UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

APRIL-JUNE 1980

OPEN-FILE REPORT 83-14

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards.

Menlo Park, California

1983

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA
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INTRODUCTION

The Office of Earthquake Studies (formerly the National Center for Earthquake Research) of the U.S. Geological Survey (USGS) began a program of telemetered seismic recording in south-central Alaska in 1971. The principal objectives of this program have been to use data recorded by this network to precisely locate earthquakes in the active seismic zones of southern Alaska, delineate seismically active faults, assess seismic risk, document potential premonitory earthquake phenomena, investigate current tectonic deformation, and study the structure and physical properties of the crust and upper mantle. A task fundamental to all of these goals is the routine cataloging of earthquake parameters for earthquakes located within and adjacent to the seismograph network.

The initial network of 10 stations, 7 around Cook Inlet and 3 near Valdez, was installed in 1971. In subsequent summers additions or modifications to the network were made. By the fall of 1973, 26 stations extended from western Cook Inlet to eastern Prince William Sound, and 4 stations were located to the east between Cordova and Yakutat. A year later 20 additional stations were installed. Thirteen of these were placed along the eastern Gulf of Alaska with support from the National Oceanic and Atmospheric Administration (NOAA) under the Outer Continental Shelf Environmental Program to investigate the seismicity of the outer continental shelf, a region of interest for oil exploration. During the subsequent years the region covered by the network has remained relatively fixed while effort has been made to improve the instrumentation and installation of the stations in order to make them more reliable.

The locations of the stations of the USGS seismograph network are plotted in Figure 1 and listed in Table 1 along with the additional stations from which readings were obtained. Each USGS station has a single, vertical-component seismometer. The stations GLB, PNL, RDT, SKN, and VLZ also have north-south- and east-west-oriented horizontal seismometers.

This earthquake catalog presents origin times, focal coordinates and magnitudes for 1,302 shocks occurring in the second quarter of 1980. Readings from a total of 65 stations were used to locate the shocks, including 12 stations operated by the NOAA Alaska Tsunami Warning Center (ATWC, formerly Palmer Observatory), 6 stations operated by the Geophysical Institute of the University of Alaska (U. of A.), and 4 stations operated in southwest Yukon Territory by the Department of Energy, Mines and Resources, Canada.

Earthquakes in south-central Alaska as small as magnitude 3.0 have been routinely located by the National Earthquake Information Service of the USGS and its predecessor since the great Alaska earthquake of 1964 and are published in the reports "Preliminary Determination of Epicenters" (PDE). In contrast, the shocks included in this catalog are as small as magnitude 1.0 and most are smaller than magnitude 3.0. Data for the larger historic earthquakes that occurred in south-central Alaska through 1975 have been tabulated by Meyers (1976).

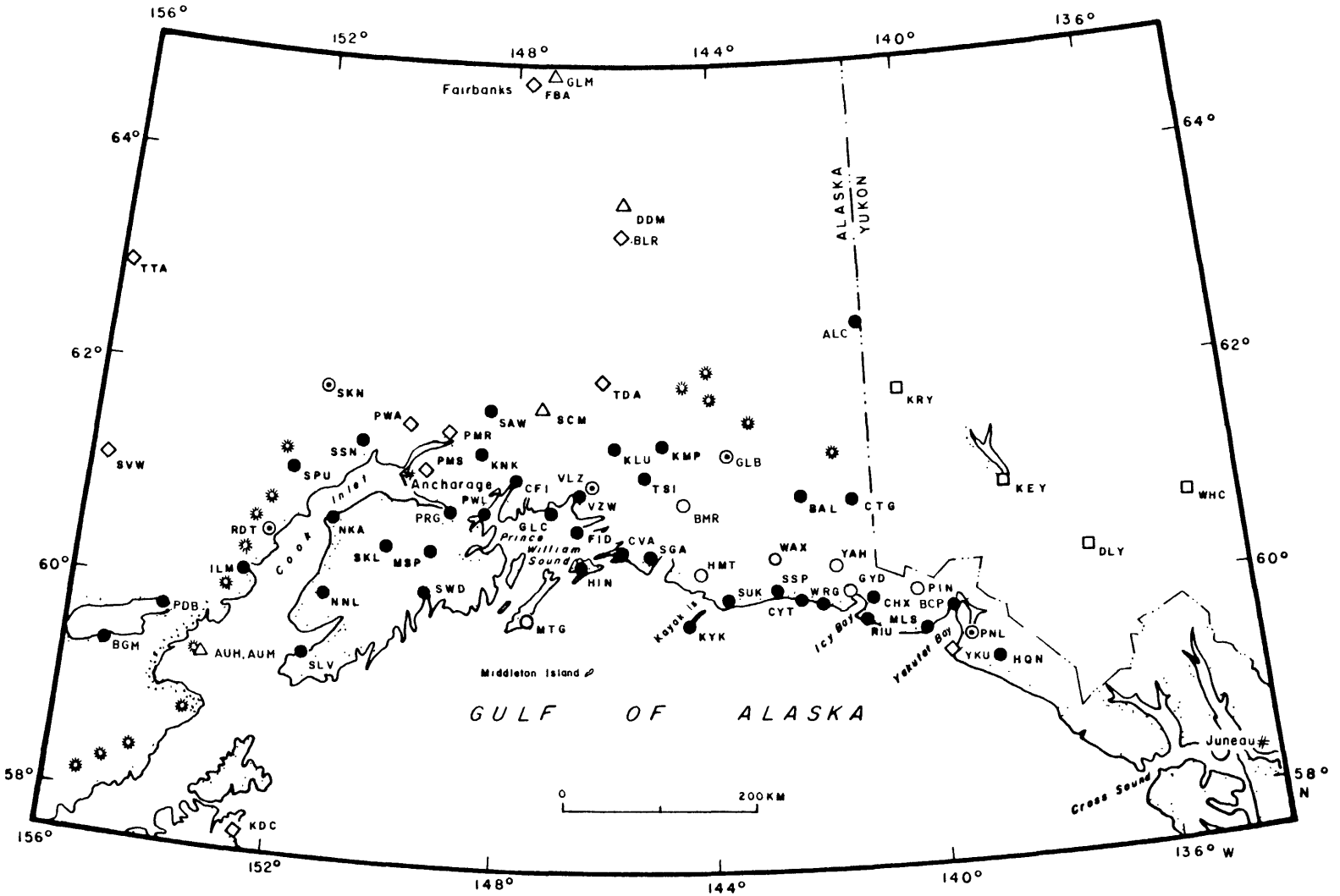

Figure 1. Map showing the locations of all USGS seismograph stations in southern Alaska and other stations used in the preparation of this catalog. The symbols are as follows: solid circles, vertical component USGS seismograph; circles with dots, three-component USGS seismographs; open circles, USGS stations not reporting during this quarter; diamonds, ATWC stations; triangles, Univ. of Alaska stations; squares, Dept. Energy, Mines and Resources, Canada. Quaternary volcanoes (after King, 1969) are indicated by stars.

Table 1. Station Data

STA CODE	STATION NAME	LATITUDE N	LONGITUDE W	ELEV M	P MOD	D KM	DLY1 SEC	DLY2 SEC	DLY3 SEC	TDLY SEC	MAG AT 1 HZ	INST
ALC	ALCAN	62 37.35	141 0.50	582	3	0.01	0.00	0.00	0.00	0.00		USGS
AUH	AUGUSTINE DOME	59 21.83	153 26.21	1068	1	0.01	0.00	0.00	0.00	0.00		UOFA
AUM	AUGUSTINE MOUND	59 22.26	153 21.17	106	1	0.01	0.00	0.00	0.00	0.00		UOFA
BAL	BALDY	61 2.17	142 20.67	1300	3	0.01	0.00	0.00	-0.19	0.00	152000	USGS
BCP	BANCAS POINT	59 57.20	139 38.10	396	3	0.01	0.00	0.00	-0.80	-0.27	76000	USGS
BGM	BIG MOUNTAIN	59 23.56	155 13.76	625	1	0.01	0.00	0.00	0.00	-0.27	76000	USGS
BLR	BLACK RAPIDS	63 30.10	145 50.70	809	2	0.01	0.00	0.00	0.00	0.00		ATWC
BMR	BREMNER RIVER	60 58.09	144 36.18	823	2	0.01	0.00	0.00	1.92	-0.27	38000	USGS
CFI	COLLEGE FIORD	61 10.96	147 45.99	3	2	0.01	0.00	0.00	0.00	0.00	38000	USGS
CHX	CHAIX HILLS	60 3.75	141 7.10	1067	3	0.01	0.00	0.00	-0.05	-0.27	38000	USGS
CTG	CHITNA GLACIER	60 57.90	141 20.00	1554	3	0.01	0.00	0.00	-0.53	0.00	38000	USGS
CVA	CORDOVA	60 32.79	145 44.96	90	2	0.01	0.00	0.00	0.00	-0.27	38000	USGS
CYT	CAPE YAKATAGA	60 4.47	142 24.68	323	3	0.01	0.00	0.00	0.57	-0.27	9500	USGS
DDM	DONNELY DOME	63 47.23	145 51.70	920	1	0.01	0.00	0.00	0.00	0.00		UOFA
DLY	DEZADEASH LAKE	60 22.20	137 3.90	738	3	0.01	0.00	0.00	2.37	0.00		EMRC
FBA	COLLEGE OUTPOST	64 54.00	147 47.60	320	1	0.01	0.00	0.00	0.00	0.00		ATWC
FID	FIDALGO	60 43.73	146 35.79	488	2	0.01	0.00	0.00	0.00	-0.27	38000	USGS
GKC	GOLD KING CREEK	64 10.72	147 56.08	490	1	0.00	0.00	0.00	0.00	0.00		UOFA
GLB	GILAHINA BUTTE	61 26.51	143 48.63	845	3	0.01	0.00	0.00	1.60	0.00	76000	USGS
GLC	GLACIER ISLAND	60 53.44	147 4.38	3	2	0.01	0.00	0.00	0.00	-0.27	76000	USGS
GLM	GILMORE DOME	64 59.23	147 23.33	820	2	0.01	0.00	0.00	0.00	0.00		UOFA
GYO	GUYOT	60 8.78	141 28.29	183	3	0.01	0.00	0.00	-0.06	-0.27	38000	USGS
HIN	HINCHINBROOK ISLAND	60 23.81	146 30.10	611	2	0.01	0.00	0.00	2.09	-0.27	38000	USGS
HMT	HAMILTON	60 20.19	144 15.64	620	3	0.01	0.00	0.00	-0.55	-0.27	76000	USGS
HQN	HARLEQUIN	59 27.10	138 52.62	372	3	0.01	0.00	0.00	0.00	-0.27	76000	USGS
ILM	ILIAMNA	60 10.92	152 48.97	550	1	0.01	0.44	0.00	0.00	0.00	79700	USGS
IMA	INDIAN MOUNTAIN	66 4.11	153 40.72	1380	1	0.01	0.00	0.00	0.00	-0.27		ATWC
KDC	KODIAK	57 44.87	152 29.50	13	1	0.01	0.00	0.00	0.00	-0.27		ATWC
KEY	KLUANE LAKE	61 3.00	138 30.10	785	3	0.01	0.00	0.00	1.71	0.00		EMRC
KLU	KLUTINA	61 29.57	145 55.21	1021	2	0.01	0.00	0.00	0.00	0.00	304000	USGS
KMP	KIMBALL PASS	61 30.78	145 1.09	1143	2	0.01	0.00	0.00	0.00	-0.27	152000	USGS
KNK	KNIK GLACIER	61 24.75	148 27.34	595	2	0.01	0.00	0.00	0.00	0.00	76000	USGS
KRY	KOIDERN RIVER	61 58.20	140 24.50	686	3	0.01	0.00	0.00	3.09	0.00		EMRC
KYK	KAYAK ISLAND	59 52.10	144 31.39	375	2	0.01	0.00	0.00	1.97	-0.27	23100	USGS
MLS	MALASPINA GLACIER	59 46.00	140 9.00	30	3	0.01	0.00	0.00	0.09	-0.27	19000	USGS
MSP	MOOSE PASS	60 29.35	149 21.64	150	1	0.01	0.00	0.00	0.00	0.00	87400	USGS
MTG	MONTAGUE ISLAND	59 54.71	147 29.82	31	2	0.01	0.00	0.00	0.00	-0.27	9500	USGS
NKA	NIKISHKA	60 44.58	151 14.28	100	1	4.00	1.36	0.00	0.00	0.00	6600	USGS
NNL	NINILCHIK	60 2.53	151 17.78	366	1	4.00	0.67	0.00	0.00	0.00	34200	USGS
PDB	PEDRO BAY	59 47.27	154 11.55	305	1	0.01	0.00	0.00	0.00	-0.27	304000	USGS
PIN	PINNACLE	60 5.80	140 15.40	975	3	0.01	0.00	0.00	-0.01	-0.27	76000	USGS
PMR	PALMER OBSERVATORY	61 35.53	149 7.85	100	1	0.01	0.00	0.00	0.00	0.00		ATWC
PMS	ARCTIC VALLEY	61 14.68	149 33.63	716	1	0.01	0.00	0.00	0.00	0.00		ATWC
PNL	PENINSULA	59 40.06	139 23.82	585	3	0.01	0.00	0.00	-1.10	-0.27	76000	USGS
PRG	PORTAGE	60 51.87	149 1.21	55	1	0.01	0.00	0.00	0.00	0.00	38700	USGS
PWA	HOUSTON	61 39.05	149 52.72	137	1	0.01	0.70	0.00	0.00	0.00		ATWC
PWL	PORT WELLS	60 51.56	148 20.09	549	2	0.01	0.00	0.00	0.00	0.00	152000	USGS
RDT	REDOUBT	60 34.43	152 24.37	930	1	0.01	0.36	0.00	0.00	0.00	76000	USGS
RIU	RIOU	59 52.65	141 13.80	15	3	0.01	0.00	0.00	1.09	-0.27	2300	USGS
SAW	SAWMILL	61 48.49	148 19.98	740	2	0.01	0.00	0.00	0.00	0.00	76000	USGS
SCM	SHEEP MOUNTAIN	61 50.00	147 19.66	1020	2	0.01	0.00	0.00	0.00	0.00		UOFA
SGA	SHERMAN GLACIER	60 32.04	145 12.42	424	2	0.01	0.00	0.00	2.17	-0.27	76000	USGS
SIT	SITKA	57 3.42	135 19.47	19	3	0.01	0.00	0.00	0.00	-0.27		ATWC
SKL	SKILAK	60 30.86	150 12.96	690	1	0.01	0.10	0.00	0.00	0.00	76000	USGS
SKN	SKWENTNA	61 58.82	151 31.78	564	1	0.01	0.00	0.00	0.00	0.00	152000	USGS
SLV	SELDOVIA	59 28.28	151 34.83	91	1	0.01	0.00	0.00	0.00	0.00	73700	USGS
SPU	SPURR	61 10.90	152 3.26	800	1	0.01	0.39	0.00	0.00	0.00	193800	USGS
SSN	SUSITNA	61 27.83	150 44.60	1297	1	0.01	0.67	0.00	0.00	0.00	76000	USGS
SSP	SUNSHINE POINT	60 12.30	142 49.80	305	3	0.01	0.00	0.00	0.79	-0.27	50500	USGS
SUK	SUCKLING HILLS	60 3.32	143 47.31	299	3	0.01	0.00	0.00	2.14	-0.27	19000	USGS
SVW	SPARREVOHN	61 6.49	155 37.30	762	1	0.01	0.00	0.00	0.00	-0.27		ATWC
SWD	SEWARD	60 6.22	149 26.96	91	1	0.01	0.00	0.00	0.00	0.00	42700	USGS
TOA	TOLSONA	62 6.29	146 10.34	909	2	0.01	0.00	0.00	0.00	0.00		ATWC
TSI	TSINA	61 13.57	145 20.24	1113	2	0.01	0.00	0.00	0.00	-0.27	76000	USGS
TTA	TATALINA	62 55.80	156 1.32	914	1	0.01	0.00	0.00	0.00	-0.27		ATWC
VLZ	VALDEZ	61 7.89	146 19.92	10	2	0.01	0.00	0.10	0.00	-0.27	76000	USGS
VZW	VALDEZ WEST	61 3.54	146 33.24	796	2	0.01	0.00	0.00	0.00	-0.27	76000	USGS
WAX	WAXELL RIDGE	60 26.90	142 51.10	975	3	0.01	0.00	0.00	0.61	-0.27	45600	USGS
WHC	WHITEHORSE	60 44.20	135 5.90	732	3	0.01	0.00	0.00	2.55	0.00		EMRC
WRG	WHITE RIVER GLACIER	60 2.27	142 1.90	550	3	0.01	0.00	0.00	0.66	-0.27	38000	USGS
YAH	YAHTSE	60 21.51	141 44.70	2135	3	0.01	0.00	0.00	0.17	-0.27	152000	USGS
YKU	YAKUTAT	59 32.72	139 43.73	15	3	0.01	0.00	0.00	0.35	-0.27		ATWC

This table lists geographic coordinates and other pertinent information of all USGS seismograph stations in southern Alaska and the stations of other institutions used in the preparation of this catalog. P-MOD is the number of the P-wave velocity model assigned to the station (see text), where the numbers 1, 2, and 3 correspond to the western, central, and eastern models. D is the thickness of the low-velocity surficial sedimentary layer in kilometers assigned in the calculation of traveltimes to a given station. DLY1-3 are the station P-phase traveltime delays in seconds. TDLY is the telephone line delay in seconds. The magnification (MAG) of the vertical seismograph component is given at 1 Hz. The institutions (INST) operating the stations other than the USGS are the Alaska Tsunami Warning Center (ATWC), the Geophysical Institute of the University of Alaska (UOFA), and the Department of Energy, Mines, and Resources, Canada (EMRC).

INSTRUMENTATION

The instrumentation in the USGS seismograph network is illustrated in the block diagram in Figure 2. Data from each seismometer are telemetered to the NOAA Alaska Tsunami Warning Center in Palmer. The standard equipment at each field station includes a vertical seismometer with a natural frequency of 1.0 Hz (Mark Products, Model L-4), a package consisting of an amplifier and a voltage-controlled oscillator (VCO model NCER 202, or A1VCO) and "air-cell" storage batteries (McGraw-Edison, Model ST-2-1000). The recently developed A1VCO units (Rogers and others, 1980) have been installed at nearly all of the USGS stations in southern Alaska. These crystal-referenced units have an automatic gain-ranging capability and provide daily information on the gain setting, geophone response, battery voltage, station identification, and temperature. Data are telemetered via a combination of leased telephone circuits (some of which are relayed by satellite and have a -0.30 sec. delay) and VHF (162-174 MHz) radio links. The radio equipment consists of low-power transmitters (100 mW) and receivers adapted from HT-200 Motorola handie-talkie transceivers. Yagi antennae with 9 db directional gain (Scala, Model CAS-150) are used. At some sites where AC power is available, base-station radio receivers (G.E. Model R46AP66B) with greater sensitivity and reliability are used. The central recording facility incorporates a bank of discriminators (NCER J101 or Develco Model 6203), four 16 mm-film multi-channel oscillographs (Teledyne Geotech Develocorder, Model 4000D), a 14-channel analog tape recorder (Bell and Howell Model VR3700B), and a time-code generator (Datum, Model 9100).

The principle of operation is as follows: The seismometer translates movement of the ground into an electrical voltage that is fed into the amplifier/VCO unit where the amplified voltage causes the frequency of an audio-band oscillator to fluctuate about its center frequency. The frequency-modulated (FM) tone from the amplifier/VCO unit is carried directly by voice-grade telephone circuit to the recording site or alternately is fed through a VHF radio link onto a telephone circuit. At the recording site the FM seismic signal is demodulated by a discriminator. The demodulated signal, which is simply an amplified form of the initial signal from the seismometer, is recorded photographically on a multichannel oscillograph, together with time marks from a crystal-controlled chronometer. Twenty-four hours of data for 18 stations can be recorded on a single 43 m-long roll of 16-mm film.

Signals from more than one seismograph can be transmitted on a single telephone circuit by employing VCO units with different center frequencies. In the standard configuration there is a 340 Hz separation between center frequencies and a fixed bandwidth of 250 Hz. Up to eight seismic channels with center frequencies ranging from 680 to 3,060 Hz may be placed on a single voice-grade telephone circuit.

Figure 3 illustrates the response characteristics of the entire seismic system from seismometer to film viewer. The response level at each station is adjusted in steps of 6 decibels so that the ambient seismic noise produces a small deflection of the trace on the film. As a result, the actual response for an individual station may differ from that of the typical station by a factor of 2, 4, 8, etc. The magnification of the typical station is about 6×10^4 at 1 Hz and 10^6 at 10 Hz. The gain of a station that has an A1VCO unit is automatically reduced by a factor of 10 when the fluctuations of the FM signal exceed a preset threshold.

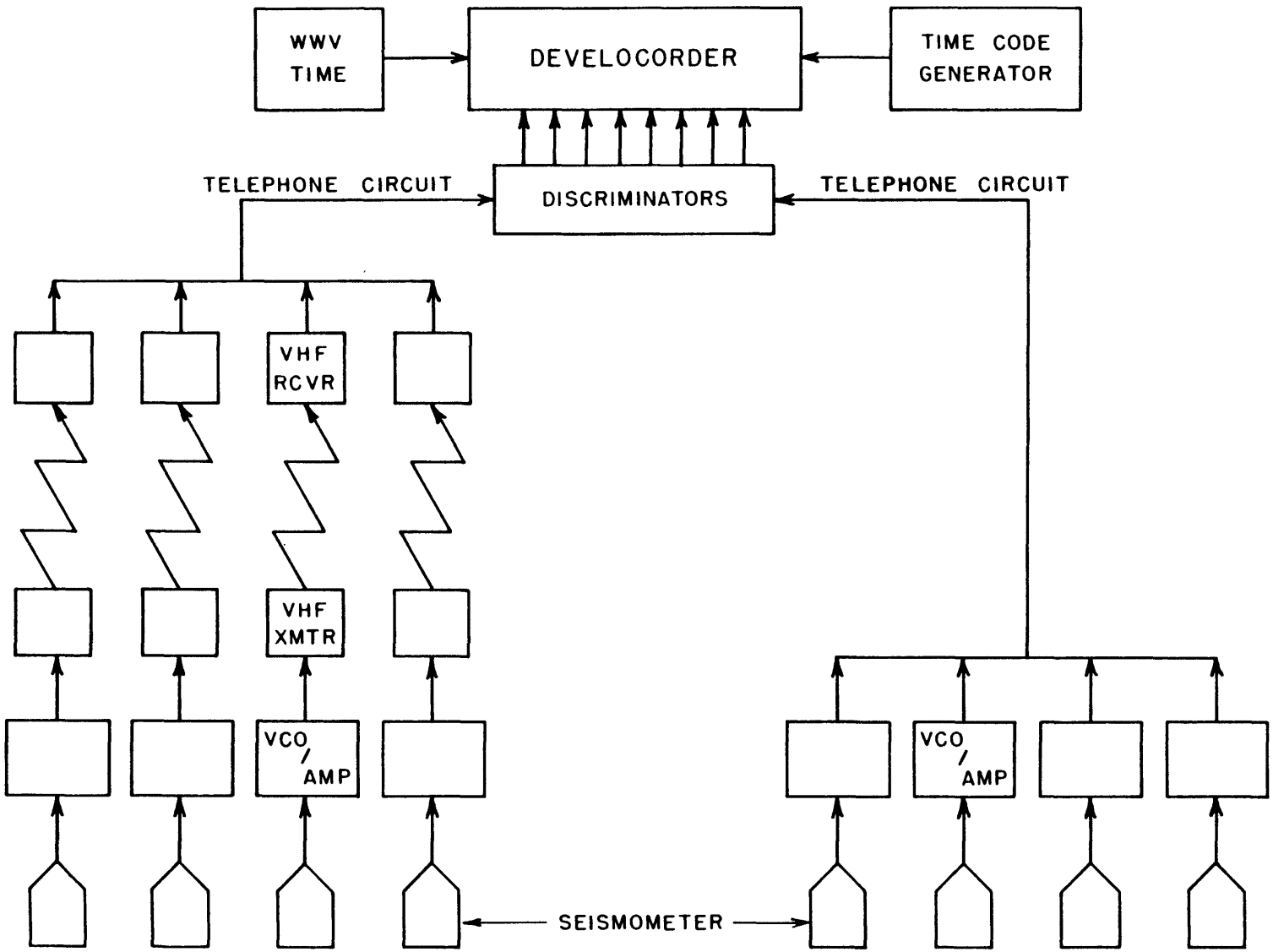

Figure 2. Block diagram of telemetered seismograph system in the USGS Alaska seismic network.

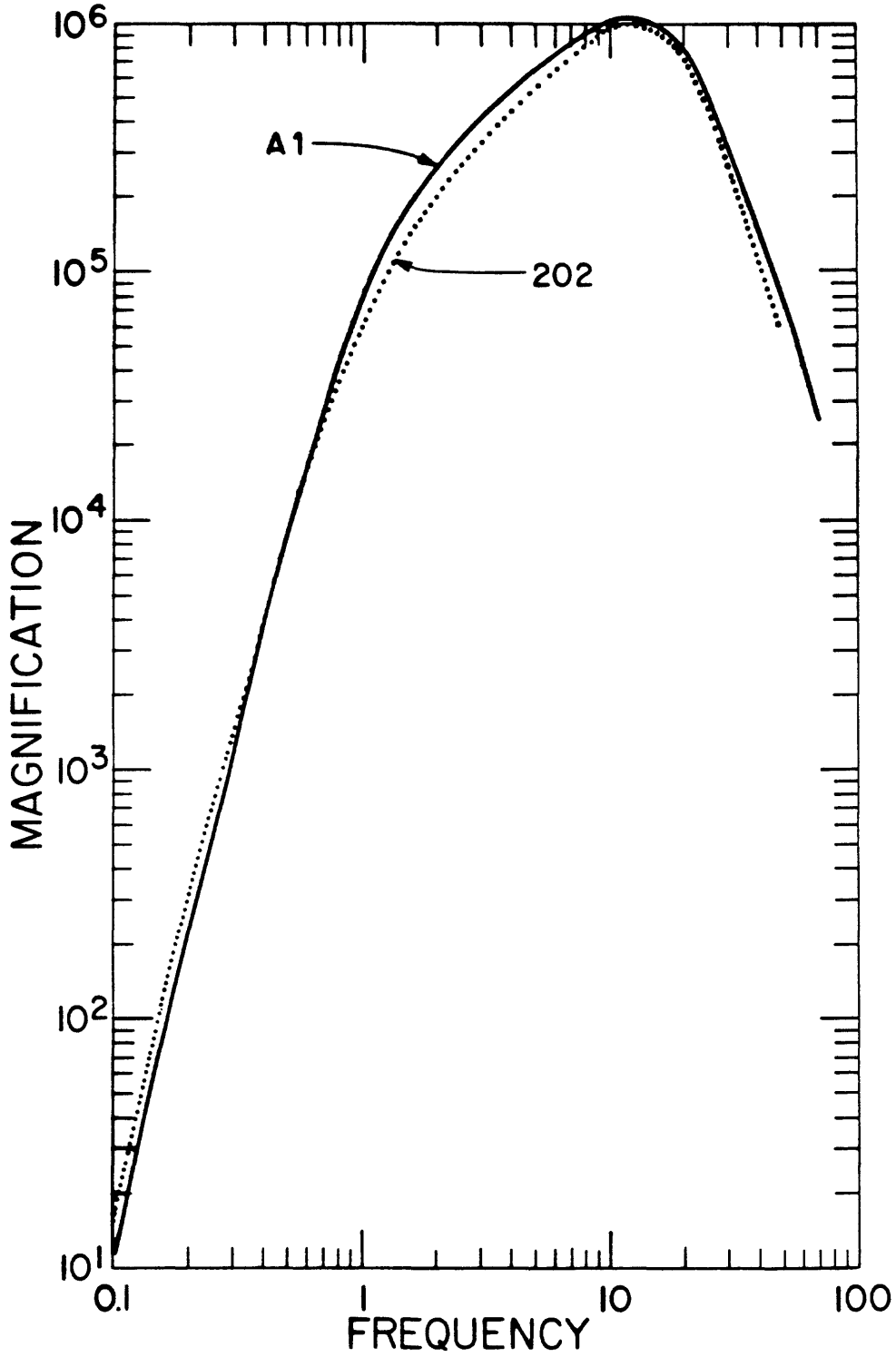

Figure 3. System response curves for typical USGS Alaska seismographs that incorporate the A1VCO unit (solid curve) and the older VCO model NCER 202 unit (dotted curve).

The installation of a typical radio-linked station is shown in Figure 4. Degradation or interruption of data transmission due to inclement weather conditions is a major problem during the winter months. Some indication of the operational reliability of the USGS stations can be inferred from the plot of station use in Figure 5.

DATA PROCESSING

The 16-mm films (four per day) are mailed weekly from Palmer to Menlo Park where the seismic data are processed by the following multi-step routine:

1. Scanning. The scan film, which has 18 stations distributed throughout the network is scanned to identify and note times of all seismic events whether of local, regional, or teleseismic origin.

2. Timing. For the "well-recorded" local earthquakes identified in the scanning process, the following data are read from each station: P- and S- wave arrival times, direction of first motion, duration of signal in excess of a given threshold amplitude, and period and amplitude of maximum recorded signal. The criterion for choosing earthquakes to be timed is the duration of the signal, which is related to the magnitude. The network is divided into three regions--western, central and eastern--bounded approximately by longitudes 156° and 150° W., 150° and 145° W., and 145° and 138° W., respectively. In the western and central regions, only events with signal durations longer than 80 s and 20 s, respectively, are timed. In the eastern region, all earthquakes which are recorded by at least three stations and for which at least four clear arrivals can be read are timed. This criterion was established to select from the large number of earthquakes recorded by the network those shocks that are of greatest interest to current research objectives.

   Timing is done by projecting the seismic traces onto a table and digitizing the onsets of the P- and S-phases. The output from the digitizer, in the form of x-y data pairs on punched computer cards, is converted into phase data by computer using the program DIGIT3 (written by P. Ward and W. Ellsworth for use within the U.S. Geological Survey).

3. Initial computer processing. The phase data from the films is batch processed by computer using the program HYPOELLIPSE (Lahr, 1980) to obtain origin times, hypocenters, magnitudes and, if desired, first-motion plots for fault-plane solutions.

4. Analysis of initial computer results. Each hypocentral solution is checked for traveltime residuals greater than or equal to 0.75 seconds and for a poor spatial distribution of stations. Arrival times that produce large residuals are re-read. For shocks with a poor distribution of stations, readings from additional stations outside the USGS network are sought.

5. Final computer processing. The poor hypocentral solutions are rerun with corrections and the new solutions are checked for large residuals that might be due to remaining errors. Corrections are made as required before the final computer run is made.

Figure 4. Seismograph station (HIN) on Hinchinbrook Island. Testing the strength of the 2-inch diameter water pipe mast which was bent during the preceding winter, probably due to a combination of severe icing followed by high winds.

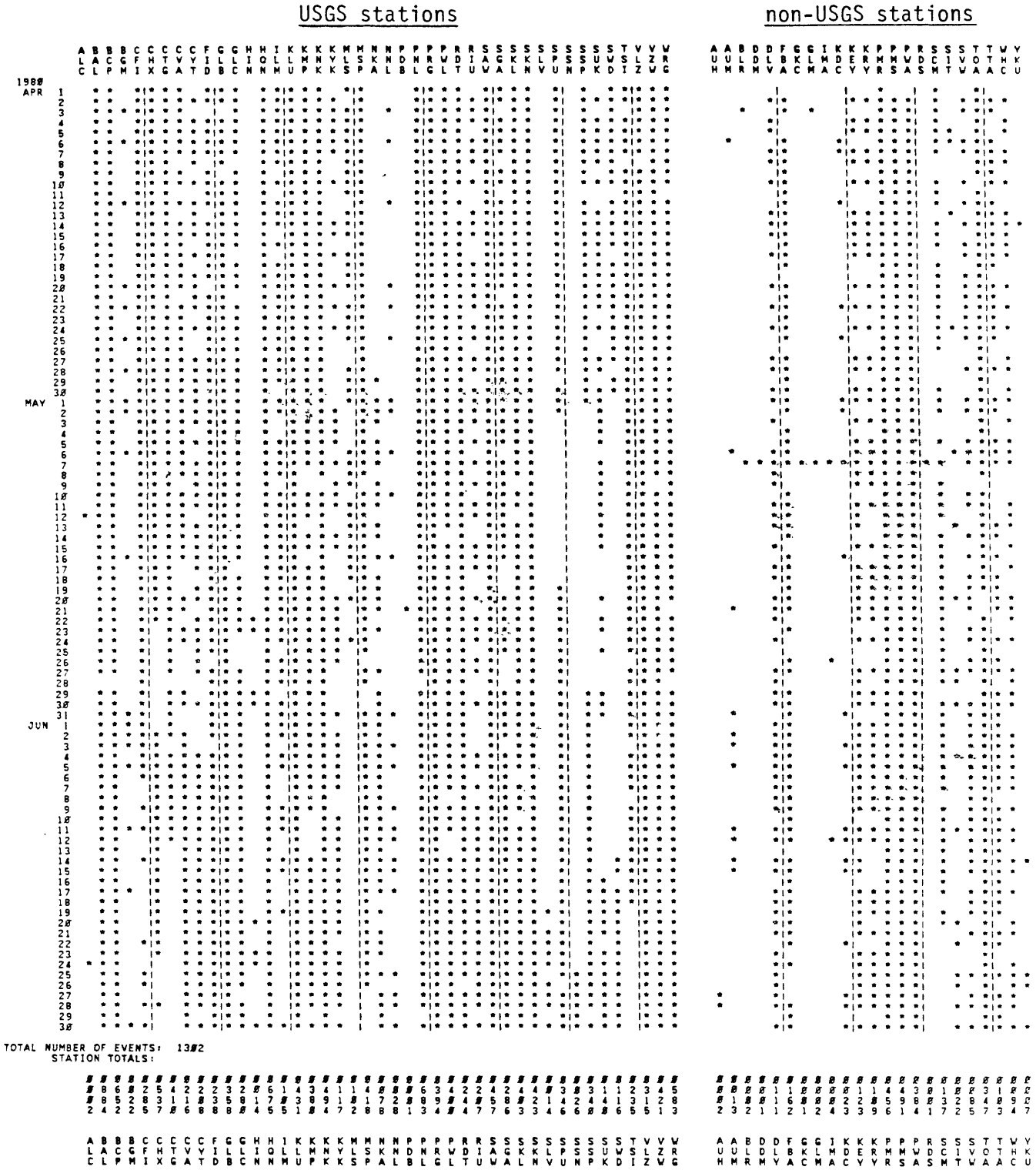

Figure 5. Record of station use during the second quarter of 1980. An asterisk indicates that one or more arrival times from a given station were used for locating earthquakes on a particular day. The totals at the bottom indicate the number of events for which arrival times at a given station were obtained. The USGS stations BMR, GYO, HMT, MTG, PIN, WAX, and YAH were not operational during this quarter and are not listed.

The earthquake locations are based on P and S arrivals. S arrivals are important for determining epicenters of shocks outside the network and depths of events in the Benioff zone beneath the network in Cook Inlet. Unfortunately for some large events, S cannot be read at any station because the traces on the film overlap each other or are too faint to follow.

The HYPOELLIPSE computer program determines hypocenters by minimizing differences between observed and computed traveltimes through an iterative least-squares scheme. In many respects the program is similar to HYPO71 (Lee and Lahr, 1972), which has been used in the preparation of catalogs of central California earthquakes since January 1969. An important feature available in HYPOELLIPSE is the calculation of confidence ellipsoids for each hypocenter. The ellipsoids provide valuable insight into the effect of network geometry on possible hypocentral errors.

VELOCITY MODELS

Our experience with locating earthquakes in southern Alaska suggests that significant lateral variations are present in the velocity structure across the network. Such variations might be expected from the complicated geology and tectonics of the region (e.g., Plafker, 1967). Very little information in the form of direct measurement is available for the velocity structure in southern Alaska. In previous catalogs, only two P-wave velocity models consisting of horizontal layers of constant velocity were used to locate the earthquakes (e.g., Stephens, and others, 1979). These velocity models were derived by minimizing the traveltime residuals for selected sets of earthquakes in the Cook Inlet region (Model A of Matumoto and Page, 1969) and near Valdez. The models proved adequate for locating earthquakes as far east as Kayak Island, but earthquakes located farther to the east often had large traveltime residuals at nearby stations. An improved velocity model for the region east of Kayak Island was developed by minimizing the traveltime residuals for a selected set of aftershocks from the 1979 St. Elias earthquake that occurred north of Icy Bay (Stephens, and others, 1980). A significant difference between this model and the earlier ones is that the new model consists of a single layer of linearly increasing velocity over a half-space of constant velocity, whereas the earlier models consist of several horizontal layers of constant velocity.

In the preparation of this catalog, the method of assigning velocity models to calculate theoretical traveltimes to various stations is different from that used in some earlier catalogs. Previously, the velocity model used was determined by the region in which the earthquake occurred and would then be the same for all stations for that event. In the revised procedure, each station always uses the same velocity model, and the model used is determined by the region in which the station is located. Thus, a station in the eastern region will use the eastern velocity model to calculate traveltimes from events that occur in the western, central, and eastern parts of the network.

