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BULLETIN OF THE SEISMOLOGICAL LABORATORY
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INTRODUCTION

This issue of the Bulletin of the Seismological Laboratory summarizes the determination of epicenters for earthquakes located in the western Great Basin, Nevada and eastern California, for the period 1975-1979.

The Laboratory attempts to identify and locate all earthquakes with M_L greater than about 2.5 in this region. Quality of locations is best for events located in areas with dense seismic coverage; events well outside the network (aftershocks of NTS explosions, etc.) may be mislocated by several tens of kilometers.

A number of papers on earthquake hazard and characteristics of precursory seismicity in the western Great Basin have utilized the data base contained in this issue of the Bulletin. These include papers on "Earthquake Hazards in the Nevada Region" (Ryall, 1977), "Sierra Nevada-Great Basin Boundary Zone: Earthquake Hazard Related to Structure, Active Tectonic Processes, and Anomalous Patterns of Earthquake Occurrence" (VanWormer and Ryall, 1980), "Estimation of Maximum Magnitude and Recommended Seismic Zone Changes in the Western Great Basin" (Ryall and VanWormer, 1980), "An Earthquake Sequence in the Sierra Nevada-Great Basin Boundary Zone: Diamond Valley" (Somerville et al., 1980), Earthquake/Earth Tide Correlation and Other Features of the Susanville, California,

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Earthquake Sequence of June-July, 1976" (Mohler, 1980), and "Spatial-Temporal Variations in Seismicity Preceding the May, 1980, Mammoth Lakes, California, Earthquakes" (Ryall and Ryall, 1981).

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SEISMOLOGICAL LABORATORY

With a history of instrumental earthquake recording dating back to the 1890's, the Mackay School of Mines Seismological Laboratory was designated in 1972 as one of the University of Nevada Statewide Programs of Research and Public Service. The objectives of the Laboratory are to:

- operate a network of seismic stations in the Nevada region;
- analyze data obtained with the Nevada seismic network;
- compile data on historic and current earthquake activity in and around the State of Nevada;
- serve as a repository of information and exchange of information on earthquake activity in Nevada and adjoining states;
- provide for the education of the public in matters related to seismicity and earthquake risk in the Nevada region;
- carry out grant- and contract-supported research on earthquake problems of national importance; and
- consider such other kindred scientific and economic questions as in the judgement of the Board of Regents shall be deemed of value to the people of the State.

The Seismological Laboratory is one of three Research and Public Service units of the Mackay School of Mines. Others are the Nevada Bureau of Mines and Geology, and the Nevada Mining Analytical Laboratory. The Mackay School of Mines has three departments of instruction: Geological Sciences, Mining Engineering, and Chemical/Metallurgical Engineering.

Staff. Regular Laboratory staff members during the period covered by this issue of the Bulletin include the following:

Alan S. Ryall
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Keith F. Priestley
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NOTES ON EPICENTER LOCATION ROUTINES

In the listing given below, events with quality (Q) designations (A, B, C, D) were located using the program HYP071, described by Lee and Lahr (1975). Events without Q-designations for 1975 and for 1976-1979, respectively, were located using programs NEVLOC and NEVLOC2, described in the following paragraphs.

NEVLOC Routine. Earthquakes for which dense station coverage was not available in 1975 were located using a routine NEVLOC, modified from an original version written by Ryall and Jones (1965). The logic for this program is described below.

(1) Terms

t_{ip} = arrival time of phase PG at the i-th station

t_{is} = arrival time of phase SG at the i-th station

t_o = origin time of event

x = distance E of 118°W meridian

y = distance N of 40°N parallel

Δ_i = distance from epicenter to i-th station

α_i = azimuth from epicenter to i-th station, measured cw from N

v_p = velocity of PG wave

v_s = velocity of SG wave

T_{op} = intercept time for PG traveltime branch

T_{os} = intercept time for SG traveltime branch

δ_i = arrival-time residual for i-th observation

- (2) Traveltime equations. Traveltime equations were obtained for PG and SG using an iterative calculation. In this calculation, only earthquakes were considered that were located inside the network of stations, to minimize location errors resulting from incorrect velocity assumptions. On the basis of 254 observations of PG, the traveltime branch for that phase was found to be

$$t_{PG} = 0.82 + \Delta/6.11 \text{ seconds,}$$

with a mean-square-error of ± 0.23 second.

From events well-located using PG arrivals, SG traveltimes were computed. An average of travel-time curves for several hundred events occurring in the central Nevada earthquake belt at BMN, LVK, and TNP gives the curve

$$t_{SG} = 1.0 + \Delta/3.47 \text{ seconds.}$$

There are anomalies in SG traveltime for some station-epicentral area combinations, so an attempt is made to use few SG readings, and then only readings from 3-component stations.

Because the NEVLOC program was designed for use with a sparse network, no attempt is made to calculate focal depth. Rather, the focal depth is assumed to be 9 km for all events. For earthquakes that occur in an area with dense station coverage the HYP071 program is used to calculate focal depth as well as other source parameters.

(3) Procedure:

- (a) All epicenters are initially assumed to be located in central Nevada, at latitude 40°N, longitude 118°W. An x-y grid is set up around this location, and distances and azimuths are calculated to each of the stations.

- (b) The first station with a PG reading is used to find an initial origin time, from the equation

$$t_o = t_{ip} - \Delta_i/v_p - T_{op},$$

where Δ_i is the distance from the station to the origin of the grid system.

- (c) PG and SG residuals are calculated using all available readings. For PG, the equation used to calculate residuals is

$$\delta_j = t_{ip} - t_o - v_i/6.00 + C_i(\Delta, \alpha),$$

where j and i are indices respectively for the observation and station, t_o is the origin time calculated in (b), $r_i = \text{SQRT}(\Delta_i^2 + 81)$ is the slant-distance from a 9-km deep event to the station, and $C_i(\Delta, \alpha)$ is an empirical station time correction that depends on epicentral distance and azimuth. For SG, the residual is multiplied by the ratio v_s/v_p , so that all residuals will be referred to the same velocity, and the station time correction $C_i'(\Delta, \alpha)$ is an empirical correction for SG waves that depends on distance and azimuth.

$$\delta_j = [t_{is} - t_o - r_i/3.41 + C_i'(\Delta, \alpha)] v_s/v_p.$$

- (d) For events with readings at three or more stations, the epicenter is adjusted by fitting a sine-curve to the residuals, using a least-squares calculation. The equation for this curve is

$$\delta_j = t_c + b \sin \alpha_i + c \cos \alpha_i,$$

in which t_c is a correction to be applied to the assumed origin time, and b and c are corrections in time which are multiplied by v_p to convert them to corrections in distance, and are then subtracted from the x- and y- coordinates of the assumed epicenter,

$$x' = x - bv_p; y' = y - cv_p.$$

- (e) Step (d) is repeated until the distance correction, $v_p \sqrt{b^2 + c^2}$ is less than 250 meters and the standard deviation is less than 2.0 seconds; or until the routine has gone through 15 iterations. In the

latter case, the epicenter is again assumed to be located at the center of the x-y coordinate system, the origin time of the event is fixed using SG-PG times, and residuals are calculated using only PG readings. As in the preceding steps, the residuals are least-squared to a sine curve to obtain adjustments to the epicentral coordinates, but not to the origin time. If the routine again iterates 15 times without finding a distance correction less than 250 meters and standard deviation less than 2.5 seconds, the location attempt is considered a failure.

NEVLOC2. Earthquakes in the Nevada region after the year 1975 were located using a computer program NEVLOC2 written in FORTRAN by W. A. Peppin specifically for the Basin and Range. The logic for this program is described below.

(1) Terms.

Let an earthquake be located at latitude "Y", longitude "X", depth "D", and with origin time "TO" be given. Define

Y _i	=	latitude of the ith seismic recording station
X _i	=	longitude of the ith recording station
TA _i	=	arrival time of the earthquake at the ith station
Y _t	=	trial latitude of the earthquake
X _t	=	trial longitude of the earthquake
D _t	=	trial depth of the earthquake
TO _t	=	trial origin time of the earthquake
dY	=	adjustment to the trial latitude
dX	=	adjustment to the trial longitude
dD	=	adjustment to the trial depth
dTO	=	adjustment to the trial origin time
R _i	=	observed minus trial arrival time at the ith station

(2) Mathematical Formulation

Suppose the earthquake was recorded by N recording stations. For each we can write an equation of the form

$$TA_i = F_i(X, Y, D, TO, X_i, Y_i), \quad 1 \leq i \leq N, \quad (1)$$

where the notation "F_i" denotes functional dependence for the ith station.

Our aim is to infer the unknown hypocentral parameters of the earthquake, that is, S, Y, D, and TO in (1). To do this, we assume that:

- (a) we have a reasonable basis to guess what the travel time from the earthquake to the recording station should be based on knowledge of crustal structure and seismic wave velocities in the Basin and Range, so that
- (b) we can construct explicit, analytical expressions for the functional dependences "F_i" in (1).

That is, we assume that if we are given the location and origin time of the earthquake, then we will be able to compute the arrival time accurately at the ith recording station in (1), since the coordinates of that station are also known.

Toward this end, we make a trial guess for the location of the earthquake (in the absence of any information, this trial guess is taken as the average coordinates of the stations which recorded the earthquake). Suppose that the trial hypocentral parameters are $(X_t, Y_t, D_t, \text{ and } T_{0t})$. Then from (1)

$$T_{ati} \approx F_i(X_t, Y_t, D_t, T_{0t}, X_i, Y_i) \quad 1 \leq i \leq N. \quad (2)$$

Note in general that (2) is only an approximation: for if the trial location fails to coincide with the actual location of the earthquake, then the functional dependence " F_i " will have to be modified. In practice, we simply assume the same functional dependence, and the assumption gets better as the trial hypocenter approaches the true hypocenter.

Consider the sum

$$\sum_{i=1}^N (R_i)^2. \quad (3)$$

We can regard the sum (3) as functionally-dependent upon the unknown hypocentral parameters of the earthquake. To infer these, we vary the trial hypocentral parameters in such a way as to minimize the sum (3). Note that we are "optimizing the error" by this procedure, that is, forcing a location that gives the smallest mean-square residual of predicted from observed arrival time. The validity of this procedure is guaranteed only when the trial location is very close to the actual location, and when the functions " F_i " give good approximation to the actual arrival times.

Minimization of the sum (3) leads to explicit equations for adjustments to the trial focal parameters. The result from classical least-squares is (Dahlquist and Björck, 1974):

$$\begin{bmatrix} dX \\ dY \\ dD \\ dT_0 \end{bmatrix} = (\underline{A}^T \cdot \underline{A})^{-1} \cdot \underline{A}^T \begin{bmatrix} R_1 \\ R_2 \\ \vdots \\ R_N \end{bmatrix} \quad (4)$$

where $\underline{A}$ is a matrix of partial derivatives of the form $\frac{\delta F_i}{\delta X}, \frac{\delta F_i}{\delta Y}, \frac{\delta F_i}{\delta D}, \frac{\delta F_i}{\delta T_0}$.

The adjustments dX , dY , and dT_0 are added to the trial hypocentral values to obtain a new trial hypocenter. The whole procedure is repeated until the adjustments grow small (as the trial hypocenter marches toward the true hypocenter, these adjustments are seen to diminish).

PROGRAM NOTES

- (1) Use is made of the matrix-inversion subroutine LINVIF from the International Mathematics and Statistics Library, Houston.
- (2) To improve inversion, the matrix of partial derivatives is scaled to give the $\underline{A}^T \underline{A}$ matrix a condition number near unity (Smith, 1976).
- (3) The model for the Basin and Range is a flat crust 30 km thick over a half-space. Respective P and S velocities are: 6.10, 3.55, 7.90, and 4.50 km/sec.

NOTES ON MAGNITUDE DETERMINATION

Magnitudes (M_L) listed in this issue of the Bulletin were determined from measurements of either maximum trace amplitude or coda duration. Magnitudes for all events located using the HYP071 routine (events with quality Q designations in the listing) were determined from measurements of coda length on strip-chart playbacks of the network analog tape recordings. Magnitudes for events located with the NEVLOC routine for 1975 were determined using measured trace amplitudes, either on recordings of Wood-Anderson seismographs at the Reno station, or on playbacks of tape-recorded signals from Benioff seismometers at the stations BMN, TNP and WCN. Magnitudes for events located with the NEVLOC2 routine for 1976-1979 were determined using either amplitude or coda-length measurements. In all cases, constants in the magnitude equations as well as station correction factors were determined to that magnitudes for events in the Sierra Nevada-Great Basin boundary zone (SNGBZ) would be consistent with those determined from amplitude measurements on the Reno Wood-Anderson seismograms, or with University of California, Berkeley, magnitudes. Descriptions of the amplitude and coda-length magnitude determination procedures, written respectively by A. S. Mohler and M. R. Somerville, are given below.

Amplitude-Magnitude. Empirical relations were developed by J. D. VanWormer between measured trace amplitudes at stations Battle Mountain (BMN), Tonopah (TNP) and Washoe City (WCN) in the form

$$M = C_1 + \log_{10}(1400.A/C_2) + C_3 \quad (1)$$

where M is local magnitude M_L , C_1 is a correction for distance, and for convenience C_2 and C_3 are station adjustments. C_1 was found to be

$$\begin{aligned} C_1 &= 1.268 + .027\Delta, & \Delta < 50 \text{ km} \\ &2.492 + .005\Delta, & \Delta = 50-400 \text{ km} \\ &3.613 + .002\Delta, & \Delta > 400 \text{ km.} \end{aligned}$$

In equation (1), "A" is the maximum, unclipped, peak-to-peak amplitude measured in mm on standard strip-chart playback recordings at the Seismological Laboratory. To determine the station factors C_2 and C_3 , VanWormer compared magnitudes determined from Nevada network recordings with those of the University of California, Berkeley, for 34 events with M_L in the range 2.7-4.3.

Coda-Magnitude. The coda-magnitude relation for short-period vertical instruments of the Nevada network is

$$M_C = -1.2 + 2.65 \log T + 0.0013\Delta \quad (2)$$

where T is coda duration in seconds, as defined by Lee and Lahr (1975), and Δ is epicentral distance in kilometers. The relation is based on a set of 12 events of Berkeley magnitude 3.0 - 5.7 which occurred along the Sierra Nevada-Great Basin boundary zone (SNGBZ). The standard deviation between BRK and UNR magnitudes for these events is ± 0.09 . Duration data for 9 short-period Benioff stations and 21 L-4 stations were analyzed separately. The coefficients of the coda duration and distance terms were found to be the same for the two sets of stations, an unexpected result. Average standard errors of magnitudes determined from the Benioff and L-4 station sets are ± 0.17 and ± 0.19 , respectively. The

STATION DATA

STATION		Latitude	Longitude	Elev, ft	Relay Points	Operation	
CODE	NAME	Deg. N	Deg. W			Start	Stop
ANC	Anchorite	38.1732	118.7537	7380.	MON-COR	5/76	7/77
APN	Astor Pass	40.2300	119.8665	4825.	BMR	3/78	
AVC	Adobe Valley	37.9160	118.7325	7300.	COR	7/75	9/77
BFC	Buffalo Cnyn	38.8940	119.6077	5690.		/78	
BGN	Big Creek	41.6620	118.6333	5010.			8/75
BIS	Bismark Pk	39.1238	119.6750	5860.		3/78	
BLM	Bell Mountain	39.1540	118.0910	6400.	FPN		7/75
BMN	Battle Mtn 3Comp	40.4313	117.2217	4920.	SWN		
BMR	Black Mountain	40.1087	120.2910	7040.		5/78	
BOD	Bodie	38.1628	118.9702	7200.	MON-COR	5/76	7/77
BON	Boundary Pk	37.9552	118.3017	7200	COR	7/74	
BOX	Box Cnyn	39.6153	118.1763	4209.	FPN-SLD	1/80	
BYX	Boyer Rnch	39.9542	117.9178	3701.	BOXFPNSLD	1/80	
CAN	Candelaria	38.1097	118.1932	6610.	PPK-COR	2/75	76
CLK	Crowley Lake, CA	37.5907	118.8241	8450.	LMC-COR	11/79	
CND	Currant	38.8320	115.2897	7520.	UPGRADED	11/75	
COL	Columbus	38.1447	118.0542	6020.	PPK-COR	11/74	76
COR	Corey Peak	38.4567	118.7635	10200.			2/76
COT	Cottonwood	38.6417	118.7718	6200.	REL	8/74	7/75
DIX	Dixie Hot Sprgs	39.8022	118.0820	3750.	FPN-SLD	1/80	
DOG	Douglas	38.3425	118.2178	6280.	COR		3/76
DSM	Dog Skin Mtn	39.8672	119.7807	5920.		1/78	
EST	Eastside	38.0913	118.3267	6600.	BON-COR	12/74	4/76
EXC	Excelsior	38.3385	118.3242	5980.	MAB-COR		7/77
FER	Ferguson	38.5928	118.1750	5400.	COR	3/76	
FPN	Fairview Peak	39.2028	118.1550	7400.		9/71	7/75
GAR	Garfield	38.4662	118.4743	5200.	COR		76
GBT	Gilbert	38.1630	117.6843	7010.		7/76	7/77
GIL	Gillis	38.7313	118.5347	5500.	REL-COR	7/74	7/75
GNO	Genoa	38.9292	119.8528	5400.	BFC	2/78	
GRX	Grover	39.6355	117.9890	4560.	DIXFPNSLD	1/80	
HBT	Hobart Mills	39.4267	120.1633	5920.	VPK	4/73	
HLX	Hole	39.9337	117.6632	4000.	DIXFPNSLD	1/80	
HSP	Huntoon Springs	38.0882	118.5810	5940.	HVLBONCOR		4/76
HVL	Huntoon Valley	39.1832	118.5390	6090.	BON-COR		4/76
HYX	Hoyt Mine	39.7728	117.7633	5450.	DIXFPNSLD	1/80	
IND	Independence	39.4343	120.2917	7040.	VPK	11/77	
JAS	Jamestown (BRK)	37.9467	120.4383	1500.			
KBF	Kyburz Flat	39.5068	120.2118	6820.	VPK	5/73	
KVN	Kaiserville 3Comp	39.0510	118.1000	6000.	FPN	9/71	
LBP	Lucky Boy Pass	38.4320	118.7390	7480.	COR	3/76	9/78
LDV	Leadville	41.0975	119.3905	5900.			5/75
LIT	Litchfield	40.4308	120.3208	5400.	BMR	4/78	
LMC	Lookout Mountain, CA	37.7283	118.9452	8300.	COR	11/79	
LUN	Luning	38.5812	118.1478	6000.	COR		3/76
LVK	Lovelock	40.1870	118.5245	4020.			5/75
MAB	Mable Mountain	38.4292	118.3027	6690.	COR		2/76
MAM	Mammoth Rock	37.6060	118.9892	9500.	COR		74
MAR	Marietta	38.2223	118.2648	6050.	PPK-COR		2/76

STATION DATA cont.

STATION		Latitude Deg. N	Longitude Deg. W	Elev, ft	Relay Points	Operation	
CODE	NAME					Start	Stop
MCR	Mono Craters	37.8872	118.9937	7440.	COR	5/76	7/77
MIL	Miller Mountain	38.0248	118.1858	6660.	BON-COR		3/76
MIN	Mina (old name)	38.4328	118.1567	5000.	FER-COR		
MIV	Mina (old name)	38.4328	118.1567	5000.	FER-COR		
MNA	Mina 3comp	38.4328	118.1567	5000.	FER-COR	8/73	
MON	Mono Valley	38.0608	118.7758	7150.	COR	7/74	
MNN	Mina (old name)	38.4328	118.1567	5000.	FER-COR		
MPK	Martis Peak	39.2957	120.0302	8150.	VPK	4/73	
NRR	North Reno	39.5722	119.8493	5360.			/64
ORC	Owens River, CA	37.6353	118.6560	7550.		11/79	
ORV	Oroville (CDWR)	39.5548	121.4992	1180.	COR		
PAR	Paradise	38.7707	117.8965	5820.	COR	6/76	
PPK	Pilot Peak	38.3370	118.0272	7400.	COR		7/76
PZC	Pizona Creek	37.9652	118.5683	6900.	AVC-COR	7/75	9/77
QNR	Quinn River	41.6972	117.9550	4700.		3/74	8/75
QUA	Quailey Mine	38.3145	118.5000	6400.	COR		2/76
RYN	Ryan	38.6282	118.5230	5200.	REL-COR	8/74	
SIM	Simon	38.4750	117.7675	6230.	GBT-COR	7/76	7/77
SOD	Soda Spring	38.5648	118.2925	4800.	COR		2/76
SOX	Sue Hot Sprgs	40.1017	117.7167	3930.	BOXFPNSLD	1/80	
STM	Slate Mountain	39.1140	118.2000	6600.	FPN	/72	7/75
SWN	Stillwater	39.8830	118.0623	7540.		10/74	7/75
TEE	Teel's Marsh	38.2063	118.4285	7020.	BON-COR		2/76
TNK	Tinker's Knob	39.2675	120.2358	8000.	VPK	4/73	
TNP	Tonopah 3Comp	38.0820	117.2177	6360.		8/64	
VIP	Virginia Peak	39.7540	119.4608	8200.		4/78	
VPK	Verdi Peak	39.4747	120.0373	8100.	VPK	4/73	
WAD	Wadsworth	39.6878	119.2880	4140.	VIP	4/78	
WCN	Washoe City 3Comp	39.3017	119.7563	5590.		/72	
WLD	Wildhorse	38.8235	118.5747	5900.	REL-COR	8/74	7/75
WIN	Winnemucca	40.9800	117.9200	5000.	TOU	3/74	7/75
WSH	Washington Hill	39.4538	119.6447	5780.		3/78	
WTC	Whites Cnyn	39.3890	119.8392	6200.		3/78	

constant term in equation (2) is such that the average station adjustment is zero for the L-4 stations. The second moment of the L-4 station adjustments is 0.19. For the Benioff stations an average station adjustment is - 0.40. Table 1 lists coda-magnitude station adjustments for the UNR network.

Berkeley Wood-Anderson magnitudes generally cannot be determined for SNGBZ earthquakes of magnitude less than 3. To extend the coda-magnitude scale to smaller events, magnitudes were determined from synthetic Wood-Anderson seismograms obtained by filtering wideband digital data recorded at station MNA on a 3-component UNR event recorder. Coda durations and magnitudes were determined for 17 local events in the Mono-Mina-Bishop area. Thirteen of the events occurred in a single source region near Mono Lake, approximately 80 km from MNA. Coda magnitudes calculated from equation (1) differed from synthetic Richter magnitudes by a constant, 0.19 ± 0.11 , which is attributed to a combination of attenuation and station effects. The standard deviation, ± 0.11 , is not significantly greater than the standard deviation ± 0.09 between BRK and UNR magnitudes for the larger events on which the coda-magnitude scale was based. Thus equation (1) can be applied in the magnitude range 1.5 - 5.7.

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TABLE 1. Station Adjustments for the UNR Coda-magnitude Scale

Station	Station Adjustment (M_C)	Station	Station Adjustment (M_C)
APN	+ .28 $\pm$.13	LIT	+ .01 $\pm$.13
BFC	+ .10 $\pm$.17	MNA*	- .20 $\pm$.24
BIS	+ .31 $\pm$.17	MON	- .02 $\pm$.23
BMN*	- .45 $\pm$.27	MPK	- .40 $\pm$.14
BMR	+ .12 $\pm$.22	NRR*	- .25 $\pm$.11
BON	- .32 $\pm$.15	ORV*	- .40 $\pm$.11
CND*	- .63 $\pm$.15	PAR	+ .11 $\pm$.20
DSM	+ .40 $\pm$.28	RYN	+ .13 $\pm$.19
FER	- .10 $\pm$.21	TNK	+ .12 $\pm$.20
GNO	- .05 $\pm$.21	TNP*	- .68 $\pm$.14
HBT	+ .01 $\pm$.25	VIP	+ .01 $\pm$.24
IND	+ .35 $\pm$.25	VPK	+ .35 $\pm$.18
JAS*	- .08 $\pm$.11	WAD	- .45 $\pm$.12
KBF	+ .08 $\pm$.19	WCN*	- .52 $\pm$.11
KVN*	- .44 $\pm$.12	WSH	- .31 $\pm$.12

* Short-period vertical Benioff

EARTHQUAKES IN 1975

Special Notations:

- o During 1975, eight earthquakes in the western Great Basin and adjoining parts of eastern California had magnitude M_L of 4.0 or greater. These included an earthquake with M_L 4.0 at 11h 13m on 25 February in the area south of Fishlake Valley; an event with M_L 4.3 at 23h 30m on 16 June 20 km SE of Wells; two shocks with M_L 4.0 and 4.2, respectively at 01h 16m and 01h 36m on 13 July, in Smith Creek Valley 20 km NE of Eastgate; a felt earthquake with M_L 4.2 at 00h 24m on 17 August, near Lake Crowley; an event with M_L 4.2 at 11h 27m on 31 August, in the Black Rock Desert; an M_L 4.2 shock at 14h 48m on 2 September, in the Sheldon Antelope Range, 30 km W of Denio; an earthquake swarm with largest event having M_L 4.3 at Lake Crowley, at 21h 12m on 7 October; and an M_L 4.5 earthquake in the area N of Bishop, at 19h 19m on 10 December.
- o Other events of interest include a small (M_L 2.7) earthquake that was felt in Reno at 07h 58m on 19 February; an event with M_L 3.2 at 03h 26m on 26 April, felt in Carson City; an earthquake swarm located 10 km SE of Markleeville in early May, with the largest event having M_L 3.8 at 06h 29m on 5 May; an earthquake swarm in early July in the area east of Mono Lake, with the largest event having M_L 3.5 at 04h 13m on 4 July.
- o Earthquakes recorded by the Nevada network that were located outside the region of primary interest included many Imperial Valley, California, earthquakes during January; the M_L 6.0 Utah-Idaho border earthquake at 02h 31m on 28 March, which was felt in Reno; numerous events in the Yellowstone region on 30 June and for several days following the main shock at 18h 55m on 30 June; an M_L 4.4 event at Mariposa, California, at 05h 16m on 10 August, felt at Mammoth Lakes; and many events associated with the Oroville, California, earthquake sequence in August.
- o A field study of the August 1975 Oroville earthquake sequence was carried out by the Seismological Laboratory staff, and published in Engineering Geology (1976, v10, 353-369).

EARTHQUAKES IN THE WESTERN GREAT BASIN DURING 1975

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1975	1	1	45547.2	38.284	117.840	0.09	15	2.9	3.59	C
1975	1	2	55151.6	38.507	117.795	0.15	9	1.9	0.57	D
1975	1	2	090144.8	39.048	118.153	0.13	7	2.0		
1975	1	2	184015.1	38.285	117.866	0.05	7	1.7	7.27	C
1975	1	3	24459.6	38.069	118.188	0.19	10	1.7	4.21	C
1975	1	3	031839.0	40.772	117.578	0.37	6	2.2		
1975	1	3	150820.3	39.172	117.659	0.24	10	2.4		
1975	1	3	194218.8	38.993	118.182	0.23	7	2.0		
1975	1	4	053812.4	39.730	117.991	0.27	9	2.7		
1975	1	4	164630.5	39.045	118.147	0.29	11	2.2	4.01	D
1975	1	4	221627.9	38.495	118.288	0.14	8	1.2	11.13	B
1975	1	5	04754.8	39.019	118.189	0.26	27	3.0	8.66	B
1975	1	7	05941.0	38.172	118.346	0.19	11	2.4	1.09	D
1975	1	7	24646.8	38.273	118.374	0.03	5	1.6	11.04	C
1975	1	7	63627.4	38.470	118.384	0.09	6	1.2	7.65	C
1975	1	7	103153.8	38.420	118.712	0.01	5	1.2	9.66	C
1975	1	9	031926.4	39.396	118.451	0.23	6	2.1		
1975	1	9	0749 5.4	39.044	118.056	0.25	6	2.2		
1975	1	11	1541 9.0	40.505	119.840	0.61	6	2.4		
1975	1	12	61538.3	38.579	118.162	0.11	9	1.5	10.88	C
1975	1	12	10 429.6	38.296	118.659	0.21	12	2.1	10.50	C
1975	1	12	141414.0	38.236	118.366	0.40	34	1.9	13.12	B
1975	1	12	215549.6	38.553	117.866	0.16	12	1.9	11.52	C
1975	1	12	232332.6	38.240	118.366	0.06	9	1.5	5.79	B
1975	1	13	147 1.9	38.344	118.772	0.16	17	2.2	11.22	C
1975	1	13	4 322.0	38.238	118.373	0.15	14	1.9	7.03	A
1975	1	14	094725.0	40.260	118.475	0.28	8	2.2		
1975	1	14	1059 3.7	37.351	117.673	0.35	7	2.4		
1975	1	14	215448.5	37.343	117.650	0.29	13	2.8		
1975	1	15	064541.7	40.776	119.416	0.40	9	3.0		
1975	1	15	73752.7	38.468	118.385	0.12	9	1.4	9.52	B
1975	1	15	1230 6.2	40.722	119.324	0.11	7	2.8		
1975	1	15	204258.4	37.339	117.648	0.22	10	2.6		
1975	1	16	163344.5	38.030	118.021	0.11	9	1.7	8.29	C
1975	1	16	165249.1	39.084	118.065	0.22	15	2.3	0.74	D
1975	1	18	213522.3	39.022	118.160	0.24	19	2.5	9.85	B
1975	1	19	144320.6	38.352	118.589	0.14	20	2.3	0.71	C
1975	1	19	15 1 2.0	38.369	118.559	0.30	5	1.3	0.13	D
1975	1	19	192052.0	38.376	118.212	0.79	7	2.0		
1975	1	20	85330.1	38.316	118.239	0.14	6	1.3	9.76	D
1975	1	20	1240 9.6	39.036	118.130	0.05	7	0.4	7.81	C
1975	1	20	135250.0	38.269	118.266	0.23	6	1.2	18.48	D
1975	1	20	183046.9	39.587	115.844	0.60	6	2.8		
1975	1	20	184448.6	39.581	115.855	0.29	8	2.6		
1975	1	20	213947.0	38.318	118.236	0.11	6	1.3	10.61	C

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1975	1	21	459 4.9	39.017	118.154	0.26	13	1.9	10.19	C
1975	1	21	5 511.4	38.356	118.209	0.23	12	2.0	9.81	C
1975	1	21	932 1.2	38.039	118.841	0.23	27	2.5	14.49	C
1975	1	21	184538.4	38.235	118.371	0.07	6	1.3	2.36	D
1975	1	21	185921.1	38.303	118.232	0.04	6	1.3	11.21	C
1975	1	22	1 535.8	38.305	118.233	0.02	5	1.1	10.97	C
1975	1	22	35518.7	38.703	118.879	0.19	20	2.4	5.60	C
1975	1	22	042446.7	39.523	115.934	1.00	7	3.3		
1975	1	22	73852.0	38.333	118.238	0.07	5	1.2	7.86	C
1975	1	22	1242 6.8	38.332	118.260	0.09	5	1.1	8.35	C
1975	1	23	15617.9	38.341	118.223	0.14	16	2.2	11.29	A
1975	1	23	182057.3	38.424	118.334	0.00	4	1.0	8.68	C
1975	1	23	205319.1	39.025	118.117	0.20	12	2.1	6.72	C
1975	1	24	034 8.3	38.024	118.745	0.23	19	2.8	14.38	C
1975	1	24	4 614.9	39.035	118.174	0.16	11	1.8	7.23	C
1975	1	24	43715.2	38.319	118.294	0.20	14	1.4	10.76	C
1975	1	24	45741.9	37.588	118.897	0.56	16	3.1	27.63	D
1975	1	25	12 944.9	39.188	120.189	0.09	8	2.4	7.85	C
1975	1	26	15428.1	38.444	118.365	0.12	6	1.2	4.97	C
1975	1	26	5 348.7	38.076	118.906	0.17	12	2.2	0.52	D
1975	1	27	85248.2	37.506	118.367	0.17	8	2.3	3.63	D
1975	1	27	92556.5	37.604	118.362	0.55	6	2.2	27.99	D
1975	1	27	231149.4	38.313	118.240	0.12	6	1.1	8.66	D
1975	1	29	13648.8	38.593	118.447	0.11	7	1.5	5.04	B
1975	1	29	135452.4	39.627	118.106	0.27	7	2.5		
1975	1	30	005637.1	39.522	118.472	0.09	9	1.9		
1975	1	30	72251.7	37.492	118.713	0.09	13	3.3	0.55	D
1975	1	30	812 7.3	38.384	118.745	0.24	7	1.8	11.61	D
1975	1	30	2315 4.6	39.172	117.401	0.33	8	2.1		
1975	1	31	1543 2.8	38.208	118.350	0.13	8	1.1	9.94	C
1975	2	3	250 8.4	37.840	118.023	0.13	5	2.5	23.83	D
1975	2	3	25050.6	37.764	118.047	0.00	4	2.4	4.09	C
1975	2	3	133535.0	38.776	117.921	0.22	11	2.3	11.84	C
1975	2	4	010913.5	39.711	119.392	0.77	7	1.6		
1975	2	4	45838.7	37.614	117.671	0.20	13	2.5	4.59	D
1975	2	4	7 515.2	39.031	118.169	0.20	16	2.3	14.13	C
1975	2	4	120111.0	39.607	119.421	0.44	7	1.4		
1975	2	5	211559.0	37.830	118.129	0.12	7	2.2	0.10	D
1975	2	6	1530 2.6	37.259	115.909	1.54	4			
1975	2	7	620 0.0	38.460	118.155	0.24	15	2.4	3.64	D
1975	2	7	1145 6.2	38.141	118.269	0.12	7	1.0	13.97	B
1975	2	7	13 0 1.3	38.485	117.843	0.24	17	2.2	8.90	C
1975	2	10	062639.4	39.349	118.140	0.16	8	1.9		
1975	2	10	114729.1	39.761	118.396	0.30	7			
1975	2	13	184146.8	38.668	118.507	0.29	10	0.9	13.15	C

