1			4.7		
		ES	X	40 50.7			4.7		
9DEC	S5A	E	Z	12 41 49.8	282.3	.3			
9DEC	S1A	EP	Z	16 34 43.8			.5		
		ES	X	51.0			.5		
9DEC	S4A	EP	Z	16 48 26.6	282.3	.1	T		
9DEC	S1A	EP	Z	17 2 54.7	322.6	.2	4.4		
		ES	X	3 45.4			4.4		
9DEC	S5A	EP	Z	17 3 28.4	80.6	.2	R		
		ES	X	4 43.6			R		
9DEC	S1A	EP	Z	17 23 25.7			1.5		
		ES	Z	44.1			1.5		
9DEC	S5A	E	Z	19 51 15.1	967.7	.3			
9DEC	S1A	EP	Z	22 0 27.6			1.7		
		ES	X	49.0			1.7		
10DEC	S1A	EP	Z	0 10 43.4			2.1		
		ES	X	11 8.2			2.1		
10DEC	S5A	E	Z	0 12 6.4	645.2	.3			

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
10DEC	S7A	EP	Z	4 9 38.3			.5		
		ES	Y	44.8			.5		
10DEC	S4A	EP	Z	4 47 17.0			1.2		
		ES	X	32.6			1.2		
10DEC	S7A	EP	P	5 10 10.7			.9		
		ES	Y	22.2			.9		
10DEC	S1A	E	X	9 46 29.2					
10DEC	S1A	EP	Z	9 55 35.6			4.6		
		ES	X	56 28.5			4.6		
10DEC	S7A	EP	Z	15 31 53.5	999.9		.5		*
		ES	Z	32 .0			.5		
10DEC	S4A	EP	Z	15 32 .0	443.5	.3	.4		*
		ES	X	4.6			.4		
10DEC	S1A	EP	Z	15 32 29.8			3.8		*
		ES	X	33 14.4			3.8		
10DEC	S1A	EP	Z	16 21 42.1			.9		
		ES	X	54.2			.9		
10DEC	S1A	EP	Z	16 49 22.4			.7		
		ES	X	32.7			.7		
10DEC	S1A	E	Z	17 50 30.5					
10DEC	S1A	EP	Z	19 37 50.8			2.9		
		ES	X	38 25.2			2.9		
11DEC	S1A	E	Z	0 27 16.6					
11DEC	S7A	EP	Z	3 37 9.0			.8		
		ES	Y	19.5			.8		
11DEC	S1A	E	Z	4 6 18.8					
11DEC	S1A	EP	Z	6 9 40.7			2.4		
		ES	Z	10 9.7			2.4		
11DEC	S1A	EP	Z	6 32 28.1			.7		
		ES	Z	37.6			.7		

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
11DEC	S1A	EP	Z	7 32 51.0	161.3	.2	.8		
		ES	X	33 1.4			.8		
11DEC	S7A	EP	Z	7 37 51.1			.7		
		ES	Y	38 1.0			.7		
11DEC	S1A	EP	Z	10 0 2.6					
11DEC	S4A	EP	Z	10 55 47.7	121.0	.4	2.0		
		ES	X	56 12.0			2.0		
11DEC	S1A	EP	Z	17 1 34.7	121.0	.2	.5		
		ES	X	41.9			.5		
11DEC	S1A	EP	Z	17 31 59.0			R		
		ES	X	33 50.1			R		
11DEC	S1A	EP	Z	18 27 2.6			.5		
		ES	X	10.0			.5		
11DEC 19 47 34.2 42.9N 144.6E HOKKAIDO, JAPAN REGION H = 57 KM MAG = 4.8									
11DEC	S1A	EP	Z	19 48 .1	999.9		1.4	260	1.5
11DEC	S4A	EP	Z	19 48 25.3	999.9		3.4	239	-.3
		E	Z	53.8			3.4	239	
		E	Z	49 1.4			3.4	239	
12DEC	S4A	EP	Z	1 18 47.9	282.3	.3	N		
		E	Z	50.7			N		
		E	Y	19 13.3			N		
12DEC	S1A	E	Z	1 19 17.0					
12DEC	S1A	E	Z	2 0 52.1					
12DEC	S4A	EP	Z	2 10 32.5	241.9	.2	L		
		E	X	36.0			L		
		E	X	39.3			L		
12DEC	S1A	E	Z	2 14 48.0	80.1	.2			
12DEC	S1A	E	Z	2 18 42.3	48.1	.1			