West of longitude 148° 45' W. the velocity model used is as follows:

Layer	Depth (km)	P velocity (km/s)
1	0 - D	2.75
2	D - 4	5.3
3	4 - 10	5.6
4	10 - 15	6.2
5	15 - 20	6.9
6	20 - 25	7.4
7	25 - 33	7.7
8	33 - 47	7.9
9	47 - 65	8.1
10	below 65	8.3

The thickness, D, of the first layer is allowed to vary between stations to account for the presence of thick sections of low-velocity sediments beneath the stations NKA and NNL, which are located in the Cook Inlet basin. For these stations D is 4 km. For all other stations D is 0.01 km. It is recognized that a model comprised of uniform horizontal layers may be a poor representation of the actual velocity structure, particularly in the vicinity of a subduction zone (Mitronovas and Isacks, 1971; Jacob, 1972), although such a model does have the advantage of simplifying the computation of traveltimes. In order to determine any bias that might result from this approximation, a set of events in the Benioff zone below Cook Inlet was relocated using a ray-tracing program of E. R. Engdahl that incorporates a more realistic, three-dimensional velocity model (Lahr, 1975). Hypocenter shifts, apparently due to the oversimplified flat-layer model, ranged from near zero at a depth of 60 km to as great as 25 km at the 160 km depth. The offsets were oriented in such a way that the dip of the Benioff zone would appear to be too great for locations based on a flat-layered model.

For earthquakes that occur between longitudes 148° 45' W. and 144° 30' W., the velocity model used to locate the events is:

Layer	Depth (km)	P velocity (km/s)
1	0.0	2.75
2	0.01	6.4
3	below 39	8.0

East of longitude 144° 30' W. the P-wave velocity of the first layer increases linearly from 5.0 km/s at the surface to 7.8 km/s at 32 km depth, while the half-space has a velocity of 8.2 km/s.

P-phase traveltime delays are applied to stations in the network that have consistent and large residuals for the locations of large groups of earthquakes. Each station has three delays (DLY1, DLY2, and DLY3 of Table 1) assigned to it that correspond to the western, central, and eastern regions convered by the network. The particular delay that is used to locate an earthquake is determined by the region in which the earthquake occurs. For example, a station near Icy Bay that is used to locate an earthquake beneath Cook Inlet will be assigned a delay DLY1, but the same station will use DLY3 to locate an earthquake that occurs beneath Icy Bay. Additional delays are applied at several stations to correct for a satellite link in the relay of the

signal. S-phase delays are determined by multiplying the P-delay by 1.78, the P to S velocity ratio.

The initial trial depths for earthquakes which occur in the western, central, and eastern parts of the network are 75, 30, and 15 km, respectively, and reflect a progressive decrease in the range of depths of earthquakes from west to east.

MAGNITUDE

Magnitudes are determined from either the signal duration or the maximum trace amplitude. Eaton and others (1970) approximate the Richter local magnitude, whose definition is tied to maximum trace amplitudes recorded on standard horizontal Wood-Anderson torsion seismographs, by an amplitude magnitude based on maximum trace amplitudes recorded on high-gain, high-frequency vertical seismographs such as those operated in the Alaskan network. The amplitude magnitude XMAG used in this catalog is based on the work of Eaton and his co-workers and is given by the expression (Lee and Lahr, 1972)

$$XMAG = \log_{10} A - B_1 + B_2 \log_{10} D^2 \qquad (1)$$

where A is the equivalent maximum trace amplitude in millimeters on a standard Wood-Anderson seismograph, D is the hypocentral distance in kilometers, and B_1 and B_2 are constants. Differences in the frequency response of the two seismograph systems are accounted for in A. It is assumed, however, that there is no systematic difference between the maximum horizontal ground motion and the maximum vertical motion. The terms $-B_1 + B_2 \log_{10} D^2$ approximate Richter's $-\log_{10} A_0$ function (Richter, 1958, p. 342), which expresses the trace amplitude for an earthquake of magnitude zero as a function of epicentral distance.

For small, shallow earthquakes in central California, Lee and others (1972) express the duration magnitude FMAG at a given station by the relation

$$FMAG = -0.87 + 2.00 \log_{10} T + 0.0035\ DEL \qquad (2)$$

where T is the signal duration in seconds from the P-wave onset to the point where the peak-to-peak trace amplitude on the Geotech Model 6585 film viewer falls below 1 cm and DEL is the epicentral distance in kilometers.

Comparison of XMAG and FMAG estimates from equations (1) and (2) for 77 Alaskan shocks in the depth range 0 to 150 km and in the magnitude range 1.5 to 3.5 reveals a systematic linear decrease of FMAG relative to XMAG with increasing focal depth. To remove this discrepancy, a linear dependence on depth is added to the expression for FMAG as follows:

$$FMAG = -1.15 + 2.00 \log_{10} T + 0.007\ Z + 0.0035\ DEL \qquad (3)$$

where Z is the focal depth in kilometers.

The magnitude preferentially assigned to each earthquake in this catalog is the FMAG estimate. The XMAG value is used only where no FMAG can be determined.

ANALYSIS OF QUALITY

Two types of errors enter into the determination of hypocenters: systematic errors limiting the accuracy of hypocenters and random errors limiting the precision. Systematic errors arise from an incorrect velocity model, misidentification of phases, or systematic timing errors and can be evaluated through controlled experiments such as locating the coordinates of a known explosion. Random errors result from random timing errors and are estimated for each earthquake through the use of standard statistical techniques.

For each earthquake, HYPOELLIPSE calculates the lengths and orientations of the principal axes of the joint confidence ellipsoid. The one-standard- deviation confidence ellipsoid describes the region of space within which one is 68 percent confident that the hypocenter lies, assuming that the only source of error is random reading error. The ellipsoid is a function of the station geometry for each individual event, the velocity model assumed, and the standard deviation of the random reading error. The standard deviation determined from repeated readings of the same phases by four seismologists is as small as 0.01 to 0.02 s for the most impulsive arrivals and as large as 0.10 to 0.20 s for emergent arrivals. The confidence ellipsoids are computed for a standard deviation of 0.16 s and therefore likely overestimate the 68 percent confidence regions. The standard deviation of the residuals for an individual solution is not used to calculate the confidence ellipsoid because it contains information not only about random reading errors but also about the incompatibility of the velocity model to the data. Thus, the confidence ellipsoid is a measure of the precision of the hypocentral solution. In a few extreme cases the value calculated for one of the ellipsoid axes becomes very large corresponding to a spatial direction with very great uncertainty. In these cases an upperbound length of 25 km is tabulated.

To fully evaluate the quality of a hypocenter one must consider both the confidence ellipsoid and the root mean square (RMS) residual for the solution. The RMS residual reflects both systematic and random errors, but the random errors are typically much smaller. Hence the RMS residual is primarily a measure of the incompatibility of the velocity model, misinterpretation of phases, and systematic timing errors. Interpretation of the RMS residual may depend upon the location of the earthquake. In areas where the velocity model is incompatible with the real earth, RMS residuals could be large and betray the incompatibility; alternatively, the RMS residuals could be small and not reflect the error in a bad hypocenter. Where the velocity model is compatible, however, a large RMS residual would indicate probable misreadings of phases.

Other parameters provided by HYPOELLIPSE that are useful in evaluating the quality of a hypocentral solution are: GAP, the largest azimuthal separation between stations measured from the epicenter; D3, the epicentral distance of the third closest station; NP, the number of P arrivals used in the solution; and NS, the number of S arrivals used in the solution. If GAP exceeds 180°, the earthquake lies outside the network of available stations and the solution is generally less reliable than for events occurring inside the network.

DISCUSSION OF CATALOG

Origin times, focal coordinates, magnitudes, and related parameters for 1,302 earthquakes from April-June 1980 are listed in the Appendix. Epicenters for these shocks are plotted in Figure 6. In Figure 7, only the earthquakes with magnitudes greater than 3.5 are plotted. Vertical sections showing the depth distribution of all of the shocks are presented in Figures 8 and 9.

We estimate that this catalog is reasonably complete for shocks larger than magnitude 3.5 in the western, 2.5 in the central, and 2.0 in the eastern regions of the area covered by the network. The minimum magnitude of the listed earthquakes is 0.4 for crustal events ($Z \leq 30$ km) and 2.1 for Benioff zone events deeper than or equal to 100 km.

The precision of the hypocenters or the relative accuracy of the locations of neighboring events is represented by the confidence ellipsoids. The precision of epicenters, expressed in terms of the maximum axes of the projected one-standard-deviation confidence ellipsoids (ERH), averages 5.6, 2.2, and 2.5 km, respectively, in the eastern, central, and western parts of the network. Similarly, the precision of focal depth (ERZ) averages about 6.7, 3.6, and 5.1 km, respectively. The variation in the precision of hypocenter determination across the network is strongly influenced by differences in the station coverage in the different regions.

The absolute accuracy of the earthquake locations is difficult to evaluate in the absence of known explosions. Hypocenter biases equal to and larger than the dimensions of the confidence ellipsoids are not unlikely from the over-simplified velocity model assumed in the preparation of this catalog.

The dominant feature in the distribution of epicenters is the large number of aftershocks from the 1979 St. Elias earthquake in southeastern Alaska. All of the aftershocks with better control in the solution were located at depths less than 30 km, which is consistent with the depths found for aftershocks in the early part of the sequence (Stephens and others, 1980). It is interesting to note that the aftershocks plotted here appear to form spatial clusters similar to those observed in the early part of the sequence. Two of the largest aftershocks (m_b 5.0, PDE) in the sequence occurred on June 30, 1980, immediately east of Icy Bay (Figure 7).

Over 20 earthquakes were located in the region of the Wrangell volcanoes north of about 61° N. near the eastern part of the network (Figure 6). Similar numbers of events have been located near this region in earlier quarters of data. Because the earthquakes occurred outside of the network the hypocenters are generally poorly constrained. For this reason it is not clear whether the events are occurring within the crust or uppermost mantle, or whether the may be associated with particular volcanic centers.

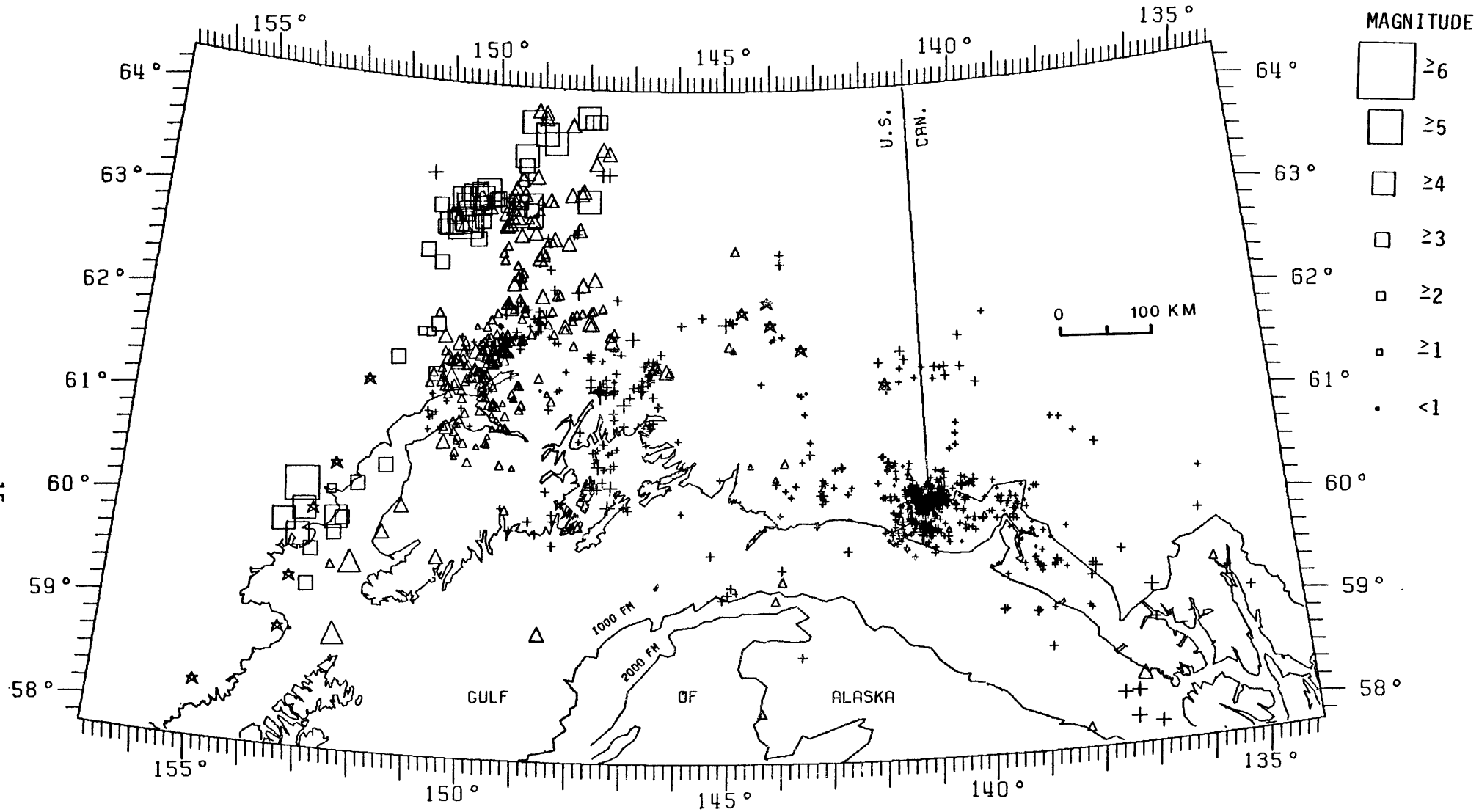

Figure 6. Map of earthquake epicenters for the period April-June 1980. Earthquakes are plotted with a symbol that represents the depth of the hypocenter as follows: "+", <30 km; "△", 30-69 km; "□", ≥70 km. Symbol size is proportional to magnitude. Quaternary volcanoes are indicated by stars.

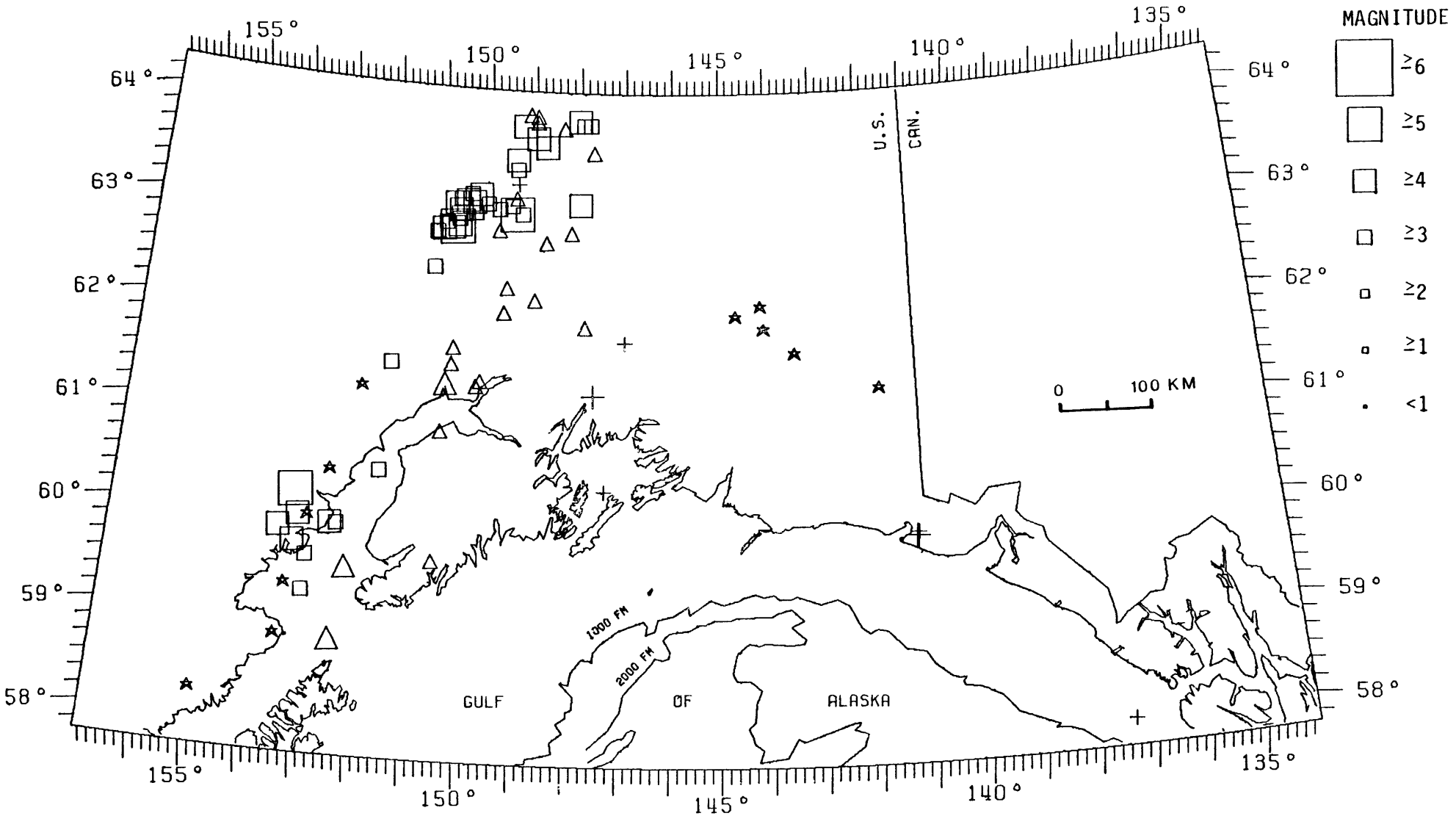

Figure 7. Map showing the epicenters of earthquakes from Figure 6 that have magnitudes of 3.5 and larger. Quaternary volcanoes are indicated by stars.

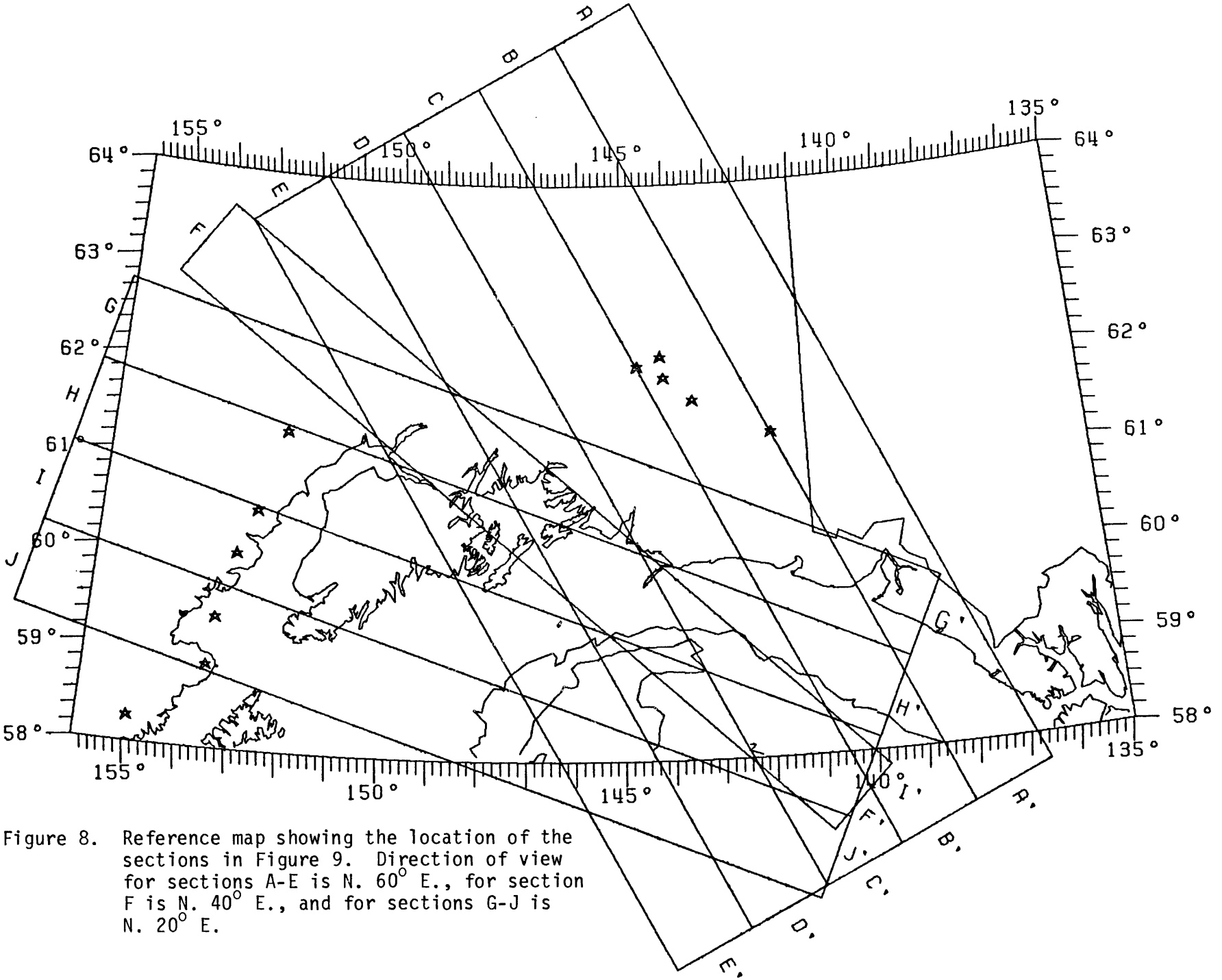

Figure 8. Reference map showing the location of the sections in Figure 9. Direction of view for sections A-E is N. 60° E., for section F is N. 40° E., and for sections G-J is N. 20° E.

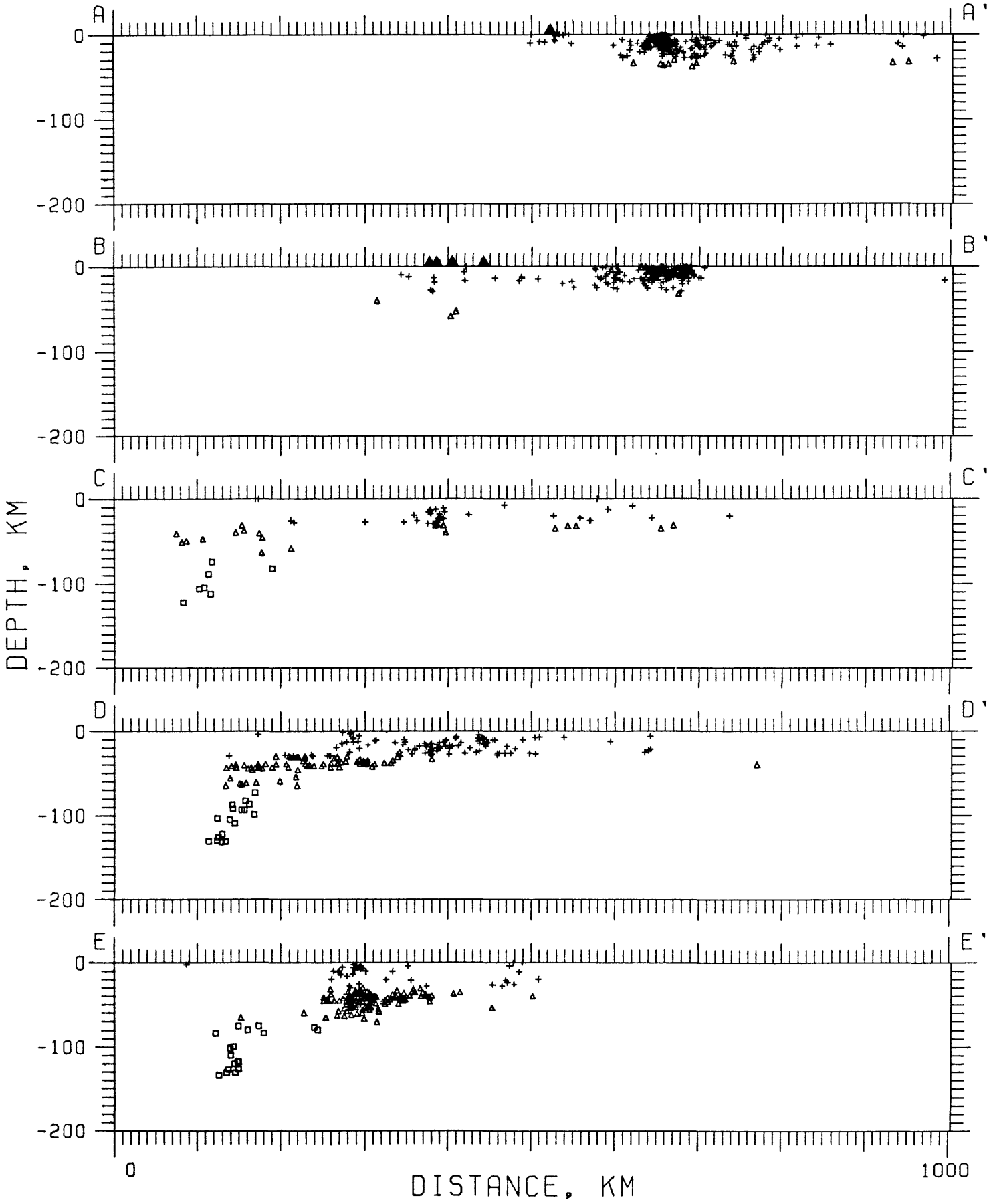

Figure 9. Vertical sections of hypocenters for the areas indicated in Figure 8. Quaternary volcanoes are plotted as solid triangles at zero depth. No vertical exaggeration.

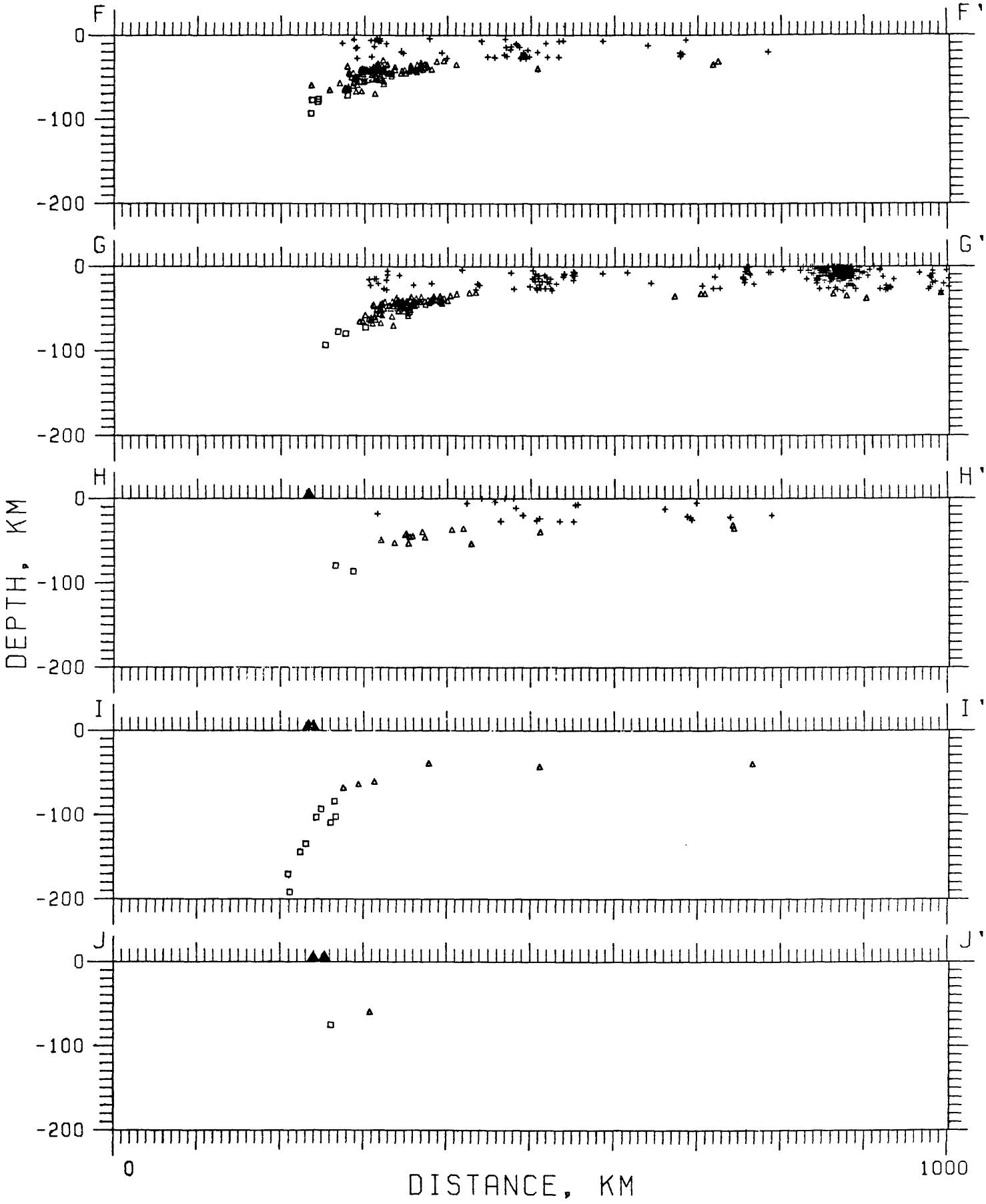

Figure 9. (continued)

Within the Yakataga seismic gap, which is located approximately between Kayak Island and the western limit of the aftershock zone of the 1979 St. Elias aftershock zone, the pattern of seismicity is similar to that observed in earlier quarters. One interesting feature in the seismicity is a small cluster of events that occurred offshore about 75 km east of Middleton Island, at about latitude 59° 30' N., longitude 145° W. Preliminary data through September 1980 (Stephens and Lahr, 1981) suggest that this cluster is part of a significant local increase in seismicity that began in October 1979.

The seismicity throughout the remainder of the network does not vary markedly from that described for previous quarters (Stephens and others, 1979; Fogleman and others, 1978; Lahr, and others, 1974). A well-defined Benioff zone dips to the northwest beneath the Cook Inlet region (Figure 9, sections G-J). The depth to the top of this zone varies from about 50 km beneath the western Kenai Peninsula to about 115 beneath the active volcanoes west of Cook Inlet. The dip of the Benioff zone appears to increase from northeast to southwest, but the depth to the seismic zone beneath the active volcanoes--Augustine, Iliamna, Redoubt and Spurr--is nearly constant at about 115 km.

All of the seismic activity in the southern part of the network east of longitude 146° W. occurs at depths less than about 35 km. The number of larger magnitude earthquakes which occur in the east is considerably smaller than that in the western part of the network (Figure 7). Most of the seismic activity in the eastern part of the network appears to be concentrated beneath Icy Bay and northeast of Kayak Island.

The contents of the Appendix may be obtained in forms amenable to computer input (punched cards or magnetic tape) by contacting the authors.

ACKNOWLEDGMENTS

We thank Robert Eppley, Wayne Jorgensen, and the entire staff of the NOAA Tsunami Warning Center for their assistance in maintaining our recording equipment in Palmer, Alaska, as well as making their seismic data available to us.

We also wish to thank Hans Pulpan, of the Geophysical Institute of the University of Alaska, for a cooperative operation of southern Cook Inlet seismograph stations.

We are indebted to all of those who have spent time fabricating, installing, and maintaining the seismograph network in Alaska, particularly Greg Condrotte and Willian Wong.

Betty McIntire and the staff of the USGS Anchorage office have been of great assistance in solving logistic problems, both in the field and in the office.

This catalog is patterned after those prepared for central California and we gratefully acknowledge Drs. W. H. K. Lee and R. L. Wesson for development of many of the procedures and techniques used herein.

This work was supported jointly by the U.S. Geological Survey and by the National Oceanic and Atmospheric Administration, under which a multi-year program responding to needs of petroleum development of the Alaskan continental shelf is managed by the Outer Continental Shelf Environmental Assessment Program (OCSEAP) Office.

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APPENDIX

Catalog of Earthquakes

Earthquakes from southern Alaska are listed in chronological order. The following data are given for each event:

1. Origin time in Universal Time (UT): date, hour (HR), minute (MN), and second (SEC). To convert to Alaska Standard Time (AST) subtract 10 hours.

2. Epicenter in degrees and minutes of north latitude (LAT N) and west longitude (LONG W).

3. DEPTH, depth of focus in kilometers.

   A letter code after the depth indicates as follows:

   C - Solution was constrained based on EMRC source.
   D - Depth was constrained by a geophysicist.
   P - Solution was constrained based on PDE source.
   W - Station weighting modified (for events outside of network).

4. MAG, coda duration magnitude (FMAG) of the earthquake. A letter following the magnitude indicates a magnitude other than FMAG as follows:

   A - Amplitude magnitude (XMAG), USGS.
   B - Body-wave magnitude (mb), USGS National Earthquake Information Service (NEIS).
   C - Local magnitude (ML), EMRC.
   G - Local magnitude (ML), UOFA.
   H - Helicorder magnitude, an approximate magnitude calculated using an empirical relationship between magnitudes determined from Develocorder records and corresponding coda durations or amplitudes measured on Helicorder records.
   P - Local magnitude (ML), Alaska Tsunami Warning Center.
   S - Surface-wave magnitude (MS), NEIS.

5. NP, number of P arrivals used in locating earthquake.

6. NS, number of S arrivals used in locating earthquake.

7. GAP, largest azimuthal separation in degrees between stations.

8. D3, epicentral distance in kilometers to the third closest station to the epicenter.

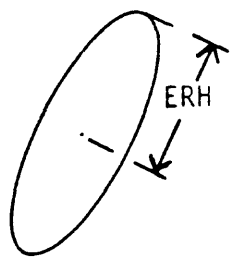
9. RMS, root-mean-square error in seconds of the traveltime residuals:

$$RMS = \left[\frac{\sum^{N} W_i [R_i]^2}{N} \right]^{1/2}$$

where Ri is the observed minus computed arrival time of the ith arrival, Wi is the corresponding weight of the arrival, and the weights are normalized so that their sum equals N, the total number of arrivals used in the solution.

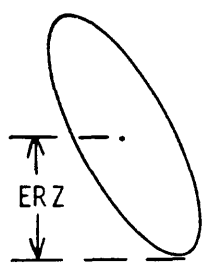
10. ERH, largest horizontal deviation in kilometers from the hypocenter within the one-standard-deviation confidence ellipsoid. This quantity is a measure of the epicentral precision for an event. Values of ERH that exceed 25 km are tabulated as 25 km.

Projection of ellipsoid onto horizontal plane:



11. ERZ, largest vertical deviation in kilometers from the hypocenter within the one-standard-deviation confidence ellipsoid. This quantity is a measure of the depth precision for an event. Values of ERZ that exceed 25 km are tabulated as 25 km.

Projection of ellipsoid onto vertical plane:



12. Q, quality of the hypocenter. This index is a measure of the precision of the hypocenter (see section Analysis of Quality) and is calculated from ERH and ERZ as follows:

Q	ERH	ERZ
A	≤ 2.5	≤ 2.5
B	≤ 5.0	≤ 5.0
C	≤10.0.	≤10.0
D	>10.0	>10.0

13. AZ1, DIP1, and SE1 are the azimuth in degrees (clockwise from north), dip in degrees, and standard error in kilometers of the most nearly horizontal of the three principal axes of the one-standard-deviation error ellipsoid. Values of SE1 that exceed 25 km are tabulated as 25 km.

14. AZ2, DIP2, and SE2 are defined as above, but correspond to the principal axis of intermediate dip.

15. AZ3, DIP3, and SE3 are defined as above, but correspond to the most nearly vertical principal axis.

Magnitudes and felt reports listed below an event were obtained from the Preliminary Determination of Epicenters of the USGS National Earthquake Information Service (NEIS), the Department of Energy, Mines and Resources, Canada (EMRC), or the NOAA Alaska Tsunami Warning Center (ATWC). The body-wave (mb) and surface-wave (Ms) magnitudes are those determined by the NEIS.