YEAR	MO	DAY	HRMINSEC	LAT	LOX	RMS	NSTA	MAG	DEPTH	Q
1975	2	14	082628.7	39.563	115.880	0.51	8	2.7		
1975	2	14	0828 8.3	39.566	115.861	0.12	7	3.0		
1975	2	15	45733.0	39.376	118.479	0.09	5	1.9	22.74	D
1975	2	15	142737.5	39.084	118.108	0.12	10	2.1	9.41	C
1975	2	16	134213.9	38.516	118.112	0.06	6	1.6	2.58	D
1975	2	16	2145 2.0	41.200	120.000	0.00		3.6		
1975	2	17	234058.0	37.882	118.345	0.19	15	2.2	7.38	C
1975	2	18	0534 8.3	39.165	119.631	0.26	9	2.6		
1975	2	18	112618.2	38.735	118.788	0.04	7	1.8	10.17	C
1975	2	18	225111.4	38.730	118.808	0.11	9	1.9	11.35	C
1975	2	19	075858.2	39.432	119.833	0.44	7	2.7		
1975	2	19	84035.2	39.411	119.848	0.22	8	2.0	13.93	C
1975	2	19	154636.3	40.195	116.210	0.45	6	2.1		
1975	2	22	0 248.4	39.066	118.107	0.15	12	2.0	7.80	C
1975	2	22	140424.4	40.009	118.244	0.18	8	2.4		
1975	2	24	104822.9	38.396	118.705	0.17	16	2.4	1.08	C
1975	2	24	111132.2	38.397	118.700	0.22	8	1.7	1.98	C
1975	2	25	13353.3	38.251	118.354	0.20	9	1.3	8.93	B
1975	2	25	24637.4	37.864	118.020	0.14	7	1.7	1.82	D
1975	2	25	44737.1	37.870	118.020	0.12	7	1.7	2.77	D
1975	2	25	111322.4	37.100	117.900	0.00		4.0		
1975	2	25	203632.7	38.335	118.704	0.08	11	1.4	9.22	B
1975	2	26	45628.2	38.307	118.735	0.32	8	1.1	10.39	D
1975	2	26	5 655.9	38.312	118.741	0.27	7	1.3	19.25	D
1975	2	26	81011.1	39.381	118.111	0.12	14	2.3	12.82	C
1975	2	26	951 8.9	39.410	119.835	0.07	7	2.6	15.34	B
1975	2	26	95432.8	39.017	118.661	0.19	21	2.8	12.95	C
1975	2	26	125731.2	39.396	119.839	0.16	7	1.7	16.67	C
1975	2	27	31427.4	39.415	119.824	0.08	8	1.9	15.56	B
1975	2	27	35018.9	39.413	119.838	0.06	8	2.5	13.78	B
1975	2	27	45543.3	38.384	118.354	0.27	18	1.9	7.77	B
1975	2	27	6 849.2	39.427	119.836	0.05	6	2.0	10.64	C
1975	2	27	63614.8	39.416	119.842	0.07	6	3.0	12.82	C
1975	2	27	094439.6	39.078	118.050	0.43	7	1.5		
1975	2	27	122814.4	39.412	119.839	0.05	6	1.9	13.38	B
1975	2	27	1421 9.3	38.093	118.000	0.16	10	1.6	9.84	C
1975	2	27	154438.5	39.655	120.084	0.19	8	2.6	14.35	C
1975	2	28	435 6.1	39.375	120.363	0.21	6	1.5	0.69	D
1975	2	28	112159.6	39.415	119.844	0.21	9	1.8	13.13	C
1975	2	28	131448.8	38.248	118.358	0.25	15	2.1	16.57	B
1975	2	28	1515 0.0	37.106	116.056	0.00		5.5		
1975	2	28	211421.8	39.425	119.828	0.05	7	1.4	12.13	C
1975	3	2	34119.0	38.806	117.944	0.19	11	1.8	17.53	D
1975	3	2	234444.2	38.535	118.149	0.02	7	1.1	10.65	C
1975	3	2	235659.1	38.144	118.266	0.15	9	1.3	11.95	B

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1975	3	3	022 2.0	38.150	118.275	0.35	18	1.8	10.50	C
1975	3	3	34335.9	38.534	118.154	0.03	8	1.1	10.62	C
1975	3	3	8 559.7	39.410	119.827	0.08	7	1.6	14.29	B
1975	3	3	154317.6	38.364	119.233	0.19	10	2.2		
1975	3	4	153254.5	39.032	118.178	0.05	7	1.0		
1975	3	4	182542.7	38.462	116.189	0.09	8	2.8		
1975	3	5	10 753.4	38.468	118.358	0.56	9	1.1	14.78	C
1975	3	5	114455.9	38.468	118.389	0.25	16	1.8	8.35	B
1975	3	5	193930.2	38.165	118.523	0.75	12	1.5	23.35	C
1975	3	6	12223.0	38.525	118.321	0.02	5	1.4	0.45	D
1975	3	6	64645.7	38.514	118.374	0.84	8	1.4	17.57	C
1975	3	7	34820.4	38.116	118.260	0.18	5	1.1	2.87	D
1975	3	7	1500 0.0	37.134	116.084	0.00		5.2		
1975	3	9	023421.3	39.083	118.021	0.20	5	1.0		
1975	3	9	035818.2	39.767	118.409	0.32	9	3.5		
1975	3	9	1049 2.9	39.026	118.154	0.13	6	1.0		
1975	3	10	35730.5	39.415	119.831	0.06	6	1.8	14.99	B
1975	3	10	52514.6	39.411	119.834	0.06	7	2.3	15.10	B
1975	3	10	55453.3	38.580	118.154	0.33	19	2.1	12.76	C
1975	3	10	060410.3	39.659	119.804	0.11	10	2.1		
1975	3	10	061005.9	38.461	116.166	0.12	8	3.3		
1975	3	10	130434.8	39.004	118.215	0.16	9	1.6		
1975	3	11	03246.1	38.027	118.730	0.14	8	1.8	4.86	C
1975	3	12	21947.4	38.252	118.359	0.11	11	1.8	5.93	B
1975	3	12	22039.6	38.263	118.334	0.17	11	1.7	9.57	C
1975	3	12	024643.6	38.831	119.540	0.35	9	2.1		
1975	3	13	04444.3	38.146	118.384	0.14	11	1.5	11.39	B
1975	3	14	11043.6	39.394	120.187	0.15	8	1.8	6.34	C
1975	3	14	032827.9	38.808	118.429	0.00		2.4		
1975	3	14	32829.6	38.802	118.354	0.68	13	2.9	4.50	D
1975	3	15	13856.8	38.502	118.291	0.17	10	1.3	9.72	B
1975	3	15	14825.5	38.518	118.289	0.17	19	1.9	7.84	B
1975	3	15	243 0.1	39.388	120.197	0.16	8	1.7	8.45	C
1975	3	15	25436.9	39.422	120.165	0.06	6	1.4	10.24	C
1975	3	15	15 125.1	38.948	118.128	7.81	13	2.2	0.09	D
1975	3	16	015212.9	39.537	115.868	0.40	7			
1975	3	17	35639.4	38.489	118.444	0.15	21	2.8	0.05	B
1975	3	17	224253.2	37.889	118.018	0.70	23	2.4	13.22	D
1975	3	19	161042.5	38.396	118.573	0.07	5	1.3	0.13	D
1975	3	19	213857.0	38.474	118.390	0.35	13	1.9	0.31	C
1975	3	19	225548.5	39.332	118.116	0.28	10	2.5		
1975	3	19	225750.3	39.358	118.088	0.31	8			
1975	3	20	018 9.5	38.373	118.304	0.30	10	1.4	9.99	C
1975	3	20	025611.8	39.250	118.205	0.36	7	2.1		
1975	3	20	34451.6	38.604	118.456	0.17	5	1.1	12.45	D

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1975	3	21	93325.4	38.203	117.807	0.08	6	1.6	0.74	D
1975	3	21	103747.5	39.381	118.166	0.37	8	2.1		
1975	3	23	085330.2	40.469	119.630	0.33	10	3.0		
1975	3	23	1026 9.6	41.281	118.535	0.16	6	2.9		
1975	3	24	090641.7	38.230	119.337	0.27	12	2.4		
1975	3	24	095745.6	39.396	119.522	0.39	8	1.9		
1975	3	24	15 231.2	39.030	118.197	0.19	14	2.6	10.59	B
1975	3	26	043054.7	36.100	115.700	0.00		3.4		
1975	3	28	0231 0.0	42.061	112.548	0.00		6.1		
1975	3	28	235958.7	38.994	118.202	0.26	8	2.1		
1975	3	29	51936.0	38.434	118.493	0.35	12	1.4	1.13	C
1975	3	29	82224.8	37.864	118.086	0.04	6	1.5	0.51	D
1975	3	30	215531.9	39.192	118.091	0.09	6	1.5		
1975	4	1	35950.8	38.317	118.741	0.30	13	1.8	14.61	C
1975	4	1	4 1 0.8	38.329	118.723	0.16	20	2.9	9.33	C
1975	4	1	4 638.0	38.329	118.721	0.21	11	1.5	11.24	C
1975	4	1	454 3.2	38.323	118.726	0.29	15	2.2	9.52	C
1975	4	1	172338.8	38.002	118.785	0.24	20	2.7	1.24	D
1975	4	2	5 320.6	38.510	117.872	0.04	6	1.4	12.72	C
1975	4	2	173419.5	38.078	119.050	0.24	24	2.7	10.43	D
1975	4	2	19 030.6	39.405	120.198	0.19	8	2.8	5.89	C
1975	4	3	946 2.1	37.944	118.661	0.07	6	1.6	0.27	D
1975	4	4	55833.2	38.711	118.548	0.17	12	1.6	10.59	B
1975	4	4	712 5.7	38.725	118.538	0.21	15	2.3	10.63	B
1975	4	4	71525.3	38.719	118.544	0.20	10	1.3	10.55	B
1975	4	4	84718.5	38.709	118.517	0.04	6	1.0	12.34	C
1975	4	4	1112 0.8	38.699	118.539	0.23	16	2.3	5.50	B
1975	4	4	132625.1	39.623	119.982	0.10	9	2.2	13.52	C
1975	4	4	1747 4.9	38.703	118.540	0.26	19	2.3	6.67	B
1975	4	5	033734.1	39.499	115.914	0.58	6	2.8		
1975	4	5	73933.1	38.003	118.961	0.05	13	2.1	8.97	C
1975	4	5	101134.3	38.281	117.926	0.11	16	2.7	9.23	C
1975	4	5	1945 0.0	37.188	116.214	0.00		4.5		
1975	4	6	85318.4	38.284	117.914	0.15	17	2.0	9.44	C
1975	4	7	21357.0	37.946	118.467	0.09	9	1.4	16.32	C
1975	4	8	24614.9	38.139	118.315	0.23	5	0.9	0.34	D
1975	4	12	213930.3	38.472	118.155	0.08	8	0.9	16.04	B
1975	4	13	83056.0	39.064	118.057	0.17	9	2.6	11.81	C
1975	4	13	10 024.1	39.067	118.073	0.21	11	3.2	11.23	C
1975	4	13	11 025.1	39.437	120.155	0.23	8	2.1	7.69	C
1975	4	13	183025.2	38.479	116.180	0.51	6	2.9		
1975	4	16	12637.2	38.040	118.716	0.20	11	2.4	19.29	C
1975	4	16	916 5.9	39.045	118.105	0.40	12	2.9	4.63	C
1975	4	18	151218.6	39.306	118.148	0.15	7	1.8		
1975	4	19	065749.6	40.238	118.574	0.39	9	2.9		

YEAR	MO	DAY	HRMINSEC	LAT	LOX	RMS	NSTA	MAG	DEPTH	Q
1975	4	20	14524.8	39.032	118.173	0.22	10	2.3	4.02	C
1975	4	20	1717 2.9	38.138	118.247	0.62	6	1.1	17.66	D
1975	4	21	181612.9	38.368	118.490	0.22	16	2.1	8.97	B
1975	4	22	33745.4	38.482	118.385	0.17	9	1.6	7.92	C
1975	4	22	71219.9	38.989	118.193	0.19	12	2.2	7.86	B
1975	4	22	21 845.0	39.452	119.900	0.07	8	1.8	13.06	B
1975	4	22	213236.5	38.375	118.394	0.12	6	1.5	3.87	C
1975	4	22	214715.6	38.331	118.378	0.00	4	1.2	5.00	C
1975	4	23	73328.7	39.068	118.111	0.12	8	2.3	5.61	C
1975	4	23	125240.8	38.040	118.089	0.04	5	1.5	11.77	C
1975	4	24	1410 0.0	37.116	116.087	0.00		4.4		
1975	4	25	12932.6	38.320	118.581	0.81	5	2.2	0.34	D
1975	4	25	062639.3	40.799	117.516	0.23	7	1.9		
1975	4	25	104358.8	38.221	118.361	0.17	6	2.0	0.96	C
1975	4	25	204625.4	39.421	120.195	0.20	8	2.3	12.92	C
1975	4	26	0326 3.2	39.234	119.741	0.00		3.2		
1975	4	27	211149.1	39.061	118.154	0.15	11	1.9	13.63	C
1975	4	30	1500 0.0	37.109	116.029	0.00		5.0		
1975	5	1	135357.0	39.653	120.085	0.11	8	3.0	14.94	C
1975	5	2	080112.6	40.507	119.492	0.11	5	2.3		
1975	5	2	144822.4	40.813	117.504	0.32	8	2.6		
1975	5	2	1634 4.5	40.827	117.493	0.41	7	2.3		
1975	5	2	185747.3	38.572	118.355	0.24	12	1.6	9.11	B
1975	5	2	2016 1.2	40.798	117.509	0.69	7	2.8		
1975	5	3	115642.4	38.457	118.352	0.11	9	1.9	3.25	B
1975	5	4	235510.5	38.608	119.730	0.00		2.3		
1975	5	5	004032.1	38.608	119.730	0.00		2.0		
1975	5	5	004114.3	38.608	119.730	0.00		2.6		
1975	5	5	011918.4	38.608	119.730	0.00		2.0		
1975	5	5	013013.6	38.608	119.730	0.00		3.2		
1975	5	5	0134 1.1	38.608	119.730	0.00		2.0		
1975	5	5	014312.4	38.608	119.730	0.00		2.4		
1975	5	5	015540.0	38.608	119.730	0.00		3.1		
1975	5	5	0208 .9	38.608	119.730	0.00		2.4		
1975	5	5	0457 .9	38.608	119.730	0.00		1.8		
1975	5	5	061027.7	38.608	119.730	0.00		2.0		
1975	5	5	062954.2	38.608	119.730	0.00		3.8		
1975	5	5	063322.5	38.608	119.730	0.00		2.0		
1975	5	5	065152.4	38.608	119.730	0.00		2.8		
1975	5	5	065243.4	38.608	119.730	0.00		2.3		
1975	5	5	065919.9	38.608	119.730	0.00		2.0		
1975	5	5	075624.0	38.608	119.730	0.00		2.2		
1975	5	5	080033.5	38.608	119.730	0.00		2.1		
1975	5	5	095634.0	38.608	119.730	0.00		2.2		
1975	5	5	204443.4	39.535	118.479	0.56	9	3.1		

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1975	5	5	210045.6	38.608	119.730	0.00		2.2		
1975	5	5	210329.9	38.608	119.730	0.00		2.2		
1975	5	6	193652.6	38.112	117.446	0.12	14	2.3	2.47	D
1975	5	7	13546.1	37.816	118.174	0.04	7	1.6	10.37	C
1975	5	7	7 927.6	38.228	118.331	0.16	19	1.8	8.79	B
1975	5	7	093543.3	38.608	119.730	0.00		3.7		
1975	5	8	53414.8	38.058	119.054	0.29	23	2.8	11.74	D
1975	5	10	1623 4.9	38.608	119.730	0.00		2.2		
1975	5	12	094130.5	41.026	114.872	0.56	7	3.6		
1975	5	13	25410.4	38.479	118.388	0.22	20	2.0	9.34	B
1975	5	13	215821.9	38.334	118.729	0.23	6	1.6	14.25	D
1975	5	14	1400 .4	37.221	116.474	0.00		5.8		
1975	5	16	1556 5.2	38.386	118.303	0.36	7	2.0		
1975	5	16	1729 3.5	38.354	118.333	0.14	25	1.9	10.06	A
1975	5	16	173258.9	38.353	118.332	0.15	15	1.5	10.22	A
1975	5	16	175317.4	38.357	118.330	0.09	18	3.1	8.70	A
1975	5	16	175837.2	38.358	118.301	0.17	9		12.71	C
1975	5	16	18 451.2	38.358	118.329	0.16	18	2.0	7.86	B
1975	5	16	18 541.5	38.357	118.316	0.12	8	1.1	12.09	C
1975	5	16	184042.6	38.356	118.332	0.16	20	2.1	9.74	B
1975	5	16	185310.9	38.359	118.334	0.10	11	1.4	10.73	B
1975	5	16	2039 3.0	38.355	118.324	0.11	12	1.5	10.90	A
1975	5	16	2254 2.3	38.347	118.321	0.02	5	0.9	12.45	C
1975	5	18	102636.4	38.590	117.910	0.50	8	2.5		
1975	5	18	172612.9	38.559	117.946	0.21	9	2.6		
1975	5	19	62749.3	37.838	118.166	0.09	9	1.8	11.13	C
1975	5	19	636 6.2	37.715	117.804	0.08	11	2.3	1.60	D
1975	5	20	83158.4	38.347	118.328	0.05	7	1.2	12.17	B
1975	5	21	24736.8	39.020	118.226	0.15	15	2.3	10.13	C
1975	5	22	64450.6	39.204	120.494	0.15	10	2.4	8.65	D
1975	5	23	64313.6	38.547	118.481	0.09	7	1.9	3.14	D
1975	5	23	205540.7	38.450	118.344	0.24	20	2.7	4.62	B
1975	5	24	62357.6	38.458	118.332	0.21	13	1.3	7.09	B
1975	5	24	93227.2	38.004	118.395	0.13	19	2.4	10.02	B
1975	5	24	115854.3	39.388	119.819	0.04	6	1.7	11.46	C
1975	5	25	81832.0	38.458	118.352	0.11	7	1.5	6.68	B
1975	5	25	82227.2	38.545	118.381	0.20	22	2.9	8.39	C
1975	5	25	91129.8	38.539	118.381	0.11	14	2.0	5.84	B
1975	5	25	211944.3	38.535	118.405	0.05	5	0.9	10.15	C
1975	5	25	232535.2	38.520	118.457	0.18	6	1.4	7.19	C
1975	5	26	04719.9	38.525	118.389	0.29	13	1.6	4.97	B
1975	5	26	61023.8	38.521	118.454	0.16	7	1.2	7.28	C
1975	5	26	61124.5	38.527	118.437	0.26	21	2.7	1.22	C
1975	5	27	022527.7	39.583	115.908	0.10	6	2.7		
1975	5	28	030049.1	38.665	116.197	0.50	7	2.8		

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1975	5	28	175245.9	38.410	118.353	0.22	9	1.5	0.33	B
1975	5	28	193731.8	39.500	115.750	0.00		3.4		
1975	5	28	224354.2	38.508	118.294	0.07	6	1.1	6.37	B
1975	5	29	71511.0	38.528	118.388	0.31	10	1.2	1.38	C
1975	5	29	75541.8	38.532	118.445	0.22	12	1.7	5.19	B
1975	5	29	103830.4	38.524	118.438	0.20	19	2.3	0.31	C
1975	5	29	175253.7	38.523	118.452	0.17	7	1.0	7.79	C
1975	5	29	201416.3	38.532	118.444	0.21	15	1.6	3.29	B
1975	5	29	204239.3	38.528	118.445	0.18	8	1.1	5.87	B
1975	5	30	12435.7	38.525	118.448	0.15	8	1.1	6.29	B
1975	5	31	11625.6	38.528	118.445	0.17	15	1.6	1.42	C
1975	6	1	0239 1.4	40.001	118.235	0.20	9	2.0		
1975	6	1	224912.9	38.712	117.939	0.16	14	2.0	16.95	C
1975	6	1	2330 2.1	38.758	117.964	2.39	12	2.2	43.77	D
1975	6	1	233119.1	38.706	117.901	0.22	12	1.8	17.51	D
1975	6	3	62313.2	39.334	119.910	0.03	6	1.9	12.13	B
1975	6	3	141012.1	38.234	118.495	0.22	16	2.0	0.10	C
1975	6	3	1420 .2	37.340	116.523	0.00		6.0		
1975	6	3	1440 .1	37.095	116.036	0.00		5.6		
1975	6	3	190359.3	39.999	118.229	0.41	7	2.6		
1975	6	4	105641.8	39.254	118.549	0.33	7	1.4		
1975	6	4	173932.0	39.327	117.599	0.21	6	2.2		
1975	6	5	191232.5	38.913	117.834	0.38	7	2.4		
1975	6	6	2218 9.6	40.101	119.595	0.43	8	2.2		
1975	6	7	103228.9	39.226	118.544	0.37	8	2.3		
1975	6	8	932 5.2	38.185	119.261	0.18	17	2.0	10.48	D
1975	6	9	5 7 1.6	38.497	118.255	0.22	21	2.0	2.62	B
1975	6	9	533 1.9	38.475	118.250	0.19	8	0.9	7.25	C
1975	6	9	2238 3.4	38.282	118.406	0.36	15	1.6	11.87	B
1975	6	10	115935.2	38.560	118.209	0.02	5	1.9	0.21	D
1975	6	10	155844.4	38.326	118.712	0.13	10	1.5	1.28	D
1975	6	10	2221 0.9	38.431	118.612	0.13	16	1.4	13.94	B
1975	6	11	74810.4	38.255	118.118	0.13	14	1.5	5.87	C
1975	6	13	35335.2	38.612	118.459	0.03	6	1.2	2.08	B
1975	6	13	142145.7	38.253	118.123	0.12	7	1.5	0.35	C
1975	6	13	205354.9	37.999	118.394	0.11	14	2.1	12.22	B
1975	6	14	11610.3	39.422	120.167	0.12	6	1.4	2.29	C
1975	6	14	12 253.9	39.255	118.553	0.14	9	2.2	15.33	D
1975	6	15	184651.1	38.379	118.299	0.06	7	1.4	7.13	B
1975	6	15	2056 8.3	38.993	118.184	0.29	12	2.5	12.99	C
1975	6	16	51522.7	39.287	118.138	0.18	11	2.6	9.02	D
1975	6	16	233054.9	40.873	114.803	0.00		4.3		
1975	6	19	1300 .1	37.350	116.320	0.00		5.9		
1975	6	19	183527.4	39.435	119.813	0.60	8	1.7	2.52	D
1975	6	20	013223.1	40.320	115.500	0.00		3.8		

YEAR	MO	DAY	HRMINSEC	LAT	LOX	RMS	NSTA	MAG	DEPTH	Q
1975	6	24	0504 3.2	39.330	118.097	0.31	8	2.3		
1975	6	24	724 4.6	39.083	118.038	0.12	9	2.4	16.67	D
1975	6	25	221418.7	38.583	117.059	0.84	8	2.5		
1975	6	25	2357 5.5	39.714	120.175	0.10	6	2.4	14.15	D
1975	6	26	1230 .2	37.279	116.369	0.00		6.1		
1975	6	26	235422.0	38.428	118.631	0.22	9	1.2	12.01	C
1975	6	27	0147 3.9	40.934	114.873	0.95	8	3.7		
1975	6	27	95042.0	39.386	118.073	0.10	12	2.6	15.40	C
1975	6	27	144351.4	38.548	118.138	0.03	7	1.1	11.38	C
1975	6	27	155254.3	38.429	118.617	0.12	20	1.9	12.38	B
1975	6	28	33319.5	38.046	118.979	0.15	12	1.8	9.10	C
1975	6	28	041953.1	39.486	121.609	0.00		3.6		
1975	6	28	221212.1	39.065	118.146	0.11	16	2.3	15.60	C
1975	6	29	5 759.4	38.352	118.332	0.18	22	1.6	7.68	B
1975	6	30	142913.9	38.388	118.305	0.27	9	1.2	16.35	C
1975	7	1	53858.5	39.392	120.210	0.14	8	2.9	5.06	C
1975	7	1	54822.6	39.368	120.256	0.36	6	1.4	0.57	D
1975	7	1	113755.2	37.903	118.116	0.09	11	1.9	0.02	D
1975	7	1	124550.2	37.942	118.161	0.11	10	2.0	0.69	D
1975	7	1	175311.0	39.560	118.454	0.20	14	2.8	6.87	C
1975	7	1	22 324.8	37.906	118.130	0.11	11	1.9	0.77	D
1975	7	1	225920.6	39.583	120.374	0.10	6	3.5	13.28	D
1975	7	2	8 552.8	39.045	119.977	0.04	6	2.7	9.20	C
1975	7	2	103813.7	37.902	118.015	0.18	19	2.2	0.37	D
1975	7	2	115945.7	37.987	118.419	0.16	8	1.3	11.26	C
1975	7	2	215823.9	39.535	115.908	0.50	10	3.4		
1975	7	2	231610.1	39.622	115.793	0.25	4	2.5		
1975	7	3	000042.8	39.583	115.849	0.05	5	2.5		
1975	7	3	15956.4	39.462	119.753	0.21	9	2.2	10.03	C
1975	7	3	113056.2	39.058	118.120	0.15	12	2.2	11.13	C
1975	7	3	171216.2	38.018	118.723	0.12	17	2.0	10.32	C
1975	7	3	203113.6	38.024	118.729	0.12	12	2.0	12.04	C
1975	7	3	2034 3.9	38.012	118.739	0.23	18	2.3	11.47	C
1975	7	3	231142.2	38.016	118.729	0.13	19	2.4	11.16	C
1975	7	4	01553.0	38.048	118.713	0.00	4	1.4	9.50	C
1975	7	4	2 317.3	38.026	118.722	0.15	16	2.2	9.50	C
1975	7	4	33337.8	38.021	118.719	0.16	17	1.8	11.70	C
1975	7	4	41354.3	38.001	118.722	0.26	29	3.5	9.98	C
1975	7	4	44644.2	38.012	118.726	0.27	25	2.1	10.17	C
1975	7	4	63829.0	38.021	118.741	0.17	12	1.8	12.86	C
1975	7	4	64138.3	38.014	118.737	0.21	11	1.7	12.10	C
1975	7	4	65210.9	38.022	118.712	0.13	10	1.8	7.84	C
1975	7	4	16 128.3	38.574	118.195	0.11	10	1.2	11.11	B
1975	7	4	16 632.8	38.025	118.723	0.16	16	2.0	9.93	C
1975	7	4	200024.8	39.620	115.950	0.00		2.6		

YEAR	MO	DAY	HRMINSEC	LAT	LOX	RMS	NSTA	MAG	DEPTH	Q
1975	7	4	20 6 2.4	38.025	118.730	0.12	14	1.8	10.79	C
1975	7	4	2056 4.2	38.071	118.700	0.04	4	1.5	0.91	C
1975	7	4	214321.9	38.025	118.733	0.38	22	2.5	7.67	D
1975	7	5	02124.2	38.012	118.740	0.23	19	2.0	10.72	C
1975	7	5	13936.7	38.005	118.710	0.13	5	1.5	19.03	D
1975	7	5	15855.4	38.024	118.725	0.11	12	1.7	10.99	C
1975	7	5	24912.4	38.017	118.740	0.41	26	2.4	6.55	D
1975	7	5	332 1.9	38.017	118.740	0.39	26	2.9	6.51	D
1975	7	5	34016.2	38.018	118.719	0.10	12	1.6	9.72	C
1975	7	5	050552.6	38.129	116.780	0.37	7	2.8		
1975	7	5	85947.7	38.051	118.711	0.02	5	1.4	9.89	C
1975	7	5	95812.3	38.044	118.742	0.14	5	1.3	16.94	D
1975	7	5	13 159.0	38.029	118.734	0.14	11	1.7	12.48	C
1975	7	5	14 3 3.6	38.024	118.728	0.16	9	1.7	10.50	C
1975	7	5	142146.8	38.018	118.723	0.13	16	1.7	10.07	C
1975	7	6	235847.0	38.375	118.526	0.08	6	0.8	15.99	D
1975	7	7	112711.8	37.790	118.141	0.08	8	1.4	5.64	D
1975	7	7	152342.6	38.148	118.329	0.23	9	1.0	2.98	C
1975	7	7	182712.1	37.150	116.100	0.00		3.4		
1975	7	8	538 2.3	38.025	118.731	0.14	8	1.7	10.92	C
1975	7	8	101331.8	39.604	115.824	0.35	6			
1975	7	10	2 126.9	39.253	118.041	0.16	12	2.2	14.49	C
1975	7	10	7 546.7	38.303	117.842	0.22	22	2.2	4.87	D
1975	7	10	223126.6	38.020	118.733	0.13	13	2.1	11.99	C
1975	7	10	223217.6	38.024	118.741	0.20	11	1.7	12.41	C
1975	7	11	040625.6	39.601	115.821	0.19	5			
1975	7	11	74825.3	38.018	118.715	0.23	13	1.7	6.61	C
1975	7	12	81732.4	39.399	120.188	0.11	8	2.4	11.54	C
1975	7	12	133722.1	38.047	118.673	1.21	19	2.1	3.04	D
1975	7	13	011635.0	39.386	117.632	0.00		4.0		
1975	7	13	013658.2	39.384	117.651	0.00		4.2		
1975	7	13	6 656.2	38.021	118.727	0.14	11	1.7	10.88	C
1975	7	14	0710 3.9	39.592	115.826	0.38	6	3.2		
1975	7	14	73842.4	38.482	118.482	0.31	10	1.5	9.54	D
1975	7	14	74924.0	38.217	118.354	0.26	14	1.5	11.94	B
1975	7	14	8 742.4	38.385	118.462	0.10	7	1.3	2.89	C
1975	7	15	34055.6	38.015	118.743	0.25	15	1.8	12.90	C
1975	7	15	34218.1	38.012	118.724	0.15	12	1.5	11.22	C
1975	7	15	44213.8	38.040	118.730	0.10	6	1.5	12.92	D
1975	7	15	5 952.3	38.041	118.604	0.11	9	1.4	9.05	C
1975	7	15	182344.5	38.472	117.958	0.12	9	1.5	7.60	C
1975	7	19	12229.9	38.321	118.175	0.17	6	1.1	0.39	C
1975	7	19	113836.6	38.790	119.384	0.45	9	2.7		
1975	7	19	142349.6	39.550	120.323	0.11	9	2.4	12.11	C
1975	7	19	21 149.3	38.057	118.702	0.01	3	1.5	5.50	C

YEAR	MO	DAY	HRMINSEC	LAT	LOH	RMS	NSTA	MAG	DEPTH	Q
1975	7	20	195114.3	38.404	118.370	0.13	7	1.1	8.86	B
1975	7	21	073533.5	40.056	120.012	0.15	6	1.8		
1975	7	21	1739 2.0	39.037	118.165	0.15	15	2.5	10.64	C
1975	7	22	63541.1	38.080	118.612	0.08	20	2.8	10.64	B
1975	7	23	023213.6	39.388	117.153	0.34	5	2.4		
1975	7	23	81825.9	38.332	118.204	0.17	18	2.3	10.66	B
1975	7	23	151226.7	39.382	118.126	0.12	13	2.9	0.92	D
1975	7	23	151512.8	39.402	118.084	0.07	11	2.6	9.35	C
1975	7	24	55516.6	38.814	119.587	0.06	6	2.9	15.48	D
1975	7	24	93452.3	38.421	118.652	0.29	15	2.3	1.45	D
1975	7	24	174327.3	39.429	119.833	0.08	7	2.6	12.57	C
1975	7	24	194620.3	39.422	119.841	0.09	7	2.5	12.03	B
1975	7	24	201110.8	39.467	120.119	0.19	8	2.6	11.73	B
1975	7	24	2016 7.6	37.412	118.405	0.14	8	2.6		
1975	7	24	201830.5	38.564	118.525	0.06	6	1.1	9.55	C
1975	7	25	010617.1	40.333	120.549	0.71	6	2.8		
1975	7	25	050936.3	37.378	118.397	0.30	9	2.8		
1975	7	25	64237.0	38.436	118.434	0.19	17	1.7	3.79	B
1975	7	25	124333.4	38.252	118.864	0.11	9	1.6	1.16	D
1975	7	25	234824.2	38.614	117.839	0.18	16	1.9	7.83	C
1975	7	26	025521.5	40.152	119.625	0.31	7	2.3		
1975	7	26	63434.2	39.052	119.689	0.09	6	2.5	3.51	D
1975	7	26	215048.1	39.641	119.459	0.12	8	3.0	15.26	C
1975	7	27	114654.0	37.120	117.894	0.21	5	3.2		
1975	7	28	1153 8.3	37.375	118.466	2.06	15	2.9	1.62	D
1975	7	29	13 145.6	39.417	120.193	0.19	8	2.1	11.16	C
1975	7	29	162429.5	39.613	118.079	0.26	6	3.1		
1975	7	29	163234.4	39.651	118.040	0.28	9	2.7		
1975	7	30	055231.1	38.421	119.326	0.18	7	2.0		
1975	7	30	123633.9	38.414	119.332	0.41	6	2.0		
1975	7	30	235227.0	37.831	118.141	0.06	10	1.9	8.40	C
1975	7	31	025116.4	39.251	117.149	0.43	5	2.5		
1975	7	31	202040.0	38.035	118.706	0.96	8	2.1	4.46	D
1975	8	1	154537.8	39.450	121.531	0.00		3.8		
1975	8	1	162717.8	39.438	121.537	0.00		4.7		
1975	8	1	2020 4.8	39.439	121.537	0.00		4.5		
1975	8	4	95641.5	38.015	118.094	0.07	9	1.5	9.77	C
1975	8	4	125338.3	39.123	118.975	0.29	14	2.8	0.25	D
1975	8	8	150130.0	39.523	119.564	0.05	6	1.3		
1975	8	8	162456.5	38.464	118.437	0.08	6	1.0	7.53	C
1975	8	9	14416.8	37.989	118.743	0.11	6	2.1	4.49	D
1975	8	10	51640.5	37.373	119.956	0.01	3	4.4	5.50	C
1975	8	11	181238.0	38.229	118.490	0.21	13	1.8	8.51	B
1975	8	11	1841 5.6	38.230	118.475	0.11	5	1.4	16.42	D
1975	8	11	214332.4	38.237	118.485	0.22	16	1.5	10.49	B