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
12DEC	S1A	E	Z	2 28 43.3	48.1	.1			
12DEC	S4A	EP	Z	3 56 20.6	241.9	.3	L		
		E	Z	23.9			L		
		E	X	35.3			L		
12DEC	S1A	EP	Z	3 56 48.6			1.6		
		ES	X	57 8.3			1.6		
		E	X	58 25.2			1.6		
12DEC	S1A	EP	Z	4 34 50.3			1.7		
		ES	X	35 10.9			1.7		
12DEC	S4A	EP	Z	5 51 23.9	999.9		.3		
		ES	X	29.4			.5		
12DEC	S1A	EP	Z	5 51 54.6			3.8		
		ES	X	52 38.6			3.8		
12DEC	S4A	EP	Z	6 41 17.9	564.5	.2	.7		
		ES	Y	27.9			.7		
12DEC	S1A	EP	Z	6 41 48.6			4.4		
		ES	X	42 39.8			4.4		
12DEC	S1A	EP	Z	10 37 35.6			1.3		
		ES	X	52.0			1.3		
		E	X	38 46.5			1.3		
12DEC	S1A	EP	Z	13 52 11.6	161.3	.3	1.6		
		ES	X	32.0			1.6		
12DEC	S1A	EP	Z	19 45 8.6			1.2		
		ES	X	23.8			1.2		
13DEC	S1A	E	Z	3 1 32.6	282.3	.2			
13DEC	S1A	E	Z	3 5 29.5	282.3	.2			
13DEC	S1A	E	Z	3 9 41.9	282.3	.2			
13DEC	S1A	E	Z	3 17 1.5	161.3	.2			
13DEC	S1A	E	Z	3 19 55.9					
13DEC	S1A	E	Z	3 24 41.7					
13DEC	S1A	E	Z	3 30 .8					
13DEC	S1A	E	Z	3 32 44.0					

DAY	STA	PHASE	C	TIME	AMP	PER	DIST	AZI	RES
13DEC	S1A	E	Z	3 42 52.1	443.5	.3			
13DEC	S1A	EP	Z	4 21 17.3			1.0		
		ES	X	29.9			1.0		
13DEC	S1A	EP	Z	5 2 45.3	201.6	.2	.9		
		ES	X	57.8			.9		

***** CBS PRELIMINARY BULLETIN COUNTS *****

NUMBER OF USCGS EPICENTERS ASSOCIATED WITH DATA **********	89
NUMBER OF STATION EVENTS ASSOCIATED WITH USCGS EPICENTERS **********	320
NUMBER OF OBS PRELIMINARY EPICENTERS ASSOCIATED WITH DATA **********	70
NUMBER OF STATION EVENTS ASSOCIATED WITH OBS PRELIMINARY EPICENTERS *	364
NUMBER OF KURILE EXPLOSIONS ASSOCIATED WITH DATA **********	17
NUMBER OF STATION EVENTS ASSOCIATED WITH KURILE EXPLOSIONS **********	87
TOTAL NUMBER OF EVENTS ASSOCIATED WITH DATA **********	176
NUMBER OF STATION EVENTS ASSOCIATED WITH TOTAL NUMBER OF EVENTS *****	771
NUMBER OF ASSUMED ASSOCIATED EVENTS USING OBS DATA **********	200
NUMBER OF STATION EVENTS ASSOCIATED WITH ASSUMED ASSOCIATED EVENTS **	741
TOTAL NUMBER OF EVENTS AND ASSUMED ASSOCIATED EVENTS **********	376
NUMBER OF STATION EVENTS ASSOCIATED WITH TOTAL NUMBER OF EVENTS *****	1512
TOTAL NUMBER OF UNASSOCIATED STATION EVENTS **********	1676
TOTAL NUMBER OF STATION EVENTS IN OBS PRELIMINARY DATA**********	3188

UNCLASSIFIED

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OCEAN-BOTTOM SEISMOGRAPHIC EXPERIMENTS

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)

Preliminary bulletin

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McDermott, Joe G.; Labhart, Robert J.: Marshall, Virginia O.

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11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY
ARPA Order No. 624 Program Code No. 6F10	Advanced Research Projects Agency Department of Defense The Pentagon, Washington DC 20301

13. ABSTRACT

An Ocean-Bottom Seismograph Field Experiment was conducted in the Kurile Islands region between 21 October 1966 and 16 December 1966 (Ocean-Bottom Seismographic Experiments, Contract No. F 33657-67-C-0105). Preliminary data recorded during the experiment is presented. Data includes USC&GS reported events, preliminary OBS epicenter determinations and unassociated phases.

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UNCLASSIFIED

Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Preliminary Bulletin Kurile Islands Experiments USC&GS Reported Events Preliminary Epicenter Determinations (OBS)						

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SUPPLEMENTARY

INFORMATION

AD-822 396

ADDENDUM
TO

PRELIMINARY BULLETIN
KURILE ISLANDS EXPERIMENT

OCEAN-BOTTOM SEISMOGRAPHIC EXPERIMENTS
BY

TEXAS INSTRUMENTS INCORPORATED
Science Services Division
P. O. Box 5621
Dallas, Texas 75222

1 May 1967

Correction to Earth Displacement Values

Refer to Page IV-4, Paragraph f, and Bulletin Listings.

The earth displacement reported in the Bulletin Listings should be corrected by dividing the values given by the following factors:

Period-Seconds	Frequency-Hz	Factor
0.1	10	4.3
0.2	5	6.28
0.3	3.3	6.28
0.4	2.5	5.86
0.5	2.0	5.45
0.6	1.6	4.05
0.7	1.4	3.48
0.8	1.25	2.35
0.9	1.1	1.46
1.0	1.0	1.02
1.1	0.9	.73
1.2	0.88	.61
1.3	0.77	.41
1.4	0.72	.31

A detailed explanation of the OBS System Response will be given in a report to be published early in 1968 under the AF Contract No. F 33657 - 67 - C - 1341.