SOUTHERN ALASKA EARTHQUAKES, APRIL - JUNE 1980

1980	ORIGIN TIME HR	MN	SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
APR 1	3	46	31.8	61	46.3	149	59.5	45.8	2.3	20	7	154	88	0.47	1.3	3.6	B	86	1	0.8	356	2	1.3	203	88	3.6
1	5	46	5.6	60	10.8	141	11.4	0.8	1.4	8	3	111	88	0.23	2.1	2.8	B	118	8	0.9	23	32	1.2	220	57	3.3
1	6	55	35.9	61	27.6	146	43.1	21.0	1.9	20	6	151	46	0.55	1.0	1.9	A	285	6	0.6	16	9	1.0	162	79	1.9
1	7	20	21.4	60	12.8	141	2.1	9.1	0.9	5	2	135	110	0.10	7.2	6.8	C	122	24	2.0	12	37	1.5	237	43	9.8
1	11	12	56.9	60	15.7	140	55.4	13.4	1.4	9	2	132	70	0.16	2.6	3.1	B	317	3	0.9	81	30	1.4	223	46	3.3
1	18	35	3.4	60	1.0	140	7.5	27.9	0.7A	4	1	281	56	0.15	8.5	3.0	C	335	7	8.6	81	44	2.5	238	43	2.4
2	2	24	53.7	60	8.9	140	51.4	10.3	0.8	6	2	124	136	0.27	6.9	8.1	C	342	18	5.2	84	33	1.1	228	51	10.2
2	6	18	1.0	61	13.2	147	5.0	18.2	3.0	31	2	47	37	0.38	0.8	1.1	A	278	5	0.5	9	9	0.8	159	80	1.1
2	11	17	6.0	60	13.3	141	2.3	35.0	1.1	3	2	205	116	0.29	11.3	12.1	D	344	28	1.6	91	29	6.7	218	48	15.7
2	11	46	33.1	61	31.3	146	34.7	23.7	2.0	20	8	72	52	0.59	0.9	1.6	A	99	1	0.6	9	7	0.9	197	83	1.6
2	11	57	28.1	60	13.8	141	14.2	13.3	2.0	13	5	83	82	0.42	2.1	2.2	A	333	15	0.9	81	39	1.2	227	46	2.8
								2.1 ML EMRC																		
2	12	10	9.6	61	20.9	146	42.3	16.8	1.8	20	6	78	45	0.52	1.2	1.5	A	169	7	1.2	261	10	0.5	45	78	1.5
2	13	5	52.8	60	11.5	141	8.6	1.9	1.3	7	1	128	115	0.04	5.7	6.7	C	335	25	1.5	81	28	2.0	211	50	8.6
2	13	44	14.3	62	10.5	149	17.5	29.7	2.4	21	6	114	66	0.62	1.6	1.5	A	81	18	0.9	328	40	1.3	188	42	1.8
2	15	40	46.7	60	15.3	140	54.4	19.2	1.1A	4	1	144	107	0.02	15.6	16.5	D	142	11	2.3	81	42	2.7	244	40	19.8
2	17	24	32.1	60	11.9	140	59.6	10.7	1.8	11	4	122	60	0.12	1.5	2.5	B	93	11	1.2	358	23	1.0	207	64	2.8
2	22	50	34.0	60	26.9	143	1.5	15.2	1.8	15	8	66	61	0.84	1.4	2.2	A	336	9	0.8	81	20	1.0	225	64	2.3
2	22	57	20.7	61	28.1	146	32.3	24.1	2.2	25	4	70	46	0.58	0.9	1.6	A	9	2	0.9	279	6	0.7	117	84	1.6
2	23	5	24.8	60	28.1	143	3.8	12.3	1.8	18	6	65	61	1.01	1.5	2.2	A	322	0	0.7	81	26	0.9	232	52	2.2
3	2	52	26.8	59	55.2	139	27.3	8.3	0.8	5	3	218	62	0.49	6.3	7.7	C	150	13	1.0	81	37	3.5	258	47	8.4
3	3	46	5.2	63	4.0	149	18.3	98.4	5.3	32	0	112	165	0.59	1.9	9.3	C	41	1	1.6	311	2	1.9	158	88	9.3
	5.0 MB				5.3 ML ATWC					FELT (IV) IN THE PALMER-WILLOW AREA. FELT (III) IN ANCHORAGE AND FAIRBANKS																
3	3	55	19.2	63	13.4	149	19.8	62.3	3.6	17	5	268	179	0.47	6.5	19.6	D	270	0	3.0	0	7	6.1	180	83	19.8
3	5	54	3.2	61	34.5	150	26.4	52.0	2.3	11	5	126	70	0.20	2.2	2.9	B	261	9	0.9	166	22	2.0	12	66	3.0
3	6	46	44.4	57	54.7	136	56.1	28.7	3.0	3	1	357	276	0.32	32.1	28.2	D	81	1	25.0	323	24	25.0	173	54	25.0
3	8	37	30.7	61	35.3	150	29.5	51.7	3.6	25	2	127	70	0.37	1.6	3.5	B	263	1	0.9	173	12	1.5	358	78	3.6
					2.9 ML ATWC					FELT IN THE BIG LAKE AREA																
3	10	19	50.4	60	1.2	147	54.3	39.7	2.5	16	7	204	96	0.59	4.1	21.1	D	346	3	3.8	81	6	1.2	231	82	21.2
3	11	34	59.4	60	17.7	140	48.0	15.9	1.6	6	3	142	80	0.18	5.3	14.1	D	103	5	4.2	11	19	0.9	207	70	15.0
3	13	56	10.6	60	27.4	147	28.6	18.9	2.8	21	1	166	82	0.33	1.8	2.0	A	261	17	0.7	149	30	1.5	13	50	2.3
3	14	28	14.7	61	4.3	150	16.5	48.9	2.1	14	7	67	68	0.42	1.8	5.8	C	201	2	1.8	291	3	1.1	77	86	5.8
3	17	20	35.0	60	12.3	141	4.9	1.0	1.7	10	3	118	56	0.32	2.6	4.4	B	51	19	1.4	313	20	1.1	181	62	5.0
3	20	18	56.9	60	17.6	140	43.3	7.8	1.4	6	2	146	102	0.23	2.9	6.5	C	322	1	1.8	81	17	1.1	229	57	6.1
4	0	50	2.5	60	15.6	140	47.8	15.0	2.0	9	3	138	102	0.17	3.5	4.5	B	140	6	1.3	81	34	1.4	238	45	4.8
4	1	43	14.7	60	17.1	141	15.9	8.5	1.5	8	4	115	76	0.20	2.4	4.4	B	81	10	1.9	334	17	1.2	196	64	4.5
4	1	58	22.9	61	35.1	146	26.5	30.3	3.1	27	2	82	54	0.58	0.9	1.1	A	25	8	0.9	293	10	0.7	153	77	1.1
4	3	59	45.1	62	20.9	149	15.7	41.7	2.4	12	7	209	84	0.45	3.1	12.0	D	81	7	1.7	349	8	2.3	211	79	12.3
4	4	13	50.1	60	25.7	141	58.7	11.2	1.5	6	4	100	63	0.50	2.7	11.0	D	345	5	1.0	81	10	1.6	230	77	11.2
4	4	19	43.2	60	0.1	140	41.9	8.5	1.5	7	3	156	60	0.35	5.0	4.2	B	107	12	0.8	205	33	5.5	0	54	3.7
4	4	47	1.0	60	25.6	143	1.3	2.2	1.5	8	3	82	77	0.74	4.8	6.5	C	356	10	0.6	93	34	1.9	252	54	7.9
4	4	56	25.4	61	35.3	150	33.1	50.5	2.6	14	6	126	68	0.20	2.1	4.9	B	264	0	1.0	174	11	1.9	354	79	5.0
4	13	43	37.8	60	15.2	140	50.8	13.4	2.0	8	3	135	75	0.21	3.5	4.1	B	309	7	1.3	45	39	1.5	211	50	5.2
4	13	48	37.2	61	1.6	149	38.3	35.1	1.8	12	7	69	62	0.41	1.4	2.5	B	296	4	1.4	205	13	0.9	43	76	2.6
4	13	54	10.5	60	9.2	141	12.3	2.7	2.1	17	6	72	68	0.36	1.7	2.0	A	277	6	0.6	11	37	1.1	179	52	2.3
								2.2 ML EMRC																		
4	19	13	2.2	59	36.8	138	59.9	25.0	1.2	3	2	203	52	0.25	20.1	15.4	D	313	4	1.7	220	37	25.0	48	53	4.2
4	20	31	44.4	60	22.9	143	48.4	26.6	1.7	7	4	104	79	0.40	11.5	14.5	D	317	10	3.0	81	28	2.7	214	46	16.6
5	1	4	56.7	59	52.7	141	35.9	11.6	1.2A	5	3	197	78	0.13	4.7	5.7	C	264	2	0.9	173	32	3.9	357	58	6.2

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1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
APR 5	7	26	1.2	61	40.4	149	31.1	40.0	2.1	18	8	147	48	0.51	1.4	1.5	A	99	5	0.9	6	31	1.4	197	59	1.5
5	10	1	54.8	60	19.2	143	41.8	0.3	1.4A	5	4	147	109	0.40	5.1	8.5	C	7	4	1.3	99	29	2.1	270	61	9.7
5	10	39	51.6	60	12.0	141	1.9	10.3	1.3	8	2	120	82	0.25	4.1	4.3	B	297	10	1.9	36	41	1.6	196	47	5.7
5	11	8	50.9	60	55.0	150	44.8	10.1	1.7	14	5	87	77	0.59	1.1	2.6	B	196	5	1.1	287	9	0.7	77	80	2.7
5	12	27	34.9	58	13.6	137	33.8	11.0	3.2	8	4	172	192	0.32	7.3	7.5	C	323	4	1.6	81	36	6.2	228	45	7.7
								2.6 ML	EMRC																	
5	12	43	20.5	60	59.5	146	45.3	9.0	2.1	27	7	73	28	0.40	0.7	1.1	A	180	12	0.7	275	20	0.6	61	66	1.1
5	12	48	2.3	60	14.0	141	19.4	5.4	0.8	5	1	152	100	0.18	9.1	9.1	C	324	14	1.8	81	33	8.1	218	46	9.7
5	13	50	4.0	60	26.3	141	18.2	11.1	1.2	4	4	168	60	0.42	2.7	8.8	C	340	9	0.7	261	10	2.2	117	73	8.8
5	16	5	31.6	60	52.3	145	57.5	8.0	1.9	28	7	83	38	0.41	0.7	1.1	A	221	5	0.7	130	7	0.5	346	81	1.1
5	16	11	51.1	60	13.0	140	58.7	10.3	1.2	8	3	125	80	0.21	2.5	3.6	B	105	7	1.8	11	32	1.2	206	57	4.2
5	17	26	12.5	60	11.8	141	3.3	9.5	1.8	8	5	119	84	0.28	1.8	2.4	A	81	15	1.0	334	26	0.9	195	56	2.8
5	18	18	51.9	59	7.8	139	40.6	5.9	2.3	16	5	242	76	0.49	4.2	4.4	B	266	17	1.5	164	33	3.8	19	52	4.9
								2.1 ML	EMRC																	
5	18	41	43.3	59	8.1	139	36.8	18.6	1.4	8	3	253	77	0.41	3.3	8.9	C	359	2	3.3	269	13	1.7	98	77	9.1
5	23	51	16.9	60	23.8	141	2.5	15.7	1.1A	4	1	176	100	0.12	6.3	16.0	D	95	9	5.6	3	12	2.1	221	75	16.5
6	0	26	51.0	61	42.6	146	20.4	29.6	2.1	16	4	95	64	0.39	1.1	1.3	A	221	17	0.9	320	29	1.0	104	56	1.4
6	1	6	48.4	61	2.1	150	55.5	15.0	2.0	18	7	81	77	0.77	1.0	2.9	B	98	1	0.8	8	5	0.9	199	85	2.9
6	1	8	54.8	61	0.8	150	59.3	15.1	1.1A	10	6	95	81	0.42	2.2	4.7	B	103	2	0.9	193	4	2.2	346	86	4.7
6	3	34	13.1	60	21.1	141	11.0	15.0	1.2	8	2	124	97	0.36	3.2	5.6	C	93	6	1.9	0	27	1.4	195	62	6.3
6	4	21	34.9	61	46.8	148	8.7	37.5	2.3	26	8	143	44	0.67	1.6	0.7	A	338	20	1.5	261	32	0.8	101	51	0.6
6	7	17	28.8	62	54.7	149	41.1	43.6	3.1	25	3	112	141	0.49	3.2	9.5	C	81	5	1.5	323	8	1.9	194	61	8.7
6	13	29	43.2	60	13.9	141	11.9	10.7	1.3	8	4	115	82	0.23	4.6	5.0	C	100	17	2.1	356	37	1.5	210	48	6.6
6	14	47	43.7	61	20.1	147	34.4	21.1	4.3	44	1	69	57	0.65	0.8	1.2	A	273	6	0.5	182	9	0.8	36	79	1.3
	4.9 MB		5.2 MS		5.2 ML		ATWC			FELT (IV) IN THE ANCHORAGE, CORDOVA, WHITTIER AREA																
6	14	55	51.3	61	50.3	149	13.4	0.3	1.9	20	6	162	47	0.93	1.1	1.3	A	264	11	0.6	359	22	1.1	149	65	1.3
6	15	0	43.5	61	20.6	147	36.0	20.7	2.8	31	5	65	57	0.51	0.8	1.2	A	278	2	0.4	188	2	0.8	53	87	1.2
6	15	7	8.7	61	21.0	147	36.7	22.4	2.3	24	6	79	64	0.65	0.9	1.5	A	11	4	0.9	280	12	0.5	119	77	1.5
6	15	30	3.5	61	21.5	147	34.0	28.0	1.9	25	8	81	59	0.47	0.9	1.4	A	283	5	0.5	14	8	0.9	161	81	1.4
6	15	32	44.9	61	22.0	147	35.8	25.3	1.8	23	11	81	60	0.42	1.0	1.8	A	10	3	1.0	279	6	0.5	126	83	1.8
6	17	15	37.9	61	25.2	144	16.0	14.2	1.8	4	4	169	88	0.34	5.3	3.9	C	265	4	0.8	356	23	5.5	166	67	3.6
6	18	37	37.8	60	1.2	141	32.9	8.2	0.8	4	1	226	100	0.01	10.1	8.3	D	172	8	10.1	264	19	2.4	60	69	8.7
6	18	57	34.8	60	13.1	141	0.5	11.9	1.4	8	3	123	85	0.18	2.1	2.7	B	94	1	1.5	3	37	1.0	185	53	3.3
6	19	35	46.4	61	20.6	147	34.6	23.7	3.1	35	6	58	56	0.53	0.8	1.2	A	5	1	0.8	275	8	0.5	102	82	1.2
6	20	55	43.6	61	36.4	149	51.3	46.3	2.1	13	9	89	43	0.30	1.8	1.6	A	118	9	0.9	21	38	2.0	219	51	1.3
6	21	55	25.0	60	8.7	141	12.5	4.1	1.8	15	7	108	47	0.33	1.3	2.1	A	291	11	0.7	26	24	1.0	178	63	2.3
6	22	12	22.0	61	21.4	147	34.7	28.2	1.8	21	7	80	59	0.44	0.7	1.3	A	205	1	0.7	295	5	0.5	104	85	1.3
6	23	46	34.7	61	52.1	147	23.7	34.3	2.0	20	8	154	69	0.62	1.7	1.1	A	84	19	0.7	346	21	1.8	212	61	1.0
7	0	13	34.5	60	13.0	140	59.8	11.4	1.9	13	5	62	69	0.25	2.0	3.0	B	107	18	1.2	9	25	0.9	229	59	3.5
								1.9 ML	EMRC																	
7	1	17	44.8	58	57.8	148	36.6	43.2	3.2	25	7	233	195	0.32	3.5	6.4	C	287	5	2.0	18	15	3.2	179	74	6.6
7	1	26	40.1	60	11.4	140	59.8	13.1	1.8	8	2	121	80	0.11	7.8	6.8	C	330	27	2.2	83	37	1.7	214	41	10.2
7	1	49	57.0	61	49.8	147	21.0	31.0	3.1	27	3	82	69	0.68	1.3	1.3	A	84	1	0.8	353	42	1.4	175	48	1.2
7	2	22	34.2	60	21.4	140	20.3	24.3	2.0	9	6	87	93	0.33	4.2	6.6	C	81	10	1.2	324	23	1.6	188	54	7.1
								1.8 ML	EMRC																	
7	2	34	15.2	61	47.0	149	15.0	35.5	1.7	11	4	157	48	0.25	2.5	2.0	B	283	4	1.1	191	33	2.8	19	57	1.6
7	3	31	19.2	62	6.7	149	29.3	45.0	3.8	29	3	90	69	0.38	2.0	3.7	B	86	3	1.0	355	12	1.9	190	78	3.8
							3.0 ML	ATWC																		
7	3	55	23.4	60	23.5	141	21.1	1.3	1.0	5	3	116	64	0.19	6.6	10.7	D	261	4	6.4	160	6	1.9	21	77	10.6
7	4	21	59.9	60	13.6	141	17.4	6.5	1.1	6	4	122	82	0.18	3.4	8.3	C	261	1	2.9	332	19	1.0	168	63	8.4
7	4	50	9.3	60	8.5	140	59.9	1.9	2.0	16	7	72	59	0.41	2.9	3.3	B	318	15	1.2	81	27	0.8	209	46	4.0
								2.0 ML	EMRC																	

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1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
APR	7	5	9 41.8	61	30.9	146	33.0	23.0	2.1	13	5	88	51	0.49	1.2	2.9	B	261	3	0.6	323	5	1.0	135	61	2.6
	7	10	29 45.4	60	21.1	141	15.5	16.0	1.5	7	5	120	69	0.24	2.8	5.1	C	41	10	2.5	307	21	1.3	155	67	5.6
	7	12	8 57.5	61	16.7	149	21.5	40.3	2.0	10	4	75	50	0.09	1.8	2.6	B	261	3	1.5	154	22	1.2	358	62	2.7
	7	12	23 38.7	62	46.6	148	40.9	30.5	2.5	8	4	154	152	0.36	4.5	2.8	B	88	2	4.5	180	37	3.1	355	53	2.6
	7	12	35 57.3	60	2.3	141	21.4	10.7	2.0	12	8	111	38	0.51	1.5	1.4	A	281	5	0.8	186	38	1.7	17	51	1.1
								2.0 ML	EMRC																	
	7	13	11 23.2	60	24.2	147	18.4	20.7	3.5	28	2	157	76	0.45	1.4	1.6	A	262	13	0.6	164	31	1.2	12	56	1.7
	7	14	37 33.1	61	46.0	150	11.6	6.0	1.9	7	5	158	67	0.63	1.7	1.4	A	289	15	0.7	28	31	1.8	177	55	1.3
	7	16	8 18.0	60	13.8	141	0.1	9.0	1.8	9	3	125	82	0.25	2.6	3.9	B	116	1	1.3	26	31	1.4	208	59	4.4
	7	17	47 41.9	61	21.3	147	35.2	23.0	2.9	25	6	55	59	0.50	0.9	1.4	A	185	1	0.9	276	5	0.6	84	85	1.4
	7	18	32 31.2	60	19.2	141	21.0	13.0	1.9	7	4	124	72	0.23	2.4	7.4	C	261	10	1.1	353	14	0.6	136	73	7.8
	7	19	4 13.2	61	0.1	146	45.9	12.9	2.1	19	1	83	27	0.38	1.1	2.5	A	356	4	1.1	266	7	0.9	116	82	2.5
	8	0	44 44.8	63	4.1	150	12.2	109.1	3.7	15	5	181	170	0.50	2.7	10.1	D	97	2	2.6	7	9	2.0	199	81	10.2
	8	2	29 51.0	60	3.0	141	21.6	8.7	2.1	17	8	109	59	0.37	1.1	1.4	A	284	10	0.6	21	31	0.9	178	57	1.6
								2.3 ML	EMRC																	
	8	3	18 4.3	62	53.8	150	34.4	65.3	3.4	13	3	121	164	0.27	6.6	13.9	D	333	3	5.4	81	19	2.2	235	64	14.3
	8	3	18 14.6	60	2.9	141	20.0	12.1	2.1	13	7	105	39	0.48	1.8	1.5	A	275	7	0.6	180	38	2.1	314	51	1.0
								2.0 ML	EMRC																	
	8	7	8 32.9	60	11.9	140	29.0	30.2	1.1A	5	3	168	85	0.13	20.0	16.7	D	98	12	1.7	358	39	25.0	202	48	7.6
	8	13	52 23.6	62	15.0	148	32.3	39.5	2.5	15	3	108	124	0.40	3.3	11.0	D	295	9	2.1	27	11	1.5	167	76	11.3
	8	14	8 2.9	60	11.5	141	32.9	12.7	1.3	5	2	116	100	0.02	9.5	19.9	D	282	17	0.9	18	17	4.2	150	65	21.8
	8	14	54 53.5	59	51.7	138	48.5	0.4	1.2	3	3	262	47	0.90	5.3	8.3	C	151	2	1.3	261	23	4.0	57	60	8.5
	8	15	21 56.7	63	7.0	150	16.2	104.6	3.4	16	6	184	177	0.92	2.8	8.9	C	101	3	2.7	11	11	1.9	206	79	9.1
	8	22	51 46.3	60	23.5	140	11.9	1.5	1.2A	5	2	203	100	0.03	15.8	22.1	D	111	3	4.3	203	31	10.5	16	59	25.0
	8	23	30 8.6	61	23.2	150	43.5	60.0	0.9A	6	3	121	79	0.07	2.5	4.2	B	93	3	1.1	2	15	2.3	194	75	4.3
	9	0	14 15.4	62	45.8	150	15.5	75.3	3.0	11	4	196	173	0.45	4.2	9.9	C	88	12	1.6	354	16	2.5	213	70	10.5
	9	4	26 46.5	61	45.2	150	2.2	49.0	2.4	12	6	158	62	0.22	1.9	2.4	A	285	5	0.9	16	11	1.9	171	78	2.4
	9	4	33 6.6	61	45.3	150	1.6	49.8	2.2	10	6	159	83	0.20	2.2	2.9	B	291	5	0.9	23	18	2.1	186	71	3.0
	9	4	41 40.0	62	7.1	147	48.3	35.6	2.4	14	3	185	121	0.43	5.8	2.0	C	332	9	5.9	81	37	0.9	231	48	1.5
	9	5	3 58.7	60	12.3	141	2.8	12.3	2.0	9	3	120	70	0.12	2.8	3.8	B	264	17	2.0	4	27	1.2	146	57	4.4
	9	5	54 30.1	60	7.5	141	14.5	9.9	1.9	9	4	122	73	0.29	2.1	1.8	A	275	2	0.8	184	33	2.3	8	57	1.5
	9	6	29 36.0	60	46.4	149	49.6	39.1	1.8	8	4	85	55	0.14	1.8	4.3	B	283	1	1.8	13	9	0.9	187	81	4.3
	9	6	52 29.4	60	15.3	141	11.2	7.1	1.8	9	3	117	79	0.23	3.1	6.1	C	81	5	2.0	334	22	1.2	182	62	6.5
	9	7	19 47.4	61	26.8	148	50.3	33.3	2.4	19	3	78	45	0.43	1.2	1.2	A	2	10	1.2	98	32	0.9	257	56	1.3
	9	7	42 9.5	60	7.4	141	8.8	9.8	1.3	6	3	136	86	0.09	14.5	4.7	D	192	15	15.0	290	28	4.3	77	58	2.2
	9	14	48 32.0	61	42.1	149	35.4	4.0	1.3	7	2	153	67	0.78	4.0	6.2	C	275	3	1.0	6	16	3.7	175	74	6.3
	9	16	41 29.7	61	12.8	150	20.8	49.2	2.0	10	4	114	133	0.20	3.8	3.3	B	278	10	1.6	16	38	4.5	176	50	2.4
	9	17	24 19.6	60	11.4	146	56.8	7.0	2.0	14	5	213	99	0.44	3.5	2.8	B	261	30	0.9	17	37	4.3	144	38	1.7
	9	20	39 17.6	63	30.3	149	20.1	103.5	3.7	13	3	172	204	0.35	7.1	23.9	D	188	2	2.0	98	6	6.7	296	84	24.0
	9	23	3 56.9	59	58.7	140	19.2	5.0	1.0	4	2	172	100	0.46	5.5	19.7	D	81	4	1.5	343	13	2.5	187	74	20.2
	10	0	35 58.5	61	27.1	147	46.2	17.7	2.5	27	4	66	49	0.72	0.9	1.2	A	10	2	0.9	279	9	0.6	112	81	1.2
	10	3	12 14.3	60	6.6	140	20.0	27.7	1.0A	4	3	180	110	0.22	6.2	5.1	C	284	2	1.5	193	35	7.1	17	55	3.9
	10	3	15 52.1	61	21.3	147	35.9	25.3	1.7	23	6	118	59	0.47	1.1	1.9	A	7	3	1.1	276	5	0.6	128	84	1.9
	10	4	1 38.3	59	55.6	140	52.5	4.0	1.2	8	3	166	88	0.29	5.1	4.1	C	122	17	1.0	20	33	5.8	235	52	3.2
	10	4	17 49.9	62	9.1	147	34.0	39.5	2.2	19	7	207	95	0.95	2.9	4.5	B	84	1	1.1	354	19	2.6	177	71	4.7
	10	6	39 44.6	60	7.9	141	41.6	8.4	1.7	12	3	125	64	0.43	2.9	4.7	B	347	15	1.9	84	25	1.0	229	60	5.4
	10	9	33 9.3	60	10.6	141	7.3	11.5	1.8	19	7	63	53	0.36	1.8	2.1	A	82	22	0.9	338	30	1.0	202	51	2.6
								2.1 ML	EMRC																	
	10	14	26 38.5	63	8.9	149	25.7	40.8	2.7	19	5	163	169	0.47	5.0	17.4	D	346	1	4.9	81	3	2.0	238	84	17.4

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1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
APR	10	16	0	25.9	60	9.3	140	56.1	23.6	0.8	6	1	121	102	0.15	6.1	4.0	C	117	14	1.9	215	28	6.7	3	58	2.8
	10	16	34	51.2	59	55.5	141	30.4	12.3	0.6	5	1	230	157	0.27	6.3	5.6	C	130	4	3.0	261	39	1.4	36	36	7.2
	10	18	33	36.0	60	25.5	143	4.9	13.9	1.4	9	1	96	79	0.34	2.0	4.1	B	25	13	1.0	291	15	1.5	154	70	4.3
	10	19	7	39.2	60	18.1	140	50.0	14.8	1.5	7	3	141	79	0.19	1.5	2.5	A	84	19	1.0	347	20	0.6	214	62	2.8
	10	19	17	52.9	60	16.9	141	0.4	8.4	1.1	8	2	129	78	0.19	2.8	5.0	B	261	6	2.3	354	26	1.2	159	63	5.5
	10	19	46	45.2	62	43.0	149	37.4	39.0	2.5	14	4	150	129	0.44	4.0	24.7	D	90	6	1.3	0	6	1.7	225	82	25.0
	10	20	25	41.7	60	14.1	140	53.7	1.7	0.9	5	2	156	143	0.14	3.2	6.7	C	139	3	2.3	81	19	1.1	237	53	6.1
	10	20	26	59.8	61	39.8	150	0.5	41.0	3.1	30	3	83	52	0.27	1.4	2.2	A	93	3	0.8	183	7	1.4	340	82	2.3
	10	20	57	30.2	60	8.1	140	28.6	20.3	1.0A	5	2	159	118	0.07	7.8	4.2	C	102	20	1.3	5	20	8.2	234	61	3.5
	10	22	13	54.9	61	41.1	150	0.5	43.5	2.0	14	4	149	55	0.29	1.6	2.3	A	116	3	0.7	25	14	1.5	218	76	2.3
	10	22	58	8.6	60	22.6	140	26.3	17.4	1.4A	5	2	191	127	0.10	3.4	11.6	D	208	1	2.9	298	15	1.4	114	75	12.0
	11	0	36	26.9	60	15.6	140	23.7	12.1	0.8A	5	2	180	137	0.06	14.3	20.7	D	286	4	2.1	19	34	3.0	190	56	25.0
	11	0	51	50.8	62	31.8	149	23.1	54.4	2.7	22	4	135	105	0.43	2.9	9.0	C	353	3	2.8	84	5	1.1	232	84	9.1
	11	2	38	39.5	60	5.2	139	50.2	25.2	1.4	6	1	195	53	0.23	6.5	2.5	C	351	5	6.5	261	31	2.9	89	59	2.3
	11	3	42	19.0	61	17.9	143	27.7	12.3	1.3	4	3	165	87	0.31	7.6	22.7	D	212	10	2.5	119	15	0.7	334	72	23.9
	11	15	10	7.8	62	30.8	148	41.3	29.8	2.4	20	5	121	123	0.43	3.6	2.6	B	294	20	1.9	191	32	4.1	51	51	1.7
	11	17	23	38.9	60	22.0	141	21.4	19.9	1.4	5	1	165	92	0.02	5.1	4.8	B	344	8	1.2	261	43	6.2	83	46	2.9
	11	22	56	20.1	61	50.3	144	3.4	16.9	0.7A	4	2	260	97	0.47	7.3	9.1	C	118	16	1.4	17	34	2.2	229	51	11.5
	12	1	0	49.1	60	8.9	139	28.1	12.4	0.8	4	2	215	84	0.31	17.2	18.6	D	171	12	5.9	81	42	2.0	274	47	25.0
	12	1	41	53.1	61	33.4	149	49.1	51.8	2.0	12	5	133	74	0.37	1.6	2.3	A	293	2	0.8	23	16	1.5	196	74	2.4
	12	3	29	25.1	60	32.2	141	37.8	18.0	1.8	14	4	102	67	0.46	1.1	3.4	B	294	5	1.1	204	6	0.7	64	82	3.4
	12	7	39	42.6	60	35.7	141	44.5	16.3	1.5	6	2	150	69	0.19	3.0	7.2	C	148	7	1.3	261	13	1.8	36	63	7.0
	12	9	32	11.6	60	18.8	141	14.2	15.7	0.8A	3	3	171	101	0.21	12.3	22.7	D	347	19	1.2	261	22	6.0	119	61	25.0
	12	10	22	18.7	59	46.0	153	19.9	134.5	4.3	27	4	88	115	0.65	2.3	4.9	B	155	2	2.2	81	9	1.6	258	72	4.8
		3.8	MB			3.5	ML	ATWC																		
	12	11	1	31.8	60	13.5	141	1.9	8.4	1.4	6	3	127	84	0.09	2.8	3.5	B	133	2	0.9	42	37	1.1	226	53	4.3
	12	16	58	22.4	60	34.1	142	49.2	22.6	1.9	14	4	88	59	0.71	1.6	2.3	A	333	14	0.8	81	17	1.3	211	62	2.4
	12	18	31	46.5	60	19.0	152	17.9	79.9	3.4	25	3	63	63	0.51	1.8	2.8	B	165	2	1.7	81	10	1.2	266	78	2.8
		3.5	MB			3.2	ML	ATWC																		
	12	20	19	29.4	59	4.8	138	0.0	4.3	1.9	3	3	353	134	0.25	24.8	6.3	D	216	7	25.0	125	11	7.8	338	77	5.5
	12	21	36	43.8	59	30.0	139	11.3	20.9	0.8	3	2	221	56	0.10	18.6	10.7	D	319	16	1.2	261	32	16.9	76	44	4.9
	12	23	18	14.1	60	17.4	141	19.4	8.6	1.1	7	4	112	75	0.15	5.2	15.9	D	262	7	1.8	354	16	1.0	149	72	16.7
	13	0	35	8.4	63	14.8	150	18.2	126.0	3.7	14	4	190	194	0.53	9.1	10.2	D	275	1	2.5	6	41	3.9	184	49	13.1
	13	0	36	45.7	60	15.7	141	0.7	10.0	1.5	6	3	139	101	0.12	1.8	2.6	B	94	15	1.5	357	25	0.7	212	60	2.9
	13	1	39	58.7	60	16.2	140	58.9	13.1	2.1	19	12	57	64	0.35	1.0	1.9	A	110	2	0.6	19	21	0.8	205	69	2.0
									2.3	ML	EMRC															
	13	5	35	42.7	60	25.4	140	49.9	3.0	1.7	8	6	153	79	0.45	1.4	2.8	A	143	3	0.8	81	7	1.1	258	61	2.5
	13	7	34	48.6	60	22.1	140	57.4	16.7	1.2	5	2	148	106	0.26	3.0	4.0	B	358	17	0.9	98	29	1.8	242	55	4.8
	13	9	52	37.0	63	57.8	147	47.1	74.3	3.8	17	4	153	242	0.84	6.2	24.4	D	276	5	5.1	185	11	1.5	30	78	25.0
	13	11	27	29.3	59	19.2	135	24.1	11.1	2.1A	4	3	268	198	0.51	18.2	18.9	D	36	14	4.6	293	40	8.3	141	46	25.0
									2.1	ML	EMRC															
	13	11	47	36.7	63	12.0	150	31.8	129.6	3.8	21	6	131	192	0.55	2.2	4.4	B	305	7	1.9	37	18	1.7	195	71	4.6
	13	17	35	16.8	59	6.0	135	0.3	28.9	2.8A	5	4	282	224	0.93	13.5	23.1	D	33	7	5.2	300	23	9.8	139	66	25.0
									2.6	ML	EMRC															
	13	18	42	11.8	60	12.9	141	14.8	12.1	1.7	20	10	67	48	0.44	1.0	1.5	A	94	3	0.5	3	23	0.8	191	67	1.6
									2.1	ML	EMRC															
	13	21	53	12.2	60	58.3	146	32.6	16.1	1.9	13	3	163	30	0.56	2.5	1.4	A	261	5	0.7	330	13	2.3	149	65	1.2
	14	1	24	27.6	60	16.8	140	54.2	0.6	0.9	8	4	134	79	0.21	1.8	5.2	C	275	2	1.7	5	13	0.6	176	77	5.3
	14	4	49	25.0	61	41.3	150	0.3	42.4	2.1	14	7	149	55	0.32	1.5	2.3	A	113	3	0.7	23	14	1.4	215	76	2.3
	14	5	19	29.1	61	23.8	141	28.0	8.3	1.8	7	3	236	125	0.76	5.0	3.4	B	321	5	1.0	81	17	4.7	219	56	2.7
	14	8	31	45.6	60	16.6	141	4.7	11.2	1.6	10	6	125	77	0.20	1.1	1.8	A	295	3	0.7	27	23	0.8	198	67	1.9

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1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
APR 14	8	44	6.3	60	27.0	140	56.3	10.3	1.4	10	3	148	76	0.67	1.3	3.5	B	261	2	1.3	343	4	0.7	143	81	3.5
14	10	13	42.8	60	12.0	141	4.8	12.6	2.3	25	7	58	56	0.47	1.0	1.6	A	287	6	0.6	20	25	0.7	184	64	1.8
								2.9 ML	EMRC																	
14	10	15	16.3	60	13.3	141	2.8	7.8	1.7	9	7	122	71	0.25	1.3	2.1	A	300	4	0.8	32	25	1.0	202	65	2.3
14	10	36	12.8	60	14.3	141	2.5	4.9	1.0	7	2	136	83	0.20	1.6	3.0	B	269	5	1.1	1	23	0.9	167	66	3.2
14	10	37	10.6	60	17.9	140	52.7	4.5	1.1	8	5	138	79	0.23	1.7	3.4	B	81	5	0.8	334	20	1.0	183	64	3.5
14	11	11	14.4	60	13.1	141	2.4	8.4	1.1	7	3	122	84	0.25	3.1	3.9	B	108	14	1.7	8	34	1.3	217	52	4.8
14	11	51	35.5	60	13.5	140	58.9	13.3	1.8	11	6	125	81	0.27	1.0	1.6	A	105	6	0.6	13	20	0.9	211	69	1.6
14	13	59	17.8	60	16.0	140	36.5	16.6	1.8	9	6	150	64	0.43	1.8	2.1	A	319	2	0.6	81	31	1.0	226	47	2.3
14	17	6	41.5	62	55.7	149	36.5	41.2	3.3	30	2	112	145	0.69	2.5	9.5	C	81	4	1.1	340	8	1.9	195	76	9.5
14	17	55	3.7	61	59.6	149	51.6	31.4	2.6	22	7	177	83	0.48	1.3	1.3	A	81	4	0.8	171	44	1.3	347	46	1.2
14	18	11	24.0	60	14.2	141	4.9	5.8	3.1	29	6	56	57	0.52	0.9	1.5	A	97	1	0.5	7	20	0.7	190	70	1.6
								3.6 ML	EMRC																	
14	18	20	5.2	60	12.9	141	6.7	10.3	0.9	7	3	118	87	0.20	4.0	5.0	B	91	16	1.5	349	34	1.1	202	51	6.3
14	18	57	26.4	60	13.1	141	5.1	9.4	1.7	22	11	57	56	0.33	0.8	1.6	A	99	7	0.5	6	19	0.6	208	70	1.7
								1.9 ML	EMRC																	
14	19	0	50.3	59	56.9	140	15.7	12.9	1.1	3	2	324	100	0.10	26.1	13.6	D	110	15	10.6	261	42	3.0	13	20	25.0
14	19	21	22.0	60	27.4	141	37.0	18.3	1.3	6	5	110	59	0.24	2.0	10.4	D	357	4	0.7	266	6	1.5	120	83	10.5
14	21	38	53.5	60	11.4	141	7.9	10.7	0.8	7	1	128	94	0.19	3.6	3.2	B	92	23	1.5	341	40	0.8	204	41	4.7
14	22	33	47.4	60	21.1	141	22.1	3.9	0.8A	5	3	123	68	0.18	1.5	4.6	B	261	2	1.4	340	11	0.8	161	74	4.6
14	22	42	32.7	60	23.4	142	29.9	7.5	1.8	13	5	62	47	0.83	1.0	2.5	B	119	12	0.6	26	15	0.5	246	71	2.7
14	22	57	39.8	60	13.4	141	2.7	10.8	1.7	14	6	122	59	0.42	1.3	1.7	A	100	1	0.6	9	34	1.0	191	56	1.9
14	23	5	39.6	60	6.2	141	13.6	10.3	1.3	10	5	134	66	0.24	2.1	1.3	A	282	13	0.8	187	21	2.2	42	65	1.1
14	23	35	3.9	60	11.2	141	8.4	5.0	1.3	9	2	114	72	0.16	2.3	2.9	B	99	6	0.9	4	36	1.3	197	53	3.5
14	23	44	26.2	60	58.3	140	22.0	13.4	1.7	9	4	230	120	0.53	4.0	4.6	B	123	13	1.1	217	17	3.9	357	68	4.8
15	0	22	43.1	60	16.4	140	57.9	14.7	1.9	21	7	59	73	0.30	1.2	1.9	A	99	3	0.7	7	26	0.8	195	64	2.0
								1.8 ML	EMRC																	
15	1	23	23.8	61	4.4	151	1.7	22.1	1.4	8	4	89	81	0.48	3.5	9.1	C	269	0	1.1	179	3	3.4	359	87	9.1
15	2	45	45.4	60	29.4	145	7.5	20.3	1.9	27	8	106	77	0.55	1.1	1.1	A	16	16	1.1	114	26	0.6	258	59	1.3
15	3	4	58.1	60	15.3	140	53.8	13.2	1.0	8	6	132	83	0.23	2.3	3.0	B	100	14	1.7	2	31	1.1	211	55	3.6
15	3	56	45.0	60	16.0	141	14.5	16.5	1.9	14	3	115	51	0.36	1.1	2.4	A	81	6	1.0	347	16	0.7	191	72	2.5
15	4	47	49.4	60	16.4	141	13.9	12.1	1.7	11	5	116	77	0.16	1.8	3.4	B	82	14	1.6	347	16	0.7	211	68	3.6
15	5	2	1.3	60	15.7	140	59.4	2.8	0.8	5	2	167	100	0.13	4.9	7.9	C	277	6	4.9	9	11	1.9	159	77	8.0
15	5	31	47.2	60	10.2	139	35.4	10.1	0.6	4	2	211	100	0.29	20.6	14.6	D	147	35	4.3	266	35	25.0	27	36	2.2
15	6	38	29.5	60	19.4	143	3.7	3.8	2.5	27	8	102	65	0.99	1.7	1.8	A	118	13	0.4	16	40	0.8	222	47	2.4
								2.7 ML	EMRC																	
15	7	34	25.0	60	16.9	141	50.7	0.4	1.2A	4	2	139	100	0.24	3.0	6.4	C	1	8	2.8	92	9	1.0	230	78	6.6
15	7	53	15.8	59	52.7	139	13.3	12.7	1.2	5	3	211	51	0.37	6.0	10.7	C	139	11	1.0	81	27	2.4	251	48	10.0
15	8	35	31.8	60	19.9	143	4.6	6.2	2.2	23	7	96	50	0.99	0.8	1.2	A	107	7	0.5	14	24	0.7	212	65	1.3
15	9	5	3.6	60	13.5	141	7.9	6.4	1.3	8	7	118	83	0.49	2.3	3.0	B	81	16	1.3	329	25	1.1	196	54	3.5
15	9	7	29.2	60	10.9	140	28.5	17.9	2.1	13	9	91	53	0.52	1.5	2.2	A	102	2	0.6	11	30	0.9	195	60	2.5
								2.0 ML	EMRC																	
15	9	22	7.2	60	17.4	141	2.0	6.7	0.9	6	2	156	110	0.21	3.4	6.5	C	110	11	2.2	15	23	1.2	224	64	7.2
15	10	17	55.8	61	34.4	150	37.9	45.3	2.3	17	8	124	68	0.59	1.7	3.3	B	93	3	0.9	184	15	1.5	352	75	3.4
15	11	7	9.1	62	51.3	148	15.0	29.1	2.9	28	6	118	148	0.70	1.9	2.7	B	180	5	1.7	87	30	1.4	279	59	3.0
15	12	8	37.1	60	10.3	141	9.2	8.4	1.4	7	2	126	89	0.22	4.4	6.8	C	261	5	3.4	347	32	1.4	163	57	7.9
15	13	16	24.6	60	5.4	139	46.4	13.1	1.3	6	1	198	51	0.21	5.7	4.2	C	283	2	2.2	14	31	6.3	190	59	3.1
15	14	40	40.5	59	25.4	135	37.6	32.5	2.8	7	4	260	185	0.97	8.3	27.6	D	261	0	3.5	326	0	7.4	0	65	25.0
								2.5 ML	EMRC																	
15	15	50	57.4	60	14.6	141	35.5	3.4	0.9A	4	2	117	82	0.05	3.8	24.9	D	271	0	1.2	1	5	3.1	181	85	25.0
15	15	59	14.9	59	54.1	141	22.7	3.0	0.8	5	1	183	100	0.06	6.7	7.5	C	214	11	2.2	118	30	6.1	322	58	8.1
15	16	41	24.7	59	59.4	141	8.1	3.0	1.1	6	3	161	60	0.53	10.1	12.6	D	261	21	2.6	150	27	1.7	20	51	15.9