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1975	8	11	222742.6	38.240	118.484	0.30	10	0.9	8.06	B
1975	8	11	222748.2	38.231	118.485	0.32	13	1.6	7.56	C
1975	8	12	12859.7	38.248	118.471	0.15	9	1.2	7.75	B
1975	8	12	32242.5	38.235	118.476	0.28	17	1.6	7.74	B
1975	8	12	7 145.7	38.238	118.483	0.25	12	1.4	9.11	B
1975	8	14	945 0.0	38.239	118.492	0.24	21	1.6	9.09	B
1975	8	14	141123.4	38.239	118.485	0.13	12	1.1	8.81	B
1975	8	14	1751 3.4	38.795	119.692	0.59	6	2.6		
1975	8	15	052039.3	39.178	118.123	0.11	5			
1975	8	16	0 521.7	38.606	118.390	0.09	12	2.0	5.52	B
1975	8	16	349 5.8	39.597	120.493	0.23	8	2.6	8.55	D
1975	8	16	141436.4	38.525	118.275	0.15	13	1.5	11.96	B
1975	8	16	235431.4	38.088	118.859	0.20	19	2.9	8.15	C
1975	8	17	02425.3	37.493	118.866	0.09	16	4.2	13.43	D
1975	8	17	24416.3	38.097	118.903	0.29	15	2.1	8.89	C
1975	8	17	3 140.1	38.503	118.408	0.03	4	1.0	0.70	C
1975	8	17	064434.9	37.602	117.119	0.05	4	2.5		
1975	8	17	93426.3	37.377	118.738	0.07	14	2.7	2.63	D
1975	8	20	44422.5	37.425	118.541	0.47	13	2.1	27.60	D
1975	8	21	05055.2	38.091	118.871	0.01	4	1.5	7.60	C
1975	8	21	11 541.1	39.436	120.159	0.21	7	1.2	11.14	C
1975	8	21	123617.1	37.511	118.842	0.08	11	3.0	0.35	D
1975	8	22	18 451.7	38.389	118.593	0.23	16	1.5	8.17	B
1975	8	23	1928 9.0	37.597	117.951	0.15	20	2.5	0.85	D
1975	8	24	151856.3	38.155	118.270	0.11	20	2.4	0.23	C
1975	8	25	22716.0	37.749	117.790	0.18	30	2.7	1.97	D
1975	8	27	101439.2	37.546	118.848	0.27	14	2.1	1.70	D
1975	8	27	1513 6.0	39.084	119.608	0.03	7	2.6	15.58	C
1975	8	29	223931.8	39.413	119.822	0.10	9	2.2	14.32	B
1975	8	29	231746.2	39.054	118.173	0.13	23	2.9	1.62	D
1975	8	30	003443.7	39.402	118.051	0.36	6	3.9		
1975	8	31	112739.7	40.950	119.113	0.00		4.2		
1975	8	31	114051.5	40.840	119.197	0.51	5	3.3		
1975	9	1	0145 1.9	41.001	118.922	0.46	6	3.9		
1975	9	1	195618.8	38.204	119.200	0.19	26	2.4	4.50	D
1975	9	2	144828.6	41.981	118.958	0.43	6	4.0		
1975	9	3	121042.9	38.458	118.401	0.05	6	1.2	0.80	C
1975	9	4	102416.3	37.543	118.704	0.19	22	2.5	5.32	D
1975	9	5	103845.0	38.035	118.363	0.17	10	1.1	15.76	C
1975	9	6	9 641.3	38.053	118.822	0.11	9	1.8	11.00	C
1975	9	6	15 8 3.1	39.213	118.062	0.12	13	2.5	15.01	C
1975	9	6	1700 .1	37.024	116.028	0.00		4.3		
1975	9	7	13911.1	38.471	118.238	0.10	8	1.0	15.07	C
1975	9	7	620 3.9	39.366	118.098	0.20	14	2.4	13.15	C
1975	9	8	205323.2	38.573	118.202	0.13	10	1.5	9.33	B

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1975	9	8	205642.8	38.076	118.835	0.06	8	1.5	13.50	C
1975	9	8	234647.0	41.108	120.244	0.25	6	3.2		
1975	9	9	31522.3	37.820	118.165	0.11	18	2.1	6.85	C
1975	9	9	64447.7	38.603	118.425	0.15	12	1.6	13.02	C
1975	9	9	9 914.8	38.526	118.436	0.09	8	1.3	3.31	B
1975	9	10	1247 4.7	38.825	118.015	0.11	11	2.3	12.57	C
1975	9	10	191811.5	38.439	118.337	0.07	7	1.1	9.49	B
1975	9	10	2023 5.8	39.041	118.112	0.08	9	2.9	12.11	C
1975	9	10	2032 5.8	39.040	118.107	0.00		2.3		
1975	9	12	092554.6	40.410	117.855	0.61	7	2.5		
1975	9	12	111021.8	38.241	118.486	0.15	8	1.2	9.44	C
1975	9	14	112835.1	38.250	118.362	0.18	10	1.1	8.98	C
1975	9	14	143414.7	38.063	118.815	0.15	23	2.3	11.10	C
1975	9	15	45615.7	38.068	119.075	0.20	17	2.2	0.51	D
1975	9	15	91640.6	38.244	118.359	0.15	25	2.5	6.20	B
1975	9	15	93622.6	38.261	118.352	0.06	6	1.0	10.81	B
1975	9	15	183626.3	38.453	118.387	0.51	7	1.3	0.10	C
1975	9	17	544 7.2	37.544	118.788	0.14	12	2.2	6.12	D
1975	9	17	74647.7	38.333	118.133	0.17	14	1.6	8.53	C
1975	9	17	1930 4.3	38.541	118.324	0.12	8	1.3	6.29	B
1975	9	19	0 333.7	38.435	118.330	0.16	11	1.6	0.10	C
1975	9	19	94043.5	38.371	118.349	0.28	17	1.8	7.58	B
1975	9	19	10 642.6	38.363	118.355	0.06	6	1.3	11.10	C
1975	9	19	114323.2	38.376	118.348	0.11	7	1.4	9.61	C
1975	9	19	142121.9	38.382	118.343	0.15	13	1.6	9.30	B
1975	9	22	73914.5	38.735	118.583	0.12	12	2.3	8.39	C
1975	9	22	085139.1	39.640	118.114	0.22	6	2.5		
1975	9	22	132310.9	38.495	117.837	0.05	8	1.8	5.18	C
1975	9	23	24413.5	37.911	118.705	0.00	4	1.4	15.58	C
1975	9	23	141740.8	39.393	118.469	0.28	5	2.1		
1975	9	25	54438.8	38.444	118.321	0.15	6	1.4	3.86	C
1975	9	25	112059.2	38.990	118.218	0.07	10	2.5	11.30	C
1975	9	25	1225 2.3	39.104	118.144	0.08	12	2.6	12.54	C
1975	9	26	13 336.2	37.409	118.630	0.11	12	2.2	3.01	D
1975	9	26	23 746.1	38.627	118.443	0.13	17	2.0	7.49	C
1975	9	26	231218.8	38.646	118.434	0.18	17	2.2	7.94	C
1975	9	26	2315 8.1	38.605	118.441	0.00	3	1.8	5.50	C
1975	9	26	231526.0	38.610	118.441	0.00	3	1.4	5.50	C
1975	9	26	2333 7.5	38.643	118.438	0.20	21	2.2	6.50	C
1975	9	28	25816.8	37.437	118.730	0.48	9	2.2	28.29	D
1975	9	28	3 348.8	37.329	118.691	0.19	16	2.6	1.80	D
1975	9	28	10 754.8	38.334	118.661	0.27	18	1.5	4.15	D
1975	9	30	11 0 4.4	37.483	118.684	0.18	8	1.9	3.20	D
1975	9	30	172912.3	38.478	118.363	0.31	13	1.6	0.56	C
1975	10	1	102735.7	37.392	118.521	0.11	13	2.4	9.87	D

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1975	10	1	215530.6	38.028	118.716	0.07	8	1.4	12.21	B
1975	10	2	85237.0	37.879	118.523	0.18	13	2.2	2.78	D
1975	10	2	145829.0	40.691	114.710	0.00				
1975	10	3	164016.1	38.266	118.455	0.19	25	1.8	12.97	B
1975	10	3	164128.1	38.268	118.459	0.16	12	1.4	13.53	C
1975	10	3	21 212.0	38.208	118.332	0.15	7	1.0	10.71	C
1975	10	4	21248.2	38.316	119.136	0.20	28	2.4	13.44	C
1975	10	4	95312.8	37.435	118.956	0.30	26	3.4	2.92	D
1975	10	4	111920.5	39.816	117.862	0.28	5			
1975	10	4	2149 8.0	38.468	118.345	0.18	6	1.4	5.99	C
1975	10	5	42057.1	38.472	118.370	0.21	13	1.7	3.00	B
1975	10	5	114733.4	38.346	118.316	0.11	6	1.1	10.72	C
1975	10	6	004158.1	40.914	114.933	0.00				
1975	10	6	235110.1	39.057	118.132	0.07	8	2.4	11.39	C
1975	10	7	205811.6	37.581	118.870	0.18	23	3.4	11.29	C
1975	10	7	211246.2	37.638	118.808	0.08	21	4.3	6.71	D
1975	10	7	2159 7.7	37.577	118.847	0.11	19	2.7	12.95	C
1975	10	7	223345.6	37.961	119.048	0.20	9	2.7	0.22	D
1975	10	7	233031.4	37.574	118.839	0.12	23	3.1	11.95	C
1975	10	7	233616.0	37.583	118.845	0.17	18	2.6	11.14	D
1975	10	7	235116.0	38.044	118.760	0.16	14	2.2	6.82	C
1975	10	8	2 259.1	37.581	118.845	0.19	13	2.3	9.30	D
1975	10	8	25652.5	37.557	118.848	0.10	14	2.5	0.60	D
1975	10	8	135824.0	37.577	118.829	0.13	17	2.5	11.08	C
1975	10	8	18 111.2	37.543	118.679	0.17	13	2.2	3.80	D
1975	10	9	092141.4	40.175	119.673	0.42	7	2.6		
1975	10	9	114533.2	38.474	118.381	0.25	14	1.7	7.52	B
1975	10	10	033538.6	38.672	119.863	0.24	5	3.1		
1975	10	10	62313.7	38.089	118.990	0.16	9	2.2	1.40	D
1975	10	10	074447.0	39.469	121.499	0.00		3.5		
1975	10	11	4 841.9	38.236	118.258	0.09	7	1.4	3.50	C
1975	10	11	641 4.0	38.234	118.253	0.10	6	1.2	0.03	C
1975	10	12	042 4.3	38.455	118.373	0.15	9	1.2	5.05	B
1975	10	12	34813.6	37.386	118.800	0.07	11	2.3	0.80	D
1975	10	12	0947 3.9	40.879	114.896	0.00		3.7		
1975	10	12	135542.5	38.473	118.370	0.18	14	1.8	8.90	B
1975	10	13	65046.3	37.591	118.738	0.07	8	2.0	15.15	C
1975	10	13	11 710.7	38.467	118.373	0.06	7	1.4	8.80	B
1975	10	14	113228.7	38.234	117.880	0.23	18	2.3	8.35	C
1975	10	15	45014.6	38.466	118.370	0.05	6	1.5	2.64	B
1975	10	15	194849.7	37.498	118.621	0.11	9	2.3	2.39	D
1975	10	19	6 443.5	38.164	116.644	0.09	12	3.5	1.56	D
1975	10	19	060445.3	38.195	116.758	0.30	8	2.9		
1975	10	19	6 855.1	38.075	116.649	0.08	6	3.0	0.56	D
1975	10	19	65130.8	38.257	118.359	0.05	6	1.0	10.49	B

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1975	10	20	225758.0	40.677	119.256	0.14	5	3.0		
1975	10	21	11 815.7	38.047	118.855	0.12	13	2.1	6.35	C
1975	10	22	020123.0	39.599	118.096	0.26	7	2.4		
1975	10	22	155937.3	39.393	118.108	0.24	7	2.8		
1975	10	22	2237 3.6	37.816	118.179	0.07	9	1.9	7.07	C
1975	10	24	3 2 9.9	38.160	117.866	0.09	10	1.9	9.96	C
1975	10	24	61417.2	38.169	118.945	0.11	9	1.8	1.30	D
1975	10	24	1711 .1	37.222	116.179	0.00		4.7		
1975	10	24	221545.7	38.281	117.871	0.05	7	1.4		C
1975	10	27	73819.6	37.388	118.593	0.15	13	2.3	7.53	D
1975	10	28	328 3.4	37.452	118.614	0.13	11	2.3	0.07	D
1975	10	28	1430 .2	37.290	116.412	0.00		6.2		
1975	10	28	154134.0	37.115	116.398	0.04	4	4.0		
1975	10	28	223011.1	38.420	118.372	0.17	5	1.3	12.05	D
1975	10	29	135455.5	37.481	118.611	0.21	31	2.9	1.17	D
1975	10	30	11840.3	38.049	118.762	0.09	8	2.0	6.42	C
1975	10	30	2129 6.6	38.147	118.286	0.20	17	2.1	6.70	B
1975	11	3	075127.7	38.689	119.692	0.46	8	2.5		
1975	11	3	1341 4.7	38.392	118.200	0.00		2.2		
1975	11	3	1423 8.1	38.395	118.202	0.00		2.0		
1975	11	3	233631.7	38.463	118.374	0.15	9	1.3	8.57	B
1975	11	4	12 859.7	38.465	118.377	0.12	7	1.2	9.83	B
1975	11	5	55010.6	38.085	118.886	0.02	7	1.9	7.01	C
1975	11	6	1330 2.6	37.911	118.460	0.07	9	1.8	4.13	C
1975	11	9	171658.6	38.853	118.012	0.06	10	2.5	13.42	C
1975	11	11	213416.7	37.481	118.454	0.18	12	2.6	0.35	D
1975	11	13	13 937.1	39.452	118.086	0.06	11	3.0	15.82	C
1975	11	13	221957.7	38.750	117.932	0.10	13	2.4	11.82	C
1975	11	14	43038.7	38.074	118.653	0.08	13	2.1	1.03	B
1975	11	14	232747.4	39.157	119.202	0.33	7	2.5		
1975	11	15	0335 1.6	39.417	121.572	0.00		4.0		
1975	11	16	181240.2	39.452	116.838	0.24	7	2.4		
1975	11	17	213729.6	38.229	118.426	0.05	7	1.6	7.38	B
1975	11	18	115147.4	38.357	119.280	0.37	17	3.2	13.79	D
1975	11	18	13 139.5	38.322	118.728	0.15	10	2.0	9.25	D
1975	11	19	134241.0	37.899	118.478	0.40	15	2.4	0.40	D
1975	11	19	135644.6	37.868	118.459	0.16	11	2.4	8.30	C
1975	11	20	1500 .1	37.225	116.368	0.00		5.8		
1975	11	21	133317.8	38.140	118.259	0.06	6	1.2	7.93	B
1975	11	22	346 7.1	39.022	118.187	0.05	11	2.3	11.23	C
1975	11	22	84517.6	38.642	117.877	0.17	12	2.3	0.91	D
1975	11	23	23510.8	38.333	118.186	0.10	8	1.4	9.29	B
1975	11	23	224159.3	38.288	118.812	0.20	25	2.2	5.92	C
1975	11	23	225219.3	38.280	118.813	0.22	30	2.2	9.13	C
1975	11	23	2254 6.4	38.306	118.833	0.13	10	1.9	2.53	D

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1975	11	24	25428.9	37.490	118.384	0.07	9	2.5	0.28	D
1975	11	24	123059.6	37.879	118.459	0.12	5	1.8	8.69	D
1975	11	25	013718.9	37.949	116.330	0.06	4	2.0		
1975	11	25	2035 4.2	37.462	118.753	0.18	18	2.7	1.37	D
1975	11	25	213145.8	38.409	118.377	0.35	15	1.9	2.26	C
1975	11	26	53838.0	38.417	118.369	0.13	21	3.0	4.10	B
1975	11	26	93152.4	38.416	118.370	0.13	21	3.0	3.38	B
1975	11	26	93451.4	38.407	118.367	0.11	6	1.6	4.03	B
1975	11	26	94119.3	38.407	118.369	0.22	10	1.8	1.17	C
1975	11	26	102417.8	38.400	118.370	0.15	11	1.8	0.59	C
1975	11	26	1059 1.2	38.403	118.367	0.15	7	1.7	0.90	C
1975	11	26	114327.1	38.407	118.381	0.05	4	1.3	1.07	C
1975	11	26	12 232.4	38.405	118.371	0.22	10	1.8	0.79	C
1975	11	26	125226.2	38.424	118.367	0.10	6	1.7	6.69	C
1975	11	26	1530 .2	37.117	116.019	0.00		4.4		
1975	11	26	235035.1	38.481	118.319	0.02	5	1.8	11.14	C
1975	11	27	130624.9	38.475	118.182	0.00		2.0		
1975	11	28	221540.2	39.748	115.530	0.36	6	2.9		
1975	11	29	817 1.7	37.516	118.467	0.11	18	3.9	6.73	D
1975	11	29	172218.5	38.361	118.585	0.09	9	2.0	1.62	C
1975	11	30	085838.7	39.979	118.920	0.51	6	2.2		
1975	11	30	202933.8	38.693	115.710	0.00		3.3		
1975	12	2	05156.2	39.104	118.059	0.07	14	2.8	9.46	C
1975	12	3	225614.0	39.549	115.891	0.33	6	2.9		
1975	12	5	1153 2.9	39.527	118.444	0.20	6	2.4		
1975	12	5	224029.7	39.105	118.070	0.10	12	3.4	11.09	C
1975	12	8	201549.5	38.357	118.286	0.08	12	3.5	8.38	A
1975	12	9	758 7.5	38.101	118.282	0.24	6	1.8	12.86	D
1975	12	9	225334.3	38.822	118.826	0.19	11	2.6	2.92	D
1975	12	10	23828.5	38.361	118.271	0.19	19	2.8	8.93	B
1975	12	10	122915.1	38.132	118.288	0.28	13	1.7	3.51	B
1975	12	10	191924.4	37.499	118.418	0.09	22	4.5	0.94	D
1975	12	10	205038.2	37.961	118.435	0.10	7	2.6	1.06	D
1975	12	11	92025.0	38.564	118.384	0.36	7	1.5	8.96	C
1975	12	16	133051.5	37.493	118.706	0.13	19	3.0	0.47	D
1975	12	16	165954.8	38.078	118.932	0.17	19	2.7	9.74	C
1975	12	18	123121.3	38.655	118.521	0.09	16	2.5	9.80	C
1975	12	19	0502 .4	36.000	117.617	0.00		4.2		
1975	12	19	200849.6	39.571	119.197	0.23	7	1.6		
1975	12	19	22 351.8	38.537	118.274	0.17	7	2.2	1.40	B
1975	12	20	1954 4.9	37.478	118.862	0.29	20	2.8	11.31	C
1975	12	20	2000 .2	37.128	116.062	0.00		5.6		
1975	12	25	02648.2	37.802	118.145	0.16	22	3.2	0.58	D
1975	12	25	002649.7	37.924	118.171	0.44	6	2.2		
1975	12	27	15525.7	37.917	118.263	0.08	15	2.6	5.33	C

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1975	12	27	114944.8	38.593	118.472	0.22	8	2.2	10.85	C
1975	12	27	1238 9.4	37.462	118.409	0.08	15	2.6	0.28	D
1975	12	27	223034.5	38.607	118.184	0.28	25	2.8	9.56	C
1975	12	31	025842.4	38.825	119.481	0.45	10	1.3		

EARTHQUAKES IN 1976

Special Notations:

- o During 1976, twenty-one earthquakes in the western Great Basin and adjoining parts of eastern California had magnitude M_L of 4.0 or greater. These included two earthquakes with M_L 4.0 at the south end of the Monitor Range, 35 km NE of Tonopah, at 22h 59m on 12 January and 23h 43m on 13 January; an M_L 4.3 shock at 06h 17m on 28 January, on the west side of the Wassuk Range 35 km NW of Hawthorne; an M_L 4.1 earthquake in Dixie Valley, at 12h 56m on 2 April; an M_L 4.0 event at 03h 07m on 23 April, 10 km NW of Bishop; events with M_L 4.5 and 4.2, respectively at 10h 15m on 20 June and 15h 44m on 24 June, 20 km NE of Susanville (felt at Susanville); an M_L 4.6 shock at 18h 27m on 7 July, 15 km NW of Bishop; a swarm of earthquake near Mina with M_L 4.4, 4.0, 4.9 and 4.4, at 08h 14m on 2 August, 05h 46m on 3 August, 19h 38m and 19h 52m on 5 August, respectively, felt at Mina, Luning and Hawthorne; an event with M_L 4.0 at 10h 14m on 22 August, on the east side of Monitor Valley 110 km NNE of Tonopah; an M_L 4.2 earthquake at 14h 09m on 15 September, in Long Valley 90 km NNW of Ely; two events with M_L 4.0 in Fish-lake Valley, at 06h 53m on 20 October and 01h 12m on 21 October; an M_L 4.1 shock at Lake Crowley, at 00h 40m on 21 October; an earthquake with M_L 4.1 at 18h 44m on 1 November, 40 km west of Coaldale Junction; an M_L 4.3 shock in Pleasant Valley, at 08h 23m on 17 November; a Bishop earthquake with M_L 4.1 at 00h 09m on 26 November; and a northeast California shock with M_L 4.4 at 02h 49m on 27 November, 60 km S of Alturas.
- o Other events of interest included an M_L 3.2 event at 06h 09m on 8 February, felt in Reno; an M_L 3.9 event that was felt in Eureka at 10h 39m on 10 June; an earthquake swarm that started on 22 June and continued through August in the Virginia City area 25 km SE of Reno, with largest events having M_L 3.6 and 3.4 respectively at 00h 24m on 24 June and 13h 10m on 29 June, felt in south Reno; and a swarm on 27-28 December 30 km W of Goldfield, with largest event having M_L 3.1 at 19h 13m on 28 December.
- o A field study of the Susanville earthquake sequence in June and July was carried out by the Laboratory and results were published by Mohler (1980; see references on page 10).

EARTHQUAKES IN THE WESTERN GREAT BASIN DURING 1976

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1976	1	1	7 627.1	37.405	118.379	0.40	10	2.6	2.23	D
1976	1	1	184033.9	38.436	118.340	0.22	15	1.8	9.59	B
1976	1	3	154111.9	38.247	118.344	0.20	21	2.3	9.67	B
1976	1	4	203054.7	38.428	118.326	0.00	4	1.7	8.15	C
1976	1	5	134649.3	39.390	118.447	0.19	11	2.9	4.28	D
1976	1	6	41646.8	38.011	118.407	0.04	6	2.4	13.44	C
1976	1	8	93747.2	38.350	118.302	0.27	10	2.2	1.14	C
1976	1	9	102457.5	38.769	119.578	0.46	12	1.9		
1976	1	9	114511.8	37.288	116.353	0.39	12	3.1	6.50	
1976	1	9	114647.9	37.247	116.360	0.17	7	2.8	17.50	
1976	1	11	444 4.0	38.442	118.323	0.17	24	3.3	8.96	B
1976	1	11	201120.5	37.339	118.550	0.37	26	3.2	11.43	D
1976	1	12	225951.8	38.208	116.968	0.22	8	4.0	6.20	
1976	1	13	231424.2	38.338	118.128	0.00	5	1.4	6.75	C
1976	1	13	234331.5	38.212	116.957	0.28	8	4.0		
1976	1	13	144346.8	37.275	116.254	0.47	9	3.5	8.30	
1976	1	15	51810.6	40.610	117.616	0.74	6	2.2		
1976	1	15	912 2.0	37.995	118.031	0.18	9	2.0	1.26	D
1976	1	16	2139 3.0	38.327	118.153	0.16	13	2.0	5.83	C
1976	1	18	75145.4	37.261	116.336	0.41	10	1.5	4.20	
1976	1	19	222000.8	38.194	117.010	0.34	8	1.6	7.40	
1976	1	21	52330.3	39.416	117.713	0.33	11	2.5	9.00	
1976	1	21	72316.6	38.451	118.511	0.11	23	2.9	1.61	B
1976	1	22	95714.1	38.286	117.747	0.28	13	2.5	6.45	C
1976	1	22	130741.2	40.086	119.563	0.21	6	1.8		
1976	1	24	41820.4	37.358	118.537	0.24	25	3.4	11.35	C
1976	1	24	45318.1	37.330	118.539	0.32	23	3.2	1.12	D
1976	1	24	51041.1	37.374	118.586	0.35	18	2.3		
1976	1	25	41821.8	37.401	118.563	0.43	8	2.3		
1976	1	28	61738.4	38.617	118.942	0.15	24	4.1	16.13	C
1976	1	29	173724.3	38.622	118.931	0.44	9	2.4	15.70	
1976	1	31	11720.9	41.224	120.251	0.30	7	3.5		
1976	1	31	4 746.7	39.376	118.453	0.09	13	3.3	11.80	C
1976	1	31	16 740.5	38.681	118.449	0.20	29	3.5	8.04	B
1976	2	1	13151.9	38.539	118.274	0.16	10	2.4	0.63	C
1976	2	2	11027.5	40.345	120.383	0.43	14	3.2	6.10	
1976	2	5	83246.4	38.263	117.850	0.08	16	2.5	2.03	C
1976	2	6	161018.2	38.533	118.277	0.13	7	2.4	0.56	C
1976	2	6	161127.3	38.540	118.244	0.13	6	2.4	2.19	D
1976	2	8	60926.2	39.468	119.842	0.27	15	3.2	9.70	
1976	2	12	100118.5	41.019	116.406	0.30	6	2.1		
1976	2	13	134747.6	40.163	119.739	0.55	11	2.6		
1976	2	14	121913.3	38.238	118.795	0.09	10	2.7	15.70	C
1976	2	14	221023.2	39.135	118.065	0.15	9	1.8	10.50	
1976	2	15	18 611.5	39.190	118.044	0.18	12	2.9	9.75	C

YEAR	MO	DAY	HRMINSEC	LAT	Lon	RMS	NSTA	MAG	DEPTH	Q
1976	2	16	3 635.9	38.372	118.280	0.13	14	2.4	7.45	B
1976	2	16	103633.9	38.155	118.267	0.18	14	2.0	8.05	B
1976	2	18	105948.5	38.577	118.488	0.24	9	2.4	10.97	C
1976	2	18	234248.9	38.564	118.495	0.24	9	3.3	5.15	C
1976	2	20	171350.2	38.116	114.980	0.50	11	3.6		
1976	2	20	184531.9	39.364	118.534	0.21	11	3.7	2.75	D
1976	2	24	61659.0	38.034	118.831	0.64	14	3.5	0.69	D
1976	2	25	52647.8	38.257	118.433	0.08	10	2.6	7.25	B
1976	2	28	233039.5	39.095	118.059	0.05	9	3.6	12.07	C
1976	3	3	73206.5	37.028	116.396	0.17	6	3.2	10.60	
1976	3	6	200006.6	39.341	116.103	0.53	9	2.7	10.10	
1976	3	7	1158 5.0	38.285	117.833	0.18	14	2.6	3.43	D
1976	3	8	203427.9	38.050	118.947	0.15	5	1.9	1.08	D
1976	3	8	203458.7	38.048	118.943	0.13	5	1.5	3.07	D
1976	3	9	44931.5	38.053	118.829	0.10	13	3.7	14.65	C
1976	3	9	5 711.1	38.060	118.843	0.06	8	2.3	13.00	C
1976	3	9	20 310.4	38.690	118.454	0.09	13	2.6	10.70	B
1976	3	10	111655.7	38.281	118.707	0.15	7	2.2	12.87	D
1976	3	12	90045.4	39.102	118.963	0.26	8	1.5	22.40	
1976	3	13	212031.3	40.810	114.976	1.03	7	3.4		
1976	3	14	4 127.5	39.146	118.993	0.32	13	3.8	9.19	D
1976	3	14	53350.3	39.148	119.018	0.09	8	3.6	4.48	D
1976	3	14	95450.6	39.981	120.829	0.34	9	2.5		
1976	3	14	115622.6	39.436	120.175	0.00	5	0.8	9.36	C
1976	3	19	203550.1	38.596	118.154	0.10	7	2.1	7.99	C
1976	3	22	43855.8	37.125	117.215	0.48	11	3.4	6.60	
1976	3	22	112814.1	38.266	118.632	0.24	8	2.2	13.97	C
1976	3	22	152552.4	38.262	118.469	0.09	7	1.9	5.90	C
1976	3	23	174431.2	39.660	119.437	0.21	10	2.5	15.60	
1976	3	24	64439.4	38.028	119.118	0.06	10	2.4	10.05	C
1976	3	31	133330.9	39.198	118.090	0.14	7	1.5		
1976	3	31	134513.9	39.290	118.465	0.28	10	3.1	5.60	
1976	4	2	125637.3	39.532	117.664	0.35	9	4.1	10.40	
1976	4	2	134537.6	39.535	117.644	0.44	10	1.8	23.60	
1976	4	3	80457.4	39.263	118.486	0.38	9	1.4	12.00	
1976	4	3	161217.8	39.654	120.741	0.32	9	3.1	4.20	
1976	4	3	183553.2	38.119	118.792	0.01	6	2.0	8.62	C
1976	4	11	234149.8	38.054	118.966	0.04	6	2.0	6.68	C
1976	4	13	93749.2	37.430	118.784	0.20	11	2.9	4.18	D
1976	4	18	51151.0	37.205	118.664	0.11	13	3.3	2.48	D
1976	4	18	51251.6	37.213	118.661	0.47	14	2.4	5.60	
1976	4	19	23344.7	37.338	118.553	0.40	11	2.7	2.23	D
1976	4	20	200127.9	39.613	115.812	0.35	7	2.5		
1976	4	20	223507.9	38.932	119.228	0.40	6	1.7		
1976	4	21	35637.9	39.061	118.090	0.04	9	2.7	10.95	C

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1976	4	22	214433.9	39.405	118.078	0.45	10	2.0	6.40	
1976	4	23	3 7 2.2	37.388	118.466	0.12	13	4.0	1.81	D
1976	4	24	21414.4	38.021	119.156	0.07	8	2.3	1.32	D
1976	4	26	71330.2	38.102	119.026	0.00	4	1.9	3.89	C
1976	4	28	122339.5	38.893	119.660	0.48	6	1.9		
1976	4	30	23 810.7	38.090	118.825	0.05	6	2.1	0.08	D
1976	5	2	165252.8	39.452	119.834	0.00	4	0.7	7.80	C
1976	5	2	172048.5	39.468	119.822	0.06	4	2.6	4.86	C
1976	5	2	172810.4	39.452	119.831	0.00	4	0.4	8.90	C
1976	5	2	18 153.3	39.457	119.830	0.02	5		6.86	C
1976	5	2	213559.4	39.475	119.824	0.09	6	2.1	0.93	D
1976	5	2	214247.0	39.463	119.828	0.01	5	0.6	6.70	C
1976	5	3	32427.4	40.096	117.265	0.29	6	1.7		
1976	5	4	434 0.3	39.022	118.193	0.09	8	2.7	13.59	C
1976	5	4	152519.5	38.300	118.675	0.22	9	2.4	10.73	C
1976	5	5	54657.6	40.012	117.455	0.05	6	1.1	11.40	
1976	5	6	2219 4.3	38.103	118.862	0.00	4	2.1	1.62	C
1976	5	6	231938.8	38.874	117.858	0.00	5	3.0	2.77	C
1976	5	7	205514.0	38.253	118.788	0.17	12	2.3	16.14	B
1976	5	8	02857.5	38.241	118.773	0.14	13	2.4	11.77	B
1976	5	8	103528.2	39.674	119.977	0.07	7	1.6	1.42	D
1976	5	8	204435.1	38.732	117.880	0.23	13	2.8	12.49	C
1976	5	8	212943.3	39.423	119.821	0.07	6	2.0	10.92	C
1976	5	9	11152.5	39.422	119.825	0.09	5	2.3	9.71	D
1976	5	9	41435.9	37.206	118.286	0.13	11	2.5		
1976	5	9	945 3.4	39.383	119.831	0.11	8		13.18	C
1976	5	9	235759.9	39.789	120.831	0.24	9	2.0		
1976	5	11	33347.9	39.421	120.174	0.09	10	0.7	11.51	C
1976	5	11	1353 3.6	39.409	120.181	0.05	6	0.5	12.82	C
1976	5	12	34746.7	39.431	118.073	0.14	10	2.8	3.61	D
1976	5	14	113518.1	39.445	119.831	0.17	7	0.7	9.05	D
1976	5	15	2148 3.9	39.505	119.684	0.05	5	1.1	12.81	D
1976	5	16	427 7.9	39.269	118.144	0.13	13	2.7	1.71	C
1976	5	17	9 215.6	39.628	120.274	0.34	8	1.2	15.59	D
1976	5	19	53748.7	39.101	119.651	0.06	6	1.3	16.22	D
1976	5	19	71812.0	38.097	116.644	0.30	9	1.6		
1976	5	20	83515.8	38.707	119.387	0.29	7	1.6		
1976	5	21	12216.6	39.169	118.161	0.24	14	2.7	9.94	C
1976	5	21	115521.5	39.104	118.082	0.13	11	2.6	11.23	C
1976	5	21	115623.1	39.102	118.123	0.11	7	2.5	9.24	D
1976	5	22	191527.4	39.414	120.173	0.10	9	0.2	12.05	C
1976	5	23	54130.5	39.673	118.438	0.37	6	1.6		
1976	5	23	204250.8	39.114	118.078	0.18	15	3.1	9.77	C
1976	5	24	105411.9	38.712	119.380	0.33	7	1.7		
1976	5	26	1530 7.7	39.711	120.418	0.21	9	1.2	16.58	D