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1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
APR 15	17	30	35.6	59	27.9	139	33.3	27.6	1.0	5	3	215	48	0.28	3.3	4.3	B	304	10	1.5	208	29	2.6	51	59	4.8
15	19	57	31.5	60	13.3	139	38.2	18.2	1.1	4	3	212	96	0.49	22.3	11.5	D	261	27	25.0	155	29	3.4	26	49	1.9
15	22	15	21.4	60	2.7	141	10.8	7.1	1.1	5	1	152	108	0.21	9.7	3.8	C	1	13	10.0	103	40	4.3	257	47	1.5
15	23	5	17.9	63	16.8	149	30.9	41.8	3.1	18	7	269	182	0.68	4.5	26.6	D	330	2	3.5	81	4	2.4	218	69	25.0
16	1	7	47.2	61	59.4	148	53.8	2.2	2.4	31	5	84	64	0.80	1.6	2.1	A	6	15	1.4	268	29	0.6	120	57	2.4
16	3	57	7.3	60	13.6	141	0.9	1.4	1.4	8	4	124	116	0.49	1.9	3.8	B	47	5	1.3	315	21	1.2	150	68	4.1
16	7	9	10.5	61	10.7	149	10.1	34.6	2.9	27	7	39	46	0.39	0.8	1.0	A	348	1	0.8	81	14	0.7	254	76	1.0
16	7	16	19.4	61	7.1	143	23.4	15.0	1.6	5	3	138	98	0.41	4.9	24.6	D	19	7	2.3	110	8	0.7	248	79	25.0
16	9	57	9.2	59	58.1	141	11.4	14.3	1.1	3	3	258	135	0.07	8.2	3.5	C	156	2	8.1	261	45	1.6	64	43	4.3
16	10	12	58.8	62	0.0	148	53.5	2.6	2.4	30	4	84	65	0.80	1.7	2.3	A	4	13	1.5	267	29	0.6	115	58	2.7
16	16	48	1.6	61	31.6	140	43.5	0.5	2.3	15	2	109	103	1.67	3.7	6.3	C	207	5	1.3	115	23	2.8	309	66	6.8
								2.5 ML	EMRC																	
16	19	38	55.2	60	21.9	140	12.8	6.6	1.3	5	1	201	90	0.09	9.3	11.9	D	313	11	2.0	48	22	8.6	198	65	12.6
16	21	20	18.4	60	11.1	140	48.7	1.9	1.0	4	3	168	100	0.19	4.6	7.0	C	81	15	1.6	163	18	4.2	308	65	7.2
16	21	26	3.4	60	15.9	140	49.4	19.2	1.2	7	4	137	75	0.31	4.5	5.3	C	124	8	1.6	28	38	2.2	224	51	6.6
16	22	34	38.0	60	22.0	143	6.2	19.6	1.1A	6	4	111	100	0.17	4.2	7.2	C	81	2	2.1	342	29	1.1	175	60	8.2
17	0	14	16.3	63	4.6	149	27.2	86.2	3.4	13	3	161	162	0.50	4.5	24.8	D	115	4	3.6	25	7	2.1	235	82	25.0
17	0	50	8.0	61	48.9	149	11.3	25.6	1.4	7	4	172	67	0.47	2.8	8.5	C	190	9	1.4	282	14	0.9	68	73	8.8
17	3	43	50.4	62	57.8	150	48.1	109.8	3.7	14	3	125	202	0.44	5.0	6.8	C	329	20	2.6	81	22	1.9	207	54	7.9
17	4	55	38.0	60	11.9	140	58.2	10.2	1.9	8	2	137	66	0.37	5.3	5.3	C	81	10	3.1	336	42	1.8	181	45	7.1
17	6	11	7.0	60	18.5	141	17.8	17.4	1.9	10	4	115	67	0.14	1.4	2.6	B	261	5	0.8	350	17	1.2	155	72	2.7
17	7	28	17.1	60	23.1	140	11.9	2.5	1.2	5	3	203	138	0.12	5.8	9.8	C	296	0	2.3	206	22	4.6	26	68	10.4
17	8	46	16.9	60	11.1	141	2.3	13.1	1.9	13	7	74	77	0.35	2.0	2.1	A	81	10	0.9	342	41	1.3	182	47	2.6
								1.9 ML	EMRC																	
17	9	0	0.1	58	45.2	143	33.1	20.2	2.9	16	5	227	167	1.02	4.4	3.3	B	209	27	4.7	101	31	1.9	332	47	3.3
								3.0 ML	EMRC																	
17	11	1	42.8	60	16.8	141	13.8	9.5	1.5	7	2	117	96	0.08	4.9	10.9	D	81	1	3.7	334	21	1.5	173	63	11.3
17	11	39	8.1	60	20.1	141	15.8	1.7	1.0	5	2	118	98	0.31	3.0	6.4	C	337	8	1.0	81	9	2.6	212	72	6.4
17	14	7	13.0	60	8.8	141	5.7	1.1	1.4	7	3	113	84	0.13	6.4	7.4	C	322	18	2.1	81	28	1.5	210	47	9.3
17	14	20	51.2	61	49.0	140	12.1	1.0	2.3	8	4	166	125	0.50	4.1	7.0	C	261	9	3.1	156	23	1.7	9	61	7.6
								2.5 ML	EMRC																	
17	16	2	29.4	60	7.6	141	10.6	28.0	1.1	6	2	135	92	0.11	11.9	3.5	D	194	11	12.1	99	27	4.5	304	61	2.0
17	16	35	9.1	62	4.0	145	27.9	25.9	2.7	17	2	208	68	0.71	2.5	1.8	B	212	11	2.6	115	28	1.3	321	59	1.9
17	21	21	59.1	60	57.0	150	23.7	43.9	1.8	8	5	128	76	0.32	1.3	3.1	B	9	7	1.1	278	9	1.2	136	79	3.2
17	23	12	19.8	60	18.1	141	12.8	7.1	1.3	6	2	130	103	0.14	7.5	11.5	D	81	13	4.4	325	21	1.9	194	55	12.5
17	23	17	8.2	59	56.4	141	51.9	8.2	1.7	9	4	188	61	0.37	3.0	2.5	B	97	9	0.8	0	37	3.5	198	52	1.8
18	2	27	33.9	61	23.5	146	47.0	12.5	2.5	17	4	137	47	0.43	1.2	1.3	A	281	20	0.6	19	20	1.1	150	61	1.5
18	3	17	34.3	61	15.2	150	38.3	44.1	2.2	14	5	73	77	0.23	1.2	5.0	C	0	3	1.2	91	5	0.9	239	84	5.1
18	3	29	38.5	60	15.5	140	55.4	13.0	1.9	10	4	131	70	0.10	2.8	3.2	B	261	22	2.1	359	35	1.0	143	49	4.0
18	4	54	40.8	60	24.7	147	41.0	21.5	2.4	19	3	169	86	0.33	2.2	2.7	B	261	11	0.8	165	31	1.6	8	57	3.1
18	5	7	26.6	62	54.5	148	7.1	58.1	3.7	28	7	122	134	0.55	2.0	14.3	D	263	1	2.0	353	2	1.7	146	88	14.3
18	7	45	32.6	60	53.4	150	27.8	46.0	2.3	11	6	77	75	0.32	1.6	5.2	C	91	4	0.8	1	6	1.5	215	83	5.2
18	8	29	37.5	63	3.3	150	33.7	126.9	3.7	16	4	126	179	0.50	4.5	7.1	C	301	6	2.3	34	26	3.1	199	63	7.8
18	16	49	59.2	61	47.9	149	38.4	40.7	1.8	6	4	203	62	0.19	3.5	4.2	B	102	22	2.0	2	23	3.2	231	57	4.7
18	17	21	25.7	59	57.5	140	55.0	12.1	2.0	8	2	126	72	0.12	6.2	8.5	C	24	1	2.9	115	36	1.2	293	54	10.4
18	17	23	36.0	59	57.0	140	51.8	5.8	2.0	9	5	132	66	0.27	2.6	2.2	B	105	10	1.2	10	26	2.7	214	62	2.1
18	17	33	59.8	61	51.9	149	31.7	34.9	2.6	18	4	164	63	0.30	2.2	1.8	A	88	13	1.1	185	31	2.4	338	56	1.6
18	17	49	2.1	60	50.6	143	17.9	20.1	1.8	7	2	92	119	0.26	4.1	9.7	C	261	5	2.2	166	14	3.3	10	74	10.0
19	0	4	32.0	60	8.5	141	4.3	8.3	2.2	9	4	114	66	0.31	1.3	1.9	A	261	0	1.1	351	30	0.8	171	60	2.2
								2.3 ML	ATWC																	

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1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
APR 19	1	1	55.7	61	12.2	146	22.2	18.6	2.8	28	4	45	40	0.56	0.8	1.2	A	266	9	0.5	358	16	0.8	148	72	1.2
19	7	4	22.3	62	11.3	149	32.0	41.6	2.1	10	4	196	76	0.31	4.1	10.0	D	87	11	2.2	354	12	3.3	218	74	10.4
19	15	10	52.0	61	21.4	147	16.7	16.3	2.3	23	5	81	53	0.42	1.1	1.8	A	16	2	1.0	285	13	0.5	115	77	1.8
19	19	4	16.7	60	22.0	141	17.1	20.6	1.7	7	3	119	67	0.25	3.0	7.3	C	352	13	0.8	261	14	2.2	124	71	7.7
19	21	38	9.3	59	50.9	141	45.1	11.9	1.2	6	3	218	100	0.19	3.9	4.7	B	103	11	0.9	199	28	3.5	354	60	5.1
20	6	18	8.2	60	26.7	144	0.2	23.5	2.0	10	4	73	70	0.68	2.8	3.3	B	115	10	0.8	17	37	1.5	218	51	4.0
20	6	20	59.7	61	41.0	149	39.1	8.3	1.7	10	3	150	49	0.28	1.2	1.3	A	297	19	0.7	193	34	1.0	51	50	1.5
20	6	30	51.7	60	17.0	141	16.6	7.4	1.8	9	3	114	76	0.17	1.7	4.5	B	261	7	1.5	335	17	1.0	148	66	4.5
20	7	34	57.8	60	10.4	140	57.2	8.0	2.7	19	7	70	62	0.29	1.0	1.5	A	268	2	0.6	359	30	0.7	175	60	1.7
								3.0 ML	EMRC																	
20	9	52	47.3	59	55.0	141	44.5	0.9	1.3	4	2	208	100	0.37	6.9	11.2	D	100	4	1.0	8	24	5.3	199	66	12.1
20	10	27	32.7	60	55.9	150	38.2	59.0	3.5	28	1	49	81	0.48	1.2	3.6	B	81	1	0.9	349	4	1.2	185	85	3.6
						3.5 ML	ATWC																			
20	12	34	26.5	61	40.2	149	28.9	42.4	2.2	12	5	148	48	0.34	1.6	2.1	A	287	9	0.9	21	20	1.5	174	68	2.2
20	13	46	13.1	60	39.5	143	28.0	25.1	1.2A	8	3	116	126	0.26	1.9	5.8	C	22	4	1.9	112	5	1.5	253	84	5.8
20	13	46	21.6	60	3.3	140	54.8	8.9	1.8	6	2	148	72	0.25	7.0	2.2	C	97	10	0.7	5	11	7.1	228	75	1.8
20	19	9	45.8	60	55.9	150	41.6	45.7	2.1	10	5	96	79	0.36	1.6	7.0	C	8	2	1.6	98	4	0.8	251	86	7.0
20	19	24	58.3	62	54.8	150	39.5	117.3	4.6	26	3	122	167	0.65	2.4	7.8	C	347	4	2.3	81	5	1.9	220	82	7.9
						3.6 ML	ATWC																			
20	22	10	56.8	61	29.3	150	4.6	42.0	2.6	17	2	85	52	0.26	1.6	2.8	B	278	0	1.0	188	15	1.5	8	75	2.9
21	1	18	3.2	61	49.4	149	21.9	8.4	1.1	9	4	173	65	0.48	2.4	3.2	B	205	12	1.5	303	33	1.0	98	54	3.8
21	3	41	40.5	63	6.8	149	41.7	93.2	3.5	23	2	119	163	0.41	3.5	10.6	C	138	1	2.4	81	10	1.6	233	56	9.1
21	4	8	26.3	60	18.5	138	55.1	5.0	1.4	7	3	240	96	0.23	5.6	7.4	C	316	0	2.4	81	26	3.4	226	47	7.0
21	7	38	33.4	60	15.9	141	18.5	5.0	1.5	11	5	111	47	0.27	1.9	3.0	B	313	8	1.2	46	24	1.4	206	65	3.3
21	8	33	40.0	60	15.5	139	23.8	16.9	0.8	4	1	224	94	0.10	17.7	24.0	D	150	18	15.5	81	31	3.3	272	50	25.0
21	9	27	44.3	62	5.8	148	53.9	14.9	2.1	21	6	185	72	0.71	2.1	3.3	B	10	7	1.6	276	29	0.8	112	60	3.8
21	13	11	12.6	61	18.8	143	30.5	17.5	0.5A	3	3	169	84	0.28	16.5	19.0	D	121	20	0.8	225	34	3.7	6	49	25.0
21	14	42	11.0	60	10.2	149	27.0	5.5	1.9	20	5	111	57	0.75	1.9	2.1	A	261	28	1.0	0	32	0.9	134	48	2.6
21	14	47	42.1	61	11.3	149	32.3	36.4	1.5	12	5	64	50	0.32	1.7	1.8	A	164	8	1.2	81	40	1.5	264	49	1.9
21	16	45	35.4	60	7.5	141	15.7	8.7	0.9	5	1	198	118	0.02	17.7	6.3	D	211	19	18.8	109	31	2.8	328	52	1.1
21	21	47	50.4	60	8.6	141	4.2	8.4	1.8	11	4	114	83	0.21	1.9	2.2	A	297	1	1.0	27	39	1.0	206	51	2.7
21	23	51	29.1	60	13.3	140	58.0	18.4	1.0	4	2	219	100	0.06	22.2	19.1	D	261	8	22.1	355	40	1.5	162	49	25.0
22	8	1	0.3	60	18.2	141	12.4	4.8	1.4	8	4	130	74	0.26	1.3	2.6	B	81	6	1.3	343	8	0.9	205	77	2.6
22	8	38	43.0	60	36.6	141	37.8	14.0	1.4	6	2	121	67	0.33	1.8	4.1	B	81	8	1.7	168	11	1.0	314	76	4.2
22	10	21	23.0	60	18.1	141	12.6	16.5	2.0	19	5	56	54	0.27	1.2	2.3	A	337	12	0.8	81	16	0.8	216	66	2.5
								2.4 ML	EMRC																	
22	11	55	13.9	60	7.9	141	6.5	10.4	2.3	25	6	65	52	0.33	1.2	1.5	A	101	8	0.9	6	34	0.7	203	55	1.8
								3.0 ML	EMRC																	
22	12	19	58.7	60	7.8	141	3.9	9.0	1.4	7	2	128	98	0.07	6.8	4.5	C	120	21	2.8	224	32	8.0	3	50	1.4
22	12	22	26.9	60	9.0	141	2.4	6.1	1.0	7	1	130	92	0.12	3.8	4.2	B	107	16	2.0	4	37	1.2	216	48	5.5
22	13	6	40.7	62	21.4	149	26.1	40.2	3.9	36	2	95	87	0.44	2.0	5.6	C	84	2	1.0	354	9	1.8	186	81	5.7
	4.0	MB				3.5 ML	ATWC																			
22	13	19	26.5	62	5.3	148	6.2	39.3	2.2	23	6	183	77	0.58	2.4	4.5	B	81	6	0.9	167	8	2.3	313	79	4.5
22	13	34	7.3	60	2.0	141	17.2	10.0	1.0	4	1	217	126	0.08	14.8	5.1	D	135	12	3.1	81	22	12.1	257	47	1.5
22	14	11	44.0	62	25.8	149	21.5	32.0	2.1	16	5	130	94	0.36	4.1	2.6	B	275	6	1.3	183	20	4.3	21	69	2.3
22	14	24	24.7	61	52.9	148	33.6	38.0	2.1	21	9	92	53	0.48	1.7	1.2	A	190	4	1.7	97	30	0.7	287	60	1.3
22	15	10	39.1	60	13.4	141	1.5	9.3	1.1	6	3	125	84	0.13	5.3	6.7	C	110	20	1.6	8	31	1.3	228	52	8.4
22	17	3	15.0	60	7.1	141	21.0	18.5	1.6	8	2	100	94	0.54	4.2	5.1	C	26	26	1.6	282	27	1.2	153	51	6.4
22	19	4	42.3	62	25.2	149	22.9	39.3	2.5	14	4	130	93	0.41	4.5	17.3	D	95	5	1.1	4	9	3.4	214	80	17.6
23	3	41	44.3	60	17.3	140	58.3	12.7	1.5	8	5	131	78	0.14	1.2	2.0	A	81	14	0.7	336	17	0.8	204	64	2.2
23	4	14	6.7	60	13.7	141	25.5	6.1	1.1	6	1	115	82	0.23	2.9	4.4	B	81	13	2.0	324	16	1.2	199	57	4.5

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1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
APR 23	6	35	29.5	60	45.5	140	24.3	19.0	1.6	7	2	215	99	0.20	4.2	9.7	C	133	8	1.5	41	10	3.8	261	77	9.9
23	8	1	47.2	60	15.8	141	18.0	11.8	1.4	9	3	112	78	0.24	1.6	2.7	B	327	13	0.9	81	15	1.0	207	59	2.8
23	9	29	36.4	61	52.6	143	50.5	0.1	1.0A	4	1	263	123	0.19	7.7	10.2	D	17	10	2.4	114	35	1.5	273	53	12.7
23	10	30	28.6	61	20.6	148	24.2	22.3	1.5	10	5	109	48	0.42	1.4	2.2	A	287	4	0.8	195	17	1.3	30	72	2.2
23	13	10	14.2	62	31.1	150	58.8	83.2	3.7	28	1	111	141	0.50	2.4	3.6	B	83	10	1.3	351	15	2.2	206	72	3.7
23	22	36	28.0	60	9.6	140	50.3	8.0	0.7	6	1	126	94	0.32	3.5	5.3	C	342	15	1.8	81	28	1.0	227	57	6.2
23	23	8	14.8	63	9.1	149	25.8	93.6	3.7	29	7	117	169	0.61	2.2	7.8	C	332	1	1.9	81	7	1.5	235	70	7.5
23	23	53	4.8	60	11.2	141	13.3	8.6	1.4	9	2	110	89	0.18	2.5	2.6	B	334	22	1.0	81	34	1.6	218	47	3.3
24	1	30	43.5	60	12.6	140	58.0	14.7	1.1	7	2	138	87	0.24	3.9	4.6	B	281	1	3.9	11	36	1.3	190	54	5.6
24	2	26	38.1	59	36.5	137	20.6	0.0	2.4	9	7	113	116	1.19	3.7	3.8	B	261	4	2.0	149	44	4.6	355	42	2.5
								2.4 ML	EMRC																	
24	3	32	23.4	60	36.4	147	33.7	11.0	3.1	34	5	126	54	0.58	1.2	1.5	A	265	19	0.5	165	26	0.9	27	57	1.7
						2.8 ML	ATWC																			
24	3	48	18.2	60	1.1	140	9.3	28.8	0.8	4	2	285	96	0.26	7.9	4.1	C	115	20	5.0	16	23	8.4	242	59	1.9
24	4	41	50.8	60	15.3	140	57.0	2.0	0.8	4	1	168	100	0.11	6.0	8.2	C	26	8	2.0	119	21	5.5	276	67	8.6
24	4	42	32.7	59	31.2	138	51.7	9.1	1.4	4	3	228	65	0.33	18.6	17.0	D	87	29	4.6	335	34	0.9	207	42	25.0
24	5	27	25.0	60	12.6	141	1.8	11.9	1.2	8	4	121	86	0.18	2.1	3.0	B	99	6	1.9	5	30	0.9	199	59	3.5
24	6	36	37.5	60	4.0	141	24.9	11.2	1.0	4	1	219	100	0.03	9.0	6.1	C	40	26	9.7	287	38	1.5	155	41	6.5
24	7	21	56.0	60	46.8	150	16.4	44.7	2.4	20	5	71	65	0.29	1.5	2.9	B	81	5	0.8	336	15	1.1	187	68	3.0
24	10	17	48.0	59	49.8	141	42.9	3.5	1.6A	5	3	206	100	0.19	3.9	6.1	C	87	6	1.0	356	6	3.8	222	81	6.2
24	11	16	47.2	60	15.1	140	45.8	19.0	2.6	26	5	64	64	0.54	1.3	2.2	A	293	3	0.8	24	24	0.9	196	66	2.4
								2.8 ML	EMRC																	
24	12	56	46.7	61	3.8	149	29.0	35.2	2.0	19	6	42	62	0.54	0.9	1.1	A	355	7	0.9	86	13	0.8	237	75	1.1
24	14	38	55.3	60	14.1	140	48.9	14.1	2.1	14	1	135	71	0.27	1.7	2.6	B	300	3	0.9	32	25	1.3	204	65	2.8
24	14	52	48.8	60	19.3	140	43.7	11.6	2.9	25	6	57	70	0.56	1.1	2.4	A	301	4	0.7	32	18	0.8	199	72	2.5
	3.2	MB				3.5	ML ATWC	3.4 ML	EMRC																	
24	16	13	27.8	60	16.5	140	51.0	11.8	1.9	21	7	60	69	0.46	1.1	2.1	A	84	8	0.6	351	18	0.8	197	70	2.2
								2.0 ML	EMRC																	
24	17	6	21.9	60	0.7	141	32.5	7.8	1.6	15	5	141	27	0.35	1.8	1.3	A	94	2	0.6	4	5	1.8	206	85	1.3
24	18	8	3.7	60	8.6	141	6.2	2.3	1.1	6	1	139	85	0.09	5.5	8.4	C	106	9	4.1	11	30	2.0	211	58	9.8
24	18	59	35.6	60	17.1	141	10.5	8.7	0.9	4	3	234	100	0.04	3.6	5.9	C	290	1	2.7	21	29	1.8	198	61	6.7
24	19	48	7.7	60	15.7	140	42.6	4.7	1.0	3	1	177	100	0.00	9.4	10.6	C	81	6	2.3	315	6	7.5	198	53	8.8
24	20	15	53.9	59	48.1	139	13.6	19.8	0.4	3	3	207	44	0.24	19.1	20.5	D	142	7	0.9	81	41	2.4	240	41	25.0
24	20	45	46.0	60	9.8	141	2.8	4.9	1.2	6	1	143	100	0.08	6.8	7.7	C	315	0	3.3	81	35	1.1	225	42	8.7
24	20	55	24.5	60	20.8	140	6.4	10.0	0.7A	4	3	203	144	0.51	28.4	24.3	D	81	7	25.0	320	10	4.1	195	57	21.4
24	22	54	50.5	60	29.5	141	23.8	13.7	1.8	15	3	118	62	0.39	1.0	2.8	B	189	2	0.7	99	6	0.9	297	84	2.8
24	23	24	23.4	60	28.5	141	20.8	33.7	1.4A	4	3	164	100	0.10	7.4	21.2	D	350	4	1.0	261	12	6.0	98	77	21.6
24	23	39	38.3	60	20.8	140	50.0	9.4	1.3A	8	4	145	80	0.24	2.2	4.2	B	101	6	1.0	8	23	1.3	205	66	4.6
25	3	14	13.4	60	51.5	149	48.2	39.4	1.9	14	8	60	45	0.28	1.1	2.1	A	34	5	0.7	124	6	1.0	264	82	2.1
25	3	52	45.3	60	19.6	141	14.8	16.5	1.2	8	5	119	71	0.40	1.7	4.4	B	264	6	1.5	355	15	1.0	153	74	4.5
25	5	8	55.7	61	47.0	149	33.5	37.2	2.5	22	5	157	60	0.48	1.4	1.1	A	180	7	1.5	84	36	0.7	279	53	1.2
25	6	4	30.7	59	57.1	141	45.3	14.0	1.3	11	3	180	38	0.27	2.3	1.4	A	191	5	2.3	100	8	0.6	313	81	1.4
25	6	40	5.1	60	11.3	141	2.6	1.3	1.7	11	4	119	57	0.25	1.5	2.9	B	337	11	0.7	81	20	0.8	222	64	3.1
25	7	47	48.5	60	9.4	141	9.6	0.2	1.5	8	2	111	88	0.33	1.6	3.8	B	275	5	0.8	7	19	0.9	171	70	4.0
25	10	57	17.2	59	42.7	138	58.8	5.0	0.7A	3	3	222	46	0.35	3.5	8.6	C	321	6	0.7	81	14	1.5	214	57	8.1
25	12	2	35.1	62	1.3	148	10.9	37.3	2.1	23	10	176	69	0.44	1.7	0.7	A	171	8	1.7	81	40	0.6	271	49	0.8
25	12	13	47.4	60	23.3	140	59.1	16.3	1.8	11	4	139	70	0.28	1.4	2.4	A	342	8	0.6	81	19	1.0	231	68	2.6
25	12	25	25.1	59	38.5	153	3.6	93.0	3.5	26	10	95	110	0.54	2.0	3.2	B	261	0	1.1	150	16	1.6	351	64	3.1
						2.7 ML	ATWC																			
25	13	6	40.1	60	14.8	140	45.3	15.6	1.4	7	4	139	86	0.39	2.9	3.8	B	137	1	0.9	81	31	1.1	228	45	4.0
25	16	1	21.8	60	21.7	141	18.4	18.0	1.7	9	5	117	67	0.23	1.3	2.6	B	349	8	0.8	81	14	1.2	230	74	2.7

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1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
APR 25	17	0	59.2	59	30.9	138	37.9	5.0	1.6	4	4	292	75	0.35	9.0	12.7	D	101	7	8.0	7	33	1.7	202	56	15.1
25	22	56	33.6	60	15.3	141	44.7	5.0	1.1A	5	3	106	93	0.37	2.5	8.9	C	93	2	1.3	2	14	1.1	191	76	9.2
25	23	23	23.8	60	10.9	141	2.1	1.9	1.4	7	4	119	89	0.22	1.8	4.6	B	96	1	1.7	6	20	0.8	189	70	4.9
26	4	12	0.0	62	8.5	149	35.1	45.0	2.5	22	8	191	75	0.54	2.2	5.2	C	86	8	1.0	354	14	1.8	205	74	5.4
26	7	2	26.0	61	19.4	143	21.1	14.4	0.7A	3	3	182	91	0.25	14.8	22.9	D	118	13	1.1	213	22	11.9	0	64	25.0
26	7	39	14.2	60	15.4	140	51.3	10.7	1.4	7	4	135	83	0.16	2.4	4.4	B	342	14	0.9	81	21	1.1	222	63	4.8
26	9	54	32.6	60	33.9	149	16.6	35.1	1.4	11	6	130	52	0.72	1.6	2.7	B	31	5	1.0	299	20	1.3	134	69	2.8
26	10	6	43.1	59	33.7	139	12.0	29.9	1.0	3	3	193	50	0.13	16.1	6.7	D	320	12	1.5	261	19	13.9	88	52	4.7
26	10	22	43.8	60	7.5	148	26.3	0.2	2.0	25	8	195	82	0.79	1.7	1.7	A	261	22	0.6	355	23	1.7	129	58	1.8
26	13	5	44.5	60	13.2	140	43.2	17.3	1.2A	7	3	138	89	0.40	5.8	7.1	C	298	0	2.5	28	37	3.5	208	53	8.6
26	15	39	42.7	61	30.3	146	35.6	25.4	2.5	27	6	71	50	0.68	0.7	1.3	A	15	0	0.7	285	10	0.5	105	80	1.3
26	18	31	35.0	60	11.8	140	50.6	4.9	0.9	4	2	167	100	0.15	4.7	8.5	C	175	1	4.0	85	28	1.3	267	62	9.6
26	21	26	27.1	60	34.6	141	45.4	26.8	1.6A	5	5	120	62	0.26	3.2	21.1	D	283	4	2.6	192	5	1.2	51	84	21.2
26	22	50	17.1	60	15.5	141	6.1	8.3	1.0	8	3	122	80	0.14	2.8	4.8	B	101	14	1.5	5	24	0.9	219	62	5.4
27	0	10	22.0	61	21.8	147	33.5	25.9	2.2	22	6	81	59	0.45	1.1	2.3	A	15	4	1.1	285	6	0.6	139	83	2.4
27	2	35	11.4	60	15.9	141	17.1	6.5	1.2	4	3	168	100	0.16	5.3	8.2	C	261	10	4.9	330	21	0.9	144	59	8.1
27	4	30	54.2	60	24.4	140	6.5	16.0	2.1	8	3	194	91	0.27	1.9	5.1	C	288	5	1.0	19	10	1.7	172	79	5.2
27	5	18	4.7	60	16.8	147	49.5	26.1	2.6	22	6	179	92	0.40	2.2	2.2	A	261	0	0.9	160	45	1.8	351	44	2.5
27	9	57	37.5	62	8.4	149	20.9	29.3	2.2	12	5	190	65	0.46	2.0	2.7	B	81	17	1.3	332	22	1.4	201	57	2.9
27	10	52	23.1	61	46.4	149	44.6	43.1	2.5	18	3	155	60	0.38	1.8	2.8	B	106	7	0.8	15	8	1.8	237	79	2.8
27	13	5	27.9	62	34.8	148	51.6	35.4	2.6	11	5	227	132	0.51	4.3	3.3	B	206	20	4.4	102	33	1.8	322	50	3.6
27	14	54	40.4	61	43.3	149	14.8	10.0	2.1	14	5	155	49	0.60	1.5	1.5	A	166	23	1.1	275	37	0.8	52	44	1.9
27	16	57	33.3	60	0.4	141	11.0	3.4	2.4	17	6	82	47	0.60	1.0	1.2	A	269	5	0.6	1	25	0.9	168	64	1.2
								2.6 ML	EMRC																	
27	18	25	56.9	59	49.6	148	25.1	20.3	2.1	13	6	253	115	0.50	2.9	3.2	B	81	4	1.4	167	40	2.0	346	50	3.8
27	19	14	10.9	61	32.9	150	16.2	49.6	2.0	10	3	115	82	0.24	1.8	2.9	B	282	4	0.8	13	8	1.8	166	81	2.9
27	21	11	37.3	61	43.6	149	57.4	40.4	2.2	11	2	155	86	0.20	2.9	3.0	B	111	9	1.3	15	32	2.8	215	56	3.1
27	22	35	44.8	62	46.1	148	47.8	30.2	2.9	14	4	134	137	0.59	2.4	2.6	B	24	10	1.6	120	33	2.2	279	55	2.8
28	0	25	32.6	60	8.0	143	55.6	12.6	1.2A	3	2	164	100	0.05	15.9	13.0	D	315	28	1.5	70	38	3.2	199	39	20.4
28	1	42	15.4	63	0.3	149	35.1	46.3	3.2	13	3	161	152	0.52	6.9	15.3	D	81	7	1.9	344	8	6.4	209	77	15.5
28	3	17	1.4	62	6.5	149	7.7	19.8	2.2	10	3	187	64	0.58	2.5	3.9	B	200	14	1.9	298	26	1.0	85	60	4.4
28	5	25	26.0	60	24.9	140	7.1	10.9	2.2	12	5	99	90	0.51	1.8	3.5	B	101	5	1.0	9	22	1.2	203	67	3.8
								2.2 ML	EMRC																	
28	8	16	12.7	61	34.1	151	42.8	93.5	3.7	19	4	116	117	0.63	2.0	3.0	B	81	7	1.1	153	20	1.7	331	63	3.0
28	8	23	32.5	60	15.1	141	11.7	11.9	2.1	12	5	74	91	0.13	1.7	2.5	A	343	16	0.8	81	23	1.4	222	61	2.7
								2.2 ML	EMRC																	
28	10	16	15.1	59	46.3	140	55.6	14.0	1.2A	5	4	224	87	0.28	9.7	7.5	C	134	12	1.6	39	25	10.2	248	62	6.9
28	12	8	18.2	62	59.5	150	42.8	101.5	3.3	12	3	194	180	0.34	9.5	12.0	D	326	16	5.4	81	27	2.3	214	51	14.2
28	14	13	49.8	61	38.8	150	18.1	27.5	1.9	7	4	140	102	0.27	2.5	21.3	D	29	0	2.5	299	4	1.7	119	86	21.3
28	14	38	6.4	59	47.2	141	29.0	1.0	1.1	4	2	216	100	0.13	8.3	11.8	D	81	4	1.6	338	19	7.5	182	67	12.1
28	15	7	55.1	61	21.6	147	35.2	29.0	2.1	21	3	119	59	0.50	1.1	1.5	A	275	4	0.6	6	17	1.0	172	73	1.6
28	20	41	19.0	61	17.9	150	22.6	69.8	2.8	14	3	73	88	0.30	1.4	4.8	B	92	2	0.9	182	9	1.2	350	81	4.8
28	21	10	56.8	61	42.2	149	38.7	5.4	1.6	7	5	153	51	0.57	1.5	3.4	B	88	5	0.6	357	6	1.4	217	82	3.4
28	21	12	4.1	60	9.9	141	5.7	6.9	2.0	10	4	115	54	0.32	1.8	2.1	A	90	7	0.7	355	37	1.2	189	52	2.5
28	21	30	52.0	60	17.1	141	13.9	10.4	1.9	9	5	117	76	0.20	1.5	2.9	B	290	1	0.9	21	20	1.1	197	70	3.0
28	21	52	22.7	61	27.0	146	33.1	15.7	2.1	17	4	82	44	0.49	0.9	2.6	B	290	7	0.7	21	8	0.8	159	79	2.6
28	23	4	13.9	60	5.0	139	31.9	15.6	0.8	4	2	208	79	0.28	20.7	14.1	D	167	2	4.7	261	34	25.0	74	56	1.6
28	23	52	29.5	63	4.3	151	6.0	83.7	3.2	10	2	217	250	0.23	14.2	21.1	D	312	1	3.1	43	33	4.8	220	57	25.0