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1976	5	28	18 148.3	38.229	118.661	0.01	5	2.6	1.37	C
1976	5	29	34647.7	37.967	118.423	0.17	8	2.0	20.19	C
1976	5	30	10 829.4	39.341	119.899	0.09	8	1.1	13.49	B
1976	5	30	153127.4	38.394	118.376	0.12	9	2.3	0.54	C
1976	5	31	02511.3	39.358	119.900	0.36	10	1.1	1.44	C
1976	6	1	183837.3	38.315	118.264	0.19	17	2.9	10.25	C
1976	6	1	184937.3	38.245	118.668	0.02	5	2.7	1.19	D
1976	6	1	213640.1	39.096	118.045	0.31	9	2.1		
1976	6	1	23 423.2	38.161	119.645	0.26	7	1.8	15.27	D
1976	6	3	1019 4.3	38.043	119.162	0.00	4	2.0	11.42	C
1976	6	6	3 0 6.5	39.211	119.700	0.15	8	1.4	16.56	D
1976	6	6	111548.8	38.301	119.399	0.66	16	2.7	0.25	D
1976	6	7	210025.5	39.378	118.500	0.32	9	0.8		
1976	6	8	21244.2	37.954	118.530	0.20	11	2.7	0.26	C
1976	6	8	151218.9	39.737	120.083	0.22	8	1.4	16.99	D
1976	6	9	7 916.5	39.115	118.056	0.22	9	2.7	13.06	D
1976	6	10	103937.0	39.595	115.879	0.16	11	3.9	3.40	
1976	6	12	221425.6	38.082	118.760	0.18	9	2.1	9.70	B
1976	6	14	195711.0	38.988	118.164	0.45	16	2.8	11.20	
1976	6	14	234223.4	39.434	119.671	0.20	6	1.2	23.30	D
1976	6	15	42519.8	39.731	119.773	0.22	7		25.01	D
1976	6	15	82621.4	38.254	118.360	0.15	8	1.5	11.02	B
1976	6	16	53453.5	37.974	118.155	0.05	8	2.5	8.66	C
1976	6	18	1 3 1.9	38.182	118.347	0.22	8	2.1	15.90	C
1976	6	20	101525.6	40.407	120.350	0.45	12	4.5	5.00	
1976	6	20	192130.0	39.390	119.557	0.34	10	1.5		
1976	6	20	205805.4	40.537	120.574	0.42	13			
1976	6	20	214357.8	40.543	120.583	0.56	16	3.1		
1976	6	21	11106.9	39.596	115.735	0.40	9	2.6		
1976	6	21	202754.9	40.502	120.481	0.17	10	2.3		
1976	6	22	039 0.7	38.036	118.951	0.25	20	3.1	12.29	C
1976	6	22	7 052.3	39.404	120.129	0.09	7		7.75	C
1976	6	22	214013.7	40.493	120.502	0.09	9			
1976	6	22	222553.6	39.430	119.552	0.32	13	1.6	0.74	C
1976	6	22	223907.3	39.324	118.502	0.74	10	1.7	9.80	
1976	6	22	224841.8	39.393	119.519	0.08	7	1.0	0.13	D
1976	6	22	2350 3.7	39.397	119.560	0.28	10	1.4	7.30	D
1976	6	23	42624.3	39.403	119.511	0.10	7	1.1	0.14	D
1976	6	23	82357.4	39.413	119.583	0.28	10	2.2	5.37	C
1976	6	23	82427.6	39.416	119.575	0.25	11	2.4	6.30	C
1976	6	23	112320.4	39.415	119.570	0.38	10	1.6	2.97	D
1976	6	23	1138 9.3	39.384	119.549	0.16	7		11.63	D
1976	6	23	125024.1	39.399	119.558	0.26	6	1.8	10.24	D
1976	6	23	125343.9	39.365	119.586	0.32	9	2.1	6.05	C
1976	6	23	145033.7	39.392	119.582	0.26	10	2.2	7.19	D

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1976	6	23	16 119.4	39.403	119.575	0.32	10	1.8	6.88	D
1976	6	23	161417.3	39.428	119.560	0.36	10	1.6	6.62	D
1976	6	23	172129.8	39.403	119.575	0.33	10	1.6	4.10	D
1976	6	23	193417.0	39.395	119.521	0.12	8	1.0	1.39	D
1976	6	23	224958.3	39.402	119.504	0.13	9	1.2	0.58	D
1976	6	23	225548.8	39.396	119.517	0.08	7	1.0	6.18	C
1976	6	24	02446.5	39.408	119.555	0.11	11	3.6	0.49	C
1976	6	24	04659.1	39.426	119.569	0.30	11	2.2	6.85	C
1976	6	24	1 529.8	39.346	119.537	0.84	11		9.56	D
1976	6	24	32455.7	39.396	119.501	0.21	11	0.9	1.24	D
1976	6	24	4 151.1	39.417	119.575	0.24	11	2.1	5.10	C
1976	6	24	55046.3	38.010	118.753	0.00	5	1.3	13.37	C
1976	6	24	93750.0	39.416	119.577	0.26	10	1.9	6.65	C
1976	6	24	144340.7	39.430	120.110	0.19	10		10.90	B
1976	6	24	154444.4	40.474	120.478	0.23	11	4.2	5.00	
1976	6	25	61615.9	39.392	119.512	0.12	10	0.9	0.25	D
1976	6	25	105332.7	39.406	119.577	0.24	12	2.3	6.74	C
1976	6	25	105819.0	39.407	119.585	0.21	9	3.0	1.84	C
1976	6	25	111036.3	39.419	119.572	0.27	11	2.0	7.01	C
1976	6	25	112554.1	40.506	120.546	0.18	8	2.7	4.70	
1976	6	25	115052.7	39.414	119.575	0.26	11	2.4	6.81	C
1976	6	25	14 2 0.1	39.402	119.584	0.21	9	2.9	1.13	C
1976	6	25	173916.6	39.387	119.512	0.09	9	1.0	0.12	D
1976	6	25	21 950.6	38.764	118.785	0.36	23	3.1	3.53	D
1976	6	25	211638.7	38.060	118.038	0.34	19	3.0	15.54	D
1976	6	25	222128.4	39.384	119.509	0.10	10	1.5	0.76	D
1976	6	25	224142.7	39.404	119.543	0.30	10	1.6	0.02	D
1976	6	25	2341 3.2	38.765	118.810	0.19	16	2.4	1.46	D
1976	6	26	55053.1	39.768	120.440	0.15	9		23.71	D
1976	6	26	74410.4	39.380	119.496	0.13	10	1.4	1.97	D
1976	6	26	1243 7.3	39.414	119.534	0.26	9	1.7	0.35	D
1976	6	26	124855.7	39.408	119.502	0.13	8	1.3	0.59	D
1976	6	26	130401.6	40.487	120.705	0.35	13	2.5	12.40	
1976	6	26	141014.9	39.421	119.566	0.25	13	1.8	5.66	C
1976	6	26	144927.5	39.407	119.543	0.24	10	1.6	0.84	D
1976	6	26	193231.2	40.461	120.584	0.32	7	0.7		
1976	6	26	201003.5	40.494	120.508	0.39	10	2.6		
1976	6	27	7 758.1	38.709	118.827	0.31	17	2.5	0.06	D
1976	6	27	162813.3	38.759	118.789	0.16	11	2.4	0.86	D
1976	6	27	170522.6	40.470	120.494	0.24	10	2.7		
1976	6	28	04021.0	38.119	118.268	0.16	8	2.2	18.16	C
1976	6	28	5107.8	40.500	120.531	0.23	9	2.2		
1976	6	28	12230.7	39.389	120.105	0.21	12	1.2	10.02	B
1976	6	28	12951.4	39.390	120.101	0.18	10	0.5	10.06	B
1976	6	28	10 921.3	38.253	118.711	0.04	6	2.3	6.49	B

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1976	6	28	112306.6	40.481	120.513	0.16	9	2.2		
1976	6	28	123655.8	38.765	118.816	0.18	10	2.4	1.45	D
1976	6	28	15 336.9	38.246	118.733	0.19	14	2.3	9.26	B
1976	6	29	11 830.4	39.165	119.729	0.04	7	1.7	8.44	C
1976	6	29	131050.1	39.405	119.579	0.22	9	3.4	0.19	C
1976	6	29	131547.3	39.406	119.579	0.20	9	2.3	0.46	C
1976	6	29	152246.1	39.407	119.492	0.16	8	1.6	4.61	D
1976	6	29	171212.8	39.399	119.554	0.11	8	3.0	0.72	C
1976	6	29	193455.0	39.414	119.505	0.22	9	1.6	1.83	D
1976	6	30	03729.9	39.370	119.578	0.20	8	1.6	12.79	D
1976	6	30	14520.5	39.411	119.568	0.26	14	1.8	0.04	C
1976	6	30	103159.2	39.414	119.571	0.30	11	2.5	0.67	C
1976	6	30	11 948.3	37.488	118.607	0.28	18	2.6	9.72	C
1976	7	1	101445.3	38.463	118.099	0.09	14	3.4	5.54	B
1976	7	1	202622.9	40.413	120.713	0.45	12		16.50	
1976	7	1	2157 4.1	38.448	118.081	0.23	8	2.6	5.71	C
1976	7	2	95729.1	39.396	119.507	0.18	9	1.3	1.53	D
1976	7	2	101628.0	38.594	118.292	0.09	7	2.4	9.30	B
1976	7	2	153908.7	40.468	120.527	0.48	11	2.7		
1976	7	2	1545 1.1	38.723	117.909	0.21	8	1.8	20.14	C
1976	7	3	194518.5	40.505	120.500	0.41	14	3.3	1.70	
1976	7	3	195025.9	40.484	120.482	0.31	12	2.7	5.80	
1976	7	5	132757.5	39.400	119.525	0.13	9	1.3	2.28	D
1976	7	5	225055.9	39.418	120.139	0.14	10	0.9	7.75	A
1976	7	5	2351 3.0	39.630	119.313	0.23	11	1.7	10.23	D
1976	7	6	14021.9	40.397	120.653	0.13	9	3.0		
1976	7	6	104039.7	38.412	119.357	0.14	20	2.5	10.72	C
1976	7	6	104841.6	40.457	120.563	0.20	9	2.6	9.90	
1976	7	6	142838.3	39.158	118.120	0.21	8	2.3	9.49	D
1976	7	7	151954.3	37.378	118.457	0.23	15	2.9	6.49	D
1976	7	7	182738.0	37.433	118.550	0.09	13	4.6	8.11	C
1976	7	7	185818.9	37.406	118.539	0.11	14	3.6	6.71	C
1976	7	7	2053 8.1	38.063	118.891	0.17	8	1.9	13.86	B
1976	7	8	6 3 8.5	37.417	118.528	0.13	11	2.3	10.68	D
1976	7	8	1110 5.4	39.410	120.133	0.07	8	2.5	6.12	B
1976	7	8	122538.0	39.415	120.142	0.12	9	0.2	8.66	B
1976	7	9	35232.7	37.426	118.535	0.14	11	2.8	6.60	D
1976	7	9	549 6.4	38.328	118.266	0.30	18	2.7	15.09	C
1976	7	10	24146.0	38.132	118.276	0.07	11	2.4	15.94	B
1976	7	10	41547.9	38.132	118.279	0.04	6	1.9	16.34	B
1976	7	10	55128.5	38.456	119.372	0.19	16	2.8	8.55	C
1976	7	10	74542.7	37.583	118.368	0.08	9	3.0	1.90	D
1976	7	10	104937.9	40.490	120.529	0.20	11	2.7	4.80	
1976	7	14	232239.8	39.056	117.714	0.07	6	3.0	2.23	D
1976	7	15	224338.4	37.344	118.457	0.20	15	3.4	2.45	D

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1976	7	15	23 744.0	37.812	118.546	2.64	14	3.0	43.60	D
1976	7	16	62721.0	37.997	118.746	0.10	6	1.8	4.93	C
1976	7	16	62935.3	38.340	118.168	0.22	17	3.0	6.20	C
1976	7	21	114953.6	39.407	119.824	0.11	9	1.4	13.42	B
1976	7	23	221400.9	40.723	116.775	0.80	5	3.2		
1976	7	24	184124.4	40.959	116.994	0.22	6	3.0		
1976	7	24	193851.4	40.453	119.786	0.26	7	2.3		
1976	7	24	205231.4	39.408	119.534	0.15	8	2.9	0.09	D
1976	7	25	221322.9	38.344	118.346	0.21	11	2.4	9.22	B
1976	7	26	12 555.8	38.054	118.883	0.02	7	2.3	4.76	B
1976	7	26	131407.1	40.679	119.603	0.37	13	2.7		
1976	7	27	211316.7	38.443	118.074	0.42	12	2.6	5.02	C
1976	7	29	71147.9	39.429	119.809	0.21	8	0.6	13.74	C
1976	7	29	71256.3	39.442	119.799	0.17	10	1.1	11.72	C
1976	7	29	174935.9	39.439	119.798	0.09	7	2.0		C
1976	7	29	175041.4	39.439	119.791	0.06	7		12.08	C
1976	7	29	175436.1	39.437	119.806	0.10	6	2.7	6.14	C
1976	7	29	183755.3	39.446	119.783	0.10	7	1.7	8.20	C
1976	7	29	211235.6	39.442	119.793	0.11	7	1.6	9.88	C
1976	8	2	427 9.6	38.323	117.901	0.22	11	2.9	0.55	D
1976	8	2	814 8.0	38.365	118.157	0.07	9	4.4	7.22	B
1976	8	2	85738.3	38.345	118.148	0.15	6	2.7	3.33	D
1976	8	2	9 412.2	38.340	118.164	0.23	8	2.5	4.62	C
1976	8	2	101523.8	38.360	118.162	0.02	6	2.9	6.20	C
1976	8	2	133949.4	38.356	118.159	0.04	7	3.2	5.36	B
1976	8	3	54631.9	38.369	118.142	0.17	11	4.0	6.55	B
1976	8	3	63514.4	38.370	118.170	0.05	8	3.0	5.46	C
1976	8	4	04238.6	38.366	118.157	0.05	7	2.9	7.01	C
1976	8	4	94415.2	38.311	118.090	0.22	5	2.3	0.05	D
1976	8	4	113518.5	38.311	118.654	0.20	13	2.6	5.44	C
1976	8	5	193821.4	38.355	118.158	0.19	8	4.9	6.31	D
1976	8	5	194043.0	38.254	117.986	0.00	4	3.3	18.98	C
1976	8	5	195229.9	38.359	118.154	0.06	8	4.4	6.07	B
1976	8	5	203231.8	38.291	117.957	0.30	6	2.9	0.48	D
1976	8	5	21 5 2.4	38.374	118.176	0.11	6	3.2	7.71	D
1976	8	6	245 3.9	39.093	118.070	0.17	10	3.1	5.87	D
1976	8	6	53824.0	38.359	118.133	0.31	9	3.2	4.56	D
1976	8	6	65236.4	38.361	118.103	0.43	12	3.5	6.67	D
1976	8	6	125350.8	38.335	118.126	0.07	7	2.7	5.40	C
1976	8	6	162445.0	37.597	118.735	0.29	7	2.8	5.56	D
1976	8	8	522 9.5	38.027	118.765	0.01	3	2.0	5.50	C
1976	8	8	84214.1	38.022	118.766	0.03	3	2.1	5.50	C
1976	8	8	165439.8	38.473	118.207	0.16	10	3.0	9.65	B
1976	8	8	221212.1	38.346	118.156	0.21	7	2.9	7.00	D
1976	8	9	94233.7	38.059	118.707	0.00	3	2.3	5.50	C

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1976	8	9	204333.7	38.207	118.675	0.10	5	3.0	1.82	C
1976	8	10	1755 0.8	38.521	117.799	0.11	5	2.4	6.72	D
1976	8	11	1 0 9.7	38.760	118.571	0.34	12	2.7	10.80	D
1976	8	11	8 153.6	39.487	119.866	0.06	8	0.6	11.45	B
1976	8	11	191225.6	38.253	118.701	0.19	7	3.4	12.51	D
1976	8	13	43528.4	39.403	119.824	0.09	7	0.9	14.52	C
1976	8	13	62413.3	39.340	119.677	0.11	7	1.5	3.81	C
1976	8	13	144952.1	38.771	117.993	0.04	3	2.8	5.50	C
1976	8	13	161857.4	38.378	118.178	0.23	12	3.5	6.77	C
1976	8	14	75045.4	39.425	119.575	0.14	7	2.4	1.36	D
1976	8	14	75833.5	39.426	119.565	0.14	7	3.2	0.28	D
1976	8	14	8 8 2.5	39.423	119.536	0.21	9	2.4	1.30	D
1976	8	14	13 558.4	38.475	117.813	0.09	6	3.3	8.19	D
1976	8	14	1327 2.5	39.408	119.550	0.15	7	1.8	6.02	D
1976	8	14	163915.5	39.418	119.558	0.12	5	2.4	6.16	D
1976	8	14	2056 7.4	39.419	119.520	0.14	8	1.4	1.14	D
1976	8	14	21 0 1.5	39.414	119.513	0.14	6	1.4	4.36	D
1976	8	15	223627.5	38.990	118.877	0.24	8	1.6		
1976	8	16	20147.7	39.759	117.187	0.41	9	2.6	13.40	
1976	8	17	154416.4	38.463	118.149	0.12	8	3.4	12.42	C
1976	8	17	215849.7	39.577	120.005	0.10	9		14.43	C
1976	8	19	1414 3.4	38.063	118.010	0.08	8	3.1	7.70	B
1976	8	20	152818.1	38.048	118.787	0.12	11	3.8	1.18	C
1976	8	20	164926.9	37.991	118.943	0.15	4	3.2	2.48	C
1976	8	21	154517.8	39.410	119.956	0.10	6	3.0	0.42	C
1976	8	22	65211.6	37.257	118.407	0.19	10	2.4		
1976	8	22	1014 9.8	38.856	116.573	0.05	4	4.0	2.38	C
1976	8	23	233132.2	37.323	118.427	0.27	12	3.4	1.81	D
1976	8	26	042 6.9	39.408	119.828	0.10	9	0.7	11.82	B
1976	8	26	213946.2	39.424	119.822	0.07	6	1.0	10.31	C
1976	8	31	6 858.6	39.004	118.104	0.37	5	2.4	4.95	D
1976	8	31	183849.4	38.025	118.793	0.21	6	2.9	8.05	C
1976	9	1	225716.5	38.390	118.169	0.27	12	3.2	6.00	C
1976	9	2	113926.8	38.043	118.902	0.16	4	3.3	1.46	C
1976	9	2	135036.2	39.407	120.173	0.08	9	0.8	13.83	C
1976	9	3	174347.5	39.587	120.033	0.04	5	3.2	10.42	D
1976	9	3	174356.5	39.249	119.648	0.00	3	3.7	7.99	C
1976	9	3	175311.2	39.640	120.087	0.12	7	1.8	17.16	C
1976	9	3	182057.2	37.359	118.796	0.15	7	2.5	5.50	D
1976	9	4	133946.6	39.499	120.240	0.05	6	1.4	17.35	C
1976	9	4	180303.2	39.389	117.576	0.34	9	2.0	19.50	
1976	9	4	180353.5	39.383	117.565	0.34	13	2.8	14.00	
1976	9	4	201434.2	38.255	118.692	0.48	8	1.7	0.99	C
1976	9	5	717 6.8	39.404	119.959	0.07	7	0.6	12.63	C
1976	9	6	32306.7	39.363	116.834	0.26	9	2.2		

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1976	9	6	95845.9	37.934	118.482	0.28	8	2.5	7.76	D
1976	9	6	151224.3	39.393	119.824	0.16	9	0.4	15.74	C
1976	9	7	2 740.2	38.933	118.193	0.84	14	2.8	10.23	D
1976	9	7	133957.3	39.426	120.138	0.00	5	2.0	4.00	C
1976	9	8	183058.2	40.201	120.500	0.15	8	2.0		
1976	9	9	14619.2	39.431	119.824	0.07	7	0.8	7.52	C
1976	9	9	74730.0	39.428	119.824	0.07	7	0.6	9.66	C
1976	9	9	1939 5.0	39.426	119.822	0.05	7	0.6	9.79	C
1976	9	10	559 3.1	37.368	118.454	0.26	16	3.5	2.54	D
1976	9	10	10 220.8	39.363	120.214	0.03	6	0.2	0.08	D
1976	9	10	104928.8	39.423	119.823	0.06	6	0.4	10.90	C
1976	9	10	151641.6	39.425	119.823	0.06	7	1.0	10.39	C
1976	9	10	155931.9	38.272	118.387	0.26	9	1.5	18.07	C
1976	9	10	191622.3	39.438	120.132	0.19	7	2.0	3.70	C
1976	9	10	233044.2	39.424	119.824	0.07	8	1.0	9.70	C
1976	9	11	15622.9	38.361	118.112	0.28	13	2.9	8.26	C
1976	9	12	175459.5	39.407	120.169	0.09	9		13.77	B
1976	9	12	231930.6	39.115	118.078	0.13	6	2.5	8.83	C
1976	9	14	12 454.7	39.469	119.915	0.22	6	0.8	2.12	D
1976	9	14	1429 6.8	38.016	118.671	0.16	6	1.7	5.15	D
1976	9	15	140929.6	39.968	115.281	0.25	8	4.2		
1976	9	16	111629.2	38.427	118.651	0.24	11	2.4	11.15	B
1976	9	18	72641.2	39.392	120.110	0.14	8	0.9	11.69	C
1976	9	18	114435.4	39.382	120.125	0.14	8	0.5	11.13	C
1976	9	19	174043.0	38.620	117.706	0.07	9	3.3	10.05	C
1976	9	20	235325.8	39.526	119.975	0.09	6	1.2	16.50	D
1976	9	22	44354.6	38.341	118.088	0.24	8	2.8	0.50	D
1976	9	23	1916.0	39.615	119.226	0.44	6	2.1		
1976	9	24	0 518.4	38.035	118.915	0.08	6	1.8	0.78	D
1976	9	24	0 551.2	38.032	118.925	0.15	6	1.5	0.08	D
1976	9	26	54047.6	37.980	118.723	0.79	6	2.4	1.26	D
1976	9	26	55028.4	37.882	118.695	0.14	6	2.1	15.22	C
1976	9	26	145911.1	38.058	118.790	0.23	10	1.9	17.94	C
1976	9	27	161422.7	38.482	118.451	0.18	7	3.2	1.15	C
1976	9	29	80838.8	39.453	119.635	0.60	10			
1976	9	29	80856.7	39.442	119.595	0.53	10	2.3		
1976	10	2	84055.3	39.110	118.068	0.21	11	3.9	10.46	C
1976	10	3	52636.3	38.018	118.816	0.25	6	1.6	7.57	D
1976	10	3	16 520.3	37.473	118.579	0.15	11	3.1	10.55	C
1976	10	6	233146.9	39.091	118.093	0.12	8	2.6	8.42	C
1976	10	7	111846.8	39.095	118.068	0.07	10	2.9	11.78	C
1976	10	7	183249.3	37.822	118.208	0.29	13	3.1	16.86	C
1976	10	7	194144.8	39.393	119.442	0.05	6	1.1	19.46	U
1976	10	7	231856.5	39.408	120.166	0.08	7	1.1	14.93	B
1976	10	11	121131.2	38.347	118.144	0.08	6	2.9	0.14	C

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1976	10	12	1025 0.7	39.397	119.827	0.12	7	0.7	12.62	D
1976	10	12	165227.7	39.413	120.161	0.19	8	1.0	4.30	C
1976	10	12	224351.6	39.386	119.839	0.10	7	1.8	13.33	D
1976	10	16	6 246.2	39.949	120.687	0.09	9	1.7	16.52	C
1976	10	19	65716.1	38.322	119.492	0.15	7	2.7	6.40	D
1976	10	19	17 349.2	39.113	119.599	0.10	7	2.0	19.69	D
1976	10	20	65343.5	37.588	118.126	0.11	12	4.0	9.68	C
1976	10	20	135617.8	39.125	119.597	0.05	6	0.9	21.15	C
1976	10	20	161620.3	37.582	118.142	0.18	12	3.1	9.12	C
1976	10	20	183330.1	40.043	119.918	0.14	8	2.7	1.83	D
1976	10	20	2255 5.3	37.585	118.120	0.11	7	2.8	3.95	D
1976	10	20	2259 6.6	37.574	118.139	0.25	11	3.3	9.09	D
1976	10	20	231456.1	37.550	118.141	0.29	10	3.5	9.91	D
1976	10	20	233222.5	37.563	118.130	0.44	11	3.2	3.61	D
1976	10	20	235439.8	37.602	118.130	0.51	12	2.7	5.77	D
1976	10	21	040 4.4	37.582	118.521	0.08	8	4.1	8.12	D
1976	10	21	112 9.5	37.556	118.109	0.13	11	4.0	7.62	C
1976	10	21	93047.8	38.434	118.199	0.05	8	2.6	6.42	C
1976	10	22	51422.4	37.583	118.119	0.10	8	2.8	0.78	D
1976	10	22	165052.3	38.544	119.661	0.08	14	3.5	8.39	C
1976	10	24	125053.4	37.918	118.627	0.11	7	2.3	15.32	C
1976	10	25	111118.4	39.610	119.771	0.13	8	1.8	8.11	D
1976	10	26	55643.4	38.024	118.922	0.34	9	3.0	8.20	D
1976	10	26	174031.9	39.086	118.089	0.48	13	2.1	12.10	
1976	10	27	17 925.8	38.404	118.594	0.17	13	2.7	14.28	B
1976	10	28	205646.4	39.009	118.112	0.67	8	2.1	5.50	
1976	10	30	18 7 5.9	38.455	118.180	0.14	11	3.7	9.41	B
1976	10	30	225436.8	38.054	118.894	0.15	7	1.8	10.11	B
1976	10	31	7 0 2.3	37.458	118.323	0.11	7	2.9	8.52	D
1976	11	1	1844 7.5	38.023	118.261	0.05	10	4.1	13.07	C
1976	11	1	185148.9	38.012	118.250	0.08	11	2.8	15.52	C
1976	11	2	04111.9	39.371	120.003	0.09	7	1.0	13.38	B
1976	11	4	01138.8	38.865	118.578	0.22	16	2.8	17.12	C
1976	11	4	92215.2	38.062	118.789	0.08	9	2.8	8.10	A
1976	11	5	32117.5	38.050	118.811	0.07	6	1.8	9.37	B
1976	11	5	51651.7	37.192	116.204	0.13	7	2.5	2.80	
1976	11	5	83524.7	39.388	119.532	0.12	8	1.5	2.20	D
1976	11	8	65419.7	39.648	115.673	0.41	9	3.2		
1976	11	10	930 0.6	37.470	118.596	0.07	7	2.6	2.53	D
1976	11	10	1213 5.1	37.467	118.593	0.09	8	2.6	2.24	D
1976	11	10	161255.8	37.459	118.725	0.09	12	3.6	4.66	C
1976	11	10	223113.8	38.512	117.865	0.16	15	2.9	12.97	B
1976	11	11	45909.3	39.435	117.765	0.32	12	2.2	18.20	
1976	11	13	1518 3.6	38.361	118.795	0.12	9	2.3	12.62	C
1976	11	13	19 158.8	38.463	117.893	0.12	13	3.5	6.27	B

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1976	11	14	7 446.9	38.229	118.758	0.12	9	2.2	13.19	B
1976	11	14	111712.5	39.372	117.827	0.21	12	1.7	17.40	
1976	11	17	82348.4	40.273	117.629	21.59	16	4.3	12.80	
1976	11	18	101929.5	39.358	118.268	0.09	8	0.9	18.10	
1976	11	19	2235 1.5	37.402	118.530	0.11	15	3.5	6.55	C
1976	11	19	233634.8	38.038	118.720	0.14	8	2.0	12.22	B
1976	11	21	35409.6	37.507	117.968	0.20	7	1.8		
1976	11	22	101129.5	38.027	118.745	0.31	6	2.2	6.89	C
1976	11	25	322 4.9	37.563	118.373	0.25	12	2.6	6.21	D
1976	11	25	32555.0	37.311	118.429	2.21	12	2.7	5.50	D
1976	11	26	0 947.8	37.366	118.402	0.06	11	4.1	6.39	D
1976	11	27	13019.0	39.329	118.363	0.36	9	0.8	18.60	
1976	11	27	22714.0	37.547	118.880	0.20	9	2.8	0.86	D
1976	11	27	24945.6	40.948	120.375	0.34	9	4.4		
1976	12	3	13 017.4	39.112	118.063	0.23	7	2.8	11.04	D
1976	12	3	231652.0	39.193	118.102	0.16	7	3.3	9.89	D
1976	12	4	133941.2	38.767	119.704	0.22	12	2.5	5.15	C
1976	12	4	133937.0	38.917	119.941	0.12	3	3.9	2.75	C
1976	12	5	140301.4	39.726	118.089	0.43	10	1.6		
1976	12	5	141945.3	38.350	118.937	0.01	4	2.7	2.75	C
1976	12	6	345 2.5	39.519	120.317	0.08	6	2.0	14.99	C
1976	12	7	95312.8	37.467	118.739	0.17	7	2.8	7.64	D
1976	12	7	19 520.2	37.535	118.878	0.19	9	3.1	1.78	D
1976	12	8	1545 6.0	37.361	118.543	0.29	14	3.5	1.02	D
1976	12	9	23 2 7.2	39.432	120.156	0.06	5	1.1	11.57	C
1976	12	11	132019.8	37.243	118.452	0.43	9	3.1	2.23	D
1976	12	11	145634.9	38.440	118.620	0.22	17	3.0	15.00	B
1976	12	11	202455.5	38.416	118.294	0.30	13	2.7	8.91	C
1976	12	18	113040.1	37.408	118.534	0.16	11	3.5	7.32	C
1976	12	21	155759.4	37.120	115.879	0.42	18		1.00	
1976	12	21	174116.1	37.231	118.906	0.24	7	3.0	1.62	D
1976	12	23	1528 2.5	38.082	118.231	0.30	9	2.8	27.30	D
1976	12	25	038 4.0	36.975	118.036	0.29	6	3.1	1.95	D
1976	12	25	45040.1	37.177	116.359	0.68	13	2.5		
1976	12	26	235040.5	37.474	118.641	0.22	7	2.9	6.72	D
1976	12	27	51824.3	37.975	118.897	0.05	6	3.0	11.81	C
1976	12	27	83141.6	39.145	118.050	0.13	8		7.36	C
1976	12	27	181655.0	37.693	117.614	0.21	12	1.9	15.60	
1976	12	27	203018.2	37.679	117.617	0.20	14		11.66	C
1976	12	27	203316.2	37.690	117.612	0.25	10	1.3	12.90	
1976	12	27	210211.4	37.679	117.611	0.12	8	1.5	19.30	
1976	12	27	210948.4	37.698	117.611	0.13	7	1.5	22.10	
1976	12	27	214020.8	37.679	117.616	0.29	9	1.6		
1976	12	27	230343.3	37.699	117.611	0.34	19	2.5		
1976	12	28	23301.1	37.696	117.613	0.28	13	2.1	11.90	

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1976	12	28	61314.1	39.579	118.287	0.24	6	3.0	1.62	D
1976	12	28	191330.1	37.618	117.634	0.36	10	3.1	19.07	D
1976	12	31	726 8.0	39.723	118.342	1.82	4	3.2	1.95	D

EARTHQUAKES IN 1977

Special Notations:

- o As noted by VanWormer and Ryall (1980) and Ryall and Ryall (1981; see references on page 10), activity in the western Great Basin was anomalously low during most of 1977. During this period only four earthquakes with magnitude M_L of 4.0 or greater were detected in the region of interest. These included an earthquake with M_L 4.2 near Zephyr Cove, W Lake Tahoe, at 18h 47m on 1 February, felt in the Lake Tahoe area and Carson City; an M_L 4.9 shock on the California-Nevada border 35 km N of Bridgeport, at 06h 24m on 22 February, felt in Reno and Carson City; an event with M_L 4.2 at 04h 51m on 8 August, 45 km WSW of Goldfield; and an M_L 4.0 earthquake at 19h 26m on 10 October, east of Mono Lake. One other event, with M_L 3.4 at 14h 20m on 3 January, was felt in Eureka.
- o Field projects during 1979 included crustal-refraction and surface-wave investigations of the structure of the crust and upper mantle in the Great Basin. The first involved the recording, by portable analog and digital seismic stations of Nevada Test Site explosions along profiles from Tonopah to central Oregon and from Mina to Reno. Preliminary results are described in a University of Nevada MS Thesis, The Upper Mantle Velocity and Crustal Structure in the Basin and Range Province, by G. S. Fezie (1980). The surface-wave studies were based on operation of three-component, long-period seismic stations at Klamath Falls, Oregon, Boise, Idaho, Logan, Utah, and Reno, Nevada. Results are described in two papers: "Higher mode surface waves and structure of the Great Basin of Nevada and western Utah" (Priestley, K., J. Orcutt and J. Brune, Jour. Geophys. Research, paper, 80B1172, in press), and "Shear wave structure of the southern volcanic plateau of Oregon and Idaho, and the northern Great Basin of Nevada from surface wave dispersion." (Priestley, K. and J. Brune, submitted to Jour. Geophys. Res.)

EARTHQUAKES IN THE WESTERN GREAT BASIN DURING 1977

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1977	1	3	142000.5	39.599	115.725	0.42	16	3.4		
1977	1	6	75439.6	36.794	115.802	0.42	13	3.8	6.30	
1977	1	7	125344.2	38.567	117.533	0.32	6	2.0	16.14	D
1977	1	8	17 2 0.0	39.099	118.116	0.54	14	2.2	9.55	D
1977	1	9	228 1.1	38.453	118.463	1.22	18	2.2	25.56	C
1977	1	9	931 9.6	39.407	119.827	0.06	7	1.0	14.37	B
1977	1	9	93227.8	39.406	119.837	0.08	7	0.5	12.97	B
1977	1	9	175024.8	39.410	120.187	0.11	9	1.5	9.85	B
1977	1	10	191611.1	38.333	118.147	0.49	14	1.6	0.93	C
1977	1	10	191625.4	38.361	118.154	0.14	8	3.2	5.50	B
1977	1	10	191954.8	38.353	118.157	0.14	13	2.0	5.33	B
1977	1	11	5 348.7	38.351	118.156	0.23	9	0.9	6.73	B
1977	1	11	83449.6	38.353	118.192	0.35	9	1.1	6.69	C
1977	1	11	850 6.8	39.409	120.180	0.02	6	3.0	11.70	B
1977	1	12	144449.9	39.374	120.116	0.60	9	2.5	2.48	C
1977	1	12	1446 5.9	39.399	120.179	0.17	10	0.8	11.70	C
1977	1	13	202852.1	38.736	116.982	0.47	11	1.9		
1977	1	14	1331 0.2	39.067	118.161	0.28	18	2.8	10.84	C
1977	1	14	205550.0	39.775	119.749	0.13	10	1.5	1.52	D
1977	1	16	174131.3	38.750	117.902	0.13	10	1.8	11.94	B
1977	1	17	03129.2	39.320	119.960	0.22	9	1.2	3.53	C
1977	1	17	224856.4	39.138	118.065	0.25	9	2.2	5.40	
1977	1	20	91543.6	37.380	118.465	0.25	18	2.2	13.30	
1977	1	21	22051.0	39.392	120.130	0.14	10	-0.2	5.43	B
1977	1	21	41046.7	39.380	120.149	0.23	10	1.3	4.74	C
1977	1	25	23 729.2	39.422	120.264	0.35	9	2.2	1.38	D
1977	1	28	95251.6	39.087	118.601	0.47	13	2.1		
1977	1	28	115030.2	39.103	118.584	0.45	12	1.5		
1977	1	28	184305.7	39.108	118.585	0.44	13	1.8		
1977	1	29	11236.0	39.122	118.567	0.34	14	1.8	21.10	
1977	1	29	25401.6	39.109	118.583	0.15	8	1.4	13.60	
1977	2	1	184758.1	39.097	119.979	0.19	10	4.2	13.95	C
1977	2	2	105314.6	39.397	119.843	0.04	5	0.4	12.95	C
1977	2	4	1411 2.8	39.396	120.183	0.09	5	0.2	13.15	D
1977	2	5	201811.5	39.610	115.854	0.46	10	2.7	20.40	
1977	2	5	203106.4	39.582	115.797	0.52	13	2.8	12.80	
1977	2	5	223642.7	38.006	119.058	0.35	10	1.9	17.15	D
1977	2	7	10453.9	40.243	119.340	0.39	12	2.1		
1977	2	7	19 457.7	38.353	118.168	0.13	8	0.9	9.60	B
1977	2	8	194931.1	39.266	118.160	0.51	9	2.3	14.90	
1977	2	9	21224.8	39.401	118.443	0.06	9	0.7	11.00	
1977	2	9	4 838.2	38.494	117.833	0.18	6	1.4	10.84	C
1977	2	9	72409.7	39.149	118.080	0.24	13	3.5	16.40	
1977	2	9	83633.4	39.179	118.054	0.12	9	1.5	11.77	C
1977	2	9	15 914.6	38.469	118.374	0.17	6	1.4	7.20	C

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1977	2	11	23533.6	38.465	118.173	0.45	9	0.7	7.87	C
1977	2	14	103540.5	39.403	120.194	0.19	6	0.6	12.77	D
1977	2	15	217.5	38.104	120.502	0.32	14	1.9		
1977	2	15	1344.8	38.224	118.330	0.33	23	1.7	6.90	
1977	2	15	225705.8	38.366	118.153	0.33	21	2.7	7.30	
1977	2	17	92501.4	38.481	119.281	0.31	20	2.2	19.90	
1977	2	17	215658.5	37.501	118.827	0.11	8	1.7		
1977	2	18	23403.6	37.583	118.778	0.14	8	1.4		
1977	2	18	101946.2	39.354	118.112	0.35	9		15.00	
1977	2	19	203842.1	37.636	118.052	0.31	14	2.0		
1977	2	20	35550.4	38.320	118.273	0.19	18	2.4	8.74	B
1977	2	22	624 6.4	38.488	119.285	0.12	15	4.9	6.71	C
1977	2	22	631 5.1	38.486	119.290	0.20	16	3.0	11.36	C
1977	2	22	194430.8	39.362	119.967	0.08	5	1.8	10.26	D
1977	2	22	232737.5	37.492	118.703	0.08	8	2.1	6.16	C
1977	2	24	225330.0	39.445	119.807	0.08	6	1.8	12.56	D
1977	2	25	13429.4	39.756	119.319	0.22	8	2.5	8.35	D
1977	2	25	44654.8	39.391	120.091	0.12	6	0.9	1.18	C
1977	2	26	65443.9	38.110	118.480	0.53	6	1.5	6.76	D
1977	2	26	174315.5	37.201	118.184	0.31	8	2.4		
1977	2	28	834 7.9	38.541	118.427	0.37	20	2.0	4.83	C
1977	3	1	133647.7	38.276	119.163	0.16	9	1.8	5.53	D
1977	3	1	164125.1	37.431	118.810	0.13	11	2.4	9.84	C
1977	3	1	191125.6	38.306	117.877	0.13	14	3.2	8.70	C
1977	3	6	04731.2	39.473	119.074	0.31	14	2.3	20.35	D
1977	3	6	124 3.5	37.639	118.443	0.04	8	1.3	4.79	D
1977	3	13	52957.5	37.545	118.902	0.28	9	2.0	8.96	D
1977	3	15	81048.1	39.464	119.697	0.43	6	2.7	7.45	D
1977	3	16	125723.5	38.549	118.435	0.11	9	1.2	11.79	B
1977	3	17	14215.1	39.213	118.091	0.14	8	1.6	11.83	C
1977	3	19	31812.6	38.134	118.346	0.17	13	2.1	16.40	B
1977	3	21	74652.2	37.107	117.861	0.26	8	2.3		
1977	3	21	184721.3	39.699	115.560	0.37	10	2.7	9.20	
1977	3	21	192507.6	39.733	115.521	0.41	15	3.3	9.10	
1977	3	22	2 7 3.0	38.135	118.340	0.28	13	1.3	16.99	B
1977	3	22	23218.4	38.140	118.336	0.29	12	1.6	14.64	C
1977	3	22	53654.3	38.131	118.362	0.18	17	2.1	16.48	B
1977	3	22	122027.6	38.131	118.332	0.27	10	1.3	19.39	B
1977	3	23	52427.2	39.128	118.158	0.12	8	1.6	6.39	D
1977	3	23	101851.9	37.765	118.065	0.06	9	1.8	10.74	C
1977	3	25	152444.8	39.592	118.047	0.35	19	2.2	11.70	
1977	3	25	21 812.6	39.071	119.596	0.12	7	1.6	23.93	C
1977	3	26	214640.6	39.033	118.405	0.06	8	2.1	15.07	C
1977	3	26	231707.4	38.986	119.068	0.31	22	2.4		
1977	3	30	203929.1	38.099	116.756	0.38	13	2.3		

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1977	3	31	103838.1	39.889	120.868	0.40	11	2.7	2.48	D
1977	3	31	1045 4.8	39.887	120.921	0.29	6	2.6	25.08	D
1977	4	4	12533.0	39.019	118.374	0.18	11	2.3	11.52	C
1977	4	4	21156.1	38.131	118.215	0.25	12	1.2	12.29	C
1977	4	8	64534.8	37.266	116.354	0.40	15	3.4		
1977	4	11	93244.9	39.450	118.146	0.30	11	1.9	20.20	
1977	4	12	90011.1	39.749	118.375	0.29	12	3.0		
1977	4	12	230040.6	39.674	120.168	0.32	9			
1977	4	13	17 338.0	38.457	118.403	0.36	11	1.8	0.47	C
1977	4	13	2015 1.4	38.130	119.263	0.22	13	2.2	17.90	C
1977	4	15	42029.9	38.039	118.879	0.19	9	1.5	8.26	C
1977	4	15	10 717.2	39.171	118.108	0.19	10	1.7	13.69	C
1977	4	15	154045.8	39.390	119.849	0.03	5	1.5	12.34	C
1977	4	15	225559.4	39.202	118.143	0.13	10	1.7	10.35	C
1977	4	19	235437.3	38.263	117.877	0.09	7		2.28	D
1977	4	21	34911.7	39.428	119.809	0.08	7	1.3	11.91	C
1977	4	21	54102.1	38.865	119.033	0.32	14	1.6	20.90	
1977	4	21	73726.3	37.578	118.031	0.06	9	1.6	5.99	D
1977	4	21	124931.9	38.026	118.787	0.24	7	1.8	0.15	C
1977	4	24	0 931.9	39.853	120.250	0.11	10	2.1	25.08	C
1977	4	24	45512.3	38.294	118.667	0.18	10		12.96	B
1977	4	24	6 828.5	38.293	118.662	0.34	17	2.0	7.78	C
1977	4	24	74256.0	38.294	118.667	0.10	9		9.64	B
1977	4	25	62053.6	39.233	120.215	0.06	7		11.00	C
1977	4	25	2218 1.9	38.507	118.346	0.28	15	1.7	13.28	B
1977	4	26	153322.2	38.054	118.806	0.09	17	2.4	11.52	B
1977	4	27	2213 1.8	38.036	118.027	0.17	10	1.6	0.87	D
1977	4	27	2225 8.5	38.026	118.040	0.20	18	2.3	5.04	C
1977	4	27	223226.0	37.997	117.970	0.56	7	1.5	4.95	D
1977	4	27	2344 7.0	38.039	118.043	0.07	8	1.9	4.75	C
1977	4	28	64448.1	40.192	118.297	0.43	12	2.9		
1977	4	30	1035 9.5	38.042	118.041	0.15	6	1.5	11.00	C
1977	5	1	145512.8	39.428	119.820	0.09	5	2.0	8.15	D
1977	5	2	23655.1	38.393	118.373	0.17	16	1.9	3.50	B
1977	5	2	7 145.7	38.051	118.814	0.12	9	1.7	13.88	C
1977	5	2	112522.3	40.273	118.922	0.26	9	2.0	14.40	
1977	5	7	23254.6	38.358	119.396	0.30	12	1.7	10.15	D
1977	5	7	54341.9	38.516	118.435	0.23	9		8.56	C
1977	5	7	131528.0	38.388	118.357	0.35	11		1.70	C
1977	5	8	1531 2.9	39.088	118.191	0.14	11	1.8	10.32	C
1977	5	8	235237.0	37.424	118.642	0.08	8	1.8	2.17	D
1977	5	10	347 7.1	37.968	118.506	0.12	16	2.5	11.90	B
1977	5	10	6 524.7	39.095	118.073	0.18	15	2.2	7.95	C
1977	5	10	85336.7	38.893	117.943	1.29	9	1.2	5.50	D
1977	5	11	4901.8	40.422	120.371	0.35	7	2.3		

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1977	5	11	050 1.3	40.525	120.310	0.73	9	2.2	21.31	D
1977	5	11	53011.6	37.451	118.626	0.05	6	1.4	6.84	D
1977	5	12	548 8.0	40.430	120.270	0.12	7	2.1	3.65	D
1977	5	13	10 919.3	38.065	118.868	0.14	10	1.5	12.73	C
1977	5	13	193736.8	38.468	118.256	0.52	14	1.7	0.38	C
1977	5	14	214824.2	38.386	118.377	0.25	10		4.37	B
1977	5	16	164553.4	38.392	118.359	0.27	9	1.2	2.75	C
1977	5	17	121555.7	39.227	120.413	0.03	7	1.5	22.75	C
1977	5	17	143523.9	38.393	118.373	0.14	10		0.83	C
1977	5	17	192516.6	38.401	118.369	0.33	9		1.46	C
1977	5	18	94220.1	38.399	118.365	0.28	9	1.1	0.67	C
1977	5	18	213611.9	39.063	120.651	0.02	4	2.8	0.60	C
1977	5	18	213926.3	39.162	120.463	0.11	7	1.3	9.11	D
1977	5	19	35531.3	38.395	118.362	0.16	8	1.7	0.45	C
1977	5	19	81610.2	38.397	118.346	0.36	10	2.0	5.48	C
1977	5	19	101255.2	38.388	118.374	0.72	12	2.2	5.00	C
1977	5	19	13 949.0	38.383	118.368	0.27	9	1.3	1.65	C
1977	5	19	133456.2	38.382	118.367	0.25	11	1.2	3.78	B
1977	5	19	17 333.2	38.389	118.381	0.11	10	2.0	0.64	C
1977	5	20	227 1.4	38.390	118.369	0.21	8	1.2	2.87	C
1977	5	20	82146.9	38.393	118.380	0.12	13	2.1	0.56	C
1977	5	20	92942.9	38.395	118.354	0.38	11	1.5	8.88	C
1977	5	21	02819.0	37.485	118.768	0.24	14	3.1	12.32	D
1977	5	21	1 233.7	39.108	118.053	0.12	13	1.7	13.52	C
1977	5	21	143248.9	38.392	118.365	0.22	10		4.43	B
1977	5	22	183929.4	38.385	118.359	0.29	13	1.3	4.28	B
1977	5	22	183957.7	38.388	118.354	0.30	10	1.3	5.53	B
1977	5	28	50731.0	39.603	118.423	0.28	12	2.0		
1977	5	28	172717.7	39.280	118.021	0.46	11	2.0		
1977	5	30	92535.3	41.677	115.280	0.34	9			
1977	6	9	11524.0	38.454	117.864	0.16	9	1.3	12.34	C
1977	6	9	10 919.1	38.368	118.267	0.21	6		4.27	C
1977	6	13	22 532.8	38.505	117.872	0.11	8	1.7	14.21	B
1977	6	15	231725.2	37.532	118.037	0.31	7			
1977	6	18	624 4.3	39.654	119.998	0.30	7	1.6	21.71	D
1977	6	25	170208.3	39.103	118.035	0.29	7	1.0		
1977	6	27	94850.4	38.484	118.336	0.10	6	1.5	11.69	C
1977	6	27	131132.0	39.166	120.398	0.22	9	1.4	10.44	D
1977	7	6	43345.2	38.787	118.792	0.18	10	2.3	3.99	D
1977	7	8	73400.8	39.046	118.917	0.31	12	1.9		
1977	7	2	14002.2	37.247	116.075	0.09	8		1.00	
1977	7	13	105133.0	38.299	119.371	0.28	15	2.0	10.93	C
1977	7	14	145949.1	38.806	118.841	0.20	9	1.5	4.82	D
1977	7	15	63111.4	38.235	118.492	0.17	8	1.1	18.27	C
1977	7	20	132843.5	39.560	120.016	0.15	7	1.2	11.59	C

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1977	7	21	143245.0	38.464	118.280	0.26	10	1.9	0.57	C
1977	7	22	215331.3	39.144	118.109	0.20	11	2.5	3.26	D
1977	7	24	82411.9	38.015	118.875	0.00	4	0.9	13.49	C
1977	7	27	1729 8.8	39.405	120.174	0.04	6	2.1	10.37	B
1977	7	27	201046.2	39.224	119.703	0.13	6	1.9	9.57	D
1977	7	29	51528.5	39.555	116.727	0.33	6	1.7		
1977	7	30	1712 8.7	38.287	118.750	0.23	12	2.6	16.93	C
1977	8	2	51456.6	38.859	118.288	0.12	11	1.4	14.47	B
1977	8	2	184252.5	38.277	118.416	0.08	7		21.38	C
1977	8	3	13148.1	38.087	118.955	0.24	6	0.9	19.63	D
1977	8	3	149 2.8	38.038	118.950	0.13	8	1.3	1.63	D
1977	8	3	33545.3	38.085	118.961	0.09	6	1.2	5.34	D
1977	8	3	52236.7	38.030	118.960	0.24	5	1.3	1.89	D
1977	8	3	53042.9	38.014	118.990	0.15	6	1.2	1.02	D
1977	8	3	103258.7	38.085	118.962	0.11	5	0.9	8.59	D
1977	8	4	80622.2	39.332	118.453	0.18	6			
1977	8	4	112041.5	38.873	118.003	0.16	10	3.0	14.68	C
1977	8	5	124910.5	38.038	118.544	0.22	7	0.7	18.96	C
1977	8	6	214157.5	38.135	118.846	0.01	3	1.0	5.50	C
1977	8	7	02431.0	37.504	117.743	0.10	9	1.5	14.30	C
1977	8	7	02554.4	38.485	117.920	0.59	7	1.2	5.50	D
1977	8	7	02712.0	37.489	117.742	0.07	9	1.6	6.18	D
1977	8	7	11036.6	39.119	115.552	0.34	15	3.3	7.70	
1977	8	7	42928.5	37.493	117.742	0.09	10	2.3	6.64	C
1977	8	7	44028.1	37.562	117.831	0.54	7	1.6	28.19	D
1977	8	7	16 451.9	38.103	118.830	0.00	4	1.1	3.01	C
1977	8	7	212824.9	39.087	118.157	0.16	12	2.2	11.94	C
1977	8	8	33043.8	38.786	118.792	0.12	11	2.6	0.67	C
1977	8	8	45141.6	37.568	117.756	0.07	9	4.2	9.25	C
1977	8	8	5 013.1	37.514	117.722	0.04	6		13.71	C
1977	8	8	5 035.8	37.693	117.572	0.36	5	1.2	26.95	D
1977	8	8	541 4.8	37.495	117.748	0.10	10	2.3	7.26	C
1977	8	8	2120 2.6	38.124	118.562	0.15	9	1.4	12.90	B
1977	8	8	232421.6	37.428	117.585	0.05	5		3.04	D
1977	8	9	51623.8	38.771	117.941	0.16	10	1.9	11.23	B
1977	8	9	114817.7	37.509	118.718	0.06	7	1.7	15.29	D
1977	8	9	233326.5	38.771	116.910	0.48	8	2.1	4.40	
1977	8	10	111412.6	39.310	117.429	0.28	8	1.8	13.50	
1977	8	10	121338.1	37.566	118.419	0.09	5	1.1	1.49	D
1977	8	10	235916.8	37.572	118.835	0.30	10	2.8		
1977	8	12	19 639.9	37.903	118.749	0.07	5	1.1	14.16	C
1977	8	13	05247.5	38.109	118.909	0.09	6	1.3	12.58	D
1977	8	13	3 634.2	37.572	119.094	0.10	11	2.4	9.86	C
1977	8	13	91052.6	39.066	118.105	0.09	7	0.9	11.46	C
1977	8	14	10 249.5	37.347	118.501	0.07	5		1.57	D

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1977	8	14	17 724.1	37.485	118.695	0.06	8	1.7	10.93	C
1977	8	15	1 012.9	37.493	117.717	0.04	6	1.4	3.53	C
1977	8	15	172951.9	39.054	115.573	0.54	8	2.6		
1977	8	16	144059.6	37.031	115.944	0.74	16		1.00	
1977	8	16	154859.4	37.052	115.949	0.46	13		1.00	
1977	8	17	41418.8	39.697	115.862	0.37	10	2.0	14.70	
1977	8	17	60806.3	40.284	117.421	0.29	5	2.1		
1977	8	18	43326.9	39.123	118.071	0.10	7	0.7	13.07	C
1977	8	20	45937.3	39.164	120.475	0.06	5	3.2	9.62	D
1977	8	21	64031.8	37.511	117.737	0.16	7	1.3		
1977	8	21	71510.3	38.051	118.805	0.01	5	0.7	13.66	C
1977	8	21	80610.9	37.526	117.756	0.20	10	1.9		
1977	8	21	193136.8	37.538	117.681	0.08	7	-0.6		
1977	8	21	200409.5	37.509	117.739	0.26	9	1.8		
1977	8	21	200540.9	37.089	117.271	0.27	9	2.6	5.70	
1977	8	22	224636.7	37.499	117.737	0.13	7	1.5		
1977	8	23	32917.1	38.049	119.007	0.05	6	1.5	12.33	C
1977	8	25	1817 3.5	39.176	119.696	0.04	6	1.2	20.24	C
1977	8	30	20525.5	37.503	117.721	0.12	8	2.1		
1977	8	31	122411.0	38.439	117.837	0.22	9	1.8	22.50	B
1977	8	31	160540.9	37.504	117.742	0.17	8	2.3		
1977	9	1	84026.4	39.432	119.479	0.15	6	0.9	4.97	D
1977	9	1	92548.6	38.618	119.392	0.23	5			
1977	9	5	123655.1	38.083	118.866	0.06	5	0.9	18.15	C
1977	9	6	123950.9	38.779	119.624	0.35	9	1.1		
1977	9	6	14 948.1	39.174	120.443	0.07	8	1.4	3.89	C
1977	9	6	1414 7.9	39.145	120.453	0.04	6	1.1	6.52	C
1977	9	7	04422.1	38.068	118.907	0.11	5	0.5	11.83	D
1977	9	7	420 4.3	39.215	119.586	0.10	5	1.4	23.46	D
1977	9	7	42005.4	39.208	119.530	0.58	7	1.3		
1977	9	8	161854.0	38.043	118.808	0.17	15	2.4	11.03	C
1977	9	8	232959.6	38.045	118.821	0.11	6	1.2	11.84	C
1977	9	12	432 9.1	38.045	118.712	0.02	5	1.2	8.41	C
1977	9	12	50404.6	40.612	119.652	0.25	8	2.4	14.30	
1977	9	13	161525.0	37.944	118.649	0.16	10	2.5	0.24	C
1977	9	16	33252.3	40.662	117.564	0.23	8	2.5	9.10	
1977	9	16	172744.3	40.702	117.572	0.32	8	3.2		
1977	9	17	62007.4	40.046	119.698	0.57	11	2.4		
1977	9	17	1616 0.6	39.411	119.848	0.15	5	1.5	5.36	D
1977	9	18	112647.7	38.631	119.567	0.24	8	1.8		
1977	9	20	6 541.7	38.003	118.687	0.16	5	0.9	13.94	D
1977	9	20	64626.1	39.750	120.699	0.06	4	2.8	19.69	C
1977	9	20	64626.8	38.388	118.729	0.13	7	1.4	7.95	C
1977	9	21	183526.5	38.598	117.887	0.11	9	1.9	15.35	C
1977	9	22	8 810.6	38.005	118.703	0.07	5	0.5	14.24	C

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1977	9	23	1711 5.6	39.611	118.921	0.00	4	1.8	16.57	C
1977	9	27	01712.5	37.858	118.142	0.04	11	2.8	11.40	C
1977	9	27	02145.3	37.877	118.203	0.20	9	2.2	13.43	D
1977	9	27	2146.3	37.927	118.236	0.15	9	2.4	9.70	
1977	9	27	84304.9	39.276	118.529	0.31	11	2.2	10.50	
1977	9	28	017 3.7	39.827	120.582	0.05	9	2.6	20.03	B
1977	9	30	181521.4	38.532	117.908	0.07	12	1.8	14.54	C
1977	10	1	026 8.4	39.212	118.065	0.05	7	1.1	12.05	C
1977	10	4	133559.0	38.032	118.827	0.15	9	1.8	13.70	C
1977	10	5	205946.6	38.954	115.643	0.58	7	2.4		
1977	10	6	20004.3	40.571	117.565	0.39	11	3.1	8.90	
1977	10	7	81331.0	39.230	118.088	0.10	7	1.7	0.23	D
1977	10	7	90749.6	37.520	117.741	0.35	8	1.9		
1977	10	8	94631.2	40.645	117.807	0.37	6	2.7		
1977	10	8	122741.3	38.236	118.429	0.08	9	2.4	17.30	B
1977	10	8	122927.3	38.235	118.429	0.09	9	2.7	16.84	B
1977	10	8	145551.2	38.240	118.423	0.03	8	1.6	16.90	B
1977	10	8	19 715.2	38.239	118.422	0.06	10	2.2	17.58	B
1977	10	9	31550.4	40.565	117.568	0.58	9	3.2	10.20	
1977	10	9	121538.9	38.530	118.494	0.12	9	1.5	12.61	B
1977	10	9	125139.5	38.529	118.501	0.29	12	1.6	7.10	
1977	10	10	84723.3	39.578	118.075	0.31	13	2.2		
1977	10	10	1926 4.7	38.048	118.793	0.12	12	4.0	9.46	B
1977	10	10	195255.6	38.017	118.872	0.14	7	2.1	14.62	C
1977	10	10	213541.3	37.139	117.833	0.15	8	3.0		
1977	10	11	144720.4	40.603	119.768	0.32	10	2.1	14.20	
1977	10	12	4717.9	40.581	117.569	0.44	9	2.7		
1977	10	12	61739.8	39.785	119.753	0.02	5	1.3	26.00	C
1977	10	13	143435.8	39.470	118.505	0.36	12	1.7	15.80	
1977	10	13	224525.5	38.025	118.839	0.08	7	1.7	13.54	C
1977	10	14	144941.5	38.878	116.424	0.35	15	2.7	12.10	
1977	10	15	154745.8	39.144	118.129	0.13	9	1.7	13.20	C
1977	10	16	122556.9	38.239	118.421	0.05	8	1.4	18.73	B
1977	10	17	205110.3	38.962	118.531	0.45	11	1.7	8.30	
1977	10	18	2212.9	39.392	118.093	0.22	15	2.7	9.50	
1977	10	19	90113.3	38.680	117.318	0.45	13	2.4		
1977	10	19	91451.4	38.691	117.321	0.32	13	2.4	1.60	
1977	10	20	111229.5	38.745	117.219	0.11	6	1.4		
1977	10	20	203217.5	38.194	118.532	0.11	9	1.5	13.32	B
1977	10	22	182841.1	38.286	118.688	0.09	7	1.9	14.22	C
1977	10	23	235646.7	39.391	119.797	0.07	8	0.6	9.24	B
1977	10	24	235 0.8	38.860	117.981	0.07	5	1.9	13.94	C
1977	10	24	234440.2	38.235	118.426	0.06	5	1.2	23.13	D
1977	10	24	235120.6	38.238	118.419	0.06	6	1.2	21.08	B
1977	10	25	1010 4.6	38.854	118.004	0.13	8	1.2	10.49	C

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1977	10	26	255 2.1	39.432	119.680	0.07	8	0.9	0.50	D
1977	10	26	82535.3	38.239	118.425	0.06	8	3.1	13.40	C
1977	10	27	014 9.5	38.869	117.982	0.13	10	2.6	12.74	C
1977	10	27	624 3.4	39.420	119.822	0.08	8	1.8	11.46	C
1977	10	27	132922.1	38.864	117.979	0.00	5	2.0	15.83	C
1977	10	28	18 616.6	38.866	117.986	0.15	10	1.9	13.77	C
1977	10	29	04035.8	38.867	117.984	0.19	14	2.5	13.71	C
1977	11	2	4101.3	40.297	115.328	0.35	8	2.7	8.70	
1977	11	2	83021.4	38.866	117.984	0.17	9	0.9	13.79	C
1977	11	2	11 011.0	39.049	118.196	0.11	10	2.0	12.97	C
1977	11	3	2 059.3	38.397	118.166	0.37	10	1.9	4.16	B
1977	11	4	121045.1	38.479	118.363	0.07	5	0.4	11.20	C
1977	11	7	75537.1	39.923	120.635	0.09	8	1.9	18.35	C
1977	11	8	105235.4	39.111	118.116	0.00	4	1.4	8.68	C
1977	11	8	1911 5.1	39.075	119.870	0.13	8	1.6	14.23	C
1977	11	9	11 134.3	38.986	118.192	0.13	8	1.8	8.24	C
1977	11	9	193800.2	39.282	116.706	0.41	11	2.3		
1977	11	13	104752.7	38.861	118.001	0.12	7	1.7	11.78	C
1977	11	13	184445.5	37.326	115.187	0.59	15	3.5	14.50	
1977	11	15	41050.6	38.237	118.420	0.07	9	1.2	17.06	B
1977	11	15	41115.6	38.239	118.420	0.05	10	1.2	17.24	B
1977	11	15	9 1 5.6	38.409	118.177	0.18	8	1.3	9.62	C
1977	11	16	125323.1	37.320	115.181	0.27	8			
1977	11	16	202741.3	38.715	117.173	0.60	7	2.1		
1977	11	27	85422.5	39.307	118.109	0.45	14	1.6	17.90	
1977	11	28	82536.9	39.561	120.307	0.04	5	2.8	11.00	
1977	11	30	102047.1	40.862	117.507	0.36	5	2.6		
1977	12	2	50302.4	39.596	115.833	0.45	7	3.0		
1977	12	3	5 647.1	39.445	119.842	0.02	6	1.3	16.15	B
1977	12	4	13 314.6	38.555	118.190	0.12	6	1.4	10.74	B
1977	12	4	131231.6	38.547	118.192	0.17	9	1.4	14.27	B
1977	12	4	131837.2	38.561	118.197	0.17	11	1.8	9.75	B
1977	12	5	946.2	38.021	114.449	0.49	12	3.8	5.00	
1977	12	6	12254.7	39.025	119.642	0.23	19	2.6	5.95	C
1977	12	6	13210.4	39.025	119.645	0.20	16	2.4	7.71	C
1977	12	9	16 533.6	39.178	120.455	0.04	5	1.2	12.65	D
1977	12	10	111652.5	38.859	117.993	0.09	7	1.7	13.73	C
1977	12	13	5718.5	38.970	116.580	0.40	15	3.0	12.10	
1977	12	13	94814.0	38.947	116.599	0.46	12	3.5	15.90	
1977	12	14	145958.9	36.875	115.907	0.40	7		1.00	
1977	12	14	160220.1	38.220	116.654	0.35	5	1.8		
1977	12	16	85127.1	41.307	118.723	0.18	7	3.3		
1977	12	16	165236.3	38.029	114.613	0.42	9	3.5		
1977	12	21	122242.6	37.252	117.577	0.17	7	2.6		
1977	12	22	223538.2	38.779	118.793	0.14	9	1.8	0.33	C

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1977	12	24	2152 8.6	39.031	118.128	0.58	12	2.2	11.40	D
1977	12	29	0 1 7.1	39.242	119.663	0.01	5	1.5	2.52	C
1977	12	30	215257.9	38.254	118.313	0.07	9	1.4	23.01	B
1977	12	30	215259.3	38.254	118.334	0.33	9	1.5		
1977	12	31	34311.7	38.899	117.984	0.12	9	3.1	12.41	C
1977	12	31	35258.0	38.885	117.989	0.21	12	2.4	10.62	C

EARTHQUAKES IN 1978

Special Notations:

- o During 1978, 17 earthquakes in the western Great Basin and adjoining parts of eastern California had magnitude M_L of 4.0 or greater. These included a felt earthquake with M_L 4.5 at 03h 39m on 13 January, 45 km WSW of Austin; another felt event located 20 km NNE of Austin with M_L 5.1 at 04h 35m on 14 February; an M_L 4.0 shock at 09h 25m on 15 February, 30 km west of Fallon; an earthquake with M_L = 4.4 at 22h 46m on 5 March, 6 km west of Gabbs that included 74 small aftershocks; an M_L 4.6 shock at 05h 47m on 23 May, 20 km east of Golconda, felt in Winnemucca; an M_L = 4.4 event at 22h 21m on 6 July located in Little Smokey Valley, 48 km SSW of Eureka (felt in Eureka); an M_L 4.4 shock in the White River Valley 21 km south of Currant at 22h 32m on 29 July, felt in Ely. On 4 September an earthquake sequence occurred in Diamond Valley with M_L 4.6, 5.2, and 4.0 shocks at 04h 52m, 21h 54m and 22h 3m, respectively, felt in Carson City and south Lake Tahoe. Another earthquake sequence began with an M_L 5.7 main shock 30 km NW of Bishop at 16h 42m on 4 October followed on the same day by 4 events of M_L 4.3, 4.9, 4.3 and 4.3 at 17h 31m, 17h 39m, 17h 46m and 18h 22m, respectively. The sequence continued with events of M_L 4.5 at 01h 17m and M_L 4.4 at 06h 41m on 5 October, an M_L 4.1 at 19h 00m on 26 October, all felt in Bishop. Both the Diamond Valley and Bishop sequences continued for the rest of the year.
- o Other events of interest included an M_L 2.7 event at 09h 31m on 26 June, felt in Carson City; an M_L 3.1 event felt in Pleasant Valley at 11h 34m on 3 August; many Mount Shasta events during the period July-October. Two earthquake swarms occurred east of Mono Lake, one in late August with the largest event having M_L 3.1 at 01h 35m on 25 August, and in the latter part of October with largest event having M_L 3.7 at 21h 25m on 20 October.
- o Field investigations during 1978 included recording of aftershocks of both the Diamond Valley and Bishop earthquakes, respectively in September and October. The Diamond Valley study was published (Somerville, et al., 1980; see references on page 10); work on the Bishop sequence is still continuing.