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1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
APR 29	1	59	25.0	61	54.1	148	54.5	12.8	2.3	15	4	167	58	0.71	1.4	1.8	A	162	9	1.3	261	28	0.8	56	59	2.0
29	3	4	58.1	60	33.0	141	47.3	6.9	1.7	9	4	91	62	0.12	1.3	4.7	B	206	4	0.5	296	4	1.3	71	84	4.8
29	3	55	56.5	60	3.9	148	25.0	11.1	2.5	21	4	199	89	0.46	2.8	2.5	B	261	19	0.8	0	38	2.9	149	47	2.5
29	4	11	47.3	60	43.9	147	21.3	10.3	1.8	17	6	136	55	0.40	2.1	3.1	B	161	12	1.6	261	27	0.6	50	59	3.5
29	8	40	56.8	60	16.1	140	57.3	9.2	1.2	5	3	169	114	0.36	2.6	3.7	B	263	0	2.3	353	33	1.2	173	57	4.3
29	9	39	49.0	60	20.7	140	48.8	10.1	1.8	8	5	146	76	0.24	1.3	2.9	B	309	6	1.0	41	17	0.9	200	72	3.0
29	10	4	44.3	59	49.5	141	39.2	17.1	1.4	6	2	198	128	0.50	6.8	9.5	C	261	5	2.1	167	34	2.7	358	55	11.4
29	11	7	32.5	60	1.8	140	2.0	26.5	0.7	5	2	159	54	0.35	5.2	2.1	C	98	1	2.6	8	18	5.5	191	72	1.3
29	12	56	35.5	60	7.8	140	20.0	22.6	1.4	5	3	164	73	0.18	7.2	5.6	C	106	3	1.7	197	28	7.8	10	62	4.8
29	13	45	21.3	60	4.1	141	17.3	11.8	1.3	6	2	149	115	0.15	24.6	5.1	D	3	10	25.0	103	43	2.9	263	45	2.1
29	16	47	3.0	61	20.8	147	34.1	32.8	1.9	17	5	118	57	0.36	1.4	1.6	A	299	11	0.6	33	22	1.3	184	65	1.7
29	17	32	47.4	60	15.4	141	1.7	10.3	2.1	7	3	126	85	0.16	4.4	3.5	B	310	3	1.2	41	10	4.4	204	80	3.4
29	18	51	27.6	63	10.9	150	23.1	131.1	4.0	11	3	190	186	0.38	5.4	9.6	C	146	3	4.4	81	22	2.1	243	57	9.5
29	20	50	10.7	61	31.9	141	25.8	9.8	1.8	5	3	266	127	0.20	7.3	8.5	C	261	23	5.6	319	26	2.0	117	45	7.5
29	22	15	50.8	61	47.7	149	14.2	32.5	2.4	16	5	158	48	0.54	1.3	1.1	A	348	21	1.4	94	36	0.8	234	47	1.2
30	1	34	17.9	59	47.2	139	14.4	9.8	0.7	4	3	201	43	0.09	4.0	5.7	C	327	1	1.1	81	30	1.9	235	52	6.3
30	1	36	0.2	61	49.4	149	55.5	42.2	1.8	11	4	170	67	0.33	2.1	3.1	B	112	3	1.0	20	27	1.6	208	63	3.4
30	2	0	52.8	60	57.4	150	26.9	43.0	1.7	8	7	121	78	0.49	1.1	3.2	B	296	5	0.8	27	5	1.0	162	83	3.2
30	6	57	49.0	61	40.7	149	37.5	40.0	2.1	11	7	150	49	0.54	1.6	1.7	A	287	2	0.7	18	29	1.5	193	61	1.8
30	7	18	37.0	58	13.9	137	19.0	15.0	2.5	3	2	357	233	0.30	25.0	25.0	D	54	0	25.0	324	40	25.0	144	50	25.0
30	7	58	59.5	60	15.7	140	49.5	10.5	1.2	7	3	137	83	0.33	2.6	3.6	B	300	2	1.0	32	33	1.5	207	57	4.2
30	11	47	30.2	60	8.7	141	5.9	8.4	2.2	20	7	63	53	0.42	1.3	1.7	A	81	20	0.8	333	23	0.7	204	55	1.9
								2.4 ML	EMRC																	
30	11	50	11.3	60	9.5	141	4.5	7.3	1.8	12	4	115	55	0.32	1.6	2.2	A	311	4	0.8	43	33	0.9	215	57	2.6
30	13	22	8.8	60	37.6	141	45.3	8.0	1.6	9	4	91	67	0.11	1.4	6.9	C	103	2	1.3	194	6	0.8	355	84	6.9
30	13	30	16.3	60	15.8	141	0.9	9.9	1.2	8	2	127	84	0.10	3.5	4.6	B	330	15	1.4	81	28	1.5	218	53	5.4
30	15	37	20.0	59	6.3	138	41.8	0.3	1.1	3	1	342	108	0.00	23.8	17.8	D	110	9	23.7	12	41	25.0	210	48	7.8
30	16	20	3.6	61	34.6	146	23.1	30.9	2.6	29	5	85	58	0.57	0.8	1.1	A	26	7	0.8	295	10	0.7	151	78	1.1
30	18	28	5.4	60	12.9	141	6.0	7.8	1.7	13	4	118	55	0.30	1.4	2.2	A	312	5	0.7	44	28	0.8	213	62	2.4
30	18	30	59.7	59	40.4	138	51.5	18.9	1.3	4	1	237	54	0.07	8.0	3.6	C	261	17	7.2	330	24	1.4	131	55	3.4
30	21	50	42.8	61	7.0	150	21.1	10.1	1.6	10	6	68	68	0.49	1.4	4.3	B	175	4	1.0	266	16	0.7	71	73	4.4
30	21	58	50.3	60	12.9	140	48.9	12.7	1.1	6	1	133	88	0.30	3.3	4.8	B	94	19	1.8	354	26	1.3	216	57	5.7
MAY 1	2	21	59.0	60	24.4	142	50.9	20.8	1.0A	3	3	156	170	0.26	16.2	19.2	D	7	26	1.2	262	28	3.5	133	50	25.0
1	3	40	59.4	60	14.4	140	18.2	6.2	1.1A	4	2	182	143	0.10	9.1	19.1	D	274	8	1.8	7	23	3.0	166	66	21.0
1	6	15	19.3	59	55.7	141	37.9	11.3	1.1	5	4	186	32	0.36	4.7	2.9	B	105	3	1.0	14	11	4.8	210	79	2.8
1	7	55	38.8	60	13.0	141	0.3	12.9	0.9	5	2	138	101	0.11	5.3	5.6	C	0	30	1.3	261	30	3.9	131	48	7.1
1	8	22	55.6	61	51.4	146	56.0	27.7	3.9	38	1	69	67	0.70	1.1	1.3	A	97	6	0.7	189	16	1.1	347	73	1.3
	4.3	MB			4.0	ML	ATWC			FELT	(IV)	IN	THE	ANCHORAGE,	MATANUSKA,			VALDEZ	AREA							
1	9	26	24.1	60	22.2	140	22.1	23.3	2.0	12	8	85	85	0.64	1.6	4.5	B	5	8	1.3	97	9	1.1	234	78	4.6
								1.9 ML	EMRC																	
1	10	5	8.1	59	57.3	140	11.1	26.6	1.1	6	2	135	53	0.26	3.3	2.2	B	108	1	1.0	17	29	3.7	200	61	1.4
1	13	40	41.6	60	9.9	140	39.3	22.8	1.4	7	3	135	90	0.44	2.7	2.5	B	121	9	0.9	220	41	3.3	21	47	1.7
1	14	9	56.9	60	14.6	140	58.2	12.5	1.7	9	5	127	81	0.16	1.3	2.2	A	344	16	0.7	81	20	1.0	218	64	2.4
1	15	2	45.2	61	24.6	140	46.0	0.3	1.9	7	3	274	100	0.82	5.7	6.2	C	191	10	1.9	290	40	2.7	90	48	7.9
1	15	10	45.2	60	18.4	138	52.5	4.1	1.2	7	2	241	95	0.66	4.6	3.8	B	331	7	1.5	261	31	4.6	73	53	3.1
1	16	18	1.3	60	11.4	140	58.5	9.5	1.3	9	2	122	89	0.27	2.5	3.3	B	346	21	1.0	87	27	1.4	223	55	4.0
1	16	21	8.5	60	14.8	141	19.4	2.9	1.6	18	7	67	46	0.35	0.9	1.7	A	100	2	0.6	10	17	0.8	197	73	1.8
								2.1 ML	EMRC																	
1	17	14	37.2	60	15.7	140	46.5	15.5	1.1	8	3	140	84	0.43	2.3	3.7	B	93	17	1.5	356	22	1.0	218	62	4.2

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1980	ORIGIN TIME HR	MN	SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
MAY 1	18	39	3.5	59	39.7	150	37.2	39.4	3.6	30	1	125	116	0.57	2.1	5.4	C	81	1	1.1	164	8	2.0	344	79	5.4
	3.7 MB					3.8 ML ATWC																				
1	19	12	16.1	60	16.8	140	51.5	9.3	1.0A	4	1	149	117	0.05	17.4	12.9	D	354	32	1.9	111	36	21.3	235	38	5.1
1	23	2	45.7	61	45.6	149	49.2	53.4	1.9	9	7	161	59	0.26	1.6	2.6	B	287	3	1.0	18	11	1.6	182	79	2.7
2	1	12	25.1	60	13.2	141	7.1	15.8	0.9	4	3	144	100	0.15	16.5	20.5	D	261	33	24.0	103	35	7.2	2	15	1.3
2	2	52	54.0	59	56.5	141	6.6	1.3	1.2	5	2	168	101	0.35	2.3	4.4	B	261	2	1.9	152	21	0.8	356	62	4.5
2	3	9	32.9	60	6.6	141	16.0	15.6	0.9	5	2	145	116	0.31	3.8	1.7	B	205	13	3.8	106	36	2.3	312	51	0.9
2	3	10	15.9	60	16.0	140	54.7	11.9	1.0	6	4	145	81	0.13	2.7	3.3	B	111	22	1.5	8	29	1.1	232	52	4.1
2	3	47	7.9	60	23.4	141	1.8	8.9	1.8	12	5	137	68	0.65	1.6	2.2	A	319	0	0.6	81	21	1.2	229	52	2.0
2	3	48	23.2	60	23.7	141	40.1	15.0	0.5A	3	3	191	80	0.59	7.5	24.1	D	18	7	1.3	287	14	3.6	134	74	25.0
2	5	5	36.7	63	10.2	150	15.3	130.8	4.4	30	3	127	181	0.64	2.3	8.4	C	102	3	2.0	12	3	2.2	237	86	8.4
						3.3 ML ATWC																				
2	6	31	59.0	59	58.2	141	4.0	5.4	0.9	6	4	126	54	0.24	1.5	1.8	A	21	11	1.2	118	34	0.9	276	54	2.2
2	14	57	30.7	61	9.6	149	50.0	42.1	2.0	12	4	84	55	0.32	1.3	2.7	B	5	1	1.3	275	2	0.9	122	88	2.7
2	18	49	3.2	59	51.8	141	49.0	0.5	0.8A	3	2	268	134	0.19	11.0	6.0	D	109	9	2.1	17	12	11.2	235	75	5.7
2	19	21	39.0	60	55.2	149	24.0	40.5	1.7	12	7	71	48	0.55	1.1	2.9	B	85	2	0.7	355	13	0.9	184	77	3.0
2	21	56	39.7	61	30.1	150	7.3	52.4	3.0	19	3	75	54	0.34	1.5	2.8	B	88	1	0.8	178	13	1.4	354	77	2.8
2	22	44	23.6	61	31.4	147	14.5	15.1	2.4	17	4	100	65	0.48	1.2	1.5	A	292	12	0.6	27	25	1.1	178	62	1.6
2	22	55	37.3	59	58.2	152	31.4	102.4	3.8	19	2	96	112	0.55	2.6	3.5	B	261	0	1.5	148	19	2.1	351	60	3.4
						3.3 ML ATWC																				
2	22	56	16.8	60	17.6	141	44.9	14.5	1.4	3	2	251	124	0.22	6.4	6.9	C	340	12	1.1	81	34	5.7	234	53	7.6
3	0	22	2.4	60	15.3	141	12.6	3.7	1.4	6	2	128	79	0.10	3.0	5.1	C	81	9	2.9	348	16	1.3	199	71	5.3
3	2	32	4.4	60	14.6	141	4.3	3.6	1.0	6	2	135	82	0.22	5.3	7.4	C	262	12	5.1	356	17	1.4	139	69	7.8
3	7	38	1.5	60	15.8	141	5.3	9.5	1.8	9	2	123	76	0.41	4.0	6.7	C	358	18	1.0	261	20	2.7	127	63	7.5
3	10	10	30.2	60	16.9	141	27.9	26.5	1.5	3	3	224	108	0.21	8.3	7.0	C	135	21	1.8	261	30	10.2	24	41	1.7
3	15	7	22.7	60	20.8	141	7.9	13.9	1.4	4	3	127	100	0.12	14.0	20.8	D	121	20	2.7	21	26	1.6	244	56	25.0
3	16	49	36.5	60	22.4	141	1.6	5.3	1.2	7	3	135	90	0.41	2.4	6.2	C	87	10	1.6	354	14	1.3	211	73	6.4
3	17	8	19.2	59	46.4	142	36.9	4.0	2.4	20	8	176	73	0.81	1.4	1.7	A	105	8	0.9	198	24	1.3	358	65	1.8
3	17	38	1.6	61	24.8	150	4.9	39.6	2.1	12	8	76	54	0.40	1.6	2.3	A	122	6	0.8	212	6	1.6	347	82	2.3
3	20	5	32.3	60	17.1	140	50.4	10.1	2.1	22	6	75	72	0.49	1.4	2.5	A	330	11	0.9	81	17	0.8	214	61	2.6
								2.3 ML	EMRC																	
3	20	9	17.2	60	17.1	141	13.8	6.2	1.3	7	4	117	76	0.25	3.1	5.0	B	339	19	1.3	81	19	2.0	210	61	5.6
3	20	32	30.1	60	17.4	140	50.6	11.8	1.9	19	7	75	77	0.49	1.7	2.7	B	324	8	0.8	81	23	0.9	220	54	2.8
3	20	35	23.5	60	16.3	140	58.2	13.3	1.0	7	3	130	80	0.19	3.4	4.7	B	108	18	2.3	9	27	1.5	228	57	5.5
3	23	53	52.2	61	22.0	149	13.7	39.4	2.4	15	6	59	42	0.35	1.1	1.8	A	112	15	0.8	206	15	0.9	339	69	1.9
4	0	25	36.5	60	13.0	141	14.6	9.6	1.3	7	2	112	83	0.11	4.4	6.2	C	60	16	2.6	321	29	1.6	175	56	7.4
4	3	40	32.7	60	16.1	141	13.6	9.4	1.5	7	3	116	78	0.25	2.7	4.2	B	81	17	2.0	335	19	1.1	205	60	4.6
4	4	26	37.6	60	13.8	140	50.9	12.7	1.4	7	3	133	74	0.22	4.9	6.8	C	291	1	2.4	22	35	1.6	200	55	8.2
4	4	27	9.1	60	13.6	140	50.2	12.0	1.5	7	3	133	74	0.17	5.3	6.3	C	83	14	1.4	343	36	2.0	191	51	8.0
4	4	56	47.2	61	49.2	149	52.3	40.2	2.4	7	5	169	81	0.28	4.2	3.0	B	101	2	1.1	193	34	4.9	8	56	1.5
4	5	36	40.1	60	12.5	141	16.9	11.2	1.5	7	4	109	84	0.16	2.1	3.7	B	261	0	2.1	347	25	1.0	171	65	4.0
4	7	4	1.8	63	33.5	147	48.1	37.9	3.2	15	4	135	197	0.64	7.1	10.0	C	174	19	1.1	81	23	5.7	302	60	11.1
4	9	4	12.9	62	38.2	148	55.5	31.2	2.8	22	2	231	121	0.66	2.6	2.6	B	95	6	1.5	358	44	1.2	191	45	3.5
4	17	27	40.2	62	1.1	144	50.2	13.7	2.8	24	4	147	82	0.94	2.2	2.6	B	108	21	0.8	6	29	1.6	229	53	3.0
4	17	49	57.1	61	59.8	144	59.2	29.0	3.1	20	4	144	75	0.94	1.8	1.5	A	105	16	0.9	206	33	2.0	353	52	1.2
4	17	51	31.0	62	0.6	144	50.8	18.4	2.6	5	5	280	126	0.79	11.4	18.7	D	180	11	10.5	86	21	2.0	296	66	20.3
4	18	44	37.4	59	56.4	140	38.5	37.4	1.3A	5	2	178	76	0.26	16.3	17.9	D	110	17	1.6	214	37	5.2	0	48	23.7
4	19	59	28.6	62	2.6	144	53.9	27.6	1.8	6	5	214	82	0.37	4.7	5.1	C	0	24	2.5	106	32	1.2	240	48	6.7
4	23	45	18.0	60	18.3	141	15.0	6.0	0.9	4	3	161	101	0.26	4.9	9.4	C	81	4	3.4	321	17	1.6	181	56	8.9

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1980	ORIGIN TIME HR	MN	SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
MAY	5	3	54	51.7	61	22.7	150	18.0	43.8	2.1	13	6	84	67	0.35	2.1	2.8	B	126	3	1.2	216	3	2.1	351	86	2.8
	5	3	59	37.7	60	8.6	141	1.1	9.3	2.0	13	5	116	58	0.19	1.3	1.7	A	99	5	0.8	6	31	1.0	197	59	1.9
	5	9	7	5.2	60	19.2	141	20.1	8.0	1.2	5	4	124	72	0.28	2.5	8.5	C	261	6	2.3	346	12	0.9	144	76	8.7
	5	10	13	9.5	61	21.2	149	16.1	40.3	1.2A	15	6	68	44	0.26	1.3	1.6	A	164	13	1.2	81	17	0.9	294	68	1.6
	5	11	33	47.2	60	15.0	140	54.8	12.5	1.7	6	5	131	78	0.13	1.4	2.0	A	126	12	0.8	31	25	1.1	240	62	2.2
	5	11	59	28.5	60	13.1	140	44.8	12.8	2.1	17	4	101	74	0.26	1.2	2.4	A	94	4	0.8	3	18	0.9	196	72	2.5
	5	15	58	46.7	61	40.2	149	49.3	41.1	1.9	14	5	148	49	0.21	2.4	2.3	A	116	4	0.8	22	42	2.5	210	48	2.1
	5	20	11	22.9	61	37.7	146	25.4	29.6	2.9	29	3	85	55	0.57	0.9	1.3	A	291	3	0.7	21	3	0.9	156	86	1.3
	5	21	7	18.2	61	26.0	150	54.5	71.6	3.2	24	2	50	75	0.52	1.3	3.1	B	93	9	0.9	185	13	1.1	329	74	3.2
	6	3	52	34.7	60	12.2	141	2.5	2.9	1.3	6	4	120	86	0.27	3.6	6.4	C	263	12	3.1	358	21	1.1	145	65	7.0
	6	5	39	31.0	60	8.3	151	23.5	49.2	3.4	22	2	83	74	0.74	1.8	2.8	B	81	7	0.9	341	8	1.7	208	75	2.8
	6	7	8	4.8	61	7.8	147	16.8	8.7	2.0	17	3	98	40	0.25	1.3	1.4	A	290	18	0.6	194	19	1.3	61	63	1.5
	6	7	37	3.8	60	15.3	140	48.2	8.7	1.4	8	4	137	72	0.36	3.3	4.9	B	102	2	1.7	11	33	1.3	195	57	5.8
	6	9	10	33.3	60	23.1	140	19.6	5.3	1.9	7	4	182	85	0.50	2.7	5.4	B	321	3	1.0	81	14	1.9	222	57	4.9
									2.1 ML	EMRC																
	6	16	59	3.0	63	5.0	150	4.0	43.4	3.0	9	4	267	168	0.61	7.2	13.9	D	81	7	2.1	160	20	5.5	332	66	14.3
	6	18	18	19.6	63	5.3	150	31.1	130.8	4.4	20	2	127	182	0.59	2.6	9.6	C	98	1	2.6	8	4	2.4	202	86	9.6
						3.2 ML	ATWC																			
	6	20	6	32.9	62	4.4	148	49.7	36.4	2.3	12	5	183	100	0.53	2.4	1.7	A	261	17	1.5	136	17	2.3	19	49	0.9
	6	22	25	4.0	59	13.9	136	50.4	0.2	3.0	9	5	130	153	1.33	2.9	3.9	B	81	1	2.4	142	15	1.5	348	58	3.5
									2.9 ML	EMRC																
	7	1	8	12.8	64	2.9	149	6.8	41.7	3.6	12	6	110	261	1.30	8.1	19.7	D	194	9	1.5	287	15	5.8	74	72	20.6
						2.7 ML	ATWC																			
	7	3	6	16.9	62	55.5	150	34.5	126.2	5.1	35	1	67	166	0.56	2.2	6.8	C	98	3	1.8	8	5	2.1	219	84	6.9
		5.0	MB			4.1 ML	ATWC				FELT	(I)	IN	THE	PALMER-TALKEETNA	AREA										
	7	3	33	57.9	60	22.7	140	8.8	16.6	1.4A	5	2	204	90	0.21	4.2	9.0	C	309	7	1.4	40	10	4.0	184	78	9.1
	7	6	15	27.0	60	0.7	141	8.8	2.8	1.5	7	2	81	49	0.22	2.7	3.3	B	82	5	2.2	175	37	1.5	345	53	4.0
	7	6	40	7.2	61	4.1	149	44.6	39.5	1.8	10	4	114	65	0.33	1.7	3.5	B	341	4	1.1	261	14	1.5	87	72	3.5
	7	9	29	3.4	59	56.9	141	9.4	29.4	1.2	4	2	192	85	0.26	11.4	5.1	D	359	23	12.3	103	30	2.2	238	51	1.6
	7	12	42	36.5	60	20.1	140	45.5	8.0	1.4	4	4	158	106	0.18	5.1	7.4	C	353	19	2.2	92	24	3.4	229	59	8.4
	7	12	53	25.6	61	50.1	151	5.4	79.4	2.5	9	4	146	105	0.14	5.9	3.1	C	214	6	5.9	122	21	1.2	319	68	3.2
	7	13	3	30.0	62	2.1	150	56.3	59.8	2.5	8	3	202	107	0.33	5.8	5.3	C	114	9	1.7	211	38	6.3	13	51	4.7
	7	13	21	9.2	60	11.1	141	22.7	8.9	1.8	10	4	103	40	0.32	1.3	2.5	B	266	2	0.7	357	22	0.9	171	68	2.7
	7	14	59	37.4	60	10.8	140	55.7	7.9	1.2	5	2	148	76	0.36	8.9	6.4	C	81	26	2.4	309	39	4.2	189	31	10.1
	7	15	25	3.4	61	23.1	149	59.0	54.8	3.7	25	2	62	51	0.36	1.3	2.5	B	81	1	0.9	164	6	1.2	341	81	2.5
	7	16	11	6.1	60	46.9	150	39.9	51.9	3.4	22	3	100	79	0.43	1.8	3.5	B	81	4	0.9	341	13	1.6	187	73	3.5
	7	17	49	30.5	60	22.9	140	57.5	9.0	2.1	15	8	51	68	0.60	0.8	2.2	A	95	4	0.8	4	6	0.6	218	83	2.2
									2.4 ML	EMRC																
	7	19	9	12.9	61	22.5	149	59.9	58.3	2.2	10	4	123	78	0.21	1.6	4.0	B	313	1	0.9	223	1	1.6	88	89	4.0
	7	20	3	47.7	60	21.8	141	4.6	11.3	1.8	6	4	132	68	0.61	1.4	2.8	B	81	10	1.2	344	14	0.6	204	72	3.0
	8	3	6	30.0	60	19.5	143	6.6	6.5	2.3	15	7	106	68	0.85	1.6	1.9	A	109	11	0.8	11	35	0.8	214	53	2.4
									2.4 ML	EMRC																
	8	6	57	10.6	61	52.8	148	56.2	5.9	1.7	12	4	165	58	0.41	1.5	2.0	A	4	6	1.4	270	34	0.8	103	55	2.3
	8	8	20	15.1	61	47.4	144	54.9	57.9	2.4	12	5	183	70	0.28	1.8	3.7	B	298	6	1.5	29	8	1.7	172	80	3.8
	8	9	20	49.7	60	1.1	141	21.2	0.1	1.5	4	1	225	126	0.02	11.8	10.2	D	284	33	2.0	169	33	9.8	47	40	13.5
	8	10	22	19.3	60	9.0	149	22.1	53.5	2.3	14	4	204	82	0.36	4.5	4.6	B	81	5	1.4	169	42	3.6	345	48	5.3
	8	10	59	35.0	60	20.5	141	27.1	1.6	1.4	6	3	118	70	0.18	1.5	7.4	C	343	2	0.8	261	3	1.4	109	81	7.3
	8	20	13	23.9	60	30.2	140	41.3	18.7	2.1	11	7	68	85	0.37	0.9	2.6	B	163	1	0.6	81	7	0.9	261	79	2.6
									2.3 ML	EMRC																
	9	0	22	4.0	60	16.5	141	14.0	12.8	1.4	7	4	116	77	0.33	2.2	2.3	A	326	13	0.7	81	34	1.3	221	47	2.8
	9	5	16	54.1	60	15.8	141	14.2	14.8	1.7	14	8	77	78	0.40	1.3	2.1	A	334	14	0.7	81	15	1.0	209	64	2.2
									1.6 ML	EMRC																
	9	11	36	22.8	60	44.5	147	40.5	24.3	2.5	19	4	156	49	0.46	1.7	2.0	A	268	12	0.6	172	27	1.5	20	60	2.2
	9	12	9	26.6	60	40.7	141	53.1	12.1	1.4	9	3	94	81	0.49	1.8	2.9	B	86	4	1.1	177	23	1.4	347	67	3.1

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1980	ORIGIN TIME HR	MN	SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
MAY 9	15	26	40.2	60	15.8	140	45.9	16.9	1.2	7	3	140	75	0.39	2.7	3.3	B	96	24	1.2	352	27	1.3	221	52	4.1
9	17	53	57.4	60	40.5	141	51.2	9.2	1.5A	5	1	116	184	0.30	7.3	21.4	D	192	10	1.5	99	15	2.0	314	72	22.5
9	20	11	28.3	60	19.1	140	38.5	5.0	0.9A	3	3	154	81	0.20	3.8	12.5	D	337	5	1.5	81	11	2.3	226	72	12.5
9	21	21	30.5	59	58.0	141	32.4	8.6	1.7	9	3	155	50	0.31	2.6	1.6	B	98	6	1.0	189	10	2.6	337	78	1.6
10	2	36	3.8	61	38.4	146	36.0	15.6	2.6	29	3	75	56	0.57	0.8	1.4	A	299	7	0.6	30	7	0.8	165	80	1.4
10	2	57	17.2	60	12.7	147	21.0	26.1	3.3	36	3	161	90	0.58	1.6	1.3	A	271	1	0.8	2	22	1.6	179	68	1.2
					3.3 ML		ATWC																			
10	3	11	40.1	60	47.6	149	50.5	41.9	2.1	15	4	105	52	0.36	1.5	3.8	B	261	0	0.9	331	8	1.3	171	69	3.6
10	4	43	57.1	60	30.4	140	42.2	21.5	1.5A	7	3	170	86	0.37	1.7	3.6	B	342	5	0.9	81	10	1.5	228	76	3.7
10	5	45	14.8	62	27.5	149	15.4	30.0	2.4	16	4	218	97	0.63	2.4	1.9	A	86	27	1.1	192	28	2.6	320	49	1.9
10	6	12	18.8	59	53.3	139	1.9	25.7	0.5A	3	1	248	49	0.03	15.4	26.7	D	138	9	2.0	81	27	6.4	245	48	25.0
10	12	48	32.4	61	0.6	150	22.8	45.4	2.4	15	5	84	56	0.34	1.2	3.4	B	38	2	1.0	308	8	1.2	142	82	3.4
10	13	17	12.9	63	10.0	150	14.9	64.6	3.2	13	6	185	181	0.44	3.9	10.9	D	103	4	3.4	12	13	2.9	210	76	11.2
10	14	12	34.8	61	39.9	150	45.2	57.4	2.1	10	1	132	79	0.27	2.8	6.2	C	212	12	2.3	119	13	1.6	343	72	6.5
10	14	12	39.9	60	46.3	147	35.0	5.3	1.9	15	6	148	54	0.53	1.7	2.1	A	261	21	0.9	162	23	1.5	29	58	2.3
10	14	38	54.4	60	23.4	139	43.6	11.6	1.0A	4	2	219	115	0.14	8.6	5.9	C	338	14	2.1	261	30	8.8	93	55	4.7
10	14	42	41.0	60	12.4	139	37.9	7.5	0.6	4	1	211	94	0.28	21.2	14.3	D	162	19	9.1	265	33	25.0	47	51	3.9
10	15	34	55.3	60	21.5	140	44.6	14.1	1.2	7	4	152	76	0.30	2.2	4.3	B	337	5	0.8	81	21	1.3	235	64	4.5
10	18	18	17.4	60	14.1	146	58.9	7.6	2.1	24	6	162	76	0.45	2.2	1.8	A	138	31	1.3	261	32	0.8	20	38	2.6
10	21	44	9.0	59	56.1	148	45.5	0.0	2.3	26	5	206	105	0.77	3.5	1.8	B	187	18	3.7	86	31	0.9	303	53	1.7
10	21	58	15.4	60	18.1	141	23.5	7.3	1.3	7	3	109	74	0.29	1.3	3.5	B	81	3	1.1	350	13	0.9	184	77	3.6
11	3	18	55.7	60	16.8	141	53.6	5.2	1.1	9	3	84	49	0.29	2.6	4.2	B	357	13	1.1	93	26	1.5	243	61	4.7
11	3	43	39.0	60	18.1	141	23.8	7.8	1.7	18	7	61	48	0.54	0.9	2.0	A	109	1	0.7	19	16	0.8	202	74	2.1
								2.2 ML	EMRC																	
11	4	54	48.0	59	55.4	140	7.2	24.5	1.1	6	3	128	50	0.55	2.0	1.6	A	186	6	2.0	91	35	1.4	284	54	1.6
11	5	18	23.2	60	39.8	137	38.6	2.7	2.2	9	8	132	136	1.12	2.2	3.7	B	261	13	1.9	163	14	1.6	30	69	3.9
								2.3 ML	EMRC																	
11	5	41	9.1	60	16.9	140	55.1	9.5	1.8	11	4	134	79	0.20	1.5	2.6	B	112	10	0.9	18	19	1.2	228	68	2.8
11	5	47	37.4	60	16.7	141	17.3	1.6	2.0	23	8	61	49	0.50	1.1	1.8	A	326	6	0.7	81	17	0.7	221	60	1.8
								2.5 ML	EMRC																	
11	6	42	28.1	60	40.9	147	35.5	18.0	1.8	16	7	164	55	0.28	1.3	2.2	A	267	17	0.6	172	17	1.1	40	66	2.3
11	7	3	2.3	60	18.9	141	19.8	2.8	1.0	6	3	113	73	0.22	2.0	5.2	C	81	7	1.5	336	12	1.0	197	70	5.3
11	7	18	29.7	60	13.0	140	17.6	22.3	1.3	7	2	163	79	0.19	3.4	3.9	B	95	8	1.0	359	35	2.9	196	54	4.4
11	8	13	54.0	60	15.2	140	41.3	16.7	1.0A	7	2	144	87	0.30	3.4	6.1	C	357	18	1.9	93	19	1.4	226	63	6.8
11	8	25	31.2	60	12.4	141	6.6	0.9	1.2	8	2	117	85	0.28	2.0	4.1	B	320	11	1.0	54	19	1.3	202	68	4.4
11	11	12	51.7	60	18.3	139	39.1	20.7	0.9	4	1	216	104	0.18	11.9	9.1	D	261	31	14.5	137	33	4.8	18	37	2.0
11	11	38	15.3	63	4.3	148	59.3	43.7	2.7	13	7	149	165	0.74	2.1	9.5	C	91	2	2.0	1	6	1.8	199	84	9.6
11	11	56	19.2	60	13.0	141	24.2	1.7	1.0	5	2	116	105	0.12	2.2	5.4	C	289	8	1.1	20	12	1.8	166	76	5.6
11	13	35	46.7	60	13.1	141	8.7	9.6	0.9	4	2	158	112	0.02	12.9	17.5	D	81	3	4.6	338	35	1.2	175	53	21.4
11	14	41	0.7	60	11.7	140	48.6	18.2	2.2	22	8	71	60	0.58	1.2	1.9	A	95	6	0.7	2	26	0.9	197	63	2.1
								2.6 ML	EMRC																	
11	16	32	5.8	61	17.9	148	39.2	31.6	1.8	12	5	84	49	0.28	1.3	1.9	A	118	3	1.3	208	7	0.8	5	82	1.9
11	17	20	37.4	60	26.8	140	6.3	12.8	0.8A	4	2	276	95	0.09	11.4	12.4	D	106	5	3.0	12	40	8.2	202	50	14.7
11	18	20	22.6	50	10.9	141	11.5	0.2	1.5	7	3	111	88	0.24	1.3	2.6	B	93	2	0.7	2	16	1.1	190	74	2.7
11	18	39	9.3	60	10.2	141	12.3	0.5	1.2	7	3	110	89	0.31	2.0	3.7	B	288	6	1.0	20	22	1.4	184	67	4.0
11	19	27	33.1	61	41.2	149	31.0	30.4	2.0	17	8	148	49	0.40	1.4	1.1	A	87	7	0.7	354	20	1.4	195	69	1.0
11	19	55	51.6	60	14.3	140	48.5	15.2	1.0	7	4	136	73	0.26	3.2	3.6	B	117	7	1.2	21	40	1.2	215	49	4.6
11	20	0	33.1	61	24.7	150	16.6	47.0	2.6	22	3	64	64	0.38	1.4	3.3	B	261	3	0.9	155	7	1.3	11	72	3.2
12	0	21	46.2	60	16.2	138	59.9	15.0	0.8A	3	1	241	202	0.20	12.3	8.5	D	155	5	2.7	261	22	12.8	54	63	7.2
12	0	39	4.7	60	15.8	140	57.8	10.5	1.9	15	7	71	64	0.21	1.5	2.4	A	334	11	0.8	81	22	0.9	222	61	2.6
								2.1 ML	EMRC																	

SOUTHERN ALASKA EARTHQUAKES, APRIL - JUNE 1980

1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
MAY 12	0	45	9.4	60	21.0	148	34.7	27.0	2.1	19	5	182	62	0.48	2.8	1.8	B	273	1	0.9	4	20	2.9	180	70	1.6
12	0	47	59.5	60	18.7	141	10.6	4.9	0.9	6	3	122	103	0.24	4.2	5.4	C	334	17	1.0	81	30	1.8	220	52	6.6
12	1	11	48.9	60	10.0	140	54.3	6.1	0.8	6	2	148	101	0.26	4.2	5.4	C	329	16	2.1	81	28	0.9	216	52	6.5
12	2	22	28.6	62	3.9	148	11.6	33.5	2.3	15	8	205	100	0.58	2.9	1.6	B	331	22	3.1	81	41	1.0	220	41	1.4
12	5	14	14.5	60	17.4	141	12.7	19.2	1.3	7	4	118	76	0.32	1.9	2.5	A	82	22	1.4	342	24	0.8	210	57	2.9
12	5	21	26.5	59	59.3	141	40.1	11.3	1.1A	3	2	210	123	0.30	11.0	5.0	D	88	7	1.1	181	19	11.5	339	70	3.5
12	6	45	4.7	61	11.2	149	43.9	41.4	2.2	7	4	249	80	0.29	4.9	5.1	C	47	21	2.0	154	36	2.4	293	46	6.7
12	7	59	43.8	61	19.6	148	47.9	4.2	0.9	7	5	127	53	0.38	2.1	5.7	B	141	4	1.6	261	5	0.9	25	59	5.0
12	9	9	59.2	63	41.6	147	40.3	40.3	3.6	20	3	140	208	0.85	5.8	24.8	D	172	3	1.5	263	6	5.2	56	83	25.0
						3.1 ML ATWC																				
12	10	0	30.5	63	4.5	149	11.5	72.8	3.5	22	7	154	165	0.59	2.7	14.5	D	326	1	2.1	81	4	1.5	224	65	13.2
12	11	21	36.8	60	15.9	140	44.8	15.8	1.7	8	5	142	71	0.58	2.1	3.1	B	124	8	0.9	30	28	1.4	229	61	3.5
12	11	31	50.9	60	14.4	140	44.9	10.6	1.0	5	2	152	125	0.32	7.5	9.5	C	322	13	2.3	81	28	1.7	215	49	11.3
12	11	43	55.7	60	12.2	140	37.5	10.9	1.4	8	7	141	80	0.67	1.4	2.5	B	297	0	0.6	27	17	1.2	207	73	2.6
12	12	26	3.5	60	12.4	140	44.1	19.5	1.1A	6	5	136	96	0.41	3.5	3.5	B	108	14	1.1	5	41	1.6	213	46	4.7
12	13	7	14.8	60	1.0	139	26.2	14.0	1.0	5	3	208	70	0.49	4.3	2.7	B	130	15	1.4	226	21	4.6	7	64	2.3
12	13	7	45.2	60	43.7	140	32.0	8.9	1.8	8	5	206	100	0.46	3.5	4.2	B	261	10	2.9	138	12	0.9	17	54	3.9
12	13	12	6.4	59	57.5	141	32.0	6.7	0.9A	4	1	182	124	0.10	8.4	6.7	C	88	1	1.2	357	37	10.2	179	53	3.4
12	19	13	13.8	60	30.8	140	44.7	13.1	0.8A	6	3	171	89	0.20	8.9	10.9	D	357	7	2.1	263	35	6.2	97	54	12.7
12	23	7	9.3	59	44.9	139	17.5	13.9	0.4	3	2	185	40	0.26	17.7	19.4	D	142	5	1.1	261	43	25.0	48	40	2.6
12	23	32	28.5	61	35.8	141	51.5	10.1	2.5	7	6	251	105	1.14	2.8	2.9	B	299	9	1.0	203	33	2.6	42	55	3.1
13	1	59	23.7	60	30.9	140	47.1	14.6	0.7A	4	2	231	103	0.19	12.2	14.7	D	359	12	1.5	261	36	6.2	105	52	18.1
13	3	26	57.7	61	50.0	149	23.6	2.6	1.4	14	5	175	56	0.66	1.0	2.1	A	357	6	0.9	265	19	0.5	104	70	2.3
13	4	54	41.5	60	0.3	139	22.1	10.3	1.1	4	3	211	68	0.46	6.3	9.3	C	20	17	2.8	119	28	1.1	262	57	11.1
13	5	32	14.0	60	18.0	141	18.9	4.4	1.6	11	6	113	66	0.30	1.2	2.8	B	81	8	1.0	340	11	0.8	203	73	2.9
13	6	8	36.2	60	17.7	141	20.2	4.8	1.2	8	4	112	75	0.19	1.8	4.3	B	81	11	1.3	336	12	0.7	207	68	4.5
13	6	41	3.2	58	13.8	137	17.8	0.9	3.0	8	5	180	201	0.48	7.1	6.9	C	325	2	1.7	81	44	5.8	233	40	7.4
								2.5 ML EMRC																		
13	6	48	28.6	61	21.7	150	47.8	67.4	2.8	19	7	106	73	0.50	1.3	3.5	B	82	1	0.8	172	13	1.0	348	77	3.6
13	9	50	46.3	60	17.6	140	43.5	2.1	1.1	5	1	179	102	0.26	4.1	7.6	C	294	6	4.0	26	16	2.0	184	73	7.9
13	11	51	56.3	61	19.9	148	26.9	21.3	1.1	5	4	146	46	0.13	2.7	2.7	B	292	16	0.9	187	41	1.7	38	44	3.5
13	13	38	16.9	60	36.2	141	21.0	27.7	1.2A	5	2	132	72	0.06	7.7	13.7	D	174	11	1.1	270	26	2.5	63	61	15.6
13	13	43	25.8	60	34.7	141	28.8	6.3	0.8A	3	3	157	69	0.11	1.9	6.3	C	169	4	0.6	261	9	1.6	56	80	6.4
13	15	1	30.3	59	51.3	141	34.2	0.1	1.3	6	2	202	100	0.34	2.9	5.8	C	275	1	0.8	6	5	2.9	174	85	5.8
13	15	6	55.1	63	9.7	149	56.9	87.1	3.5	22	1	123	172	0.48	2.5	9.7	C	132	3	2.3	42	10	1.6	239	80	9.8
13	17	23	41.4	60	20.6	141	5.7	14.6	1.1A	5	2	160	100	0.23	5.2	9.4	C	95	6	3.3	2	27	1.6	197	62	10.6
13	20	41	2.6	59	53.2	138	21.5	10.9	1.5	3	2	295	72	0.22	9.9	23.4	D	344	3	1.6	261	22	3.3	81	67	25.0
13	21	9	33.5	59	50.0	139	17.0	12.6	0.9	4	2	208	48	0.15	3.6	4.5	B	137	3	1.1	81	18	2.8	235	52	3.8
14	1	18	5.5	59	45.8	141	28.2	0.9	1.2	4	1	219	100	0.15	5.4	8.8	C	307	0	5.4	37	8	2.3	217	82	8.8
14	1	59	18.9	60	57.3	149	32.8	35.1	2.0	17	7	62	53	0.53	1.1	1.2	A	33	12	0.6	127	19	1.1	272	67	1.2
14	3	21	8.4	61	50.3	149	34.3	45.4	1.9	15	8	162	65	0.31	1.5	1.9	A	87	11	0.9	351	26	1.3	198	61	2.1
14	8	38	33.1	61	35.6	149	51.7	43.0	3.2	25	2	58	42	0.30	1.3	2.2	A	81	2	0.9	167	8	1.3	337	81	2.2
						3.4 ML ATWC																				
14	10	1	2.7	60	38.5	150	25.5	45.3	1.1	9	7	109	82	0.23	2.2	3.4	B	261	6	1.3	351	26	1.7	159	63	3.8
14	11	6	5.9	59	54.0	141	32.4	2.1	1.0A	5	3	191	123	0.16	18.7	9.4	D	112	15	1.6	207	18	19.5	345	66	7.9
14	11	31	0.8	61	56.2	148	20.1	34.3	2.2	19	8	169	57	0.46	2.0	1.0	A	163	5	2.0	81	35	0.6	260	54	1.1
14	11	50	54.4	60	9.3	141	1.7	0.2	1.1A	5	1	142	106	0.15	5.0	11.4	D	279	0	1.5	9	15	4.1	189	75	11.7
14	13	2	3.2	62	6.5	149	25.0	43.4	2.6	26	6	112	66	0.43	2.3	3.7	B	92	5	0.9	359	26	1.5	192	63	4.1