EARTHQUAKES IN THE WESTERN GREAT BASIN DURING 1978

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1978	1	3	233228.9	37.397	118.499	0.38	9	2.4		
1978	1	4	13430.5	39.604	118.076	0.35	7	1.7		
1978	1	4	114749.0	39.332	119.095	0.38	14	2.0		
1978	1	5	83519.1	39.414	119.844	0.13	8	1.8	3.33	C
1978	1	7	111254.3	38.265	118.378	0.17	9	2.6	7.20	
1978	1	8	113101.3	39.659	118.255	0.36	11	3.3		
1978	1	10	0 724.6	39.418	119.831	0.03	7	0.4	11.68	B
1978	1	10	131336.1	38.909	117.988	0.07	7	2.2	13.30	C
1978	1	11	3 921.2	39.324	119.722	0.12	9	1.5	0.54	D
1978	1	12	152127.0	38.911	118.002	0.31	14	2.3	5.43	D
1978	1	13	32910.8	39.382	117.577	0.29	9	2.2		
1978	1	13	33937.7	39.388	117.588	0.01	5	4.5	5.12	C
1978	1	13	34608.9	39.379	117.562	0.32	10	2.3		
1978	1	13	40431.7	39.375	117.571	0.14	8	2.1		
1978	1	13	42449.6	39.380	117.551	0.10	6	2.3		
1978	1	13	51858.1	39.378	117.576	0.17	9	2.3		
1978	1	13	53011.2	39.377	117.584	0.30	10	3.6		
1978	1	13	63322.9	39.367	117.577	0.33	6	2.1		
1978	1	13	72018.5	39.382	117.571	0.27	16	2.7	11.90	
1978	1	14	425 4.6	39.413	119.830	0.06	8	0.6	13.36	B
1978	1	15	51022.7	39.109	115.562	0.23	9	3.3		
1978	1	18	63703.7	37.628	117.851	0.27	8	3.4	12.60	
1978	1	18	85332.5	37.577	117.846	0.27	10		7.50	
1978	1	21	172223.3	39.166	119.581	0.12	10	2.9	5.40	C
1978	1	21	19 014.1	38.891	118.011	0.07	6	2.0	10.52	C
1978	1	24	224526.2	39.101	118.087	0.11	10	3.3	7.87	C
1978	1	24	235710.3	38.439	118.321	0.15	12	1.7	11.18	B
1978	1	28	80637.2	39.193	119.076	0.25	10	2.1		
1978	1	28	163115.5	38.849	118.002	0.01	5	1.8	9.76	C
1978	1	28	181340.7	38.987	118.189	0.31	12	2.0		
1978	1	29	15550.4	37.147	117.871	0.22	10	2.9	5.20	
1978	1	30	191436.9	38.875	117.994	0.22	10			
1978	2	3	53549.5	38.325	118.132	0.01	6	1.3	4.54	B
1978	2	7	235953.5	37.896	118.103	0.33	8	2.5		
1978	2	9	12133.5	38.525	117.801	0.18	10	2.6	11.18	C
1978	2	14	43524.5	39.653	117.193	0.17	9	5.1		
1978	2	14	170624.9	39.650	117.109	0.18	9	2.7		
1978	2	15	92531.9	39.552	118.442	0.30	10	4.0	12.00	
1978	2	18	155848.8	39.672	118.280	0.28	14	2.8	12.40	
1978	2	18	215141.8	38.869	117.989	0.18	11	2.4	13.44	C
1978	2	19	144127.1	39.625	117.111	0.48	7	2.1		
1978	2	20	80455.2	39.646	117.100	0.20	9	3.0		
1978	2	20	94141.7	39.646	117.101	0.23	10	2.9		
1978	2	21	133437.5	39.652	117.098	0.13	7	2.3		
1978	2	23	1014 6.9	38.313	119.140	0.21	11	2.7	10.59	C

YEAR	MO	DAY	HRMINSEC	LAT	LOX	RMS	NSTA	MAG	DEPTH	Q
1978	3	4	210104.4	40.064	119.965	0.25	7	2.1		
1978	3	5	224619.1	38.867	117.993	0.00	4	4.4	13.07	C
1978	3	5	225320.8	38.811	118.115	0.05	5	2.0	6.82	C
1978	3	5	23 123.0	38.830	118.064	0.05	4	2.6	8.87	C
1978	3	6	01636.0	38.790	118.159	0.14	5	2.4	5.01	D
1978	3	6	22929.4	38.804	118.128	0.04	5	2.2	5.24	C
1978	3	6	110605.6	39.380	117.556	0.26	7	2.0		
1978	3	8	223016.8	38.856	117.993	0.19	9	1.8	10.10	
1978	3	8	223616.5	38.856	117.993	0.11	9	1.9	12.55	C
1978	3	9	83548.7	38.867	117.974	0.28	13	2.5	14.91	C
1978	3	9	111444.8	38.830	118.775	0.42	8	1.6	14.70	
1978	3	10	5 415.8	38.872	117.982	0.15	13	2.0	14.32	B
1978	3	11	84245.5	38.862	117.990	0.19	11	2.0	14.47	C
1978	3	12	224850.8	38.868	117.968	0.31	9	2.3	9.50	
1978	3	13	71034.9	39.560	120.019	0.14	6	2.0	0.65	D
1978	3	15	3 915.8	38.368	118.153	0.09	10	3.5	8.02	A
1978	3	15	32731.9	38.367	118.152	0.10	10	3.1	8.70	A
1978	3	15	6 954.7	38.855	117.995	0.12	7	1.9	11.82	C
1978	3	19	12322.8	39.401	117.725	0.20	8	2.2		
1978	3	19	195040.3	38.367	118.148	0.07	9	2.9	7.35	B
1978	3	21	113218.6	38.036	118.815	0.16	14	2.1	11.04	C
1978	3	24	24715.3	38.426	117.843	0.12	11	2.8	15.97	B
1978	3	26	105623.2	36.907	117.461	0.15	8	3.1	7.60	
1978	3	27	42919.9	37.319	117.853	0.26	5	2.9		
1978	3	29	55719.8	39.779	119.703	0.88	5	1.1	1.80	D
1978	3	30	23334.4	39.953	119.960	0.03	5	1.3	16.24	D
1978	4	1	131423.8	37.511	118.790	0.27	11	3.0		
1978	4	4	35812.9	40.468	117.236	0.20	6	3.0	10.20	
1978	4	5	1344 3.7	38.360	118.080	0.03	6	1.3	5.73	C
1978	4	6	201733.4	39.411	119.860	0.10	6	0.9	9.59	C
1978	4	7	21 428.8	39.160	118.002	0.30	10	2.3	16.58	D
1978	4	8	212834.0	39.005	118.836	0.38	7	1.6		
1978	4	10	73157.2	40.052	116.380	0.29	7	3.3	4.80	
1978	4	10	73936.0	40.084	116.390	0.50	7	2.7	8.00	
1978	4	12	245 1.4	39.456	119.738	0.11	8	2.1	3.14	B
1978	4	12	202748.8	38.580	118.184	0.15	11	2.7	9.54	B
1978	4	13	1451 0.2	39.452	119.733	0.11	10	2.1	3.99	B
1978	4	13	152543.7	39.447	119.727	0.10	9	1.7	5.62	B
1978	4	14	60325.7	39.061	117.029	0.37	12	2.2		
1978	4	16	85517.3	39.779	120.317	0.16	9	1.6	19.06	D
1978	4	18	659 8.4	38.128	118.067	0.13	11	2.0	7.53	C
1978	4	21	85653.2	38.244	118.386	0.17	8	0.9	21.18	B
1978	4	23	172130.9	39.741	119.515	0.09	13	2.2	14.15	C
1978	4	23	172629.7	39.737	119.518	0.11	14	2.5	12.61	C
1978	4	24	14 621.5	38.863	117.969	0.03	5	1.5	16.48	C

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1978	4	25	25551.4	39.158	120.407	0.19	16	1.6	1.25	D
1978	4	27	814 4.6	39.910	118.797	0.25	18	2.5	8.89	C
1978	4	27	82849.9	39.913	118.831	0.28	12	2.1	9.94	D
1978	4	28	01737.7	39.236	119.653	0.08	5	1.3	0.25	D
1978	4	29	174024.9	38.356	118.127	0.11	9	2.1	5.05	C
1978	4	30	04244.7	39.409	120.174	0.09	10	1.0	15.80	A
1978	4	30	1645 2.0	39.418	119.838	0.11	13	1.4	9.54	A
1978	5	3	85611.6	39.251	119.756	0.01	4	0.2	10.23	C
1978	5	9	33937.5	39.728	118.510	0.37	12	2.0		
1978	5	10	40821.7	38.812	118.852	0.35	12	1.8		
1978	5	11	33145.0	39.408	120.204	0.09	11	1.7	16.12	B
1978	5	12	181528.4	38.987	119.190	0.06	7		1.45	C
1978	5	13	6 529.5	39.386	117.993	0.20	10	2.7	9.65	D
1978	5	14	60529.7	39.386	118.019	0.23	16	2.7		
1978	5	15	113440.1	39.649	118.054	0.30	9	2.3		
1978	5	16	41819.4	38.642	117.814	0.33	14	2.9		
1978	5	16	200455.9	41.777	118.698	0.42	8	3.1	11.50	
1978	5	17	101828.5	38.040	118.803	0.14	10	2.0	14.08	C
1978	5	17	102640.7	38.388	118.306	0.13	6	1.2	15.14	D
1978	5	17	164956.2	38.396	118.376	0.17	7	1.3	5.54	C
1978	5	18	24953.0	39.229	119.552	0.14	6	1.0	0.52	D
1978	5	20	145955.2	38.626	116.543	0.25	9	2.1		
1978	5	23	54755.5	40.922	117.232	0.20	20			
1978	5	23	64507.6	41.143	116.928	0.19	10	3.4		
1978	5	23	19 452.4	38.869	117.989	0.04	7	2.1	10.55	C
1978	5	24	11938.8	39.153	119.595	0.08	8	0.3	11.03	C
1978	5	28	180942.5	40.790	117.432	0.16	5	2.9		
1978	6	1	170003.7	37.252	116.088	0.10	6	4.2	1.00	
1978	6	4	122424.0	38.502	118.362	0.16	8	1.9	5.41	C
1978	6	6	63002.3	39.752	116.989	0.23	8	2.7		
1978	6	11	1255 2.2	40.142	119.644	0.25	19	1.9	15.23	C
1978	6	11	204058.9	40.130	119.665	0.17	20	2.5	11.08	C
1978	6	11	204226.8	40.143	119.635	0.16	14	1.6	19.30	C
1978	6	13	193517.1	39.744	118.062	0.40	10	2.3		
1978	6	14	2 543.9	38.696	119.592	0.08	7	1.9	9.82	C
1978	6	16	124048.1	38.436	118.403	0.14	9	1.7	8.35	C
1978	6	18	8 744.5	39.674	119.242	0.16	19	2.0	13.95	C
1978	6	19	111 0.8	38.342	118.133	0.00	4	1.1	7.37	C
1978	6	19	61714.3	38.493	115.259	0.53	8	2.3		
1978	6	19	185728.8	40.098	119.690	0.10	9	1.3	20.36	C
1978	6	21	101508.2	39.186	115.918	0.16	11	2.7	4.40	
1978	6	24	194448.7	38.285	118.702	0.22	15	2.4	10.83	B
1978	6	24	1947 4.2	38.292	118.712	0.04	6	1.3	11.71	C
1978	6	24	194923.0	38.286	118.697	0.17	10	2.0	6.97	C
1978	6	24	20 048.8	38.305	118.738	0.19	7		21.27	C

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1978	6	24	201321.5	38.307	118.742	0.16	9	1.6	17.79	C
1978	6	24	205342.9	38.289	118.696	0.15	10	2.1	7.92	C
1978	6	25	14 710.9	38.511	118.123	0.20	7	0.2	8.15	C
1978	6	25	14 842.0	38.510	118.141	0.11	6	0.2	9.59	C
1978	6	25	192657.9	38.149	118.276	0.24	11	1.9	9.11	C
1978	6	26	93132.6	39.200	119.729	0.26	26	2.7	7.37	B
1978	6	26	94153.0	39.202	119.710	0.29	19	2.0	0.59	C
1978	6	27	44758.3	38.439	118.403	0.40	13	2.3	2.65	C
1978	6	28	131351.8	40.108	119.687	0.30	7	1.1	21.47	D
1978	6	28	182734.0	38.700	119.597	0.10	8	1.4	8.55	C
1978	6	29	144239.5	39.392	117.583	0.32	9	2.3		
1978	7	2	7 653.5	38.351	118.165	0.06	8	1.4	9.15	B
1978	7	2	1411 2.4	38.857	117.977	0.03	6	0.9	14.81	B
1978	7	3	35039.3	39.703	120.008	0.29	9	1.0	8.39	D
1978	7	3	172934.2	38.444	118.408	0.55	13	2.3	6.83	D
1978	7	4	55616.4	38.447	118.418	0.46	11	1.8	12.86	C
1978	7	4	2348 0.3	39.427	119.831	0.08	10	0.7	10.36	A
1978	7	5	55117.0	38.442	118.393	0.09	9	3.2	9.76	C
1978	7	6	222122.6	39.152	116.244	0.18	11	4.4	5.50	
1978	7	8	212038.3	39.556	120.021	0.19	12	1.1	8.83	C
1978	7	10	7 726.8	38.832	119.704	0.13	15	1.9	9.26	C
1978	7	11	2127 3.8	39.417	119.834	0.16	11	0.7	11.41	B
1978	7	12	14 3 9.7	38.431	118.395	0.24	13	2.6	5.69	C
1978	7	12	145445.4	38.439	118.392	0.12	12	3.3	8.44	B
1978	7	13	71711.5	39.415	119.835	0.15	8	0.3	9.97	B
1978	7	15	0 831.4	38.431	118.382	0.25	9	1.1	9.29	C
1978	7	15	21859.3	38.437	118.392	0.09	8	1.0	9.89	C
1978	7	15	25455.7	38.436	118.391	0.06	7	1.5	8.36	C
1978	7	17	51723.8	38.640	117.894	0.09	6	2.1	10.32	D
1978	7	17	55836.2	39.549	120.370	0.23	9	1.0	8.25	D
1978	7	20	171047.4	38.434	117.858	0.14	7	1.4	14.64	C
1978	7	21	1730 5.7	39.797	120.003	0.12	8	1.2	1.23	D
1978	7	22	412 2.1	39.116	118.070	0.14	7	1.8	10.57	D
1978	7	22	182815.4	39.724	120.327	0.09	13	1.6	13.85	C
1978	7	24	153945.1	39.728	120.323	0.14	21	1.8	14.90	C
1978	7	27	3 121.1	38.377	119.384	0.22	12	1.9	12.62	C
1978	7	29	16 655.2	39.595	119.235	0.14	20	2.4	11.06	C
1978	7	29	223210.1	38.541	115.352	0.25	15	4.6	10.10	
1978	7	30	13223.9	38.661	119.452	0.23	21	2.6	8.67	C
1978	7	31	54851.8	38.076	118.258	0.24	11	2.3	1.50	C
1978	7	31	81754.3	39.595	119.178	0.17	21	2.3	11.33	C
1978	7	31	1411 1.4	38.743	119.426	0.16	13	1.4	12.84	C
1978	7	31	1829 6.0	38.396	118.351	0.25	10	1.6	12.88	B
1978	8	2	122432.7	39.585	119.163	0.11	8	2.0	10.68	C
1978	8	2	162227.5	39.361	119.783	0.26	17	1.2	0.97	C

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1978	8	3	14919.8	38.393	118.390	0.37	9	1.9	0.08	C
1978	8	3	113437.8	39.360	119.792	0.27	21	3.1	0.26	C
1978	8	5	23319.1	39.070	118.099	0.25	11	2.0	9.40	C
1978	8	5	214028.0	38.236	118.368	0.14	11	2.1	20.55	B
1978	8	6	23041.6	38.796	117.932	0.15	9	2.1	11.56	C
1978	8	6	102919.8	39.044	118.113	0.15	8	0.7	11.13	C
1978	8	7	235411.1	38.171	118.326	0.07	9	1.8	17.43	B
1978	8	7	2358 2.7	38.168	118.335	0.28	10	1.9	15.34	C
1978	8	10	544 4.0	39.238	118.064	0.11	8	1.4	3.43	C
1978	8	11	224120.7	38.403	118.377	0.08	7	3.0	4.85	C
1978	8	12	73012.5	38.587	118.206	0.25	8	1.5	0.09	C
1978	8	12	103028.2	39.412	117.705	0.21	11	1.8	18.30	
1978	8	12	115751.9	39.428	118.119	0.30	11	2.9	5.00	
1978	8	13	124945.2	39.376	118.087	0.09	8	2.0	5.64	D
1978	8	13	143932.1	39.159	118.067	0.16	9	2.1	12.16	C
1978	8	14	123515.1	39.201	118.148	0.01	5	1.0	2.57	C
1978	8	15	184852.1	39.168	118.066	0.22	9	1.9	9.78	D
1978	8	16	102731.8	39.677	121.118	0.12	13	1.7	11.64	B
1978	8	17	201938.3	39.343	120.005	0.15	13	1.4	3.14	B
1978	8	21	145613.0	38.303	118.472	0.07	7	1.7	21.03	B
1978	8	21	1459 5.1	38.301	118.463	0.02	5	1.6	14.52	C
1978	8	24	132145.1	38.047	118.914	0.09	9	2.3	5.63	C
1978	8	24	135156.2	38.041	118.881	0.16	10	1.8	4.03	C
1978	8	24	14 657.3	38.041	118.915	0.17	11	2.4	4.62	C
1978	8	25	13549.5	38.045	118.914	0.10	10	3.1	4.91	C
1978	8	25	4 836.5	40.083	119.699	0.09	9	1.7	14.92	C
1978	8	25	9 950.7	38.041	118.908	0.12	12	2.1	5.45	C
1978	8	25	105032.0	38.035	118.898	0.13	12	2.3	6.57	C
1978	8	26	426 9.1	38.038	118.912	0.13	11	2.2	5.20	C
1978	8	27	75033.0	38.026	118.940	0.11	8	2.4	6.62	C
1978	8	28	19 727.4	38.023	118.855	0.11	7	2.8	1.52	C
1978	8	29	213058.2	39.400	120.181	0.16	12	1.1	15.83	C
1978	8	30	52314.8	39.409	120.178	0.12	11	0.8	12.73	B
1978	8	30	52527.5	39.405	120.166	0.12	12	0.9	9.68	B
1978	8	31	0 655.4	38.044	118.917	0.08	10	2.8	7.30	C
1978	8	31	55114.2	38.048	118.908	0.09	9	2.4	6.24	C
1978	9	1	132426.7	38.042	118.921	0.08	9	2.3	7.17	C
1978	9	3	111540.9	38.781	119.783	0.08	14	1.7	13.52	C
1978	9	3	1120 5.5	38.795	119.774	0.17	14	1.9	14.11	C
1978	9	3	112553.4	38.794	119.790	0.14	21	2.9	7.05	B
1978	9	4	45231.9	38.796	119.795	0.14	19	4.6	10.01	B
1978	9	4	45950.2	38.798	119.784	0.05	9		11.76	C
1978	9	4	45955.7	38.808	119.815	0.12	11	2.5	2.92	C
1978	9	4	5 144.6	38.807	119.799	0.30	26	2.3	7.91	B
1978	9	4	5 842.4	38.813	119.836	0.64	19	2.0	12.70	C

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1978	9	4	52651.5	38.801	119.786	0.18	25	2.5	8.27	B
1978	9	4	93755.8	38.792	119.784	0.09	17	2.0	12.09	C
1978	9	4	11 457.5	38.766	119.717	0.15	7	1.1	15.53	D
1978	9	4	12 057.7	38.791	119.785	0.24	27	3.0	2.13	C
1978	9	4	205617.9	38.799	119.779	0.05	8	1.1	10.45	C
1978	9	4	21 7 2.2	38.787	119.795	0.39	21	2.1	6.85	C
1978	9	4	215452.8	38.794	119.790	0.14	22	5.2	10.11	B
1978	9	4	22 1 2.9	38.804	119.789	0.06	14	2.5	11.20	C
1978	9	4	22 146.5	38.808	119.780	0.02	6	2.1	11.84	C
1978	9	4	22 335.0	38.796	119.798	0.19	21	4.0	9.27	B
1978	9	4	221153.0	38.802	119.804	0.15	23	2.5	7.59	B
1978	9	4	222946.7	38.797	119.765	0.08	11	1.8	12.34	C
1978	9	4	223118.4	38.785	119.781	0.04	7	1.5	10.83	C
1978	9	4	223642.5	38.847	119.758	0.00	4	1.0	2.59	C
1978	9	4	223725.6	38.794	119.795	0.14	22	2.9	10.83	B
1978	9	4	224547.6	38.783	119.789	0.02	6	0.9	9.61	C
1978	9	4	224939.0	38.855	119.754	0.01	4	0.9	0.69	C
1978	9	4	225026.6	38.850	119.763	0.01	4	1.0	3.87	C
1978	9	4	23 359.7	38.793	119.785	0.08	10	1.8	12.14	C
1978	9	4	23 538.8	38.804	119.783	0.06	9	1.7	10.22	C
1978	9	4	231033.4	38.775	119.778	0.06	8	0.8	12.08	C
1978	9	4	231227.7	38.772	119.791	0.21	13	1.4	9.42	C
1978	9	4	233016.2	38.767	119.805	0.05	7	0.6	10.87	C
1978	9	4	234321.2	38.851	119.765	0.01	4	0.9	0.46	C
1978	9	5	43942.0	38.794	119.800	0.21	26	2.3	7.42	C
1978	9	5	447 7.3	38.792	119.780	0.06	10	1.1	11.29	C
1978	9	5	5 1 1.8	38.784	119.771	0.07	13	1.8	12.60	C
1978	9	5	5 442.2	38.801	119.777	0.20	21	2.2	7.03	C
1978	9	5	54447.2	38.791	119.772	0.03	6	1.0	11.90	C
1978	9	5	65957.5	38.820	119.768	0.13	10	1.0	9.88	C
1978	9	5	222850.5	39.041	118.169	0.12	10	3.4	5.43	C
1978	9	5	223152.0	39.032	118.149	0.56	10	2.3	11.06	D
1978	9	5	23 745.8	38.789	119.790	0.14	9	0.9	15.44	C
1978	9	6	1 531.2	39.028	118.123	0.14	7	1.5	10.45	D
1978	9	6	183436.9	38.811	119.776	0.09	7	1.1	12.13	C
1978	9	7	55235.2	38.808	119.771	0.08	9	0.8	10.92	B
1978	9	7	6 317.0	38.849	119.771	0.19	11	1.6	11.82	C
1978	9	7	105316.8	38.829	119.763	0.15	8	0.9	9.25	C
1978	9	7	115748.9	38.830	119.755	0.11	9	1.1	7.97	B
1978	9	7	162342.1	39.428	120.158	0.20	11	1.5	7.95	B
1978	9	7	20 9 3.4	38.797	119.790	0.20	25	2.1	11.18	B
1978	9	7	213633.3	38.828	119.766	0.14	19	2.0	10.31	B
1978	9	7	235155.5	38.797	119.789	0.22	21	2.0	13.32	B
1978	9	8	10 853.1	38.751	119.796	0.03	7	1.8	12.12	C
1978	9	8	10 854.3	38.825	119.755	0.22	13	1.8	0.27	D

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1978	9	8	134020.7	38.825	119.761	0.16	13	1.3	10.45	C
1978	9	8	153240.7	39.126	118.070	0.04	9	1.2	13.10	C
1978	9	8	153930.0	39.116	118.057	0.08	6	0.9	12.32	C
1978	9	8	215419.0	38.810	119.778	0.13	16	1.9	9.58	B
1978	9	9	71545.5	38.465	118.396	0.12	10	1.1	10.58	B
1978	9	9	13 258.1	38.045	118.915	0.08	7	1.9	6.12	C
1978	9	9	155313.3	38.792	119.809	0.29	21	2.9	10.48	B
1978	9	11	11 029.7	38.784	119.787	0.06	14	3.0	12.33	B
1978	9	11	11 350.0	38.819	119.778	0.02	5		7.01	C
1978	9	12	225046.6	38.894	117.687	0.20	7	2.3	0.61	D
1978	9	14	53050.0	38.780	119.779	0.07	8	1.4	12.40	C
1978	9	14	135152.4	38.795	119.773	0.09	15	2.8	12.33	C
1978	9	15	64321.3	38.437	118.391	0.08	7	2.1	10.89	B
1978	9	15	173825.8	38.790	119.791	0.05	7	1.2	10.87	C
1978	9	16	202823.7	38.198	117.783	0.11	9	2.0	19.20	C
1978	9	18	72258.4	37.198	117.572	0.19	6	2.7		
1978	9	19	132117.5	38.808	119.775	0.08	10	1.5	9.94	C
1978	9	20	95327.8	37.728	118.434	0.08	6	3.3	13.44	D
1978	9	20	10 547.1	38.438	118.393	0.12	9	2.3	11.21	B
1978	9	20	1247 2.7	38.590	118.437	0.27	10	2.3	3.98	C
1978	9	20	223557.3	38.052	118.893	0.06	6	1.8	8.03	C
1978	9	21	53544.1	38.604	118.429	0.07	7	1.2	5.40	B
1978	9	21	185351.5	37.445	118.401	0.39	7	2.2	9.37	D
1978	9	22	193813.4	39.029	119.644	0.05	13	3.5	10.65	B
1978	9	25	6 6 7.2	38.049	118.904	0.04	6	2.0	6.02	C
1978	9	25	1732 8.8	38.035	118.955	0.09	12	2.7	6.43	C
1978	9	26	22658.9	39.369	117.525	0.24	16	3.2	10.90	
1978	9	26	133725.5	38.790	119.777	0.07	8	1.6	8.03	C
1978	9	27	162956.3	36.825	115.977	0.34	6	3.8	1.00	
1978	10	3	257 2.1	38.043	118.916	0.08	7	1.9	7.70	C
1978	10	4	164248.3	37.493	118.673	0.07	7	5.7	6.09	C
1978	10	4	173132.1	37.585	118.644	0.04	7	4.3	9.14	C
1978	10	4	1739 4.2	37.592	118.650	0.05	7	4.9	10.05	D
1978	10	4	174347.2	37.566	118.651	0.04	5	3.5	5.76	D
1978	10	4	174634.4	37.613	118.635	0.03	6		6.12	D
1978	10	4	174644.8	37.421	118.720	0.25	3	4.3	2.75	C
1978	10	4	18 153.3	37.509	118.668	0.08	7	3.6	6.10	C
1978	10	4	18 659.3	37.518	118.666	0.10	7	2.9	5.58	C
1978	10	4	18 931.0	37.522	118.681	0.07	8	3.1	9.21	C
1978	10	4	182242.9	37.579	118.636	0.05	7	4.3		D
1978	10	4	184442.8	37.518	118.659	0.09	8	3.4	4.21	C
1978	10	4	20 928.4	37.260	118.728	0.31	4	2.9	27.47	D
1978	10	4	203331.5	37.519	118.668	0.05	6	2.3	10.13	C
1978	10	5	11748.3	37.572	118.643	0.05	7	4.5	9.50	D
1978	10	5	145 5.8	37.524	118.650	0.04	7	3.2	5.78	C

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1978	10	5	64131.1	37.559	118.636	0.02	7	4.4	9.65	C
1978	10	5	104618.4	37.549	118.690	0.45	6	2.8	0.93	D
1978	10	5	225413.1	37.539	118.652	0.09	7	3.5	6.52	C
1978	10	6	13221.8	37.539	118.663	0.03	6	3.5	6.63	B
1978	10	6	1637 9.5	37.171	118.208	0.15	7	2.8	7.16	C
1978	10	7	24916.5	37.526	118.685	0.15	8	2.7	11.07	C
1978	10	7	85956.6	37.530	118.651	0.03	7	2.4	10.22	C
1978	10	7	1814 7.7	38.757	119.790	0.05	7	1.1	14.84	C
1978	10	8	132918.6	37.527	118.677	0.06	8	2.9	10.48	B
1978	10	8	191154.2	37.514	118.641	0.14	10	2.5	6.39	C
1978	10	9	44048.9	37.509	118.663	0.08	9	2.3	6.67	C
1978	10	9	1325 5.4	39.388	119.681	0.11	9	1.5	7.74	C
1978	10	9	142812.4	39.385	119.687	0.10	8	1.4	3.05	D
1978	10	9	152611.5	38.852	119.763	0.01	4	0.9	0.56	C
1978	10	9	182028.9	39.389	119.684	0.11	9	0.7	7.11	C
1978	10	10	05824.1	39.394	119.711	0.17	8	1.1	0.66	C
1978	10	10	2 8 8.3	37.515	118.697	0.14	9	2.8	7.93	C
1978	10	10	42852.1	38.812	119.779	0.18	19	2.7	4.50	C
1978	10	10	61354.5	39.400	119.714	0.21	18	2.9	0.15	C
1978	10	10	9 515.9	39.386	119.688	0.12	9	1.2	6.92	C
1978	10	10	184047.4	39.390	119.681	0.13	7	1.3	8.75	C
1978	10	10	193757.8	39.411	119.712	0.38	17	2.1	5.18	C
1978	10	11	25122.1	38.526	119.505	0.21	19	2.6	7.41	C
1978	10	11	3 9 9.6	39.393	119.693	0.09	7	1.3	4.73	C
1978	10	11	72323.8	39.391	119.689	0.10	11	1.0	6.42	C
1978	10	11	13 7 8.9	37.528	118.670	0.14	10	2.4	0.60	D
1978	10	11	205014.2	37.515	118.687	0.21	9	2.4	7.54	C
1978	10	12	71618.2	37.500	118.677	0.38	9	2.4	3.33	D
1978	10	12	93459.1	37.487	118.662	0.08	8	2.2	1.57	D
1978	10	12	154210.5	39.396	119.712	0.19	16	2.4	0.03	C
1978	10	12	175046.5	37.416	118.674	0.15	6	2.4	10.94	D
1978	10	13	6 440.0	37.516	118.684	0.32	8	2.5	3.26	D
1978	10	13	18 053.3	39.397	119.671	0.17	8	1.1	10.40	C
1978	10	13	215318.1	39.393	119.689	0.09	6	1.2	4.81	C
1978	10	13	225224.4	37.532	118.657	0.05	6	2.3	6.88	C
1978	10	14	1 252.4	39.115	118.117	0.17	9	2.0	10.08	C
1978	10	14	22616.6	39.405	119.685	0.20	12	1.7	6.90	C
1978	10	14	321 5.6	39.400	119.695	0.15	7	1.1	6.56	C
1978	10	14	62041.3	39.398	119.681	0.08	9	1.2	8.34	C
1978	10	14	63910.0	39.399	119.682	0.09	9	1.1	7.49	C
1978	10	14	161756.9	38.795	119.786	0.17	14	2.4	5.72	C
1978	10	14	223220.0	38.749	119.594	0.06	8	1.2	11.84	C
1978	10	14	2248 7.1	38.787	119.612	0.17	17	2.3	7.24	C
1978	10	14	233840.5	37.489	118.660	0.06	6	3.0	3.86	C
1978	10	15	21 621.9	38.361	118.162	0.13	9	1.8	7.51	B

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1978	10	17	13815.0	38.799	118.815	0.14	12	1.9	8.26	C
1978	10	17	121931.2	38.473	118.374	0.11	8	1.6	12.99	B
1978	10	19	91552.7	40.580	120.280	0.31	10	2.5	9.37	D
1978	10	20	11 714.6	37.474	118.674	0.08	8	2.3	5.06	C
1978	10	20	21 2 8.9	38.050	118.907	0.10	10	2.4	4.96	C
1978	10	20	212514.2	38.050	118.897	0.07	9	3.7	7.83	B
1978	10	20	213458.7	38.052	118.917	0.09	10	2.4	4.63	C
1978	10	21	32525.3	38.044	118.909	0.10	9	1.9	4.79	C
1978	10	21	103124.8	39.549	120.034	0.06	7	1.7	8.47	C
1978	10	21	134334.1	38.053	118.917	0.10	8	1.9	4.76	C
1978	10	21	153124.7	39.574	120.020	0.19	12	1.6	11.70	C
1978	10	21	194035.1	38.051	118.923	0.09	7	1.9	5.28	C
1978	10	23	0 536.4	38.048	118.904	0.05	7	2.0	2.76	C
1978	10	23	8 534.7	38.055	118.913	0.08	9	2.0	4.09	C
1978	10	23	82813.1	38.045	118.886	0.20	16	2.8	4.84	C
1978	10	23	83522.4	38.052	118.920	0.07	7	1.9	4.50	C
1978	10	23	83932.5	38.053	118.912	0.10	10	1.9	3.08	C
1978	10	23	114745.7	38.040	118.907	0.05	5	1.4	6.80	C
1978	10	23	131538.2	38.053	118.914	0.01	6	1.7	4.32	C
1978	10	23	133334.9	38.056	118.901	0.07	9	1.9	3.90	C
1978	10	24	21155.0	38.057	118.890	0.11	12	3.5	7.26	B
1978	10	24	21457.7	38.053	118.916	0.05	6	2.3	3.50	C
1978	10	24	32826.7	38.062	118.880	0.08	13	2.7	6.74	C
1978	10	24	62643.7	38.817	119.770	0.03	5	1.2	8.09	C
1978	10	24	657 5.0	38.059	118.886	0.12	14	3.1	8.82	B
1978	10	24	113640.6	38.800	119.772	0.06	8	1.4	11.49	C
1978	10	24	14 313.5	39.563	120.021	0.17	17	2.0	8.80	B
1978	10	24	1945 3.4	39.075	118.075	0.13	10	2.3	10.20	C
1978	10	25	103853.2	38.049	118.924	0.09	8	2.0	2.99	C
1978	10	26	19 038.1	37.320	118.704	0.14	6	4.1	9.21	D
1978	10	26	204718.0	38.063	118.887	0.19	13	2.6	2.14	D
1978	10	28	192653.9	38.348	118.185	0.11	8	1.7	7.19	B
1978	10	28	233735.5	38.049	118.916	0.05	7	2.3	3.41	C
1978	10	29	03916.9	38.042	118.885	0.28	12	2.4	1.38	D
1978	10	29	13859.6	38.050	118.920	0.08	6	2.2	3.64	C
1978	10	29	4 4 6.6	38.053	118.887	0.11	12	2.7	3.93	C
1978	10	29	64451.0	38.463	117.888	0.09	9	2.2	12.25	B
1978	10	29	133055.5	38.042	118.921	0.09	7	2.3	4.11	C
1978	10	31	951 2.8	39.556	120.006	0.13	10	1.4	7.62	C
1978	10	31	102741.5	39.457	120.291	0.13	12	1.3	12.44	C
1978	10	31	102758.3	39.461	120.281	0.07	7	1.7	11.20	C
1978	10	31	103114.9	39.463	120.298	0.15	13	1.4	13.28	C
1978	10	31	103139.0	39.459	120.280	0.03	6	1.3	10.71	C
1978	10	31	105220.3	39.459	120.296	0.13	19	2.5	13.13	B
1978	10	31	105759.5	39.461	120.299	0.09	12	1.7	12.42	B

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1978	10	31	2059 5.0	37.472	118.683	0.16	8	2.5	4.35	D
1978	11	1	154957.4	37.482	118.683	0.21	10	2.1	6.73	C
1978	11	2	104730.4	37.509	118.682	0.05	7	2.8	7.96	C
1978	11	3	0 816.7	37.481	118.637	0.05	7	2.3	2.06	D
1978	11	3	42452.0	37.499	118.634	0.10	7	3.3	8.91	C
1978	11	3	12 411.2	40.517	119.756	0.17	8	1.7	7.31	D
1978	11	3	12 732.3	38.055	118.924	0.08	9	2.0	6.27	C
1978	11	3	22 017.7	38.067	118.921	0.08	9	2.1	1.44	C
1978	11	4	42714.8	38.751	118.811	0.16	9	1.8	0.74	D
1978	11	4	5 957.4	38.056	118.924	0.10	9	2.0	5.68	C
1978	11	4	53120.9	38.344	118.176	0.11	10	3.0	8.69	B
1978	11	4	112146.1	39.017	119.645	0.11	12	1.4	14.05	B
1978	11	4	142357.6	39.015	119.641	0.14	10	0.8	12.83	C
1978	11	4	1752 6.5	39.022	119.651	0.14	12	0.8	12.68	B
1978	11	4	20 644.1	38.981	119.607	0.09	12	1.9	15.77	C
1978	11	4	2048 6.7	38.984	119.610	0.11	12	2.4	14.82	C
1978	11	5	935 2.8	37.773	117.961	0.85	11	3.2	0.56	D
1978	11	5	95020.5	37.522	117.988	0.09	7	1.8	11.82	C
1978	11	6	53727.1	37.453	118.678	0.12	6	1.9	0.69	D
1978	11	6	103036.7	39.022	119.654	0.04	10	2.1	9.60	B
1978	11	6	123010.3	39.016	119.652	0.10	12	1.3	13.54	B
1978	11	6	161716.6	39.566	120.008	0.12	12	1.6	9.71	C
1978	11	6	162224.8	37.517	118.675	0.09	7	3.4	10.23	C
1978	11	7	85849.1	37.513	118.662	0.05	7	2.7	4.63	C
1978	11	7	175646.4	38.347	118.190	0.15	11	1.9	9.58	B
1978	11	7	235410.3	38.881	117.862	0.21	9	2.5	0.46	D
1978	11	8	104010.9	37.480	118.675	0.08	8	2.2	1.42	D
1978	11	10	631 5.3	38.346	118.171	0.04	8	1.8	10.40	B
1978	11	11	174152.8	38.019	118.869	0.26	7	3.5		
1978	11	11	211551.9	38.046	118.891	0.11	11		4.45	C
1978	11	11	211638.3	38.044	118.899	0.11	7	1.9	2.85	D
1978	11	12	54610.1	38.049	118.894	0.09	7	1.4	3.65	C
1978	11	12	121727.8	38.054	118.894	0.04	5	1.5	6.33	C
1978	11	14	145138.8	38.108	119.148	0.27	6	3.3	6.50	
1978	11	14	155848.4	38.110	119.143	0.10	7	2.4	11.80	
1978	11	16	131014.5	38.344	118.171	0.10	10	3.0	6.66	B
1978	11	18	24715.9	38.478	118.284	0.15	10	2.0	8.45	B
1978	11	21	193751.9	37.482	118.657	0.07	7	2.2	9.73	C
1978	11	21	234712.6	38.742	118.587	0.06	12	3.4	7.46	B
1978	11	22	192139.5	38.773	119.807	0.20	10	1.7	9.18	D
1978	11	23	438 2.8	38.342	118.162	0.03	6	2.0	9.81	C
1978	11	23	171428.0	39.401	120.559	0.10	13	1.6	13.89	C
1978	11	24	4 641.0	37.508	118.680	0.10	6	3.5	8.34	C
1978	11	25	32354.6	37.493	118.672	0.06	7	3.6	2.54	D
1978	11	29	83405.9	37.208	116.351	0.21	9	3.6	1.00	

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1978	11	29	172710.7	38.063	118.896	0.15	7	2.1	3.89	D
1978	12	1	183645.4	37.495	118.805	0.14	7	2.6	5.43	D
1978	12	1	19 652.0	38.909	117.798	0.11	6	2.0	0.42	D
1978	12	2	122842.8	40.088	119.877	0.05	5	0.9	0.85	D
1978	12	3	172323.1	37.429	118.652	0.09	9	2.0	0.96	D
1978	12	4	141451.8	37.550	118.673	0.04	5	2.4	0.17	D
1978	12	10	16 226.7	38.631	119.913	0.08	11	1.6	17.87	C
1978	12	13	3 259.6	37.494	118.660	0.04	7	2.8	3.77	C
1978	12	13	33603.2	41.023	119.118	0.28	18	3.0	11.70	
1978	12	15	19 1 9.2	38.882	117.859	0.27	9	2.4	1.38	D
1978	12	15	213452.5	39.299	119.655	0.14	5	1.2	1.48	D
1978	12	18	354 8.1	38.810	119.779	0.07	11	1.7	10.23	C
1978	12	23	85755.0	37.468	118.673	0.09	6	2.0	1.38	D
1978	12	23	2237 2.8	39.395	120.158	0.25	17	1.4	12.50	B
1978	12	24	142525.5	38.476	118.292	0.22	9	1.7	9.28	B
1978	12	25	17 1 4.6	38.981	119.332	0.11	10	1.9	8.12	C
1978	12	25	221058.7	38.793	118.982	0.23	14	2.4	15.04	C
1978	12	25	221252.9	38.793	118.982	0.18	13	1.7	12.96	C
1978	12	27	162155.1	40.172	119.705	0.10	11	1.6	11.36	C
1978	12	29	42649.0	37.616	118.383	0.09	6	3.0	9.99	D
1978	12	30	83650.6	39.975	117.201	0.34	12	3.1	10.20	
1978	12	31	12 637.7	38.036	118.891	0.13	12	3.3	6.58	C
1978	12	31	122245.3	38.044	118.911	0.09	6	1.6	4.17	C
1978	12	31	122411.3	38.042	118.907	0.06	5	2.1	6.30	C
1978	12	31	1240 3.8	38.040	118.911	0.06	6	1.7	6.31	C

EARTHQUAKES IN 1979

- o Earthquake activity continued anomalously high in the western Great Basin during 1979, following a period of anomalously low activity in 1977 and early 1978. As discussed by A. Ryall and F. Ryall (1979; U.S. Geological Survey Open File Report 80-801) and by VanWormer and Ryall (1980; see reference on page 10), the flurry of moderate earthquakes starting in the fall of 1978 affected the entire Sierra Nevada-Great Basin boundary zone, from Doyle in the north to Inyokern at the southern end of Owens Valley. At the same time, there was a noticeable increase in emission of radon in some water wells in southern California, and laser-ranging measurements in that region showed a change from north-south compression to east-west extension. These observations suggest that at least some precursory phenomena reported in the literature may have been the result of regional, rather than local stress changes. If so, such changes could create favorable conditions for large shocks to occur anywhere within a sizeable region, rather than in the immediate vicinity of the anomalous observations.
- o During 1979, 32 earthquakes in the western Great Basin and adjoining parts of eastern California had magnitude M_L 4.0 or greater. These included an M_L 4.4 event in Antelope Valley, 40 km SW of Eureka at 01h 20m on 6 January; an M_L 4.2 earthquake at 18h 10m on 19 January, 55 km north of Bishop; a shock with M_L 4.5 at 21h 14m on 24 January, 25 km NW of Bishop; an M_L 4.5 event at 15h 52m on 13 February, 22 km NW of Carlin, felt in Elko and Carlin. An M_L 5.1 shock occurred near Doyle at 15h 57m on 22 February, and was felt in Reno, Doyle, Sierraville, Gerlach and Wadsworth; two smaller events with M_L 3.5 -- one a foreshock and the other an aftershock -- were also felt in Doyle. Other activity included an M_L 4.0 event in Antelope Valley, 40km SW of Eureka at 21h 06m on 18 March; an M_L 4.1 in Antelope Valley at 00h 00m on 19 March; an M_L 4.0 earthquake at 12h 08m on 3 April, in the Smoke Creek Desert, 30 km west of Gerlach; a felt event with M_L 4.3 at 01h 50m on 6 June, near Hawthorne; an M_L 4.3 shock at 05h 44m on 8 June, 20 km NE of Mina and felt in Mina, Luning and Gabbs; largest event of a swarm with M_L 4.2 at 10h 38m on 26 July, occurring 60 km east of Fallon in Dixie Valley; an M_L 4.2 earthquake at 11h 31m on 12 August, 15 km SE of Alamo; an M_L 4.9 mainshock and an M_L 3.7 aftershock, both felt, at 08h 27m and 08h 38m on 31 December, 25 km east of Hawthorne.
- o A major earthquake swarm at Mammoth Lakes, California, began in June and lasted through December. Mammoth Lakes events with M_L 4.0 greater, all felt, are listed below:

DATE	TIME	M_L
6/16	22h 44m	4.2
9/ 7	09h 43m	4.2
9/24	13h 05m	4.1
11/ 7	06h 27m	4.1
11/ 9	10h 12m	4.2
11/ 9	17h 46m	4.1
11/ 9	17h 54m	4.3
11/10	09h 45m	4.2
11/20	17h 23m	4.3
12/ 6	19h 32m	4.3
12/ 8	21h 38m	4.2
12/26	08h 08m	4.1

- o A sequence of events occurred at Bridgeport, California, with a felt main-shock of M_L 4.9 on 7 October followed for 2 days by 6 aftershocks of M_L 4.0 or greater, including 2 with M_L 4.4 that were also felt. A listing of these is given below:

DATE	TIME	M_L
10/ 7	20h 54m	4.9
10/ 7	21h 20m	4.4
10/ 7	21h 45m	4.1
10/ 8	00h 47m	4.0
10/ 8	03h 34m	4.4
10/ 8	12h 14m	4.0
10/ 9	22h 00m	4.2

- o Other events of interest included an M_L 3.4 earthquake at 18h 29m on 2 February, south of Lake Tahoe, felt in Sorenson, California; a small (M_L 2.6) event at 17h 33m on 26 June, felt in north Reno; also felt in Reno an M_L 2.9 event at 16h 16m on 15 July and an M_L 3.1 at 16h 51m on 19 July; and an M_L 2.9 event at 12h 38m on 17 August, felt in Carson City.
- o An earthquake of M_L 5.9 in the Gilroy-Hollister area, California, at 17h 05m on 6 August was felt in the Reno-Carson City area.
- o Field investigations in 1979 included the recording, with broad-band, wide-dynamic-range, digital systems, of earthquakes in the Bridgeport and Mammoth Lakes area. This data is being analyzed by W. A. Peppin. In November, 1979, three additional stations were installed in the Mammoth Lakes area to improve network coverage of the swarm activity there. Analysis of the Mammoth Lakes data is described by Ryall and Ryall (1981; see reference on page 10).

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1979	1	3	154638.0	38.900	117.549	0.24	12	2.8	15.17	C
1979	1	4	1959 3.4	37.492	118.685	0.17	5	1.9	1.57	D
1979	1	4	195925.3	37.522	118.668	0.06	5	2.2	0.33	D
1979	1	6	12035.9	39.299	116.383	0.24	9	4.4	2.60	
1979	1	6	161154.6	39.248	116.346	0.32	9	2.5		
1979	1	6	165347.8	39.261	116.355	0.33	11	2.7	7.10	
1979	1	6	232232.3	39.241	116.346	0.36	12	2.4	11.90	
1979	1	8	223227.6	38.800	119.778	0.13	7	1.5	6.60	C
1979	1	9	234355.2	39.241	116.342	0.22	13	3.2	12.20	
1979	1	10	185712.7	39.363	118.086	0.21	12	2.8	8.67	C
1979	1	11	15827.9	39.245	116.343	0.08	8	2.3	11.40	
1979	1	11	75311.9	39.245	116.354	0.23	7	2.3	7.80	
1979	1	13	231117.9	39.225	116.333	0.59	7	2.4	13.00	
1979	1	18	144648.8	37.972	118.879	0.17	7	2.1	11.49	D
1979	1	19	181045.5	37.791	118.504	0.12	3	4.2	5.50	C
1979	1	22	13525.5	39.161	119.629	0.18	7	1.5	1.13	D
1979	1	23	0 039.3	39.651	118.464	0.47	14	3.0	10.54	D
1979	1	23	144546.4	37.523	118.631	0.11	6	2.8	4.56	D
1979	1	24	5808.3	39.256	116.343	0.35	12	2.9	8.60	
1979	1	24	172721.3	39.156	115.631	0.27	10	3.5	5.50	
1979	1	24	211428.0	37.561	118.576	0.05	7	4.5	9.71	D
1979	1	31	103309.7	37.527	118.806	0.10	0	2.6	2.10	
1979	2	2	21410.0	37.541	118.804	0.34	11	3.7		
1979	2	2	182925.4	38.790	119.799	0.13	22	3.4	6.76	B
1979	2	3	200957.9	39.243	116.336	0.15	9	2.5	13.60	
1979	2	5	21358.1	37.464	118.820	0.21	4		2.07	C
1979	2	5	214 8.9	37.495	118.784	0.01	4	3.7	0.69	C
1979	2	5	84222.9	37.494	118.794	0.33	5	3.2	1.38	D
1979	2	7	15653.1	37.495	118.798	0.09	6	2.6	6.35	D
1979	2	7	42014.9	37.516	118.793	0.04	6	3.7	9.96	C
1979	2	7	65254.3	39.445	120.207	0.41	14	1.6	24.08	C
1979	2	7	65356.1	39.408	120.185	0.10	13	1.6		
1979	2	7	84726.2	38.040	118.888	0.15	10	2.0	6.04	C
1979	2	13	016 0.3	39.333	119.139	0.16	14	1.7	18.00	C
1979	2	13	155251.1	40.925	116.208	0.17	10	4.5	19.30	
1979	2	13	162643.2	37.541	118.800	0.21	9	2.9	6.90	
1979	2	14	03310.8	38.037	118.889	0.17	10	3.0	6.67	C
1979	2	15	93547.3	39.030	118.172	0.13	7	2.3	5.48	C
1979	2	22	71656.9	39.993	120.103	0.11	18	3.5	10.21	B
1979	2	22	155729.0	39.992	120.105	0.09	16	5.1	9.04	B
1979	2	22	174836.9	39.988	120.112	0.05	5	1.7	1.42	D
1979	2	22	184415.9	39.999	120.098	0.17	13	2.2	12.49	C
1979	2	22	185749.7	39.992	120.097	0.22	10	1.9	0.27	C
1979	2	22	193837.8	39.933	120.069	0.09	8	1.6	0.91	C
1979	2	22	194121.0	39.985	120.106	0.04	9	1.7	0.49	C

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1979	2	23	31017.9	39.988	120.093	0.04	10	2.5	2.23	C
1979	2	23	34053.4	39.991	120.111	0.09	16	3.5	5.85	C
1979	2	23	135829.8	39.990	120.107	0.06	7	2.2	1.29	C
1979	2	23	2129 7.5	39.999	120.097	0.11	9	1.8	2.16	C
1979	2	24	1 024.9	39.977	120.080	0.11	11	2.8	0.28	C
1979	2	26	15751.5	39.991	120.121	0.08	6	1.3	25.73	C
1979	3	4	62617.9	39.990	120.108	0.06	8	1.7	0.10	C
1979	3	6	131117.5	38.864	117.997	0.14	9	2.7	10.49	C
1979	3	8	02650.2	39.458	119.738	0.14	10	1.9	1.30	C
1979	3	8	201912.3	39.972	120.113	0.04	12	1.2	9.88	B
1979	3	9	02058.9	39.464	119.753	0.12	7	1.8	0.63	C
1979	3	11	03514.6	40.222	121.289	0.13	5	2.5	2.23	D
1979	3	12	14 813.9	37.507	118.660	0.06	6	3.1	3.43	D
1979	3	12	143515.3	37.511	118.663	0.11	6	2.2	7.17	C
1979	3	15	16 041.0	39.073	118.139	0.25	9	2.5	8.72	D
1979	3	18	34528.9	39.258	116.310	0.30	13	3.4	4.80	
1979	3	18	64523.3	39.109	118.094	0.13	7		8.94	D
1979	3	18	65913.5	39.116	118.086	0.12	8		7.74	C
1979	3	18	80636.2	37.168	118.346	0.30	9	2.7		
1979	3	18	210613.6	39.285	116.388	0.16	10	4.0	3.80	
1979	3	19	51.7	39.277	116.230	0.24	11	4.1	4.90	
1979	3	19	12822.3	39.243	116.329	0.54	8	2.8	7.50	
1979	3	14	13751.9	39.289	116.338	0.25	11	3.6	5.80	
1979	3	20	20 139.8	38.048	118.882	0.13	11	2.2	6.28	C
1979	3	20	234842.4	38.879	117.871	0.14	7	2.0	0.58	D
1979	3	21	31523.0	39.429	119.891	0.17	10	1.5	0.89	C
1979	3	23	3 948.1	37.499	118.794	0.04	6	2.8	8.09	C
1979	3	24	713 1.6	38.043	118.798	0.04	5	1.6	10.59	C
1979	3	24	162323.4	37.512	118.676	0.07	6	2.0	1.19	D
1979	3	25	52038.8	39.417	120.233	0.11	9	1.6	1.30	D
1979	3	25	124243.6	39.196	118.051	0.13	7	1.7	7.52	D
1979	3	26	629 2.0	37.499	118.690	0.08	6	3.2	8.26	C
1979	3	26	17 1 1.8	37.473	118.803	0.05	5	3.0	8.33	C
1979	3	26	213641.2	37.699	118.799	0.37	8	3.9		
1979	3	27	131916.9	40.515	119.715	0.12	7	2.6	6.39	D
1979	3	27	133438.8	40.516	119.719	0.11	6	2.4	6.34	D
1979	3	30	183740.6	39.269	116.305	0.60	8	3.0		
1979	4	1	75457.6	37.485	118.653	0.01	4	2.9	0.44	C
1979	4	2	105622.9	38.454	119.421	0.34	6	3.3	13.30	
1979	4	3	71659.4	36.963	117.972	0.31	6	3.1	1.80	D
1979	4	3	12 832.9	40.594	119.681	0.10	8	4.0	7.09	D
1979	4	4	8 549.4	37.511	118.670	0.08	6	1.9	0.73	D
1979	4	4	10 611.3	37.498	118.796	0.24	4	1.7	2.23	C
1979	4	4	2127 7.3	38.627	118.491	0.19	7	1.5	7.05	C
1979	4	7	43449.5	39.062	118.093	0.11	9	2.3	10.29	C

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1979	4	11	95556.1	39.988	120.097	0.11	11	1.6	0.38	C
1979	4	11	214934.3	38.327	118.176	0.20	11	2.0	5.32	C
1979	4	12	74112.5	39.969	120.755	0.07	11	1.9	8.04	C
1979	4	15	31205.8	37.124	117.273	0.28	14	3.8	10.50	
1979	4	15	31507.6	37.111	117.336	0.22	6	2.7		
1979	4	15	44347.3	37.084	117.352	0.30	7	2.8		
1979	4	15	44616.6	37.072	117.303	0.31	7	2.8		
1979	4	15	44833.3	37.094	117.313	0.28	7	2.7	7.60	
1979	4	15	135953.7	37.475	118.928	0.00	4	2.4	9.96	C
1979	4	15	14 346.7	37.378	118.983	0.02	3	2.6	2.75	C
1979	4	15	173149.9	37.163	117.301	0.33	8	3.2	7.80	
1979	4	16	8 552.5	37.141	117.978	0.01	5	2.4	6.90	C
1979	4	16	9 5 0.7	38.122	118.259	0.16	8	1.5	7.28	C
1979	4	17	94945.1	37.593	118.899	0.17	3	2.2	11.79	C
1979	4	17	11 6 1.9	37.511	118.663	0.05	5	1.8	4.00	C
1979	4	18	93837.3	37.521	118.943	0.10	4	2.3	4.54	C
1979	4	21	232632.4	39.630	119.388	0.14	15	2.2	13.98	B
1979	4	22	225054.4	37.549	116.359	0.22	10	3.3	7.50	
1979	4	24	91344.0	38.781	119.796	0.05	10	1.4	12.59	C
1979	4	30	12855.8	37.336	118.359	0.18	5	2.2		
1979	5	1	1146 1.1	39.379	118.075	0.02	7	2.8	4.37	C
1979	5	1	14 024.8	39.370	118.067	0.00	4	2.3	5.64	C
1979	5	2	131851.2	38.589	119.501	0.18	12	2.8	7.54	C
1979	5	3	103321.7	38.074	118.931	0.10	8	2.2	9.85	C
1979	5	3	114546.8	38.248	118.717	0.12	11	1.7	8.64	B
1979	5	3	1237 6.3	37.681	118.844	0.20	3	2.2	18.22	C
1979	5	5	13442.6	38.251	118.712	0.11	10	2.0	7.73	B
1979	5	5	121236.8	37.474	118.669	0.04	6	2.2	3.09	D
1979	5	10	14553.9	38.247	118.715	0.13	10	1.5	9.18	B
1979	5	15	33331.5	37.525	118.648	0.11	8	2.1	1.38	D
1979	5	16	84611.1	37.486	118.684	0.02	5	2.3	4.09	C
1979	5	17	141234.1	39.079	118.090	0.16	6	1.6	6.23	D
1979	5	18	95215.6	38.579	119.517	0.26	8	1.9	8.40	D
1979	5	19	20 826.7	38.662	119.815	0.15	10	2.2	2.14	D
1979	5	20	82737.5	38.755	117.948	0.07	8	2.2	11.18	B
1979	5	21	14859.8	39.422	120.158	0.07	10	1.8	3.27	C
1979	5	22	05220.0	39.023	118.220	0.09	10	2.9	9.98	B
1979	5	25	145053.1	37.680	118.836	0.02	6	3.4	4.02	C
1979	5	25	17 9 2.1	39.000	118.210	0.14	14	2.1	7.83	B
1979	5	27	144954.1	37.736	118.834	0.32	10	3.3		
1979	5	29	205019.5	37.556	118.466	0.08	8	3.4	6.97	C
1979	5	30	204939.6	37.467	118.662	0.08	5	2.0	2.15	D
1979	5	31	5 733.5	37.486	118.805	0.00	4	1.9	7.29	C
1979	6	2	50241.4	37.561	118.986	0.17	5	2.3		
1979	6	3	1354 1.5	38.773	119.782	0.19	16	2.0	3.10	D

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1979	6	4	213613.3	38.276	118.730	0.15	9	1.8	5.40	C
1979	6	6	14956.7	38.491	118.419	0.12	11		10.37	B
1979	6	6	150 5.9	38.497	118.423	0.13	7	3.3	7.06	C
1979	6	6	15039.5	38.512	118.420	0.04	5	4.3	2.41	D
1979	6	8	240 8.0	38.519	117.896	0.14	10	2.2	12.71	B
1979	6	8	544 4.9	38.512	117.890	0.10	7	4.3	7.64	C
1979	6	11	93254.3	39.103	118.093	0.18	9	1.6	12.07	C
1979	6	11	201709.0	37.134	116.067	0.29	6	3.5		
1979	6	14	3 827.7	39.200	119.729	0.09	9	1.5	3.19	B
1979	6	14	112734.5	38.208	118.327	0.17	8	1.7	7.24	C
1979	6	14	133740.6	38.206	118.312	0.04	6	1.6	13.26	C
1979	6	14	231446.4	38.208	118.324	0.13	9	2.0	9.96	C
1979	6	15	225 5.1	38.209	118.328	0.12	9	1.8	8.28	C
1979	6	15	636 0.6	38.208	118.323	0.16	8	2.0	11.17	C
1979	6	16	224459.0	37.557	118.919	0.04	6	4.2	10.14	C
1979	6	16	225727.3	37.548	118.936	0.06	6	3.6	8.05	C
1979	6	16	23 617.8	37.668	118.840	0.02	4	2.4	13.98	C
1979	6	18	9 558.9	38.519	117.905	0.15	7	1.5	14.25	B
1979	6	19	141258.0	38.363	118.586	0.10	11	1.9	9.82	C
1979	6	20	12222.4	39.262	116.350	0.38	11	2.7	12.00	
1979	6	23	172746.6	38.261	119.361	0.17	7	3.4		
1979	6	23	185130.8	38.275	119.358	0.15	12	2.1	3.96	D
1979	6	23	231440.6	37.611	118.940	0.33	7	2.2		
1979	6	25	104554.4	37.471	118.598	0.11	5	1.8	0.55	D
1979	6	25	104826.5	37.470	118.599	0.15	6	2.0	0.69	D
1979	6	26	142755.8	37.524	118.580	0.01	4	3.5	0.13	C
1979	6	26	151255.9	37.383	118.619	0.14	4	3.4	1.62	C
1979	6	26	173312.5	39.427	119.857	0.17	14	2.6	6.79	C
1979	6	27	24740.9	38.284	119.351	0.10	7	2.0	1.74	D
1979	6	27	143344.7	40.409	119.649	0.36	10	2.4	2.50	D
1979	6	29	0 212.0	38.071	118.929	0.09	8	3.1	10.33	B
1979	6	30	105852.2	39.328	118.058	0.21	12	2.8	10.29	C
1979	7	1	84251.3	40.482	119.489	0.15	7	2.2	0.73	D
1979	7	1	202938.7	40.436	119.755	0.66	10	3.9		
1979	7	3	2 6 9.0	39.430	119.855	0.23	19	3.0	7.01	B
1979	7	3	11 011.9	40.341	119.700	0.06	9	2.5	9.70	C
1979	7	4	31325.3	39.306	120.384	0.16	21	2.4	10.98	C
1979	7	4	153640.0	40.383	119.652	0.19	11	2.3	0.89	D
1979	7	5	53256.5	39.429	119.858	0.20	18	2.0	7.78	B
1979	7	9	11 743.8	37.540	118.925	0.04	5	2.7	9.02	C
1979	7	11	41331.3	37.602	118.898	0.06	5	2.7	1.80	D
1979	7	11	43212.5	37.611	119.042	0.40	5	2.4		
1979	7	13	2358 2.8	38.069	118.866	0.02	6	2.5	6.36	C
1979	7	15	7 736.9	37.504	118.621	0.10	6	2.1	1.63	D
1979	7	15	161617.5	39.424	119.855	0.19	16	2.9	6.21	C

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1979	7	16	628 0.3	39.571	119.700	0.24	17	1.8	11.47	B
1979	7	19	1651 9.1	39.422	119.856	0.17	14	3.1	6.75	C
1979	7	20	03610.3	39.964	120.732	0.10	13	2.4	15.03	B
1979	7	20	1550 2.9	39.424	119.850	0.16	11	1.9	8.41	B
1979	7	20	235935.9	37.444	118.596	0.12	8	2.6	5.63	C
1979	7	21	02840.4	37.378	118.530	0.11	7	1.9	0.90	D
1979	7	21	43149.9	39.603	118.095	0.18	9	2.5	13.66	C
1979	7	21	45431.3	39.597	118.080	0.28	8	1.6	15.03	D
1979	7	24	202243.7	38.297	118.322	0.13	8	2.6	10.27	C
1979	7	25	02630.0	38.534	119.801	0.10	10	1.9	13.98	D
1979	7	25	1714 7.7	38.763	119.529	0.05	12	1.8	7.23	B
1979	7	26	45717.9	39.595	118.113	0.26	7	2.2	11.47	D
1979	7	26	51527.1	39.589	118.111	0.29	7	2.9	12.36	D
1979	7	26	75959.5	38.390	118.152	0.02	6	2.2	7.28	A
1979	7	26	85822.8	39.593	118.098	0.28	7	2.6	12.30	D
1979	7	26	92326.1	39.601	118.070	0.28	9	3.1	3.38	D
1979	7	26	103857.9	39.592	118.074	0.01	6	4.2	8.52	C
1979	7	26	104811.2	39.618	118.168	0.43	8	2.6	11.88	D
1979	7	26	1052 5.6	39.601	118.114	0.15	8	3.2	8.67	C
1979	7	26	183611.2	39.386	120.143	0.07	13	1.7	9.30	A
1979	7	27	195729.2	37.599	118.909	0.03	7	2.9	7.93	C
1979	7	27	2010 0.9	37.598	118.915	0.15	6	2.7	0.69	D
1979	7	27	2323 7.5	37.568	118.915	0.09	4	3.2	3.86	C
1979	7	27	232357.3	37.587	118.916	0.11	4	3.2	3.37	C
1979	7	28	82948.3	37.965	118.112	0.15	7	1.9	7.09	D
1979	7	28	20 920.7	37.591	118.907	0.04	7	2.8	5.52	C
1979	7	29	231442.6	37.707	118.814	0.00	4	2.6	3.61	C
1979	8	1	811 5.7	39.086	118.196	0.01	6	2.1	11.31	C
1979	8	1	152352.4	38.088	118.605	0.01	3	2.4	5.50	C
1979	8	1	154021.2	36.848	122.777	8.91	4	2.7		
1979	8	1	154125.1	40.704	119.479	0.04	4	2.2	3.25	C
1979	8	1	175400.2	37.601	118.945	0.16	5	2.9		
1979	8	2	35846.4	40.229	117.702	1.21	10	2.2		
1979	8	3	43042.8	37.620	118.898	0.08	6	3.2	9.74	C
1979	8	3	43253.4	37.615	118.897	0.05	6	3.5	9.47	D
1979	8	4	05130.4	37.784	118.829	0.03	5	2.2	7.39	D
1979	8	4	53359.7	38.741	117.958	0.20	9	2.5	12.67	B
1979	8	4	6 528.0	38.743	117.962	0.13	9	2.2	11.61	A
1979	8	6	21159.8	37.506	118.834	0.18	6	2.1	12.27	D
1979	8	6	541 8.4	37.570	118.892	0.14	4	2.2	0.80	C
1979	8	7	195837.7	37.641	118.842	0.15	4	2.0	1.42	C
1979	8	8	5 849.2	37.702	118.816	0.01	5	2.2	7.95	C
1979	8	9	143906.5	37.532	118.682	0.43	9	2.6	8.70	
1979	8	11	134851.6	39.421	120.206	0.15	12	1.6	14.81	C
1979	8	11	182232.3	38.243	118.323	0.29	9	3.2	6.30	