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1980	ORIGIN TIME HR	MN	SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
MAY 14	13	5	37.7	61	57.8	148	20.1	37.8	3.2	31	2	80	59	0.60	1.6	1.1	A	348	8	1.6	85	38	0.7	248	51	1.3
					2.9 ML ATWC																					
14	13	23	19.5	60	29.6	144	0.2	32.2	1.3A	6	4	110	106	0.89	3.8	12.3	D	9	1	1.4	99	16	1.5	276	74	12.8
14	14	31	34.9	61	46.6	149	30.9	34.0	2.2	17	4	156	59	0.35	1.5	1.0	A	175	3	1.5	84	17	0.7	275	73	1.0
14	15	12	16.1	60	5.6	139	18.6	5.9	1.3	6	1	210	75	0.35	8.0	8.3	C	324	6	1.6	81	39	2.1	228	44	10.9
14	17	56	57.6	60	16.2	141	11.3	14.6	1.2A	7	2	118	106	0.14	4.0	7.5	C	97	11	1.3	2	21	2.5	213	66	8.2
14	19	51	4.1	60	6.0	139	22.1	8.1	0.7	4	1	216	77	0.32	6.1	10.3	D	353	5	4.5	86	29	1.6	254	60	11.9
14	23	46	14.4	60	9.1	140	56.0	34.3	1.2A	4	3	160	125	0.08	11.3	25.0	D	305	0	3.5	35	4	11.1	215	86	25.0
15	1	5	23.0	60	15.5	141	8.6	12.1	1.7	9	8	120	78	0.21	1.6	2.4	A	312	4	0.6	44	27	1.1	214	63	2.7
15	1	31	34.1	62	54.3	150	38.7	75.0	3.4	17	5	267	166	0.51	5.9	6.7	C	81	15	1.6	331	31	4.3	191	51	7.8
15	5	45	55.6	60	50.7	147	58.0	26.5	1.8	23	13	137	49	0.58	1.1	1.0	A	357	7	1.1	88	8	0.5	226	79	1.0
15	6	6	15.8	61	41.8	149	31.3	36.3	2.1	15	8	152	50	0.54	1.2	1.0	A	21	1	1.2	111	4	0.7	277	86	1.0
15	6	49	20.1	60	56.8	138	17.3	0.0	1.3A	6	5	179	155	0.72	4.3	4.5	B	137	14	1.4	261	27	3.4	29	46	4.7
								2.0 ML EMRC																		
15	7	7	11.5	60	17.2	140	55.6	6.3	1.1	5	3	172	110	0.27	2.8	6.1	C	110	5	1.4	18	23	1.0	212	66	6.6
15	15	17	12.6	60	18.3	140	47.7	13.0	1.8	8	6	143	75	0.37	1.3	2.3	A	316	12	0.8	51	20	1.0	197	66	2.5
15	16	3	28.8	60	16.8	140	58.0	11.2	1.2	6	4	158	113	0.20	3.5	5.7	C	97	10	2.0	1	29	1.0	204	59	6.6
15	17	7	41.8	60	6.7	141	7.1	1.0	1.6	12	7	109	52	0.47	1.2	2.0	A	281	0	0.6	11	24	0.8	191	66	2.1
15	22	55	28.6	61	10.7	150	39.5	26.0	1.8	9	5	98	78	0.41	1.4	10.7	D	337	0	0.8	261	5	1.0	67	75	10.4
16	9	19	1.2	61	28.8	150	0.9	53.2	2.3	15	8	76	49	0.26	1.5	2.9	B	121	3	0.8	212	15	1.3	20	75	3.0
16	13	24	10.1	60	16.4	140	42.9	16.6	1.2	7	3	144	70	0.28	2.4	4.1	B	345	19	1.2	82	21	0.9	216	61	4.6
16	13	46	13.7	60	12.1	141	1.9	9.7	1.6	8	5	121	69	0.20	1.8	2.4	A	334	22	0.8	81	25	1.0	211	53	2.8
16	15	22	8.0	60	13.0	139	23.5	9.8	1.0	4	4	222	90	0.57	4.2	4.9	B	3	12	3.0	102	36	2.5	258	51	6.0
16	17	5	14.0	62	39.5	148	49.4	64.7	2.8	15	7	232	140	0.54	3.1	10.6	D	86	3	1.5	355	9	2.7	194	80	10.7
16	20	49	50.3	60	15.2	141	6.9	10.0	1.8	11	6	121	76	0.26	1.4	2.2	A	116	1	0.8	26	25	1.0	208	65	2.4
16	20	54	38.3	60	14.1	141	6.9	13.7	1.9	12	6	119	55	0.32	1.5	2.1	A	124	3	0.8	32	33	0.9	219	57	2.4
16	20	58	31.9	60	16.0	141	4.4	5.3	0.9	4	1	153	100	0.01	5.6	9.8	C	266	0	5.6	356	16	1.3	176	74	10.2
16	22	40	46.9	62	56.2	150	32.1	110.0	4.7	30	2	122	167	0.69	2.3	6.9	C	90	3	1.8	0	4	2.3	217	85	6.9
	4.0	MB			3.8 ML ATWC																					
17	0	59	56.3	62	25.5	147	44.9	42.9	3.2	21	6	114	89	0.82	2.3	9.6	C	272	1	1.2	2	10	1.5	176	80	9.8
17	2	46	52.8	60	14.6	140	16.7	12.9	1.9	7	2	168	51	0.22	3.6	5.4	C	274	1	0.8	5	22	3.1	182	68	5.7
17	7	5	26.6	60	16.1	140	55.3	10.6	1.7	6	2	144	81	0.31	4.7	5.6	C	4	21	1.2	264	24	4.2	130	57	6.3
17	7	18	34.4	62	39.4	148	52.8	30.9	3.0	15	3	131	124	0.49	2.0	2.3	A	82	12	1.1	347	24	1.8	197	63	2.4
17	7	37	28.5	62	7.4	147	45.3	35.2	2.3	13	4	207	87	0.57	2.7	1.3	B	338	8	2.7	81	28	0.8	234	58	1.3
17	8	12	34.0	60	1.9	141	17.7	5.6	1.3	4	2	217	126	0.05	18.5	6.2	D	41	17	19.4	138	22	4.0	276	62	2.4
17	12	26	44.5	60	1.5	141	18.0	4.9	2.3	16	6	105	41	0.30	0.9	1.3	A	291	11	0.6	27	28	0.7	182	60	1.4
								2.6 ML EMRC																		
17	13	29	23.3	61	36.1	150	22.7	50.0	2.3	12	4	133	74	0.15	2.3	6.2	C	123	7	1.0	215	13	1.7	5	75	6.4
17	16	14	20.0	60	37.2	141	45.5	14.4	1.4	5	2	175	71	0.13	2.0	11.4	D	265	5	1.4	175	6	1.0	35	82	11.5
17	21	1	19.7	60	52.1	140	24.4	24.9	1.1A	6	4	230	107	0.38	15.2	4.3	D	32	0	15.1	122	15	1.6	302	75	4.5
18	4	21	30.1	61	59.9	148	55.7	3.1	2.6	10	3	193	63	0.74	2.7	3.8	B	16	17	1.8	277	29	0.7	133	56	4.5
18	7	27	11.1	60	18.3	140	57.4	14.5	1.3	5	3	145	111	0.19	9.3	9.1	C	1	21	0.9	261	41	6.1	113	44	11.7
18	9	51	28.4	60	1.8	141	16.6	6.3	1.6	6	3	156	104	0.29	2.6	1.9	B	16	20	2.7	273	31	1.4	133	52	1.8
18	10	31	27.4	61	59.6	145	54.0	19.7	2.4	18	4	168	71	0.70	1.5	1.6	A	17	6	1.5	110	26	0.8	275	63	1.7
18	11	59	34.5	62	7.3	149	11.3	32.2	2.4	15	4	110	64	0.32	4.1	2.1	B	169	6	4.1	81	33	1.4	268	56	2.3
18	12	5	43.2	62	4.9	149	11.1	30.5	2.5	16	4	155	60	0.43	3.4	1.8	B	342	3	3.3	261	42	2.2	75	47	1.2
18	15	20	22.2	60	18.6	141	18.6	16.8	2.2	11	6	80	73	0.17	1.9	2.7	A	147	6	0.9	81	31	1.0	247	51	2.8
								2.2 ML EMRC																		
18	16	22	41.3	60	20.4	141	18.3	23.0	1.7	6	4	116	70	0.13	2.8	6.3	C	261	14	2.0	352	16	0.7	130	69	6.8
18	17	17	30.2	61	45.1	150	28.3	63.2	3.7	23	2	86	73	0.37	1.7	2.8	B	263	2	1.0	173	4	1.7	20	86	2.8
					3.4 ML ATWC																					

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1980	ORIGIN TIME HR	MN	SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
MAY 18	18	48	26.0	60	34.9	149	31.5	36.9	2.3	19	5	118	42	0.29	1.6	1.3	A	175	17	1.6	81	30	0.9	292	56	1.4
18	19	29	44.7	61	36.7	141	19.7	8.8	2.3	7	4	144	84	0.76	1.8	3.2	B	320	12	1.1	261	13	1.3	106	55	2.7
								1.8 ML EMRC																		
18	22	30	39.3	61	50.5	149	37.6	42.3	2.4	13	4	162	68	0.51	2.4	4.9	B	105	7	0.8	12	19	1.7	214	70	5.2
18	23	16	49.2	60	19.6	140	45.3	11.4	2.0	10	6	80	78	0.54	2.3	3.5	B	325	3	0.9	81	25	1.3	230	54	3.6
								1.8 ML EMRC																		
19	1	2	59.5	61	23.1	147	45.1	26.5	2.0	19	7	58	55	0.62	1.1	2.1	A	142	1	0.9	261	7	0.5	45	60	1.9
19	1	59	20.6	62	37.6	151	17.6	79.5	3.3	10	5	205	161	0.77	9.9	8.8	C	319	20	4.9	81	36	2.3	210	40	12.5
19	3	15	44.8	61	38.1	147	47.0	10.3	1.8	14	5	104	44	0.60	0.8	2.2	A	279	3	0.6	188	11	0.7	24	79	2.2
19	3	23	58.5	59	57.4	149	15.8	0.3	2.1	12	3	227	102	0.89	3.7	3.2	B	261	32	1.5	137	32	3.1	19	37	4.0
19	5	59	7.8	61	31.9	140	59.3	6.4	1.8	6	6	123	91	0.90	2.8	4.7	B	219	6	1.3	310	17	2.5	110	72	4.9
								1.5 ML EMRC																		
19	6	25	23.7	60	14.5	140	47.8	14.8	2.2	9	2	137	86	0.19	1.9	3.3	B	335	8	0.9	81	21	1.2	227	63	3.5
19	6	43	20.9	63	27.1	147	40.5	0.0	3.1	18	6	140	181	1.06	2.8	1.9	B	349	15	1.3	261	21	2.9	115	64	1.8
19	9	15	13.1	61	50.1	151	15.3	77.2	2.9	15	5	114	112	0.37	3.6	3.8	B	219	21	2.0	114	36	1.3	333	47	5.1
19	11	37	59.0	63	14.9	148	19.0	40.8	3.1	13	8	138	168	0.67	2.8	25.0	D	191	1	1.5	101	3	2.5	299	87	25.0
19	14	52	58.1	63	59.8	148	0.8	104.8	4.1	15	6	148	244	0.48	11.3	11.8	D	276	6	11.3	184	16	1.8	26	73	12.3
19	15	42	50.7	60	14.9	140	57.4	3.2	1.2	4	2	168	100	0.05	7.6	8.1	C	289	7	7.6	21	11	2.1	167	77	8.2
19	18	20	49.1	60	17.3	140	47.5	12.2	1.7	5	3	153	104	0.09	4.7	6.5	C	2	18	1.3	101	27	2.9	242	57	7.6
19	23	15	31.0	61	49.0	150	46.8	65.0	3.4	20	2	155	91	0.40	1.9	2.8	B	266	2	1.0	175	19	1.7	2	71	2.9
20	1	8	45.5	60	11.8	141	4.6	0.1	1.1	6	2	131	111	0.33	2.3	5.5	C	82	8	2.0	350	14	1.0	201	74	5.8
20	2	17	6.6	60	16.1	141	7.7	11.1	1.2	7	3	121	108	0.24	3.6	4.5	B	354	22	0.8	93	23	3.0	225	57	5.1
20	5	11	27.8	60	2.3	141	32.1	9.0	2.0	20	10	127	28	0.54	1.2	1.3	A	100	4	0.5	6	44	0.9	194	46	1.5
								2.2 ML EMRC																		
20	6	39	43.0	60	5.9	139	20.4	12.2	2.1	12	7	84	58	0.61	1.9	2.9	B	293	6	1.3	26	30	1.2	193	59	3.3
								2.1 ML EMRC																		
20	7	44	30.3	61	58.0	148	52.5	8.5	2.2	23	4	192	64	0.77	2.0	2.9	B	184	5	1.9	277	32	0.8	86	58	3.4
20	8	0	13.6	59	23.1	137	56.8	12.7	2.2	8	3	232	114	1.30	12.3	9.1	D	81	15	1.7	175	37	14.8	332	50	3.7
								2.4 ML EMRC																		
20	8	16	38.0	60	36.0	150	9.6	39.8	2.4	12	6	92	69	0.28	2.1	2.4	A	266	3	1.0	358	37	1.6	172	53	2.8
20	8	16	38.7	61	54.3	148	50.8	20.6	1.3	14	5	189	59	0.79	2.0	3.4	B	2	9	1.9	270	16	0.8	120	72	3.6
20	8	28	20.2	63	15.4	148	6.5	45.8	3.1	18	4	145	193	0.77	7.0	17.9	D	7	6	1.4	275	18	3.7	115	71	19.0
20	10	12	50.7	59	34.3	138	35.0	1.0	2.8	18	5	90	73	0.76	3.5	4.2	B	311	7	1.9	81	27	1.2	212	43	4.3
								3.0 ML EMRC																		
20	10	15	3.3	59	29.7	138	24.7	14.4	1.4	5	2	313	86	0.19	17.3	18.2	D	91	6	5.5	355	43	2.1	187	46	25.0
20	10	24	44.3	59	32.1	138	38.0	9.6	1.7	7	4	193	73	0.65	16.7	13.4	D	303	6	2.5	81	37	1.3	208	32	18.1
								2.2 ML EMRC																		
20	11	6	23.6	60	15.0	140	51.0	17.2	1.2	7	2	134	84	0.34	3.5	4.5	B	143	1	1.2	81	34	0.9	234	47	5.2
20	11	6	45.8	60	16.1	140	44.3	8.8	1.1	5	4	154	100	0.09	5.2	9.0	C	18	16	1.2	114	22	2.9	255	62	10.0
20	12	19	54.2	60	10.3	139	26.3	7.4	1.0	4	2	217	86	0.36	6.2	9.1	C	161	11	4.0	81	33	2.4	268	54	10.5
20	14	14	22.1	61	25.9	141	8.7	0.0	1.9	11	5	194	142	1.25	1.9	3.2	B	349	6	1.2	81	7	1.9	219	81	3.2
								2.1 ML EMRC																		
20	15	42	10.0	63	9.3	150	37.3	133.5	4.3	24	2	131	191	0.60	2.6	6.2	C	338	4	2.3	81	9	2.0	227	74	6.2
								3.1 ML ATWC																		
20	16	48	52.7	61	45.0	144	50.1	52.6	1.7	5	4	237	64	0.06	6.2	4.4	C	270	0	2.2	180	25	6.6	0	65	3.8
20	17	51	12.5	59	32.7	138	31.3	8.0	1.6	5	3	294	77	0.47	5.5	7.9	C	81	4	3.5	348	34	1.6	177	56	9.5
20	18	26	59.3	62	12.9	149	18.8	39.4	2.6	23	8	209	70	0.30	3.0	7.0	C	91	7	1.0	359	17	2.0	203	72	7.4
20	19	19	55.6	62	60.0	150	32.6	99.4	3.9	23	1	124	173	0.84	2.8	7.2	C	339	5	2.2	81	12	1.9	229	72	7.3
21	1	35	21.7	60	27.1	140	21.6	15.6	1.2A	6	2	186	78	0.11	5.3	11.7	D	123	6	2.1	31	19	3.4	230	70	12.4
21	2	31	33.3	62	52.1	150	59.2	120.3	3.9	24	2	123	172	0.51	2.6	5.9	C	338	8	2.2	81	10	1.6	215	72	5.9
21	3	45	60.0	61	31.5	148	16.4	16.5	1.4	10	6	97	46	0.52	1.0	1.5	A	204	14	0.9	298	18	0.8	78	67	1.6
21	7	21	41.5	60	16.2	141	12.6	11.1	2.3	17	4	89	94	0.55	2.3	2.7	B	329	10	0.9	81	34	1.2	227	49	3.3
								2.2 ML EMRC																		
21	11	16	13.9	60	15.7	141	2.6	1.5	1.1	6	1	130	113	0.15	3.3	6.6	C	7	13	1.2	100	13	2.9	234	71	6.9
21	11	26	10.9	60	20.3	140	55.1	2.0	1.3A	4	3	166	110	0.36	3.0	4.9	B	338	17	1.3	81	21	1.6	215	60	5.5
21	11	56	48.8	61	50.7	149	22.0	6.4	1.4	11	6	177	55	0.72	1.1	1.7	A	14	8	1.0	281	21	0.7	124	67	1.8

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1980	ORIGIN TIME HR	MN	SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
MAY 21	12	57	52.7	60	13.9	141	0.5	10.6	1.1	6	3	124	84	0.26	3.5	4.5	B	116	15	2.0	16	32	1.0	227	54	5.6
21	14	11	44.7	61	54.7	147	19.5	37.7	2.3	24	10	194	82	0.74	2.1	1.0	A	261	24	1.0	350	25	2.1	127	56	0.7
21	15	18	4.0	60	2.4	140	48.4	15.4	1.2	6	4	157	89	0.45	4.3	5.9	C	104	26	0.9	261	35	6.2	5	17	3.2
21	15	49	48.6	61	0.7	147	4.0	20.3	2.6	30	11	64	41	0.57	0.9	1.2	A	5	4	0.9	274	10	0.5	116	79	1.2
21	20	22	11.4	60	17.2	140	42.3	16.2	1.2	6	2	146	83	0.22	5.4	8.0	C	335	14	2.1	81	27	1.6	222	56	9.4
22	1	20	4.6	60	13.7	139	34.1	18.0	1.0	4	3	215	95	0.29	11.0	8.9	D	145	22	4.0	261	34	13.7	32	44	3.1
22	2	54	5.7	61	44.4	149	45.9	6.2	2.1	18	9	152	56	0.66	1.3	1.3	A	174	16	1.2	271	24	0.7	53	61	1.4
22	3	44	58.1	60	16.5	140	54.3	8.4	1.1	7	3	134	80	0.13	2.8	4.9	B	95	15	1.3	359	23	1.1	215	62	5.5
22	6	15	54.1	61	31.0	146	30.7	21.9	1.8	18	10	75	51	0.64	0.7	1.6	A	295	3	0.5	205	3	0.7	70	86	1.6
22	9	43	19.3	61	36.3	149	32.7	36.5	2.4	17	8	139	40	0.50	1.6	0.9	A	261	29	1.0	343	33	1.4	127	47	0.8
22	11	13	7.7	60	8.4	141	9.2	2.2	1.8	16	9	69	70	0.47	1.4	2.4	A	81	13	0.7	345	18	1.1	204	67	2.6
								2.0 ML	EMRC																	
22	11	21	53.5	60	14.8	140	47.1	8.8	2.3	20	7	81	73	0.50	1.1	2.8	B	107	1	0.8	17	14	0.9	201	76	2.8
								2.5 ML	EMRC																	
22	12	6	56.0	60	9.7	141	0.2	4.0	1.0A	5	2	199	105	0.40	16.8	10.6	D	261	1	14.8	142	8	1.7	357	60	9.3
22	12	22	16.1	60	20.3	141	18.9	10.0	1.3A	5	3	126	96	0.23	2.3	7.5	C	101	3	2.2	10	11	1.4	206	79	7.7
22	19	20	54.7	61	26.5	147	17.6	16.6	1.7	17	11	139	62	0.32	0.9	2.2	A	293	2	0.5	23	8	0.9	189	82	2.2
22	19	46	26.8	60	18.8	141	13.0	7.7	1.3A	6	3	120	101	0.32	1.2	4.7	B	21	5	0.7	112	7	1.1	256	81	4.8
22	20	35	37.5	59	29.3	143	54.1	35.2	2.0A	12	1	214	106	0.72	6.4	3.9	C	283	9	2.2	15	14	6.5	161	73	3.7
22	20	35	43.7	59	36.0	143	55.1	22.6	2.7	12	1	208	100	0.78	6.8	7.8	C	221	17	5.9	120	32	3.8	335	53	9.2
22	22	7	16.8	60	11.4	141	11.6	0.1	1.5A	9	4	112	87	0.38	1.1	2.9	B	90	7	0.6	359	8	1.0	221	79	3.0
23	0	20	53.8	59	18.3	144	3.0	31.4	2.7	20	3	219	140	0.83	3.4	2.4	B	104	3	1.6	13	11	3.4	209	79	2.3
23	11	10	2.3	61	21.3	146	43.5	27.5	3.0	35	2	51	46	0.52	0.8	1.6	A	281	4	0.6	11	5	0.8	152	84	1.6
					3.0 ML	ATWC																				
23	16	19	22.9	60	45.2	149	59.9	46.3	1.6	11	5	74	60	0.43	1.9	5.0	B	281	3	1.0	11	13	1.5	178	77	5.1
23	17	31	49.1	60	11.9	141	0.8	7.1	0.6A	6	1	128	87	0.12	7.0	21.5	D	141	2	3.3	81	6	5.5	250	59	18.7
23	18	49	21.8	60	3.7	139	56.5	33.6	1.1A	4	2	176	90	0.28	28.4	6.3	D	142	8	4.4	81	14	25.0	266	57	2.4
23	22	53	50.8	62	38.7	149	42.4	59.2	2.7	19	7	236	120	0.47	3.5	9.0	C	99	3	1.1	8	16	2.4	199	74	9.4
23	23	8	5.8	60	12.7	139	17.0	15.0	1.1A	4	1	226	88	0.14	14.4	20.7	D	177	15	6.3	81	31	2.2	290	55	25.0
24	2	14	22.2	60	11.4	140	58.6	8.6	1.0A	5	2	148	106	0.13	5.8	13.2	D	101	1	1.8	10	18	4.0	194	72	13.8
24	2	58	42.2	61	55.5	149	39.3	15.0	1.7	13	4	170	71	0.75	1.9	3.7	B	183	15	1.3	278	18	0.9	56	66	4.0
24	6	19	7.3	60	17.4	141	15.0	10.4	1.5	7	3	116	97	0.18	1.8	7.6	C	353	4	1.5	83	9	1.1	239	80	7.7
24	6	23	58.0	60	34.6	141	42.3	0.3	0.7A	5	1	129	63	0.05	3.5	14.9	D	288	0	3.5	198	4	1.7	18	86	14.9
24	7	22	28.3	60	5.3	141	35.5	15.5	1.2A	5	1	146	113	0.09	14.4	13.1	D	291	29	10.0	43	34	1.8	171	42	18.1
24	7	49	14.1	60	3.9	141	40.0	20.0	1.9	12	7	131	41	0.65	2.2	2.1	A	98	22	0.7	349	39	1.0	210	43	2.9
24	7	51	34.5	60	6.3	141	38.1	15.7	0.9A	5	1	140	111	0.22	9.7	10.5	D	314	4	5.6	81	34	1.5	220	41	12.2
24	8	43	50.4	60	35.0	142	40.4	25.5	1.4	6	2	131	70	0.23	7.5	13.2	D	178	3	1.2	269	28	3.1	82	62	14.8
24	11	15	40.5	60	15.7	140	58.8	14.8	0.9A	7	1	128	81	0.16	1.9	3.8	B	308	0	1.0	38	13	1.7	218	77	3.9
24	11	36	43.3	60	16.4	141	7.6	2.8	0.5A	3	1	164	156	0.00	10.2	24.9	D	333	1	7.2	81	17	5.2	240	65	25.0
24	13	2	21.8	59	57.2	139	0.9	25.0	0.4A	3	3	262	56	0.43	11.4	30.2	D	134	13	1.4	81	20	3.3	263	47	25.0
24	13	6	18.3	58	12.6	144	19.6	39.8	2.0A	7	1	283	332	0.73	22.8	25.0	D	297	1	5.2	207	3	22.8	45	87	25.0
24	14	29	52.3	60	13.1	141	1.4	10.8	1.9	9	6	122	79	0.26	1.1	3.4	B	87	5	0.8	356	11	0.9	201	78	3.4
24	14	39	31.6	60	15.9	140	57.6	10.9	1.2A	7	2	130	82	0.13	1.4	5.7	C	101	1	1.1	10	4	1.4	205	86	5.7
24	14	49	21.6	61	51.4	149	44.8	54.1	2.6	20	7	151	69	0.37	1.8	2.8	B	99	4	0.7	189	4	1.8	324	84	2.9
24	14	51	3.6	60	7.4	141	34.9	11.7	1.5	10	4	105	47	0.34	3.1	4.0	B	325	17	1.4	81	26	0.8	211	51	4.7
24	14	52	5.1	60	7.5	141	33.6	8.4	1.4	9	3	103	94	0.33	3.2	5.3	C	307	3	1.0	38	30	1.2	212	60	6.1
24	15	19	59.2	60	6.0	141	39.4	17.0	1.1A	7	3	137	111	0.23	4.6	5.8	B	134	9	2.0	81	35	1.2	236	40	5.9
24	16	24	58.1	61	8.8	148	36.7	28.0	2.0	19	5	54	38	0.44	0.9	1.3	A	267	4	0.7	357	8	0.9	151	81	1.3

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1980	ORIGIN TIME HR	MN	SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
MAY 24	19	20	20.9	60	37.3	141	45.0	19.6	2.3	19	7	61	67	0.74	1.0	2.1	A	273	0	0.9	182	4	0.8	3	86	2.1
								2.7 ML	EMRC																	
24	20	34	27.5	61	41.8	149	38.0	35.6	2.2	12	4	191	51	0.42	1.8	1.5	A	318	19	1.9	81	41	1.0	213	37	1.5
24	23	8	43.2	59	32.0	138	55.0	12.3	1.2	3	2	207	62	0.37	20.0	15.2	D	316	18	1.0	212	37	25.0	67	47	2.8
25	0	37	3.8	60	8.5	140	48.6	23.6	1.2A	5	3	195	130	0.33	8.5	6.6	C	305	4	1.7	38	34	9.8	209	56	4.3
25	4	37	23.5	60	18.5	141	14.9	13.4	1.2A	6	2	117	101	0.22	2.7	8.6	C	37	8	1.2	128	13	1.5	276	75	8.9
25	6	44	20.3	60	16.0	140	57.7	17.9	1.9	7	4	130	82	0.16	1.4	4.3	B	124	6	0.9	34	6	1.3	259	82	4.4
25	6	53	28.6	61	51.3	144	0.2	6.5	1.0A	4	2	261	100	0.29	14.0	7.2	D	346	29	5.6	261	36	14.3	115	45	2.0
25	12	31	30.7	60	37.6	144	30.0	35.3	1.2A	7	5	80	103	0.94	4.6	2.4	B	162	34	4.3	81	36	1.3	299	41	2.1
25	13	25	53.9	60	22.6	141	21.5	15.1	1.1A	6	3	115	91	0.23	2.5	6.9	C	19	4	1.0	110	13	1.9	272	76	7.1
25	13	37	12.1	60	22.1	141	16.4	14.8	1.8	11	5	120	71	0.26	0.9	3.3	B	292	3	0.9	22	4	0.8	165	85	3.3
25	14	21	14.6	60	7.7	139	28.3	15.0	0.7	4	1	213	82	0.48	16.0	8.9	D	333	19	2.7	261	35	16.4	92	47	2.3
25	14	53	52.6	61	51.1	148	39.6	16.5	1.6	15	5	162	50	0.63	2.0	2.8	B	261	18	0.9	357	24	1.6	137	60	3.1
25	16	3	49.1	60	32.8	141	22.1	25.7	1.9	7	3	122	76	0.27	1.6	4.5	B	81	1	1.6	171	12	0.9	346	78	4.6
25	17	15	3.5	60	13.9	140	46.2	17.1	1.2A	5	1	150	99	0.38	3.6	10.5	D	120	8	1.3	28	13	2.4	241	75	10.9
25	19	14	49.0	61	58.7	148	51.3	9.9	2.1	22	6	174	65	0.85	1.6	1.7	A	158	14	1.4	261	38	0.7	52	48	2.2
25	19	52	51.3	60	25.4	143	36.8	26.6	1.4A	6	2	148	97	0.28	4.7	5.6	C	312	5	1.7	81	30	1.3	216	42	6.2
26	0	27	22.5	60	15.8	140	43.1	20.1	1.4A	6	1	143	85	0.22	5.5	9.0	C	293	1	2.2	24	17	5.0	200	73	9.3
26	1	59	7.9	61	48.9	150	25.7	10.1	1.7	7	3	163	73	0.29	3.0	4.2	B	284	12	0.7	186	31	1.5	32	56	5.0
26	8	45	33.7	60	2.3	141	37.7	5.8	1.8	10	3	141	44	0.35	3.9	4.8	B	91	16	0.9	349	33	1.9	203	52	5.9
26	10	31	38.3	63	22.8	151	17.8	2.6	3.0	13	5	81	228	0.98	6.3	8.2	C	278	0	4.3	187	36	3.2	8	54	9.8
						3.1 ML	ATWC																			
26	10	45	5.8	60	14.6	140	50.8	18.5	0.8A	5	3	189	103	0.42	11.0	11.7	D	310	0	1.5	220	42	6.8	40	48	14.6
26	20	41	43.3	61	53.0	149	20.6	29.9	2.6	22	5	98	54	0.50	1.6	1.8	A	171	5	1.6	262	6	1.0	42	82	1.8
26	23	38	32.2	60	40.9	141	51.9	1.3	1.4	7	4	88	72	0.49	1.7	5.2	C	90	4	1.5	180	13	1.0	343	76	5.4
27	1	41	36.7	60	9.4	141	5.2	6.2	2.1	15	9	72	84	0.35	0.9	2.0	A	103	9	0.6	11	14	0.7	225	73	2.1
								2.5 ML	EMRC																	
27	3	26	42.5	61	19.3	150	39.5	51.4	2.8	18	4	81	72	0.34	1.1	4.6	B	81	1	0.8	166	7	1.0	343	81	4.6
27	6	41	8.6	60	9.9	141	5.0	4.1	1.9	8	3	115	84	0.17	2.4	6.3	C	81	1	1.2	341	15	1.7	175	72	6.4
27	6	50	28.5	60	12.9	141	11.3	4.1	0.7A	4	3	143	111	0.17	6.1	14.8	D	5	0	6.1	95	11	1.9	275	79	15.1
27	7	16	11.2	62	1.1	149	14.5	36.8	2.5	18	4	179	53	0.48	2.0	1.3	A	356	0	2.0	86	25	0.8	266	65	1.4
27	11	27	9.0	63	27.1	147	31.7	0.7	3.0	13	5	154	188	0.67	3.8	3.2	B	91	15	3.8	354	22	1.3	212	63	3.4
27	13	40	32.7	61	14.2	149	54.1	37.9	2.0	13	4	75	57	0.36	1.7	1.4	A	278	32	1.8	161	35	1.4	38	38	1.1
27	15	32	9.3	60	22.3	141	18.4	15.8	1.3A	5	3	128	93	0.18	5.3	12.1	D	17	5	1.6	286	5	5.2	152	83	12.2
27	15	43	26.5	58	14.0	132	41.7	25.2	3.8A	4	4	256	344	0.28	17.0	21.3	D	200	9	4.2	296	34	11.0	97	55	25.0
								3.5 ML	EMRC																	
27	23	55	27.0	60	8.4	139	15.4	5.7	2.0	4	1	224	80	0.33	6.8	9.4	C	115	17	2.1	15	29	3.0	231	55	11.3
28	0	39	2.7	58	13.9	132	48.7	17.9	3.6A	4	4	254	340	0.51	18.4	18.9	D	196	11	3.8	296	42	8.6	94	46	25.0
								3.4 ML	EMRC																	
28	3	43	33.3	61	42.3	149	46.9	53.1	2.6	19	4	148	53	0.24	1.9	2.8	B	94	4	1.1	185	11	1.8	344	78	2.9
28	7	15	51.1	61	58.6	148	50.8	13.3	2.2	16	6	174	65	0.58	2.3	3.5	B	356	16	1.9	261	25	0.8	116	60	3.9
28	11	43	10.1	60	56.7	147	57.4	6.8	2.0	16	6	129	58	0.74	1.4	1.7	A	340	11	1.4	261	26	0.7	93	60	1.8
28	14	26	7.1	61	9.2	149	44.6	45.4	2.1	12	4	81	51	0.19	1.2	2.5	B	1	4	1.1	271	5	0.8	130	84	2.5
28	16	40	39.2	61	14.1	148	33.7	31.0	2.0	12	5	68	48	0.38	1.1	1.9	A	267	4	0.8	359	16	1.0	163	73	2.0
29	1	35	35.0	61	16.6	149	56.0	46.8	1.9	14	9	98	67	0.26	1.4	1.8	A	139	4	1.0	261	7	0.9	29	57	1.6
29	2	41	38.3	60	27.0	147	42.4	27.6	1.9	19	12	178	67	0.45	1.2	1.2	A	278	6	0.6	13	41	1.3	181	48	1.1
29	2	45	30.1	60	10.7	139	35.5	13.4	2.1	16	6	78	90	0.65	3.1	4.0	B	112	17	2.3	12	31	0.9	227	54	4.9
								2.4 ML	EMRC																	
29	3	59	8.9	60	12.9	141	2.6	11.9	1.0A	5	2	148	111	0.13	5.5	7.9	C	111	3	2.1	19	30	3.6	206	60	8.9
29	10	11	41.5	60	0.3	141	13.5	9.6	1.6A	5	5	160	109	0.46	6.1	7.0	C	107	14	1.7	6	36	4.0	215	50	8.5
29	12	15	52.0	62	54.4	148	9.4	25.9	2.7	15	8	127	155	1.03	2.9	3.0	B	261	13	2.0	345	41	2.4	156	47	3.3

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1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
MAY 29	15	8	13.1	63	57.5	147	56.5	88.6	3.9	21	4	135	240	0.68	7.8	16.0	D	95	10	7.2	187	14	1.5	330	73	16.6
29	17	13	55.8	59	47.5	138	39.4	1.9	0.9A	3	2	270	58	0.76	3.8	11.4	D	163	1	1.0	261	14	2.5	69	74	11.6
29	20	41	15.9	61	25.7	149	55.1	48.3	2.4	18	8	117	78	0.32	1.2	2.8	B	177	1	1.1	267	5	0.8	76	85	2.8
30	0	0	10.2	62	0.1	147	50.4	42.0P	3.4H																	
30	0	59	14.2	60	7.7	141	1.8	6.8	2.0	14	9	114	77	0.47	1.5	3.3	B	287	1	0.8	18	19	1.0	194	71	3.5
30	2	26	19.0	61	35.6	146	25.7	31.9	2.0	18	9	84	55	0.74	0.9	1.5	A	278	9	0.8	186	14	0.7	40	73	1.6
30	2	50	52.2	60	20.1	141	11.1	10.2	1.2A	7	5	123	96	0.55	1.1	5.1	C	167	4	0.9	81	6	0.9	292	82	5.1
30	5	51	58.9	59	55.1	135	46.6	0.5	2.4	7	5	153	182	1.38	5.7	6.9	C	331	4	5.2	261	8	2.5	90	68	6.6
								2.5 ML	EMRC																	
30	7	54	1.9	61	35.5	149	48.7	53.3	2.2	12	8	101	41	0.32	1.8	2.0	A	290	0	1.0	201	37	1.5	20	53	2.3
30	8	44	54.8	60	13.2	141	15.8	10.8	1.3	11	8	111	66	0.30	1.8	3.9	B	84	8	1.1	352	14	1.5	203	74	4.1
30	11	54	27.5	62	9.3	149	32.1	41.8	2.6	23	11	192	74	0.40	2.1	5.7	C	89	8	1.0	358	8	1.9	224	79	5.8
30	22	22	19.4	60	36.6	141	44.7	13.1	0.BA	4	2	132	66	0.03	2.3	13.3	D	189	3	1.6	280	5	2.0	68	84	13.4
30	23	28	26.7	61	59.7	147	46.1	39.3	3.5	28	3	82	74	0.64	1.6	3.0	B	88	3	0.8	178	5	1.6	327	84	3.0
						2.9 ML	ATWC																			
31	3	43	27.8	59	17.6	153	4.2	75.0	3.6	26	3	106	130	0.55	1.8	6.2	C	8	2	1.0	98	5	1.7	256	85	6.2
						3.8 ML	ATWC																			
31	8	26	5.2	60	38.7	143	49.0	32.1	2.0	12	4	72	89	0.83	1.7	3.7	B	331	2	1.1	81	11	1.3	232	67	3.6
31	9	34	27.8	61	21.2	147	16.9	20.2	2.4	26	14	58	53	0.60	0.7	1.5	A	188	7	0.6	280	13	0.5	70	75	1.6
31	13	20	39.8	59	30.5	152	39.5	68.0	2.8	20	13	186	119	0.74	2.3	3.7	B	81	10	1.2	160	21	1.9	325	64	3.8
31	14	19	7.9	61	56.2	149	40.4	10.0	1.6	17	12	171	72	0.66	1.0	2.2	A	5	3	1.0	274	18	0.6	104	72	2.3
31	15	18	9.2	63	10.4	148	59.6	42.7	2.9	23	9	111	176	0.89	2.8	11.8	D	279	1	1.9	189	2	2.8	36	88	11.9
31	20	1	16.9	59	52.9	140	58.8	9.2	1.5A	5	3	218	122	0.52	10.5	7.6	D	307	6	2.9	39	25	11.1	204	64	6.7
JUN 1	0	42	29.3	61	26.2	140	31.4	11.1	2.0	4	4	120	108	0.33	3.7	3.8	B	209	6	1.4	305	42	3.2	112	47	4.2
								1.8 ML	EMRC																	
1	1	8	7.8	60	14.6	140	56.7	8.9	1.9	9	6	122	105	0.21	2.1	4.6	B	148	1	1.5	81	17	1.2	241	62	4.4
								2.0 ML	EMRC																	
1	3	9	29.4	62	49.6	149	21.5	42.8	3.2	19	4	148	138	0.47	4.6	23.2	D	116	1	2.1	25	10	2.0	212	80	23.5
1	3	27	1.5	60	35.7	147	18.8	26.6	2.4	17	4	171	63	0.42	1.7	1.6	A	263	8	0.7	172	8	1.8	38	79	1.6
1	4	15	47.5	63	55.2	148	21.4	47.8	3.5	13	4	157	262	0.50	10.4	24.9	D	108	2	10.4	198	4	1.9	351	86	25.0
1	6	43	50.1	60	56.7	149	27.5	37.7	2.8	20	3	110	62	0.44	1.3	1.1	A	345	12	1.3	81	27	0.7	233	60	1.2
1	7	54	6.7	62	2.9	149	34.4	20.1	2.3	12	4	182	71	0.54	2.2	3.5	B	284	12	1.1	18	18	1.9	162	68	3.7
1	8	42	14.8	60	8.6	141	6.0	18.1	1.0A	5	3	139	109	0.13	11.7	18.5	D	98	14	2.3	2	24	7.9	216	62	20.6
1	15	6	42.3	60	21.5	141	16.2	18.8	1.0A	5	3	129	96	0.26	11.4	22.6	D	24	5	1.7	292	23	6.3	126	66	24.5
1	15	16	17.4	61	50.0	149	39.0	39.6	1.2A	15	8	161	66	0.32	2.1	2.0	A	81	29	1.1	328	31	1.9	203	44	2.4
1	16	26	35.4	61	40.9	150	7.8	41.6	3.3	27	4	84	57	0.35	1.3	2.4	A	93	3	0.8	183	4	1.3	326	85	2.4
						2.6 ML	ATWC																			
1	17	50	53.0	59	58.3	141	18.3	9.3	1.2A	3	2	167	149	0.03	15.9	19.8	D	109	20	2.3	6	31	5.4	226	52	25.0
1	18	44	54.0	62	1.5	139	40.2	1.0	1.0A	4	3	249	180	1.05	22.3	12.8	D	99	10	1.9	4	28	25.0	207	60	6.0
								1.9 ML	EMRC																	
1	21	55	38.0	62	54.6	149	40.3	42.1	3.7	23	5	112	141	0.70	3.7	10.2	C	81	6	1.7	315	6	2.2	198	53	8.6
1	21	55	39.0	60	14.3	152	47.0	103.4	2.1	6	1	154	112	0.04	4.8	4.7	B	261	6	2.0	335	44	5.7	165	43	3.0
2	2	24	51.4	59	52.9	138	59.6	14.7	0.6	3	3	250	48	0.37	5.5	20.4	D	139	6	0.9	81	14	1.9	254	55	17.7
2	5	38	16.5	60	15.1	140	50.8	10.5	1.9	7	3	135	84	0.39	1.8	2.9	B	308	8	0.8	41	17	1.7	194	71	3.0
2	8	59	59.3	61	20.9	150	31.4	42.2	2.0	16	9	83	79	0.52	1.1	3.7	B	157	1	1.0	81	5	0.8	258	75	3.6
2	13	26	33.3	60	18.5	135	40.4	0.0	1.8A	5	5	208	175	1.30	5.1	7.1	C	261	10	1.6	324	10	4.4	113	60	6.4
								2.1 ML	EMRC																	
2	19	38	18.3	61	2.7	146	28.4	7.5	2.0	25	7	51	36	0.53	0.7	0.9	A	261	15	0.5	166	19	0.7	27	65	1.0
2	20	1	55.1	61	36.9	150	40.3	63.3	3.3	25	3	70	82	0.45	1.3	3.1	B	90	10	0.8	182	13	1.1	323	74	3.2
2	22	0	13.0	60	16.9	141	13.4	8.0	1.4	6	3	128	76	0.33	1.7	3.5	B	81	8	1.6	344	16	0.7	196	71	3.6
2	23	39	28.5	61	38.6	146	29.2	15.8	2.0	22	12	82	54	0.70	0.6	1.6	A	303	3	0.6	212	7	0.6	56	82	1.6
3	5	11	1.6	60	57.7	138	26.9	1.0	1.5A	9	6	148	130	0.94	2.7	3.9	B	261	14	2.5	162	20	1.5	22	64	4.3
								2.1 ML	EMRC																	
3	7	53	9.5	60	23.5	141	13.3	14.0	1.6	5	2	169	94	0.51	2.2	6.2	C	344	10	1.0	81	11	1.6	215	74	6.4

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1980	ORIGIN TIME HR	MN	SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
JUN	3	10	59 26.6	59	58.3	152	38.3	109.2	4.3	28	2	87	78	0.59	2.3	4.4	B	324	1	1.9	81	6	1.2	226	62	3.9
			3.7 MB			3.8 ML ATWC				FELT (II) AT HOMER																
	3	11	35 36.2	60	2.5	139	21.9	7.0	1.0	4	1	213	71	0.41	10.4	9.4	D	133	5	1.5	227	42	13.9	38	48	2.0
	3	12	19 8.4	59	59.8	140	25.6	0.6	1.2	5	4	175	68	0.75	7.4	6.7	C	107	3	0.8	14	40	8.9	201	50	4.5
	3	13	39 10.9	61	39.3	149	38.7	47.1	1.9	12	8	146	46	0.28	1.3	1.2	A	297	0	0.7	27	30	1.3	207	60	1.2
	3	14	18 19.4	60	17.6	140	56.1	5.1	1.1	7	3	161	106	0.07	3.5	5.8	C	320	14	1.5	81	16	1.0	203	53	6.0
	3	21	44 20.7	60	8.4	141	21.6	25.5	0.7A	4	1	151	114	0.03	21.0	14.9	D	27	32	2.2	142	34	25.0	266	40	7.7
	4	0	42 46.7	60	15.6	140	55.0	10.9	1.5A	7	3	132	82	0.18	1.9	3.3	B	104	1	0.9	14	14	1.7	198	76	3.3
	4	1	14 2.3	64	1.8	148	57.4	51.4	3.5	22	4	139	257	0.98	6.2	24.9	D	282	1	6.2	191	5	1.6	23	85	25.0
	4	1	35 5.7	60	14.8	140	50.8	10.5	1.2A	6	4	134	84	0.20	1.6	3.7	B	38	10	1.5	307	11	1.0	170	75	3.8
	4	2	9 1.3	61	36.3	146	36.3	13.9	2.1	24	7	79	55	0.67	0.8	1.1	A	183	4	0.8	273	10	0.6	71	79	1.1
	4	2	50 38.9	60	15.0	141	3.2	4.0	1.1	6	2	152	86	0.21	2.7	5.9	C	97	7	2.0	5	21	1.1	205	68	6.3
	4	3	25 19.0	58	55.0	136	49.5	2.8	2.3	6	5	140	169	0.62	4.2	4.7	B	138	2	1.9	261	28	3.2	45	48	4.5
								2.6 ML	EMRC																	
	4	6	55 53.9	59	53.6	139	1.4	26.1	0.5A	3	1	249	100	0.01	15.2	27.7	D	136	10	2.1	81	26	6.1	246	46	25.0
	4	7	5 18.5	61	47.8	148	28.4	11.3	1.3	13	6	197	43	0.81	1.4	1.5	A	153	17	1.2	261	29	0.7	39	53	1.7
	4	7	26 25.6	60	12.6	140	58.3	12.1	1.9	16	8	76	62	0.28	1.3	2.1	A	105	9	0.6	11	26	0.8	213	62	2.4
								2.1 ML	EMRC																	
	4	7	39 21.1	61	39.7	149	25.9	34.4	1.5A	12	6	146	47	0.43	1.2	1.1	A	194	3	1.3	284	4	0.8	67	85	1.1
	4	9	26 52.8	60	17.4	140	46.5	14.9	1.1	7	5	143	81	0.54	1.9	3.4	B	115	9	1.0	21	25	0.9	223	63	3.8
	4	10	10 6.4	60	23.2	147	34.2	26.2	2.2	23	7	183	67	0.45	1.6	1.1	A	88	2	0.6	178	3	1.6	324	86	1.1
	4	12	6 17.5	60	15.7	140	54.7	15.0	1.3	8	4	132	79	0.23	1.5	2.5	B	314	13	0.9	49	21	1.1	194	65	2.7
	4	21	36 23.7	60	16.2	141	37.8	0.2	1.9	19	8	68	49	0.55	0.8	1.2	A	93	11	0.5	0	13	0.8	222	73	1.3
								2.8 ML	EMRC																	
	5	2	44 28.8	60	1.2	139	41.3	22.3	1.6	6	3	196	78	0.59	9.1	2.6	C	302	6	1.5	33	11	9.3	184	77	1.9
	5	4	23 27.6	60	31.3	140	50.5	20.8	1.1A	5	3	162	92	0.37	3.0	4.7	B	326	6	1.3	81	16	2.3	220	60	4.5
	5	9	41 2.3	60	19.6	139	10.2	27.7	0.9A	3	2	319	99	0.22	17.4	18.3	D	30	10	8.2	128	42	3.0	289	46	25.0
	5	10	42 46.8	62	25.1	149	17.3	41.3	2.9	25	4	96	92	0.51	2.9	10.2	D	87	5	1.0	357	8	2.5	209	81	10.4
	5	11	25 41.7	61	35.6	149	41.4	42.2	2.0	12	6	129	39	0.28	1.4	2.7	B	314	0	0.8	224	6	1.4	44	84	2.8
	5	11	30 57.1	62	34.8	149	40.3	39.1	2.9	25	7	103	114	0.61	2.6	13.1	D	88	4	1.0	358	8	1.8	204	81	13.3
	5	11	56 16.3	60	10.1	141	11.4	2.7	2.0	18	7	69	49	0.46	1.1	1.9	A	95	3	0.6	3	24	0.7	192	66	2.1
								2.1 ML	EMRC																	
	5	13	5 28.2	60	9.7	141	13.3	2.3	1.5	10	4	109	47	0.26	1.9	2.4	A	325	10	0.7	81	30	0.9	221	50	2.7
	5	13	5 53.7	60	8.6	141	12.3	7.5	1.3	6	4	136	90	0.80	3.8	2.9	B	287	13	1.1	187	36	4.5	34	51	1.4
	5	14	14 12.2	60	44.8	147	36.9	15.0	1.8	20	6	151	56	0.53	1.4	2.3	A	262	13	0.6	168	18	1.2	26	68	2.4
	5	15	49 27.9	61	40.5	147	47.3	29.7	2.7	30	6	63	46	0.81	0.9	0.9	A	270	4	0.6	177	38	0.8	5	52	1.0
	5	16	17 27.3	61	42.1	147	46.8	27.3	2.5	29	11	68	48	0.92	0.9	0.9	A	96	5	0.5	191	40	0.8	0	49	1.0
	5	16	38 45.6	61	26.1	150	46.4	60.5	1.8	10	4	97	73	0.36	1.4	3.9	B	192	7	1.3	101	8	1.0	323	79	4.0
	5	17	40 11.6	59	28.6	138	52.9	8.1	1.1	3	2	213	68	0.15	23.1	10.2	D	211	23	25.0	315	31	1.0	91	50	4.2
	5	23	7 57.5	59	49.3	152	39.0	83.9	3.3	27	5	88	80	0.67	2.2	3.3	B	81	1	1.0	138	18	1.6	348	53	2.9
	5	23	10 49.6	61	33.8	149	40.5	42.6	1.2A	7	3	169	85	0.13	4.0	5.8	C	299	4	0.9	32	31	2.3	202	59	6.7
	5	23	35 8.2	62	14.2	147	15.9	27.5	2.2	18	6	202	109	0.78	2.0	1.8	A	81	9	0.9	343	15	2.0	199	71	1.8
	5	23	35 33.5	60	25.9	140	45.1	6.4	1.6	7	3	159	82	0.36	1.3	4.7	B	358	3	0.8	88	8	1.1	248	81	4.8
	6	0	9 0.3	60	26.5	140	41.7	0.9	1.6	5	4	164	80	0.68	2.2	4.0	B	358	2	0.9	268	20	1.8	93	70	4.3
								2.0 ML	EMRC																	
	6	4	28 9.5	59	33.5	138	57.5	16.9	1.4	3	3	200	58	0.17	26.9	15.8	D	323	23	1.2	261	39	25.0	85	39	4.5
	6	7	4 13.5	59	56.0	140	18.6	0.2	1.0	5	2	194	97	0.89	2.8	5.1	C	25	4	2.8	293	21	1.3	125	69	5.4
	6	7	7 41.0	61	24.1	146	42.4	18.8	2.1	23	8	57	43	0.50	1.0	1.3	A	274	15	0.5	9	17	0.9	145	67	1.4
	6	7	41 6.1	60	56.7	150	9.1	21.4	1.3	6	4	145	67	0.26	2.6	10.9	D	190	3	1.4	281	12	0.9	86	78	11.1
	6	9	55 7.8	61	33.4	149	44.2	41.0	2.3	24	7	55	36	0.39	1.3	2.3	A	92	2	0.7	182	8	1.3	348	82	2.3
	6	13	43 50.4	60	21.3	141	28.0	13.0	1.2	7	3	108	68	0.23	1.7	2.8	B	338	5	0.9	81	20	1.4	235	66	3.0

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1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
JUN	6	14	10	45.9	62	52.0	148	10.1	28.6	2.5	19	6	125	151	0.85	1.8	3.2	B	192	6	1.6	99	22	1.1	296	67	3.5
	6	16	5	14.9	61	17.0	146	57.3	20.9	2.4	28	6	48	44	0.54	0.9	1.5	A	9	6	0.9	278	9	0.6	132	79	1.5
	6	16	56	46.2	60	13.1	140	58.9	9.4	1.2	9	2	124	81	0.23	2.5	3.2	B	94	8	1.0	359	36	1.1	195	53	3.9
	6	20	37	11.8	59	31.5	138	56.2	12.3	1.0	3	2	197	62	0.11	23.6	8.3	D	326	33	0.8	261	33	19.7	114	40	5.0
	6	22	24	52.0	60	48.0	138	1.8	0.6	1.3A	4	6	175	147	0.77	6.2	5.8	C	146	14	1.5	261	40	2.7	43	42	8.0
									1.7 ML	EMRC																
	7	1	27	33.2	60	2.8	140	7.6	23.1	2.3	7	5	144	59	0.37	3.3	2.3	B	196	2	3.3	287	5	0.8	84	85	2.3
	7	4	9	46.9	62	56.2	150	11.7	82.9	3.1	12	5	118	158	0.33	7.9	14.9	D	278	1	2.6	8	20	6.2	185	70	15.8
	7	4	15	33.6	61	8.8	149	39.7	43.2	2.0	15	5	44	57	0.73	1.2	2.2	A	219	1	1.2	309	5	0.8	118	85	2.2
	7	5	43	57.9	61	42.0	147	9.9	27.0	2.1	20	6	79	69	0.84	1.2	1.7	A	115	11	0.7	210	28	0.9	6	60	1.9
	7	6	49	12.3	60	8.7	141	8.6	4.1	2.1	17	7	67	51	0.30	1.0	1.6	A	303	15	0.6	39	22	0.7	181	63	1.8
									2.5 ML	EMRC																
	7	9	8	9.2	60	37.7	147	15.7	28.5	2.2	19	6	143	62	0.37	1.4	1.2	A	265	2	0.6	175	17	1.5	2	73	1.1
	7	9	21	4.7	60	12.9	140	18.0	19.3	2.1	8	5	179	79	0.38	2.6	2.0	B	284	2	0.7	194	9	2.6	26	81	2.0
	7	10	14	26.6	60	9.4	141	9.7	0.5	1.4	6	1	210	50	0.28	10.4	8.1	C	314	21	4.4	81	39	3.2	208	35	12.3
	7	16	56	20.1	60	20.0	140	31.8	26.0	1.6	4	3	263	97	0.07	4.7	5.3	C	183	4	4.7	93	14	1.0	289	75	5.4
	7	17	22	27.1	60	13.8	141	13.4	12.4	1.8	8	2	113	82	0.27	2.0	2.8	B	81	8	1.2	323	23	1.1	185	54	2.9
	7	17	33	10.1	60	13.6	141	12.9	12.3	1.9	10	4	114	50	0.15	1.6	2.6	B	285	15	0.8	22	23	1.0	165	62	2.9
	7	18	25	55.4	60	8.8	141	5.8	13.0	1.2	5	1	208	84	0.07	20.5	6.9	D	182	18	21.5	83	27	2.0	302	57	2.4
	7	18	37	41.4	60	47.5	150	24.8	41.3	1.9	10	5	106	67	0.28	1.4	3.4	B	81	3	0.8	350	5	1.4	202	84	3.4
	7	18	58	7.6	60	12.9	140	44.8	11.7	2.1	10	5	136	89	0.33	2.1	2.3	A	290	6	0.9	25	40	1.5	193	49	2.8
	7	19	34	19.4	59	45.0	145	17.6	12.8	2.3	13	6	208	131	0.59	3.6	1.9	B	110	3	1.3	20	5	3.7	231	84	1.9
	7	20	22	11.6	60	11.8	141	30.5	1.7	1.1	6	2	131	108	0.30	2.9	4.9	B	275	2	0.9	6	24	2.1	181	66	5.3
	7	21	22	35.1	60	14.4	141	4.0	10.9	2.1	12	5	63	58	0.23	1.5	2.5	A	261	3	0.9	331	25	0.9	165	58	2.6
									2.3 ML	EMRC																
	7	23	2	14.3	61	20.0	149	45.2	41.7	2.0	9	3	147	66	0.09	1.7	3.7	B	9	7	1.6	278	8	1.0	140	79	3.7
	7	23	18	23.8	60	14.6	141	12.6	6.6	1.8	9	3	127	51	0.22	1.5	3.3	B	81	1	1.5	348	17	1.1	174	73	3.4
	8	0	47	53.9	60	26.5	147	37.7	26.5	1.9	16	5	188	89	0.42	2.0	1.8	A	262	7	0.8	357	32	2.1	161	57	1.7
	8	1	42	24.8	62	3.6	149	44.6	43.4	2.5	13	4	184	79	0.42	2.4	4.5	B	90	4	1.0	359	16	2.1	194	73	4.7
	8	13	57	20.2	61	7.8	149	12.2	35.2	2.4	18	4	58	31	0.34	1.2	1.4	A	192	19	1.0	91	28	0.8	312	55	1.6
	8	17	21	56.9	60	13.2	141	23.6	1.9	1.2	7	4	105	59	0.30	3.1	9.1	C	22	5	3.0	291	9	1.3	141	80	9.3
	8	18	22	58.7	60	25.9	140	45.4	0.5	1.0	5	2	158	82	0.44	3.3	10.1	D	183	2	1.2	92	9	2.9	285	81	10.2
	8	18	44	44.1	63	14.8	150	7.0	122.5	4.0	18	4	161	185	0.45	4.0	7.5	C	33	12	1.8	126	14	3.5	264	71	7.8
						2.3 ML	ATWC																			
	8	22	20	14.5	61	42.0	141	24.4	0.2	2.1	8	4	157	89	1.65	3.8	4.9	B	261	0	1.5	149	21	3.3	351	60	4.7
									1.5 ML	EMRC																
	8	22	56	32.0	60	20.9	141	15.0	8.2	1.9	16	8	64	69	0.45	1.0	2.5	A	81	7	0.7	335	7	0.8	208	71	2.4
									2.2 ML	EMRC																
	9	2	1	3.8	61	20.9	139	54.5	2.2	2.1	5	3	135	88	0.60	2.1	6.2	C	274	2	1.8	184	2	2.1	49	87	6.2
									1.6 ML	EMRC																
	9	2	9	33.2	60	20.4	141	16.2	10.3	1.7	9	2	118	70	0.25	1.8	3.3	B	345	10	0.8	81	11	1.6	216	74	3.4
	9	2	35	10.2	60	21.1	141	14.7	10.0	1.8	8	4	120	69	0.38	0.8	2.5	A	85	2	0.8	355	9	0.6	187	81	2.5
	9	2	47	45.2	61	26.3	149	24.4	20.2	1.5	8	6	110	35	0.52	1.5	3.7	B	175	11	0.7	268	15	0.9	50	71	3.9
	9	3	14	58.7	60	12.4	140	45.9	13.6	1.9	11	7	102	73	0.33	1.8	2.4	A	87	20	0.9	347	26	1.2	210	56	2.8
									1.7 ML	EMRC																
	9	4	59	15.2	60	6.6	141	22.5	1.4	1.3	6	2	140	99	0.17	12.1	4.4	D	269	2	1.0	178	15	12.5	6	75	3.1
	9	8	51	47.5	61	23.7	150	35.5	66.6	4.4	31	0	57	81	0.51	1.4	3.1	B	81	1	0.8	167	8	1.3	344	81	3.2
		4.5	MB			4.3 ML	ATWC				FELT	(IV)	IN	THE	WILLOW,	HOUSTON	AREA	AND	(III)	AT	PALMER					
	9	9	26	42.1	61	55.3	149	57.4	45.0	2.3	12	3	170	78	0.35	2.2	3.2	B	272	5	1.0	4	21	2.0	169	68	3.3
	9	9	46	28.1	60	19.8	142	34.4	7.4	1.3	8	5	63	80	0.45	3.1	7.5	C	121	6	1.3	29	21	0.6	226	68	8.1
	9	10	24	9.1	60	11.2	141	11.5	0.4	1.6	9	3	112	87	0.34	2.6	3.7	B	296	9	1.0	31	31	1.4	192	58	4.3
	9	12	8	12.0	60	9.6	141	24.9	5.2	1.8	8	3	100	56	0.22	3.1	5.6	C	81	12	1.5	322	15	1.3	198	56	5.6
	9	12	54	22.7	60	21.5	140	41.0	3.8	2.1	13	7	73	74	0.53	1.0	2.0	A	81	2	0.7	326	10	0.7	180	63	1.9
									2.6 ML	EMRC																
	9	18	0	2.9	60	10.4	141	4.7	11.8	1.4	8	2	143	75	0.11	7.6	4.2	C	92	13	1.5	188	27	8.5	339	60	1.8

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1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
JUN 9	18	13	28.3	60	13.1	147	1.8	27.1	2.1	14	4	210	80	0.50	2.8	1.9	B	355	4	2.8	265	6	0.9	119	83	1.9
9	18	21	45.1	60	12.1	141	1.8	11.3	1.4	6	2	121	82	0.10	5.8	4.9	C	81	22	1.8	188	40	7.1	329	43	2.6
9	20	29	54.9	60	17.2	141	15.7	0.6	1.2	6	1	115	98	0.08	3.4	5.8	C	81	1	1.3	343	25	2.2	173	64	6.3
9	20	35	8.1	60	5.9	141	4.8	5.5	1.4	6	3	135	53	0.12	3.4	1.9	B	88	17	1.2	185	20	3.6	321	63	1.6
9	21	13	38.6	60	21.5	141	17.9	15.3	1.8	7	2	118	68	0.11	1.9	4.2	B	94	7	1.9	3	9	1.2	221	79	4.3
10	0	29	4.6	61	34.0	150	29.3	52.4	3.1	23	3	70	72	0.43	1.2	3.1	B	91	4	0.7	182	13	1.0	344	76	3.2
10	1	42	12.0	60	0.6	141	15.6	6.8	1.9	14	7	91	43	0.38	1.2	1.3	A	281	1	0.6	12	35	1.0	190	55	1.4
10	2	8	7.9	61	31.5	146	30.9	18.5	2.2	21	12	78	52	0.58	0.7	1.2	A	311	3	0.5	220	7	0.7	64	82	1.3
10	4	29	53.0	60	14.2	140	44.8	16.9	1.2	7	5	139	75	0.29	4.6	6.4	C	142	4	1.4	81	29	2.8	239	50	6.5
10	6	4	5.4	61	27.4	149	53.0	40.0	2.2	15	12	69	43	0.49	1.0	1.7	A	113	5	0.7	203	8	1.0	351	81	1.7
10	6	39	42.5	60	10.7	141	10.6	8.6	1.9	12	7	112	50	0.28	1.0	1.5	A	95	1	0.6	4	24	0.8	187	66	1.6
10	8	58	31.5	61	41.5	149	34.3	7.3	1.3	10	10	152	50	0.60	1.1	1.3	A	275	11	0.6	178	32	0.9	22	56	1.5
10	12	47	21.4	60	53.7	150	59.2	18.3	1.6	11	10	102	85	0.63	1.0	2.0	A	89	6	0.7	357	17	0.8	198	72	2.1
10	15	55	15.8	63	9.9	149	53.8	91.9	3.4	15	7	176	171	0.87	3.9	11.0	D	81	8	2.2	332	8	2.7	207	68	10.8
10	16	24	57.9	61	49.5	149	16.4	4.0	1.9	15	11	174	50	0.71	1.1	1.6	A	182	13	1.0	278	28	0.5	70	59	1.8
10	16	28	55.2	61	26.9	150	57.7	64.8	2.7	15	8	95	67	0.47	1.5	3.9	B	83	6	0.9	174	6	1.4	309	81	3.9
11	0	12	26.6	61	41.5	150	16.2	16.7	1.9	11	9	147	63	0.60	2.0	3.8	B	184	12	1.7	278	16	0.7	59	70	4.0
11	1	6	5.8	60	59.5	150	30.0	46.8	2.2	15	10	82	81	0.43	0.9	3.1	B	2	1	0.9	92	2	0.8	245	88	3.1
11	4	38	6.0	59	33.3	152	17.1	63.7	4.3	28	1	98	114	0.56	2.6	3.7	B	318	3	2.0	81	11	1.3	217	55	3.3
					4.6 ML		ATWC																			
11	5	34	43.8	57	27.1	138	24.5	16.2	2.9	4	1	242	100	0.17	28.1	27.3	D	327	12	7.7	261	36	25.0	74	46	25.0
11	5	44	33.1	60	30.5	151	46.8	86.2	3.6	28	3	53	58	0.59	1.6	2.5	A	153	2	1.5	81	11	1.0	253	69	2.4
					3.5 ML		ATWC																			
11	6	13	39.1	59	54.7	140	48.7	6.9	1.0	5	3	199	84	0.09	7.8	8.9	C	121	16	1.3	24	22	7.4	244	62	9.6
11	6	36	44.2	63	39.2	147	32.0	31.5	3.3	12	6	163	210	0.78	7.1	8.5	C	170	17	1.3	81	36	4.0	283	51	10.3
11	6	56	9.9	61	31.7	140	32.4	0.9	2.9	23	7	99	111	1.83	1.6	3.2	B	92	8	1.4	184	14	1.3	333	74	3.3
								3.1 ML	EMRC																	
11	7	2	21.3	63	8.9	149	32.9	62.8	3.3	23	6	118	168	0.69	2.1	6.7	C	33	0	1.6	303	5	2.0	123	85	6.7
11	7	10	5.2	61	31.0	140	37.3	0.0	1.9	12	9	105	107	2.21	2.5	3.7	B	210	6	1.2	117	21	2.2	315	68	3.9
								1.9 ML	EMRC																	
11	9	9	32.2	60	21.9	140	55.9	15.8	1.0	4	3	150	100	0.19	6.2	8.2	C	267	10	6.1	0	18	1.5	149	69	8.7
11	11	22	11.0	60	15.8	140	45.6	10.6	1.2A	5	4	164	101	0.59	6.5	8.6	C	104	9	2.6	9	34	3.4	207	55	10.3
11	12	30	20.5	60	3.7	141	5.2	13.6	1.0	6	5	148	82	0.46	8.3	2.1	C	207	8	8.3	300	21	2.9	97	67	1.5
11	13	10	12.8	61	22.9	146	52.9	14.2	2.8	32	7	51	53	0.45	0.8	1.2	A	207	6	0.8	299	14	0.5	94	75	1.2
11	15	1	38.8	60	10.1	141	2.5	10.6	1.9	16	12	75	57	0.34	1.0	1.6	A	305	6	0.6	38	26	0.7	203	63	1.7
								1.9 ML	EMRC																	
11	15	7	16.4	60	5.7	141	1.9	12.0	1.3	6	4	136	79	0.19	8.1	4.0	C	203	24	8.8	313	39	2.7	89	42	1.1
11	15	18	2.3	62	48.7	148	47.8	28.5	2.6	21	9	135	141	0.60	1.7	1.8	A	161	19	1.3	81	38	1.3	276	47	2.0
11	16	52	1.8	60	8.9	141	1.2	10.9	1.5	10	6	116	58	0.26	2.5	2.6	B	81	26	1.2	329	30	1.4	202	46	3.3
11	16	55	4.2	60	41.4	150	25.4	53.1	2.1	13	8	113	77	0.35	1.6	3.7	B	268	0	0.8	358	9	1.5	170	81	3.8
11	16	57	41.4	60	9.5	139	16.0	3.5	1.5	6	2	216	82	0.33	6.6	7.5	C	330	11	1.5	81	36	2.3	227	48	9.6
11	17	32	33.0	61	30.0	150	47.7	62.3	2.8	19	3	107	72	0.52	1.3	3.0	B	96	3	0.9	186	9	1.3	348	81	3.0
11	18	5	26.4	61	22.4	149	15.7	41.2	2.3	16	11	63	43	0.40	1.2	1.6	A	98	13	0.9	192	21	1.1	338	65	1.7
11	18	24	10.2	63	4.9	149	35.4	61.5	3.2	23	8	164	160	0.67	2.4	16.1	D	122	2	2.3	32	4	1.6	239	86	16.1
11	20	56	5.8	63	11.2	147	56.6	81.9	4.5	36	4	123	155	0.68	2.0	10.5	D	347	1	1.7	261	3	2.0	96	85	10.5
	3.8 MB				4.0 ML		ATWC																			
12	1	18	31.9	60	16.4	140	44.4	19.2	1.6	8	4	143	76	0.29	1.6	2.9	B	118	3	1.0	27	20	1.3	216	70	3.1
12	2	14	57.1	59	59.3	141	1.3	11.6	0.9	5	3	159	77	0.23	11.8	5.6	D	272	5	3.5	4	22	12.7	170	67	3.1
12	3	22	20.2	63	24.3	149	5.1	55.8	3.2	18	5	119	202	0.68	3.0	19.0	D	194	2	1.0	284	4	2.6	77	86	19.1
12	5	31	26.2	62	55.2	149	39.4	4.0	2.9	21	6	112	142	0.62	2.4	2.6	B	16	7	1.7	280	42	1.1	114	47	3.3
12	7	26	49.3	60	12.7	141	2.8	12.3	1.8	11	7	148	58	0.23	2.0	2.2	A	101	9	0.7	3	40	1.1	201	49	2.8