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1979	8	11	182719.7	38.274	118.324	0.18	6	2.3		
1979	8	12	9 1 7.3	38.681	118.815	0.03	5	2.0	2.48	D
1979	8	12	113121.0	37.281	115.012	0.53	9	4.2		
1979	8	12	125303.9	37.320	115.064	1.09	11	3.1		
1979	8	12	154639.5	37.277	115.058	0.12	9	3.8	3.00	
1979	8	13	54428.8	39.967	120.181	0.10	9	1.4	0.98	C
1979	8	13	81532.4	37.346	115.021	0.02	6		15.80	
1979	8	13	95002.2	37.403	114.869	1.12	5	3.4	11.40	
1979	8	13	182339.3	37.366	114.945	0.47	8	3.8	16.20	
1979	8	13	22 7 8.4	38.791	119.551	0.06	10	2.1	5.47	D
1979	8	13	233229.2	37.138	115.070	1.05	8	3.0		
1979	8	14	30311.4	37.092	114.982	2.94	11	3.9		
1979	8	15	21128.2	36.913	113.837	3.79	5			
1979	8	15	52053.4	38.663	119.440	0.03	5	1.5	1.48	D
1979	8	15	200529.9	37.309	115.028	0.75	11	2.9		
1979	8	16	33747.7	37.312	115.062	0.81	16	3.7		
1979	8	16	154958.9	37.314	115.041	0.74	12	3.1		
1979	8	17	10 927.2	39.157	119.653	0.06	11	1.9	3.73	B
1979	8	17	1238 2.4	39.153	119.660	0.10	14	2.9	3.65	B
1979	8	18	14713.8	38.428	119.359	0.02	6	2.0	1.38	D
1979	8	18	24536.5	38.431	119.357	0.06	7	2.0	1.54	D
1979	8	18	24919.5	39.153	119.648	0.13	8	2.5	0.31	C
1979	8	18	548 5.7	38.431	119.357	0.11	7	2.4	16.67	C
1979	8	18	213325.6	38.069	119.032	0.20	8	2.3	14.68	C
1979	8	21	1 642.0	38.020	118.868	0.04	5	2.0	0.07	D
1979	8	23	2247 3.7	38.046	118.908	0.10	6	1.7	1.02	D
1979	8	24	41027.5	38.890	118.003	0.15	7	2.4	10.98	C
1979	8	25	183313.9	37.560	118.833	0.05	6	2.8	5.35	C
1979	8	25	23 415.5	38.072	118.875	0.03	5	1.9	3.19	C
1979	8	28	61315.3	37.541	118.854	0.08	6	2.1	10.78	C
1979	8	30	0 2 9.2	38.386	118.371	0.15	6	1.5	0.67	C
1979	8	30	01724.0	38.077	119.068	0.04	7	2.0	9.65	C
1979	8	30	18 148.5	37.532	118.832	0.08	5	2.7	9.95	D
1979	8	30	18 711.0	37.556	118.822	0.07	5	2.6	11.26	D
1979	8	30	214159.4	37.527	118.842	0.07	5	2.3	6.42	C
1979	8	31	21653.1	37.683	118.894	0.06	5	2.4	8.65	D
1979	9	2	2020 9.8	38.250	118.317	0.12	7	1.9	11.62	C
1979	9	4	222447.7	37.503	118.885	0.21	5	1.9	1.62	D
1979	9	4	222452.8	37.720	118.635	0.82	5	1.9		D
1979	9	5	20 710.0	37.537	118.830	0.03	5	2.3	10.73	C
1979	9	6	45927.1	38.511	118.401	0.11	8	1.7	9.81	B
1979	9	7	94348.0	37.592	118.911	0.09	9	4.2	0.69	C
1979	9	7	234948.1	39.987	120.113	0.08	10	2.0	1.22	C
1979	9	10	192650.3	37.639	118.878	0.03	4	2.5	11.70	C
1979	9	10	192651.6	37.697	118.829	0.09	5	2.5		D

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1979	9	11	103235.4	38.470	118.395	0.11	7	1.5	11.67	B
1979	9	11	1953 0.9	38.465	118.397	0.05	8	1.8	11.43	B
1979	9	11	205251.9	38.457	118.400	0.14	7	1.4	2.21	C
1979	9	11	224438.6	38.462	118.405	0.16	8	1.8	5.75	C
1979	9	13	4 2 4.4	38.755	117.866	0.14	6	1.4	8.05	D
1979	9	14	74113.8	37.408	118.530	0.05	8	2.7		C
1979	9	14	225059.2	38.217	118.315	0.15	9	2.0	1.06	C
1979	9	14	23 244.2	38.218	118.317	0.15	9	2.7	0.44	C
1979	9	15	211 0.2	38.218	118.317	0.15	9	2.0	2.36	C
1979	9	16	52051.8	40.619	117.711	1.04	10	2.7		
1979	9	16	52053.9	40.310	117.626	1.75	10	2.2		
1979	9	17	153142.0	38.211	118.322	0.18	10	1.7	13.06	C
1979	9	17	154836.0	38.211	118.321	0.18	10	1.3	11.70	C
1979	9	17	16 2 3.8	38.211	118.319	0.18	11	1.7	10.19	C
1979	9	18	54949.7	38.206	118.291	0.06	6	1.2	17.55	C
1979	9	18	121439.9	38.217	118.305	0.23	9	1.9	0.20	C
1979	9	18	134756.2	37.615	118.795	0.22	5	2.8	1.39	D
1979	9	19	24440.4	39.771	120.738	0.12	14	3.0	10.59	D
1979	9	19	94927.5	38.389	118.080	0.20	9	1.2	12.21	B
1979	9	21	01823.5	37.591	118.913	0.09	7	2.2	3.76	C
1979	9	21	85658.0	38.561	118.368	0.01	5	1.7	11.74	C
1979	9	21	92723.4	37.630	118.888	0.09	6	2.2	6.52	C
1979	9	22	31258.4	38.376	117.864	0.32	6	2.3		
1979	9	22	125646.7	38.202	118.278	0.09	5	2.6	16.30	
1979	9	24	13 5 4.2	37.589	118.897	0.06	8	4.1	1.02	C
1979	9	24	142246.7	37.617	118.868	0.10	6	2.5	10.25	C
1979	9	24	142619.5	37.595	118.909	0.08	8	3.8	0.43	C
1979	9	24	15 120.8	37.626	118.885	0.22	8	3.3		D
1979	9	25	19 3 4.2	37.581	118.895	0.14	6	2.6	3.89	D
1979	9	26	214534.7	37.593	118.912	0.08	9	3.3	2.08	C
1979	9	26	2325 9.3	40.190	121.524	0.37	7	2.6	27.52	D
1979	9	26	233140.6	38.723	117.914	0.08	7	2.3	11.05	B
1979	9	27	83528.0	36.832	117.480	0.14	5	2.6		
1979	9	29	53751.0	39.354	118.112	0.09	9	2.7	2.90	C
1979	9	30	182620.6	38.519	117.891	0.09	9	1.8	11.38	B
1979	10	1	115148.1	37.575	118.814	0.10	7	3.1	7.79	C
1979	10	1	1237 1.7	37.557	118.833	0.11	9	3.0	2.54	C
1979	10	1	165209.9	40.818	116.319	0.66	10	3.0	14.70	
1979	10	1	180049.3	37.350	118.588	0.10	9	2.1	8.70	
1979	10	2	133838.0	37.524	118.847	0.04	5	2.2	1.06	D
1979	10	3	55110.7	40.653	117.664	1.39	7	1.9		
1979	10	3	85424.8	37.625	118.881	0.06	6	3.0		C
1979	10	3	85830.6	37.617	118.880	0.08	7	3.0	8.71	C
1979	10	5	24910.9	37.664	118.860	0.15	5	2.2	12.83	D
1979	10	5	45135.1	37.575	118.893	0.10	8	2.9	3.75	C

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1979	10	7	205441.2	38.233	119.352	0.12	12	4.9	8.44	C
1979	10	7	21 5 7.9	38.215	119.352	0.23	10	3.0	8.14	C
1979	10	7	21 959.7	38.241	119.358	0.10	11	3.9	8.45	C
1979	10	7	212052.7	38.243	119.358	0.10	10	4.4	8.09	C
1979	10	7	213035.7	38.240	119.360	0.12	11	2.8	9.24	C
1979	10	7	214117.5	38.237	119.331	0.23	11	1.9	8.87	D
1979	10	7	214523.4	38.213	119.335	0.11	10	4.1	8.57	C
1979	10	7	2249 4.3	38.223	119.341	0.13	11	3.4	9.68	C
1979	10	7	233244.4	38.208	119.337	0.15	10	3.7	9.03	C
1979	10	7	2344 8.7	38.215	119.331	0.12	11	3.3	8.33	C
1979	10	7	234517.3	38.219	119.339	0.09	9	3.0	8.69	C
1979	10	8	02354.3	38.242	119.365	0.17	11	3.6	8.52	D
1979	10	8	04744.5	38.226	119.358	0.13	11	4.0	8.55	C
1979	10	8	12946.8	38.235	119.353	0.15	12	2.8	10.14	C
1979	10	8	2 049.3	38.236	119.365	0.20	12	2.8	9.86	D
1979	10	8	2 153.3	38.244	119.358	0.13	10	3.0	9.01	C
1979	10	8	2 231.0	38.219	119.310	0.42	8	3.3	27.61	D
1979	10	8	33423.7	38.208	119.331	0.12	10	4.4	9.14	C
1979	10	8	92856.0	38.205	119.329	0.11	12	3.0	9.08	C
1979	10	8	93836.0	38.221	119.338	0.10	10	3.7	8.26	C
1979	10	8	1214 1.6	38.237	119.356	0.11	10	4.0	8.29	C
1979	10	9	22 010.1	38.222	119.340	0.10	10	4.2	7.58	C
1979	10	9	23 730.9	38.245	119.364	0.12	10	2.1	9.48	C
1979	10	9	233356.0	38.226	119.341	0.11	9	2.0	9.16	C
1979	10	10	15053.6	38.081	118.223	0.14	6	1.9	0.94	D
1979	10	10	53729.4	39.086	118.084	0.09	6	1.6	9.36	C
1979	10	10	62126.2	38.213	119.339	0.16	11	1.7	10.05	C
1979	10	10	63130.7	38.225	119.344	0.17	9	1.8	4.66	D
1979	10	10	121658.7	38.249	119.361	0.16	10	1.7	9.48	C
1979	10	10	125518.7	38.243	119.363	0.28	14	2.8	7.05	C
1979	10	10	141722.0	38.216	119.343	0.19	11	2.0	7.95	D
1979	10	10	1419 1.1	38.230	119.332	0.19	11	1.9	8.16	C
1979	10	10	144131.4	38.224	119.338	0.13	11	2.9	8.21	C
1979	10	10	162311.0	39.101	118.111	0.08	7	2.4	4.45	C
1979	10	10	1926 6.9	38.245	119.366	0.15	12	2.9	9.56	C
1979	10	10	194934.9	38.235	119.353	0.14	10	2.0	9.65	C
1979	10	11	21522.6	38.236	119.357	0.18	12	2.1	10.41	C
1979	10	11	52525.6	38.620	119.277	0.11	14	2.5	13.64	B
1979	10	11	95351.8	38.246	119.366	0.14	12	1.9	9.21	C
1979	10	11	151118.0	38.217	119.335	0.12	11	1.9	8.88	C
1979	10	11	153137.2	38.235	119.357	0.17	11	2.3	10.30	C
1979	10	11	203545.1	38.232	119.338	0.11	9	1.6	9.57	C
1979	10	12	31412.1	38.249	119.367	0.11	12	1.8	8.60	C
1979	10	12	44447.9	38.249	119.371	0.11	10	2.6	10.54	D
1979	10	12	113116.8	38.224	119.340	0.07	8	2.1	2.02	D

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1979	10	13	21355.3	38.220	119.342	0.11	9	1.9	11.07	C
1979	10	13	142012.5	38.246	119.366	0.15	11	2.8	11.11	C
1979	10	14	336 5.8	38.221	119.335	0.13	9	1.9	9.28	D
1979	10	14	104917.4	39.596	120.088	0.11	11	2.6	10.25	C
1979	10	14	145359.7	38.250	119.342	0.09	6	2.0	10.54	D
1979	10	15	113.9	38.036	117.082	0.31	9	3.2	12.50	
1979	10	15	30455.5	38.010	117.112	0.46	8	2.7		
1979	10	16	12348.9	38.245	119.357	0.13	9	2.3	11.28	C
1979	10	17	221716.1	38.088	118.865	0.06	6	1.9	5.10	C
1979	10	18	194618.3	39.577	120.669	0.10	9	2.2	21.92	C
1979	10	20	94021.5	38.249	119.364	0.09	7	3.2	9.98	D
1979	10	23	142025.8	39.120	118.605	0.08	10	1.8	15.10	C
1979	10	24	83124.1	38.246	119.369	0.15	10	2.0	13.02	C
1979	10	24	83548.5	38.244	119.372	0.13	10	1.9	11.40	C
1979	10	24	85046.5	38.246	119.372	0.12	10	2.5	10.89	C
1979	10	24	152409.8	40.357	122.514	1.34	14	4.9		
1979	10	25	22520.5	37.687	118.847	0.04	6	2.3		C
1979	10	25	143055.8	38.247	119.367	0.19	11	2.0	11.11	C
1979	10	25	221253.5	37.470	118.884	0.08	5	2.5	3.88	D
1979	10	26	93557.3	39.111	118.591	0.15	12	2.2	18.15	B
1979	10	27	121348.7	38.248	119.346	0.13	10	1.8	9.94	D
1979	10	28	174845.2	35.560	121.081	70.08	7	2.6		
1979	10	28	2229 6.7	37.541	118.908	0.18	5	2.1	6.30	D
1979	10	28	231222.2	37.563	118.879	0.09	6	3.1	2.19	C
1979	10	28	232323.5	37.651	118.864	0.15	5	2.1	12.26	C
1979	10	28	10916.9	37.640	118.901	0.13	5	2.6	3.60	
1979	10	28	32434.8	37.604	118.897	0.18	6	2.6		
1979	10	29	1 916.9	37.652	118.862	0.14	5	2.6	12.17	D
1979	10	29	32434.1	37.583	118.887	0.04	6	2.2	4.68	C
1979	10	29	933 5.9	37.535	119.395	0.13	6	2.1	4.42	D
1979	10	29	12 942.6	37.541	118.831	0.13	7	2.3	0.97	C
1979	10	29	210141.2	37.605	118.939	0.79	7	3.2		
1979	10	31	74830.0	37.463	118.618	0.06	6	2.0	4.69	C
1979	11	1	125826.7	37.499	118.843	0.08	5	2.4	9.98	D
1979	11	1	125828.0	37.546	118.777	0.26	8	2.5		D
1979	11	1	1342 3.8	38.237	119.339	0.13	9	2.0	10.50	C
1979	11	1	17 727.3	39.013	118.241	0.00	4	1.5	9.58	C
1979	11	3	53234.9	39.660	119.322	0.09	11	1.7	13.49	C
1979	11	3	15 4 2.4	39.634	118.392	0.14	8	2.8	13.09	D
1979	11	3	164849.3	37.333	117.539	0.57	7	2.3		
1979	11	4	142230.6	37.556	118.905	0.14	5	2.3	8.66	C
1979	11	5	231021.3	37.557	118.867	0.08	6	3.1	0.13	C
1979	11	6	52543.2	39.084	118.334	0.14	11	3.0	15.27	C
1979	11	7	62723.9	37.610	118.854	0.03	6	4.1		C
1979	11	7	639 5.4	37.568	118.872	0.06	6	2.7	2.95	C

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1979	11	7	655 6.1	37.602	118.860	0.03	5	2.4	6.57	C
1979	11	7	74415.5	37.619	118.871	0.07	5	2.3	7.91	C
1979	11	7	8 911.7	37.565	118.894	0.07	4	2.4	3.05	C
1979	11	7	8 912.9	37.639	118.859	0.19	5	2.4	12.34	D
1979	11	7	81724.0	37.548	118.893	0.09	5	2.7	3.22	D
1979	11	7	211135.0	38.248	119.370	0.14	9	2.3	11.05	C
1979	11	8	94332.0	39.930	117.799	0.63	6	2.3		
1979	11	8	134540.2	37.574	118.851	0.14	5	2.1	13.47	D
1979	11	9	119 9.5	39.366	119.961	0.13	13	2.1	0.37	C
1979	11	9	43552.7	37.553	118.893	0.16	6	2.1	4.52	C
1979	11	9	9 053.3	37.660	118.853	0.10	5	3.5	13.11	C
1979	11	9	93014.7	37.570	118.879	0.17	6	2.5		D
1979	11	9	101155.5	37.652	118.853	0.12	5	4.2	12.52	C
1979	11	9	1437 0.6	37.587	118.842	0.14	6	2.5	4.90	D
1979	11	9	161637.9	37.645	118.830	0.06	6	2.5		C
1979	11	9	173316.4	37.712	118.779	0.08	4	2.8		C
1979	11	9	174558.9	37.655	118.818	0.06	5	4.1		D
1979	11	9	175349.6	37.669	118.813	0.03	5	2.7	8.09	C
1979	11	9	175416.1	37.671	118.798	0.06	5	4.3		D
1979	11	9	193154.3	37.542	118.887	0.15	4	2.5	2.62	C
1979	11	9	193155.3	37.602	118.865	0.20	5	2.6		D
1979	11	9	201057.6	37.575	118.870	0.02	6	3.1	4.68	C
1979	11	9	203854.3	37.608	118.855	0.02	5	3.0	6.83	C
1979	11	9	21 449.5	37.651	118.843	0.11	5	3.4	12.94	C
1979	11	9	222138.4	37.602	118.865	0.08	6	2.5	2.58	C
1979	11	9	222654.7	37.645	118.844	0.14	5	3.6	12.73	C
1979	11	9	225913.4	37.548	118.868	0.23	6		0.64	D
1979	11	9	225932.7	37.587	118.862	0.10	5	3.6	3.79	D
1979	11	10	2 349.9	37.540	118.864	0.30	7	2.8	1.88	D
1979	11	10	7 711.2	37.553	118.875	0.12	5	2.4	7.52	D
1979	11	10	945 8.6	37.604	118.861	0.02	5	4.2	6.69	C
1979	11	10	145926.7	37.583	118.862	0.03	5	2.5	6.36	C
1979	11	10	152019.7	37.568	118.878	0.22	6	2.6	1.14	D
1979	11	10	2251 1.0	37.553	118.868	0.07	7	2.5	3.32	C
1979	11	11	135443.4	37.663	118.947	0.16	6	2.7	6.84	D
1979	11	11	14 753.6	37.592	118.900	0.15	6	2.8	3.77	D
1979	11	11	142739.5	37.636	118.907	0.17	5	2.7	7.20	D
1979	11	11	1439 9.6	37.587	118.903	0.11	5	2.5	1.31	D
1979	11	11	1451 1.6	37.566	118.886	0.25	6	2.6	3.51	D
1979	11	12	5 936.0	37.581	118.858	0.05	7	2.4	7.36	C
1979	11	12	14 951.6	37.614	118.877	0.07	8	3.1	6.99	B
1979	11	12	21 331.6	37.562	118.934	0.05	7	2.5	6.54	C
1979	11	13	0 352.6	37.582	118.884	0.19	9	2.3	7.21	C
1979	11	13	62018.1	37.579	118.909	0.03	7	2.5	5.08	C
1979	11	13	75138.6	37.573	118.908	0.03	5	1.9	11.46	C

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1979	11	13	9 8 7.7	37.579	118.904	0.00	5	1.9	12.27	C
1979	11	13	115642.1	37.592	118.902	0.01	4	1.6	7.80	C
1979	11	13	141829.5	37.578	118.911	0.04	4	2.1	3.42	C
1979	11	13	1621 2.5	37.582	118.860	0.18	9	2.3		C
1979	11	13	162701.8	37.559	118.885	0.05	7	2.3	12.20	
1979	11	13	212335.9	37.603	118.850	0.05	4	1.6	8.15	C
1979	11	13	22 431.7	37.592	118.893	0.01	4	1.8	12.22	C
1979	11	14	1 544.2	37.601	118.900	0.04	7	3.3	5.50	C
1979	11	14	34948.5	37.579	118.814	0.07	4	2.0		C
1979	11	15	0 1 0.3	37.593	118.813	0.06	7	2.3	7.52	C
1979	11	15	45331.3	37.493	118.638	0.11	8	2.8		C
1979	11	15	124554.0	37.574	118.879	0.13	7	2.8	2.22	C
1979	11	15	124940.4	37.568	118.883	0.19	7	2.3	2.50	D
1979	11	15	125227.3	37.579	118.877	0.13	7	2.5	3.22	C
1979	11	15	204718.2	37.582	118.826	0.15	7	2.5	10.17	C
1979	11	15	205133.7	37.605	118.828	0.03	7	3.4		B
1979	11	16	144111.9	37.592	118.877	0.23	6	2.2		D
1979	11	16	214325.3	37.557	118.826	0.12	7	2.6	10.50	C
1979	11	16	214825.6	37.598	118.829	0.05	7	3.8	8.81	B
1979	11	16	2150 9.8	37.588	118.829	0.02	7	3.3	8.33	C
1979	11	16	215343.9	37.556	118.849	0.02	5	2.1	13.28	C
1979	11	16	215345.0	37.592	118.826	0.25	6	2.1	6.55	D
1979	11	16	215544.2	37.571	118.826	0.05	5	2.5	11.07	C
1979	11	16	215637.7	37.554	118.853	0.01	5	2.4	13.14	C
1979	11	16	22 325.8	37.598	118.824	0.03	7	2.8	8.97	B
1979	11	17	1014 5.8	37.577	118.714	0.23	5	2.6	3.04	D
1979	11	17	172858.9	37.608	118.787	0.19	6	2.4	17.34	D
1979	11	17	184641.2	37.640	118.806	0.04	5	3.5	15.75	C
1979	11	17	214753.1	37.640	118.826	0.44	7	3.3	13.24	C
1979	11	18	4 758.9	37.605	118.888	0.17	9	2.3	7.10	C
1979	11	18	5 525.7	37.592	118.838	0.10	9	2.5	6.36	C
1979	11	18	121250.5	37.597	118.847	0.11	5	2.4	1.96	D
1979	11	18	1553 7.6	37.599	118.877	0.04	8	2.3		C
1979	11	19	45552.0	37.600	118.874	0.10	8	3.3		C
1979	11	19	81735.1	37.610	118.849	0.03	8	3.4	7.84	B
1979	11	20	44215.9	37.612	118.871	0.05	8	2.4		B
1979	11	20	5 329.8	37.562	118.832	0.08	8	2.9	8.06	C
1979	11	20	63138.0	37.619	118.866	0.03	8	2.5	7.86	B
1979	11	20	155531.9	37.598	118.803	0.00	5	2.9	5.30	C
1979	11	20	172358.9	37.600	118.839	0.02	7	4.3	5.63	C
1979	11	20	1854 5.2	37.592	118.846	0.02	5	2.2	6.38	C
1979	11	20	221758.4	38.253	119.373	0.15	7	2.0	15.10	C
1979	11	21	85946.3	37.597	118.866	0.04	7	3.4	6.08	C
1979	11	21	112460.0	37.586	118.847	0.03	6	2.9	7.28	C
1979	11	21	1125 0.2	37.596	118.841	0.03	7	2.9	6.14	B

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1979	11	21	13 258.7	37.600	118.851	0.03	7	2.4	6.80	B
1979	11	21	155554.2	37.589	118.845	0.02	6	2.5	8.27	C
1979	11	21	225124.4	37.592	118.858	0.01	5	2.2	5.91	C
1979	11	22	45639.2	37.566	118.822	0.04	6	2.2		C
1979	11	22	75957.9	37.601	118.849	0.04	6	2.3	7.33	C
1979	11	22	115411.0	37.592	118.862	0.04	7	3.0	5.70	C
1979	11	22	152341.5	37.592	118.844	0.05	5	2.6	7.60	C
1979	11	23	214 3.0	37.592	118.835	0.05	7	2.3	6.54	C
1979	11	23	555 0.5	37.592	118.844	0.02	5	2.1	7.22	C
1979	11	23	134410.6	37.584	118.790	0.05	6	2.5	9.40	C
1979	11	23	194641.2	37.567	118.791	0.02	6	2.1	10.13	C
1979	11	24	42930.0	37.605	118.785	0.09	9	3.2	7.39	B
1979	11	25	64659.9	37.598	118.842	0.03	8	3.4	6.89	B
1979	11	25	84335.8	38.249	119.363	0.07	7	3.0	16.61	C
1979	11	25	951 4.9	38.243	119.363	0.02	7	2.4	16.57	C
1979	11	25	155944.3	37.592	118.842	0.04	5	2.1	7.62	D
1979	11	26	53848.8	37.582	118.826	0.06	8	2.5	6.49	C
1979	11	26	918 2.4	37.570	118.831	0.06	9	2.4	6.18	C
1979	11	26	172629.7	37.541	118.826	0.11	5	3.5	5.88	C
1979	11	26	172630.7	37.600	118.806	0.07	5	3.5	1.26	C
1979	11	26	2253 8.2	37.577	118.907	0.06	7	2.4	5.06	C
1979	11	27	31056.3	37.592	118.826	0.03	7	2.3	5.47	B
1979	11	27	1439 3.2	38.440	119.061	0.10	7	3.2	14.28	C
1979	11	28	194340.0	37.592	118.826	0.03	5	2.2	4.72	C
1979	11	29	052 9.6	37.592	118.846	0.05	8	2.4	5.96	C
1979	11	29	82331.2	37.599	118.786	0.04	8	3.3	6.53	C
1979	11	29	82840.3	37.585	118.788	0.10	6	2.0	9.76	D
1979	11	30	52534.8	37.597	118.835	0.06	8	3.2	7.09	B
1979	11	30	73313.2	37.616	118.825	0.01	5	1.7	3.10	C
1979	11	30	73333.3	37.592	118.839	0.05	5	3.2	7.48	D
1979	11	30	211521.2	37.560	118.826	0.03	5	2.5		D
1979	12	1	154 9.5	37.481	118.658	0.18	8	2.1		D
1979	12	2	5 0 2.3	37.608	118.902	0.05	8	2.4	5.44	B
1979	12	2	92552.0	37.592	118.823	0.03	5	2.4	5.61	D
1979	12	2	122912.4	37.598	118.839	0.05	8	2.5	7.25	B
1979	12	2	232643.2	37.592	118.840	0.05	8	2.6	6.94	C
1979	12	3	151527.5	37.592	118.841	0.01	5	1.9	8.38	C
1979	12	4	156 2.0	37.491	118.869	0.12	6	1.8	13.28	D
1979	12	4	156 3.2	37.535	118.826	0.18	6	1.9		D
1979	12	4	71029.3	37.555	118.869	0.08	7	2.2	11.02	C
1979	12	4	1228 1.8	37.592	118.842	0.03	5	2.3	7.45	D
1979	12	5	45245.1	37.592	118.846	0.06	5	2.1	5.55	D
1979	12	5	528 9.3	37.592	118.826	0.02	5	2.1	6.20	C
1979	12	5	144237.9	39.139	119.581	0.05	7	1.1	11.19	C
1979	12	5	144259.2	39.139	119.582	0.06	7	1.1	9.68	C

YEAR	MO	DAY	HRMINSEC	LAT	LON	RMS	NSTA	MAG	DEPTH	Q
1979	12	6	193238.6	37.590	118.830	0.04	8	4.3	6.44	C
1979	12	6	204558.7	37.588	118.834	0.02	7	2.6	6.47	C
1979	12	8	15536.4	37.577	118.829	0.07	8	2.6	6.19	C
1979	12	8	131919.5	37.589	118.845	0.06	8	3.1	5.99	C
1979	12	8	132049.4	37.560	118.860	0.10	8	3.0	2.43	C
1979	12	8	213852.1	37.585	118.875	0.05	9	4.2	6.92	C
1979	12	9	2 816.5	37.590	118.826	0.06	7	3.7	6.44	C
1979	12	9	829 9.5	37.577	118.835	0.09	7	2.7	6.58	C
1979	12	9	83125.0	37.491	118.864	0.11	6	2.1	13.90	D
1979	12	9	83318.6	37.567	118.826	0.06	5	2.5	7.87	C
1979	12	10	111159.2	37.601	118.788	0.03	8	2.5	6.56	B
1979	12	11	183239.7	37.600	118.846	0.03	8	3.2	6.60	B
1979	12	12	0 742.4	37.592	118.840	0.01	5	2.2	7.24	C
1979	12	12	142119.9	37.669	118.859	0.08	7	2.3		B
1979	12	12	162815.8	37.661	118.862	0.04	5	2.3	11.13	C
1979	12	12	22 026.6	37.670	118.846	0.06	5	2.0		C
1979	12	13	104434.8	38.263	119.344	0.20	10	2.8	11.91	C
1979	12	13	113528.3	38.258	119.344	0.11	10	2.8	11.09	C
1979	12	14	011746.5	38.571	119.613	0.48	7	2.2		
1979	12	14	045306.8	37.608	118.949	0.25	6	2.6		
1979	12	14	060211.4	37.613	118.937	0.24	8	3.7		
1979	12	14	195018.5	37.563	118.979	0.01	5	1.8	11.86	D
1979	12	15	051522.9	38.035	117.030	0.02	5	2.3	11.00	
1979	12	15	115928.6	37.666	118.854	0.05	8	2.2		B
1979	12	15	154946.8	37.975	118.717	0.18	9	2.5	1.05	C
1979	12	15	1614 4.9	37.974	118.713	0.18	7	2.7	0.29	C
1979	12	16	62915.6	37.592	118.826	0.04	8	3.7	7.08	B
1979	12	16	65153.9	37.199	118.593	0.18	7	3.1	5.24	D
1979	12	16	104415.4	37.574	118.833	0.11	9	3.4	7.13	C
1979	12	17	92542.5	37.589	118.830	0.02	6	2.4	7.48	C
1979	12	17	23 417.3	37.569	118.840	0.01	5	2.2	4.21	C
1979	12	18	73527.6	37.540	118.849	0.06	7	2.3	8.13	C
1979	12	18	203132.0	37.585	118.831	0.02	6	2.1	5.01	C
1979	12	19	2 253.0	37.606	118.929	0.01	7	2.5	7.54	C
1979	12	19	203105.6	39.237	116.345	0.33	10	3.4	16.00	
1979	12	19	21 635.0	37.572	118.832	0.11	8	2.5	7.81	C
1979	12	20	22736.4	37.595	118.935	0.04	10	3.4	7.15	C
1979	12	20	141727.0	37.586	118.826	0.07	7	2.5	7.55	C
1979	12	22	932 7.3	37.664	118.848	0.03	7	3.1	7.06	B
1979	12	22	114027.8	37.618	118.916	0.04	7	2.4	6.86	B
1979	12	22	114855.0	37.612	118.918	0.12	6	2.3	6.88	C
1979	12	22	222136.8	37.592	118.771	0.02	5	2.2	5.47	C
1979	12	23	193456.9	37.598	118.938	0.07	5	2.2	6.94	C
1979	12	25	1033 5.4	37.588	118.820	0.00	4	2.5	6.91	C
1979	12	25	141712.8	37.320	117.030	0.16	8	3.9	11.00	

YEAR	MO	DAY	HRMINSEC	LAT	LOX	RMS	NSTA	MAG	DEPTH	Q
1979	12	25	142413.0	37.307	117.027	0.28	8	2.9	16.00	
1979	12	26	0 2 6.7	37.614	118.924	0.08	7	2.4	7.22	B
1979	12	26	8 8 4.3	37.522	118.757	0.03	6	4.1	8.04	C
1979	12	26	172018.7	37.589	118.830	0.04	5	2.7	7.38	C
1979	12	27	135204.9	39.099	115.565	0.15	7	2.6	9.00	
1979	12	27	1641 3.9	37.604	118.923	0.09	5	2.5	7.15	C
1979	12	28	25238.5	37.640	118.843	0.12	7	3.1	5.59	B
1979	12	28	25533.9	37.644	118.842	0.08	7	2.8	4.57	B
1979	12	28	32949.2	37.638	118.850	0.03	7	3.9	7.06	B
1979	12	28	42225.0	37.646	118.845	0.06	7	2.9	5.31	B
1979	12	28	44038.6	37.648	118.847	0.06	8	3.2	5.39	B
1979	12	28	163142.6	39.250	116.364	0.16	9	2.6	13.00	
1979	12	28	2158 3.4	37.592	118.826	0.40	8	2.5		C
1979	12	29	5 3 5.5	37.601	118.932	0.11	6	2.2	6.59	C
1979	12	29	63153.3	37.528	118.852	0.14	7	2.5	7.19	D
1979	12	29	15 246.3	38.476	118.401	0.10	9	2.4	11.56	C
1979	12	29	15 514.9	38.473	118.401	0.08	9	3.5	12.10	C
1979	12	29	151359.0	38.473	118.372	0.18	8	1.9	16.35	C
1979	12	29	152015.4	38.473	118.406	0.08	6	2.5	9.68	C
1979	12	30	18 432.1	37.531	118.845	0.15	7	2.5	6.83	D
1979	12	31	814 4.1	38.889	118.996	0.23	7	1.6	9.65	D
1979	12	31	82713.1	38.469	118.397	0.07	6	2.6	12.87	C
1979	12	31	82752.5	38.469	118.396	0.09	6	4.9	10.70	C
1979	12	31	83735.3	38.471	118.402	0.09	6	1.1	9.85	C
1979	12	31	838 6.8	38.470	118.394	0.07	7	3.7	10.58	B
1979	12	31	191446.5	38.474	118.397	0.11	6	2.1	13.23	B