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1980	ORIGIN TIME HR	MN	SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
JUN 12	10	7	56.1	60	35.5	141	39.9	3.5	1.6	8	5	159	66	0.23	1.8	5.4	C	161	1	0.9	261	11	1.5	66	75	5.4
12	10	29	25.8	60	14.4	140	18.1	15.0	1.0A	5	5	182	81	0.45	5.2	4.9	C	98	1	1.2	188	6	5.2	359	84	4.8
12	10	49	25.7	59	52.1	151	43.0	60.4	3.4	25	3	101	101	0.59	1.9	3.5	B	335	3	1.8	81	6	1.2	222	73	3.3
							3.3 ML ATWC			FELT	AT	HOMER														
12	11	0	29.8	60	15.0	140	45.7	20.3	1.9	14	8	93	75	0.43	1.4	2.0	A	91	4	0.7	359	25	1.1	189	65	2.2
								1.9 ML	EMRC																	
12	16	31	49.1	60	17.4	140	37.7	36.0	1.4A	3	3	257	100	0.12	17.3	22.1	D	89	13	2.1	351	29	13.5	200	58	25.0
12	17	49	18.9	61	48.7	149	11.8	33.3	2.4	19	12	160	46	0.42	1.4	1.2	A	356	7	1.4	88	14	0.8	240	74	1.2
12	20	17	30.3	61	20.3	149	57.8	46.0	2.0	11	8	57	53	0.45	1.7	3.2	B	280	7	1.6	189	9	1.1	47	79	3.2
12	20	53	16.7	63	58.5	148	57.1	50.0	3.9	19	4	117	253	0.67	5.7	24.9	D	284	3	5.6	194	4	1.6	51	85	25.0
							2.4 ML ATWC																			
12	23	12	16.1	60	1.1	143	12.8	8.5	1.5	8	2	165	117	0.22	3.9	3.9	B	108	22	3.7	212	30	2.5	348	51	4.4
12	23	27	40.6	61	40.9	149	44.9	46.1	1.8	8	8	150	75	0.21	2.6	3.5	B	297	1	1.1	27	23	2.4	205	67	3.7
13	3	44	36.6	60	13.9	140	59.8	8.2	0.9	5	2	152	109	0.30	7.9	8.7	C	328	18	2.1	81	33	1.4	217	47	11.5
13	4	17	26.5	61	14.3	150	57.5	15.4	1.7	8	4	88	75	0.48	1.3	2.9	B	89	3	0.6	358	14	1.1	191	76	2.9
13	10	50	6.3	60	39.0	147	38.3	13.7	1.9	23	7	143	74	0.43	1.8	2.9	B	168	14	1.3	264	24	0.6	50	62	3.3
13	15	27	59.3	60	14.5	141	7.6	9.3	1.1	6	2	148	89	0.29	7.6	6.5	C	91	7	2.3	188	40	9.7	353	49	2.4
13	15	36	22.8	60	14.5	141	11.3	5.4	1.0	6	2	146	92	0.22	3.7	4.4	B	104	5	1.4	10	38	1.8	200	52	5.5
13	16	37	45.9	61	55.0	150	56.7	76.9	3.1	21	3	152	101	0.50	1.8	3.6	B	98	3	1.1	188	5	1.8	337	84	3.6
13	17	30	2.5	60	20.3	141	15.9	13.7	1.6	7	3	153	70	0.12	2.2	4.4	B	292	6	1.1	25	22	1.4	188	67	4.7
13	17	30	57.0	60	20.6	141	15.1	12.1	1.2	7	2	154	98	0.17	2.3	4.3	B	310	12	1.2	44	20	1.5	191	66	4.7
13	17	38	9.0	60	14.2	141	1.2	10.5	1.7	12	4	151	61	0.42	2.4	2.9	B	281	2	0.9	12	38	1.2	188	52	3.5
14	4	56	15.5	60	20.1	141	10.2	3.5	1.9	10	5	156	75	0.32	1.4	2.4	A	116	4	0.8	25	22	1.1	216	68	2.5
14	6	43	57.7	60	26.0	140	16.8	15.7	1.4A	4	2	276	98	0.19	4.2	6.1	C	93	6	1.4	1	12	4.1	209	76	6.2
14	6	48	4.5	60	32.2	141	46.2	16.2	1.4	7	3	148	64	0.12	2.4	7.4	C	332	0	0.8	81	9	2.0	242	69	7.1
14	6	52	30.3	59	52.5	140	39.4	11.3	2.1	8	4	168	74	0.37	4.5	3.0	B	118	10	0.8	24	20	4.7	233	67	2.7
14	7	32	10.2	60	11.6	141	14.2	10.9	1.6	9	2	140	88	0.22	3.0	3.2	B	289	11	1.0	28	40	1.3	187	48	4.2
14	9	31	33.5	63	44.1	148	43.5	112.2	4.8	34	2	123	223	0.78	2.8	13.6	D	278	2	2.7	188	8	1.7	22	82	13.8
	3.8 MB					4.0 ML ATWC																				
14	10	40	53.3	60	59.8	146	31.2	11.0	1.7	21	6	50	30	0.65	1.0	1.2	A	156	10	0.9	261	11	0.8	31	69	1.2
14	12	44	34.6	60	20.6	141	16.5	0.2	0.8	4	2	164	97	0.31	2.6	7.4	C	317	4	1.0	261	8	1.9	77	55	6.2
14	12	57	2.4	60	1.1	141	17.0	25.6	1.1	3	2	211	128	0.07	7.1	3.1	C	160	21	7.5	51	40	2.2	271	43	1.1
14	13	4	46.8	60	18.7	141	12.1	10.3	2.5	22	5	99	55	0.58	1.6	2.8	B	107	1	0.7	16	26	0.9	199	64	3.0
								2.7 ML	EMRC																	
14	13	46	14.0	61	25.5	147	31.5	19.6	1.7	22	9	88	64	0.47	1.0	1.7	A	190	9	1.0	283	16	0.5	72	71	1.8
14	14	5	36.3	61	39.8	150	22.8	57.8	2.7	25	6	80	67	0.39	1.5	3.6	B	86	4	0.8	177	11	1.3	336	78	3.7
14	14	50	52.6	61	1.7	146	32.6	10.3	1.6	24	5	52	32	0.51	0.9	1.2	A	351	1	0.9	261	18	0.7	84	72	1.2
14	14	55	27.3	60	1.2	141	15.8	5.8	1.8	11	4	91	43	0.42	1.2	1.1	A	103	6	0.6	197	31	1.3	3	58	1.1
14	18	7	27.4	60	12.1	140	46.4	13.9	1.1	6	2	170	97	0.27	6.0	5.6	C	104	13	1.2	207	43	8.0	1	44	1.6
14	20	0	21.5	63	9.6	148	43.1	39.0	2.8	16	5	145	179	0.77	2.7	19.9	D	186	1	1.2	96	2	2.6	303	88	19.9
14	21	14	43.5	61	44.7	149	36.5	4.8	2.1	18	8	153	56	0.64	1.0	1.3	A	191	10	1.0	285	24	0.5	80	64	1.4
15	0	32	18.0	61	19.8	141	42.6	1.9	2.3	6	3	227	145	1.10	4.3	1.9	B	307	3	1.3	216	7	4.4	60	82	1.8
15	0	58	29.8	61	30.1	150	7.3	40.0	2.2	14	5	92	54	0.33	1.3	1.8	A	282	4	0.8	190	24	1.1	21	66	2.0
15	1	6	5.8	60	11.6	140	59.0	1.7	2.5	16	4	93	61	0.44	1.3	2.4	A	82	11	0.7	348	21	0.9	198	66	2.6
								3.2 ML	EMRC																	
15	3	56	49.8	61	55.2	150	7.4	37.8	1.9	8	4	182	74	0.21	2.4	2.2	A	111	12	0.9	211	39	2.7	7	48	1.8
15	4	39	18.1	61	29.0	150	3.7	48.9	2.0	8	5	135	86	0.23	2.0	2.7	B	287	13	1.3	192	21	1.8	47	65	2.9
15	7	23	42.7	60	13.6	139	54.3	28.0	1.7	4	1	251	104	0.08	15.5	4.0	D	297	0	5.6	207	8	15.7	27	82	3.4
15	8	28	41.3	62	5.9	147	58.9	36.0	2.0	8	5	222	83	0.55	4.0	2.7	B	312	31	4.5	196	36	2.2	71	39	0.9
15	12	4	5.7	61	18.8	147	27.4	24.0	2.5	23	4	78	56	0.36	1.0	1.9	A	182	3	1.0	273	13	0.6	79	77	2.0
15	14	16	41.6	61	14.9	149	58.5	44.0	2.1	14	3	95	67	0.28	1.6	3.0	B	276	1	1.0	186	6	1.6	15	84	3.0

SOUTHERN ALASKA EARTHQUAKES, APRIL - JUNE 1980

1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
JUN 15	17	10	19.4	61	56.7	149	4.0	3.4	1.6	10	2	211	54	0.53	3.1	3.5	B	162	8	3.1	261	20	1.0	52	67	3.8
15	17	23	46.8	62	51.5	149	3.9	30.4	3.3	15	3	104	141	0.59	2.1	3.2	B	81	4	1.4	333	10	1.8	190	69	3.1
15	18	16	7.4	62	3.0	148	44.4	25.8	3.0	22	2	84	73	0.92	2.0	1.7	A	88	15	1.0	182	15	2.0	315	69	1.7
						2.7 ML	ATWC																			
15	18	22	9.3	62	16.2	148	28.6	31.1	2.5	17	5	108	96	0.70	2.8	2.0	B	186	30	3.0	81	33	0.9	311	45	2.0
15	19	1	53.7	60	1.6	153	16.6	144.4	4.5	27	2	130	78	0.59	3.2	5.5	B	134	3	2.1	81	15	1.8	234	50	4.6
	4.4	MB			3.9	ML	ATWC																			
15	22	49	38.1	60	10.6	140	46.9	20.9	2.4	10	2	153	71	0.30	3.0	2.5	B	107	4	1.0	200	37	3.6	12	53	1.6
16	1	11	1.1	60	59.5	146	44.0	9.0	2.0	21	5	73	27	0.49	1.0	1.0	A	3	17	1.0	265	25	0.5	124	59	1.1
16	3	14	58.6	61	18.1	149	57.5	44.9	2.5	18	5	54	55	0.28	1.4	2.8	B	81	2	0.9	165	9	1.3	338	79	2.9
16	4	52	43.5	59	51.2	139	0.9	31.9	1.2	3	3	243	45	0.37	17.0	22.4	D	143	3	1.7	81	34	5.3	237	47	25.0
16	6	37	37.2	62	58.9	149	12.2	44.3	2.8	16	5	151	155	0.91	3.3	5.4	C	282	2	3.3	12	3	1.3	158	86	5.4
16	7	2	12.6	60	16.2	140	44.5	19.3	1.1A	5	2	166	101	0.14	10.3	11.9	D	334	19	8.6	81	28	1.9	216	53	14.1
16	7	38	23.1	60	6.6	140	54.7	15.0	1.5	7	3	141	73	0.29	5.9	4.1	C	349	16	6.0	88	30	0.8	235	55	4.5
16	8	56	1.0	60	16.7	140	58.3	14.1	0.9	4	3	158	83	0.13	4.8	5.5	C	329	24	1.8	81	27	1.5	208	49	7.0
16	9	56	18.3	61	31.9	150	18.8	46.9	2.2	11	5	112	63	0.24	2.0	2.8	B	263	4	0.8	171	26	1.6	1	64	3.0
16	11	12	18.7	60	18.6	141	9.7	4.1	1.3	5	1	165	104	0.09	4.5	7.6	C	281	17	1.9	16	18	3.5	150	65	8.3
16	11	22	50.3	60	35.9	142	41.5	3.0	2.0	14	4	92	60	1.04	1.9	4.3	B	144	20	0.6	81	20	0.9	293	52	4.0
16	14	57	4.2	60	35.7	142	40.3	4.1	1.9	12	5	93	60	0.77	3.0	6.2	C	174	10	0.7	81	23	1.0	286	65	6.8
16	15	54	22.8	62	59.7	149	27.1	60.2	3.0	11	6	112	156	0.99	2.4	17.4	D	308	0	2.2	38	6	1.5	218	84	17.5
16	17	49	35.6	60	14.4	140	44.4	17.5	1.1A	5	2	162	125	0.31	14.5	16.5	D	341	14	5.8	81	38	3.1	234	49	21.7
16	19	19	33.7	60	22.5	140	59.0	0.1	1.6	10	8	167	86	0.65	1.1	2.1	A	292	3	0.7	22	10	1.0	185	80	2.1
16	21	31	36.8	61	48.0	148	32.5	11.8	1.8	8	3	157	43	0.43	2.7	2.2	B	340	17	2.6	261	27	0.8	104	57	2.3
16	22	18	35.3	61	37.0	149	56.3	47.5	2.2	10	4	105	46	0.33	1.4	2.2	A	8	2	1.4	277	12	0.7	107	78	2.2
17	1	1	50.5	60	12.6	141	13.2	12.7	1.9	12	3	142	49	0.34	1.9	2.4	A	279	11	0.7	16	35	1.1	174	53	2.9
17	3	15	55.3	60	16.5	141	9.4	5.8	1.2	5	3	232	100	0.14	2.8	5.7	C	298	2	2.6	29	24	1.3	204	66	6.2
17	4	50	57.2	60	43.7	143	18.5	17.7	2.0	12	9	75	79	1.27	1.2	2.5	A	145	9	0.6	81	15	0.9	271	59	2.3
17	5	8	23.3	61	6.2	149	58.3	45.4	2.0	12	7	55	61	1.10	1.0	4.0	B	199	1	1.0	289	9	0.8	103	81	4.0
17	9	16	11.6	60	15.3	153	22.4	191.7	5.1	29	1	126	126	0.61	2.8	6.4	C	349	6	2.8	81	8	1.8	223	80	6.5
	4.4	MB			4.2	ML	ATWC																			
17	9	23	4.2	61	50.8	149	31.3	42.6	2.4	15	7	163	63	0.45	1.7	2.6	B	91	5	0.9	0	15	1.6	199	74	2.6
17	9	36	10.8	61	50.3	149	11.5	6.5	1.4	11	4	162	45	0.65	1.0	1.3	A	5	1	1.0	275	25	0.8	97	65	1.4
17	12	20	53.8	60	17.8	140	56.8	0.5	1.1	5	2	233	100	0.11	3.0	6.3	C	21	4	1.9	291	7	2.9	141	82	6.3
17	13	6	23.5	59	26.1	144	53.9	25.3	2.4	12	5	251	124	0.50	3.3	1.9	B	16	14	3.4	115	32	1.2	266	54	2.0
17	14	29	29.5	61	33.9	150	37.7	46.5	2.2	11	4	122	67	0.31	2.2	4.2	B	92	4	1.0	183	20	1.6	351	70	4.4
17	14	42	38.0	60	6.6	140	56.3	11.3	2.7	18	6	90	61	0.40	1.7	1.8	A	86	13	0.7	345	40	0.9	190	47	2.3
								3.2 ML	EMRC																	
17	18	16	19.0	63	49.2	148	56.1	105.9	4.3	14	3	172	237	0.36	7.7	15.7	D	285	0	7.7	195	12	1.9	15	78	16.0
17	19	4	7.9	60	6.6	139	5.5	10.9	1.9	5	2	231	74	0.55	2.5	3.0	B	81	3	2.3	332	11	1.5	184	68	2.9
17	21	27	32.7	61	38.7	147	32.7	21.4	1.9	15	4	121	86	0.43	1.7	2.3	A	283	0	0.7	192	30	1.3	13	60	2.6
18	1	48	1.9	60	3.2	148	54.2	4.0	2.2	14	7	208	89	1.09	2.1	1.6	A	262	20	0.7	159	34	2.3	17	49	1.3
18	4	1	26.5	59	21.9	144	58.0	22.9	2.5	16	5	222	131	0.45	4.3	2.1	B	6	16	4.5	261	42	2.0	112	44	1.5
18	4	6	21.7	62	14.8	148	50.6	38.6	3.6	26	2	88	86	0.40	2.2	1.7	A	192	21	2.3	85	36	1.0	306	46	1.8
18	4	22	26.7	61	41.8	149	43.8	6.5	2.0	11	3	152	51	0.51	1.4	1.2	A	280	7	0.9	15	35	1.6	180	54	1.0
18	4	47	52.1	60	18.1	140	56.0	8.0	1.1	6	3	162	82	0.09	3.1	6.0	C	303	7	2.7	36	20	1.9	195	69	6.4
18	5	28	15.5	62	43.3	144	47.2	40.1	2.8	12	4	177	149	0.60	5.2	24.9	D	294	4	1.9	25	4	4.9	160	84	25.0
18	9	14	32.2	60	22.5	141	20.0	17.9	1.6	8	3	153	92	0.41	2.5	4.7	B	311	15	1.2	46	17	1.7	182	67	5.1
18	11	22	51.4	60	8.4	141	2.4	12.0	1.4	6	1	140	81	0.06	12.2	7.3	D	198	30	13.9	308	32	4.1	75	44	1.8
18	12	19	54.3	60	6.4	140	55.5	9.1	1.2	7	2	140	99	0.15	3.0	3.1	B	336	23	2.4	82	33	1.3	218	48	3.8

SOUTHERN ALASKA EARTHQUAKES, APRIL - JUNE 1980

1980	ORIGIN TIME HR	MN	SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
JUN 18	13	28	8.6	61	58.4	148	41.4	36.4	2.7	16	3	97	64	0.36	2.7	1.6	B	166	17	2.6	81	38	0.9	278	49	1.8
18	18	41	39.9	60	14.1	140	43.5	18.6	2.3	10	6	85	76	0.20	1.8	2.0	A	305	0	0.7	35	40	1.2	215	50	2.5
								2.2 ML	EMRC																	
18	19	11	6.8	60	2.3	140	16.3	27.1	1.5	5	3	150	64	0.22	10.7	6.3	D	283	8	2.2	16	22	11.4	174	66	5.0
18	20	21	24.5	59	58.7	141	5.2	6.6	1.9	7	3	103	53	0.26	1.7	1.8	A	199	2	1.4	290	28	1.6	105	62	1.9
19	4	28	57.9	61	17.7	146	29.0	16.9	2.2	26	8	47	37	0.71	0.7	1.3	A	39	9	0.7	308	10	0.6	170	77	1.3
19	5	34	18.6	60	18.6	141	15.1	3.9	1.2	7	4	150	98	0.11	2.0	3.4	B	324	11	0.8	81	16	1.2	209	57	3.4
19	7	41	27.2	60	10.1	141	20.7	0.8	1.1	4	3	134	98	0.25	4.3	4.9	B	275	4	1.0	8	38	3.0	180	52	5.7
19	8	10	54.5	61	40.0	149	57.3	42.3	1.2A	10	7	168	51	0.28	3.9	4.3	B	135	7	1.8	81	19	2.8	245	49	3.5
19	13	38	36.1	61	27.4	149	57.3	41.7	2.4	25	10	66	46	0.44	1.0	2.4	A	96	1	0.7	186	5	0.9	355	85	2.5
19	13	43	53.4	60	11.5	140	40.8	21.6	1.6	7	5	159	93	0.48	2.3	2.0	A	109	18	0.7	212	35	2.7	357	49	1.6
19	14	52	9.7	60	14.3	140	57.3	14.3	1.8	10	6	154	64	0.12	2.0	2.9	B	101	6	0.8	7	31	1.0	201	58	3.3
19	17	0	21.1	60	6.7	140	46.3	26.9	0.7A	4	4	145	91	0.27	16.2	11.5	D	104	17	3.0	206	34	19.3	352	51	4.8
19	19	32	10.0	63	17.0	148	3.2	63.3	3.4	11	6	140	181	0.69	8.1	25.0	D	6	1	2.2	276	2	8.1	123	88	25.0
19	20	51	46.2	60	22.3	140	58.4	3.1	1.9	16	8	61	70	0.56	1.1	2.0	A	83	12	0.7	350	16	0.9	208	70	2.2
								2.2 ML	EMRC																	
19	20	54	59.0	60	12.7	140	39.0	15.8	2.3	16	10	90	63	0.68	1.5	2.1	A	91	7	0.7	357	27	1.1	194	62	2.3
								2.5 ML	EMRC																	
19	22	8	30.0	60	18.1	141	26.5	8.6	2.0	15	9	62	49	0.38	1.2	2.2	A	280	1	0.6	11	21	0.9	187	69	2.3
								2.1 ML	EMRC																	
19	22	29	51.1	60	12.3	140	41.2	17.6	1.3	6	5	174	119	0.28	3.9	4.0	B	115	13	0.9	13	41	1.8	219	46	5.3
20	2	31	40.6	61	23.3	147	25.7	15.2	2.3	24	12	57	59	0.38	0.9	1.7	A	302	7	0.6	211	13	0.8	60	75	1.8
20	5	58	18.0	61	19.0	150	39.6	55.8	2.2	10	9	149	87	0.27	2.6	5.1	C	262	0	1.1	172	5	2.5	352	85	5.2
20	6	18	7.1	61	47.6	149	35.1	13.8	1.3A	6	6	167	61	0.35	1.7	1.7	A	81	2	0.8	340	44	2.0	173	45	1.3
20	6	32	59.1	61	13.9	149	18.6	43.8	1.7	12	8	65	44	0.25	1.6	3.0	B	261	0	1.6	167	11	0.9	351	78	3.0
20	7	5	55.6	63	56.1	149	15.0	121.9	4.1	13	4	185	247	0.61	7.1	16.9	D	204	2	2.7	114	3	7.1	328	86	16.9
20	7	49	35.3	61	47.6	149	26.8	37.2	2.5	20	8	158	59	0.61	1.4	1.1	A	182	9	1.4	87	30	0.8	287	58	1.2
20	8	15	22.8	62	46.4	148	20.9	45.8	3.2	26	3	125	135	0.61	2.2	6.8	C	270	8	1.4	1	10	1.7	142	77	7.0
20	10	45	54.7	60	17.3	141	40.1	0.2	1.2A	6	4	132	65	0.28	2.8	5.3	C	110	10	1.8	17	16	2.3	231	71	5.6
20	11	54	23.6	59	48.3	139	16.9	25.4	1.2	3	2	200	46	0.21	6.7	5.1	C	141	6	1.6	261	21	6.4	39	54	4.1
20	12	43	2.9	60	20.5	140	47.3	3.1	1.0A	5	3	172	77	0.26	3.0	6.4	C	302	3	2.7	33	18	2.2	203	72	6.7
20	13	56	25.6	60	10.2	141	12.6	0.6	1.8	13	9	138	48	0.40	1.1	2.1	A	284	2	0.6	15	21	0.8	189	69	2.2
20	14	23	59.1	59	5.2	139	2.0	4.2	2.9	15	7	242	102	0.52	4.0	3.5	B	143	2	3.6	261	28	1.6	50	51	3.5
20	17	6	32.3	59	5.5	139	0.1	14.5	1.5	3	3	329	103	0.10	10.8	12.2	D	339	24	4.6	233	31	3.0	100	49	15.9
20	20	35	28.4	60	15.0	141	17.4	5.4	1.2	7	4	143	48	0.24	2.3	4.0	B	81	12	1.3	326	18	0.8	196	57	4.2
20	23	5	15.4	60	8.9	141	6.9	2.0	1.9	12	7	139	52	0.53	1.6	1.9	A	286	0	0.7	16	38	0.9	196	52	2.3
21	2	20	23.6	60	20.6	147	10.3	10.2	1.9	23	10	148	82	0.36	1.7	2.6	B	159	17	1.2	261	23	0.6	38	59	2.9
21	7	20	56.3	60	45.2	147	17.6	12.7	1.4	19	14	133	53	0.43	1.5	1.7	A	261	20	0.6	158	30	1.3	19	52	1.9
21	8	14	53.2	60	10.0	145	52.3	6.9	1.9	19	6	167	74	0.42	2.3	3.2	B	120	20	1.0	219	24	1.5	354	58	3.7
21	8	17	3.6	60	12.2	141	0.1	6.0	1.6	8	6	148	60	0.31	2.3	2.9	B	86	10	0.9	349	35	1.2	190	53	3.5
21	9	54	51.1	60	37.4	141	45.7	25.4	2.5	22	4	60	71	0.58	1.5	3.3	B	318	1	0.9	81	9	1.0	223	56	2.8
								2.7 ML	EMRC																	
21	11	51	41.8	60	50.3	150	23.3	42.8	2.1	13	8	90	68	0.31	1.9	4.1	B	271	1	1.0	1	17	1.5	178	73	4.2
21	12	3	40.0	61	24.6	146	36.2	11.4	1.9	19	8	140	39	0.55	1.0	1.6	A	14	3	1.0	283	19	0.6	113	71	1.6
21	13	4	27.4	60	13.3	140	59.9	4.3	1.6	9	6	151	61	0.25	2.7	3.3	B	84	8	0.9	349	36	1.6	185	53	4.0
21	13	6	43.9	60	15.8	140	59.4	3.8	1.1	6	3	155	83	0.26	3.7	7.4	C	99	3	3.5	7	23	1.9	196	67	8.0
21	13	52	30.9	60	6.2	141	3.3	9.9	1.5	7	2	136	81	0.54	9.7	5.3	C	116	6	3.3	209	28	10.9	15	61	1.4
21	13	57	51.6	60	12.8	140	59.7	6.4	1.1	7	3	150	61	0.26	4.5	5.6	C	265	0	3.3	355	37	2.2	175	53	6.8
21	13	59	0.3	60	11.2	140	59.8	8.2	2.0	13	9	76	60	0.37	1.5	2.2	A	286	3	0.8	18	32	0.7	191	58	2.6
								1.9 ML	EMRC																	
21	14	31	43.8	60	17.9	140	46.2	14.8	1.1A	5	2	168	119	0.08	11.3	11.9	D	313	15	1.5	81	29	1.7	207	42	15.0

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1980	ORIGIN TIME HR	MN	SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
JUN 21	15	13	57.0	61	47.1	149	27.4	3.9	1.7	14	8	157	59	0.71	1.1	1.6	A	177	14	1.0	272	20	0.7	54	65	1.8
21	15	53	7.2	60	23.3	147	41.0	23.7	2.2	27	8	137	71	0.51	1.3	1.6	A	264	15	0.6	166	26	1.1	21	59	1.8
21	15	59	28.6	60	15.7	141	1.8	11.4	1.5	9	6	154	79	0.14	3.0	3.3	B	318	21	1.1	81	24	1.3	202	46	4.0
21	16	19	47.5	60	12.1	141	0.2	11.6	1.2	8	3	148	60	0.14	5.2	4.3	C	91	14	2.2	193	39	6.5	345	48	1.7
21	16	30	15.0	63	22.4	149	24.1	43.8	3.3	12	8	170	190	0.94	6.6	14.3	D	205	2	4.7	296	6	6.4	97	84	14.3
21	20	21	52.1	63	36.0	149	21.5	130.3	4.1	19	7	176	212	0.51	7.6	13.0	D	198	5	3.8	107	9	7.4	317	80	13.2
21	20	41	4.1	59	36.3	139	0.5	15.0	1.4	5	1	199	52	0.24	11.5	8.5	C	321	15	1.3	261	38	11.4	71	41	4.0
21	20	43	38.5	62	18.0	148	5.3	2.2	3.0	30	4	99	101	0.91	2.0	1.7	A	29	28	1.4	274	38	0.8	145	39	2.4
21	20	46	3.5	60	13.7	141	24.4	6.0	1.6	8	3	137	41	0.20	3.0	5.3	C	279	7	1.1	11	15	2.8	165	73	5.4
21	21	36	5.8	60	3.7	141	22.7	14.0	2.0	17	8	105	37	0.35	1.5	1.5	A	280	0	0.6	191	43	1.9	10	47	0.9
								2.4 ML	EMRC																	
21	21	50	14.5	60	3.5	141	21.6	14.7	1.4	9	6	114	38	0.31	1.7	1.6	A	286	8	0.7	189	40	2.0	25	49	1.1
21	22	48	9.9	61	41.0	149	37.5	5.9	1.4	10	6	150	49	0.45	1.0	1.7	A	95	2	0.6	5	14	0.9	193	76	1.7
22	1	18	34.8	63	1.6	149	43.1	44.3	3.1	14	8	166	163	0.38	7.9	15.5	D	96	4	3.0	6	5	7.8	225	84	15.6
22	3	33	43.0	62	18.8	148	35.8	29.6	2.2	14	12	204	100	0.52	2.4	1.4	A	356	12	2.4	261	42	1.7	99	46	0.9
22	4	42	55.7	57	55.3	138	14.1	32.1	2.7	4	2	221	100	0.30	25.3	25.3	D	342	0	6.0	261	0	25.0	0	81	25.0
22	5	22	9.1	61	13.9	149	20.8	42.4	1.8	11	7	99	45	0.25	1.3	2.9	B	175	4	1.3	84	11	1.2	285	78	2.9
22	8	53	0.6	61	52.4	149	1.5	36.7	2.0	13	11	220	51	0.36	3.4	1.6	B	344	12	3.4	81	15	1.5	218	70	1.4
22	15	11	25.8	60	11.9	141	0.9	15.3	1.7	9	4	147	59	0.14	6.3	4.3	B	314	17	2.3	261	38	5.5	66	37	1.5
22	15	48	19.5	60	24.0	140	47.7	5.0	1.7	7	5	178	81	0.46	2.5	3.7	B	115	1	1.0	24	30	1.6	207	60	4.1
22	15	51	43.4	63	11.3	148	46.0	43.9	3.1	17	9	148	180	0.73	3.1	9.0	C	283	2	3.0	193	3	1.6	47	86	9.1
22	19	1	34.4	60	16.4	143	1.8	10.5	1.5	10	7	157	61	1.34	3.0	1.6	B	312	16	0.6	217	16	3.1	85	67	1.4
22	19	40	17.3	60	14.9	143	4.8	0.9	1.4	11	7	165	63	0.81	3.2	2.6	B	205	3	3.2	114	6	0.6	321	83	2.6
22	21	42	33.1	62	48.5	148	39.1	43.0	3.7	29	4	111	144	0.53	2.0	7.2	C	263	1	1.5	353	7	1.8	165	83	7.2
					3.4	ML	ATWC																			
23	2	10	23.6	61	34.1	146	28.7	28.8	1.9	17	7	90	57	0.72	0.7	1.3	A	344	2	0.7	261	15	0.6	81	73	1.3
23	3	58	7.1	61	40.5	147	49.9	25.4	2.1	17	8	122	70	0.61	0.7	1.2	A	95	2	0.5	185	3	0.7	331	86	1.2
23	6	10	16.1	60	1.1	139	58.6	15.4	1.0	5	3	160	88	0.52	4.7	2.4	B	39	24	5.1	297	26	1.0	166	53	1.4
23	6	23	55.1	60	35.0	147	27.0	26.3	1.6	14	11	152	57	0.82	1.2	1.9	A	266	13	0.5	172	13	1.1	39	71	2.0
23	9	23	33.9	61	38.6	149	44.6	35.9	2.0	15	4	143	45	0.42	1.1	1.2	A	262	15	0.7	0	29	1.1	148	57	1.2
23	11	8	7.0	60	4.7	140	52.4	12.1	1.7	8	5	138	70	0.45	3.1	1.9	B	100	11	0.7	194	20	3.3	343	67	1.6
23	12	39	16.7	60	2.6	141	20.9	16.4	1.3	9	4	109	38	0.33	1.7	1.2	A	180	11	1.8	275	21	0.6	64	66	1.3
23	13	42	34.0	60	5.2	140	53.6	13.0	1.1	6	4	139	72	0.32	3.4	2.2	B	98	24	0.8	201	28	3.8	334	52	1.5
23	19	23	18.8	60	23.7	140	58.1	3.0	1.9	16	8	60	71	0.70	1.0	2.1	A	81	10	0.8	338	14	0.7	202	69	2.2
								1.9 ML	EMRC																	
23	20	44	34.5	61	44.5	147	18.8	13.3	2.4	25	9	138	72	0.66	0.8	1.0	A	21	11	0.8	287	20	0.5	138	67	1.1
23	21	12	30.3	62	34.8	143	50.5	12.2	2.6	14	4	266	163	0.52	5.4	3.6	C	195	17	5.5	94	35	1.4	307	50	4.2
23	22	14	16.6	61	29.0	150	2.0	41.7	2.2	17	9	131	50	0.47	1.4	2.1	A	261	7	0.7	137	11	0.9	12	54	1.9
24	0	43	6.2	62	57.8	149	6.8	39.2	3.2	18	6	148	153	0.87	2.4	15.1	D	166	1	2.3	81	2	1.6	284	85	15.1
24	1	58	25.5	62	40.4	143	51.0	9.3	2.4	12	6	205	143	0.71	6.3	2.4	C	261	19	5.3	331	35	3.5	142	47	1.5
24	6	9	5.3	60	59.7	146	30.9	9.0	2.0	28	12	50	30	0.53	0.7	0.9	A	343	8	0.7	261	20	0.6	95	67	0.9
24	6	12	2.5	60	59.7	146	32.4	6.2	1.6	22	7	54	30	0.54	0.7	1.0	A	356	8	0.6	265	10	0.7	124	77	1.0
24	6	21	58.9	62	22.1	149	19.0	28.7	2.7	22	10	211	87	0.75	2.7	1.9	B	187	24	2.9	83	28	1.1	311	52	1.8
24	7	25	21.9	61	25.5	150	10.4	52.6	2.1	11	8	116	88	0.24	1.1	2.3	A	284	3	0.7	194	3	1.1	59	86	2.3
24	8	3	5.1	60	0.3	139	18.1	10.3	1.6	7	5	87	66	0.62	2.4	2.8	B	332	7	1.1	81	36	1.3	233	49	3.4
								1.9 ML	EMRC																	
24	9	3	31.0	60	2.4	139	22.8	15.4	0.6	3	3	281	71	0.61	15.8	19.5	D	10	10	4.7	108	37	1.5	267	51	25.0
24	9	4	56.9	60	10.6	139	6.8	17.8	0.7	3	2	301	100	0.10	20.3	26.0	D	81	10	5.1	147	26	16.4	330	54	25.0
24	9	19	43.3	60	17.4	140	47.3	0.1	1.3A	4	4	183	119	0.46	7.4	3.6	C	216	2	7.4	126	3	0.9	340	86	3.6

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1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
JUN 24	14	18	13.4	61	4.3	147	15.8	14.0	2.1	20	9	75	51	0.62	0.9	1.2	A	195	1	0.9	285	24	0.5	103	66	1.3
24	17	21	3.5	59	47.5	138	40.3	5.0	0.9A	3	3	269	57	0.77	3.4	13.4	D	341	1	1.1	261	9	2.6	77	77	13.3
24	17	21	16.3	60	17.9	141	10.5	7.0	1.9	10	5	152	92	0.20	2.2	5.1	C	110	4	0.9	18	19	1.4	211	70	5.4
24	19	15	42.0	60	18.8	141	9.8	16.6	1.4A	5	2	154	122	0.09	6.9	9.5	C	307	4	1.9	38	24	6.0	208	66	10.1
24	21	41	16.9	60	10.7	140	44.9	15.8	2.2	15	7	91	73	0.32	1.7	2.9	B	94	2	0.7	3	26	1.1	188	64	3.2
								2.1 ML EMRC																		
24	21	59	48.5	61	35.7	146	40.7	13.1	2.4	27	6	100	60	0.6B	0.8	1.1	A	291	15	0.6	26	16	0.8	160	68	1.1
24	22	6	17.6	61	47.5	149	28.3	33.3	2.0	11	7	167	60	0.29	1.7	3.2	B	180	9	1.6	272	16	0.8	62	72	3.3
24	22	51	34.1	61	27.4	147	26.8	18.2	2.1	19	8	93	65	0.46	0.9	1.5	A	281	13	0.6	186	18	0.8	45	67	1.6
25	2	0	41.9	60	4.8	141	8.3	4.4	1.8	6	3	147	95	0.52	3.6	3.9	B	104	10	1.2	6	40	1.8	205	48	5.0
25	3	46	48.0	59	55.1	141	23.7	32.2	0.9A	5	3	181	116	0.42	25.0	24.8	D	105	7	4.9	13	17	25.0	217	72	25.0
25	4	3	2.9	60	49.8	147	28.0	25.6	2.1	18	4	125	49	0.34	1.2	2.8	B	176	2	1.2	266	11	0.6	76	79	2.9
25	6	36	18.0	60	12.3	141	33.1	2.8	0.7A	5	3	130	50	0.18	4.1	8.1	C	333	12	1.2	81	16	2.5	213	63	8.5
25	7	22	45.3	61	25.9	149	54.0	40.8	3.5	28	3	61	45	0.36	1.1	2.2	A	87	4	0.7	178	9	1.1	333	80	2.2
										FELT (III) AT ANCHORAGE AND EAGLE RIVER																
25	8	42	8.9	61	35.7	146	39.0	17.6	1.9	11	4	99	60	0.40	1.5	3.3	B	281	0	1.5	191	4	0.8	11	86	3.3
25	9	5	39.8	60	8.7	140	58.0	14.3	0.9A	6	5	143	77	0.21	6.1	7.2	C	81	25	1.8	337	29	2.7	209	50	9.1
25	10	15	48.0	59	28.2	137	51.6	0.0	3.2	13	5	117	106	1.29	6.0	4.9	C	81	12	1.6	162	34	6.4	333	53	4.0
								3.0 ML EMRC																		
25	14	24	3.3	59	23.2	144	49.0	5.7	1.6A	4	2	289	179	0.37	12.9	11.1	D	195	8	8.3	293	40	16.5	96	49	3.9
25	16	17	6.6	59	41.4	141	19.5	13.6	1.5A	3	1	232	99	0.00	22.5	11.3	D	279	18	1.8	18	26	25.0	158	58	3.1
25	19	41	52.3	62	36.7	148	56.5	30.8	3.1	11	3	246	118	0.44	2.7	2.3	B	194	24	2.8	90	27	1.7	319	52	2.4
26	1	13	11.6	62	6.5	148	37.2	30.0	2.6	16	6	186	78	0.49	2.5	1.8	A	81	27	0.8	174	30	2.6	311	50	1.7
26	4	7	17.9	59	53.4	141	9.8	10.7	1.2A	6	3	139	102	0.09	8.7	3.9	C	190	14	8.9	291	37	5.1	83	50	1.2
26	7	2	31.0	59	30.3	137	54.1	1.9	2.9	13	7	113	104	1.33	3.8	5.1	B	329	13	3.3	81	15	1.5	208	61	5.2
								3.0 ML EMRC																		
26	8	0	58.9	61	32.9	146	13.4	31.3	3.0	27	2	91	57	0.69	1.0	1.2	A	264	3	0.8	174	3	1.0	39	86	1.2
						3.0 ML ATWC																				
26	11	0	59.8	61	32.5	146	8.3	40.1	2.4	12	4	171	88	0.76	1.9	3.1	B	282	7	1.0	190	13	1.8	40	75	3.2
26	13	38	44.0	59	19.3	145	4.8	21.5	2.1A	7	3	286	178	0.66	8.1	7.7	C	104	7	4.4	8	42	9.6	202	47	5.9
26	16	40	33.1	58	23.5	137	9.3	33.5	3.0	4	2	183	224	0.34	28.7	28.6	D	322	0	3.6	81	2	25.0	232	61	25.0
27	6	50	53.1	60	0.3	141	17.7	8.5	1.9	10	3	120	63	0.29	3.4	2.9	B	103	2	0.6	194	39	4.2	11	51	1.4
27	9	40	4.8	58	50.9	152	29.0	60.0	4.0	20	2	136	123	0.31	2.4	4.3	B	12	7	1.4	104	12	2.2	252	76	4.4
						3.7 ML ATWC																				
27	10	30	42.9	59	5.9	138	2.0	14.2	1.8	3	3	353	132	0.13	24.6	5.8	D	214	10	25.0	116	39	4.9	316	49	3.2
27	14	24	33.0	60	9.8	141	1.3	5.1	2.7	18	6	77	78	0.48	1.7	2.4	A	92	3	0.6	0	30	1.1	187	60	2.7
								3.1 ML EMRC																		
27	14	29	1.8	61	27.0	146	36.5	11.2	2.1	19	8	84	44	0.52	0.8	1.5	A	347	7	0.8	261	20	0.6	96	68	1.5
27	15	21	26.3	59	52.7	140	44.6	7.5	1.5	5	3	173	115	0.51	5.8	7.5	C	286	12	1.4	23	29	4.4	176	58	8.5
27	15	53	27.0	60	15.1	140	56.9	8.6	1.9	7	2	156	80	0.28	7.0	14.6	D	100	3	2.3	9	17	5.6	200	73	15.2
27	22	1	9.1	60	8.7	140	48.9	22.5	1.3A	5	3	148	133	0.12	5.6	4.2	C	309	4	0.9	40	19	5.8	208	71	4.0
28	12	53	20.9	59	49.0	140	38.8	4.2	1.1A	4	2	213	165	0.10	9.1	9.9	C	112	13	4.6	213	38	6.0	7	49	12.1
28	13	21	26.1	60	46.8	147	11.5	15.1	1.4	18	10	130	47	0.37	1.5	1.7	A	266	17	0.6	166	29	1.3	22	55	1.9
28	15	14	47.8	57	58.7	137	20.9	1.9	3.7	10	4	187	222	0.47	10.1	12.0	D	322	2	1.7	81	31	7.0	229	49	12.5
								3.4 ML EMRC																		
28	17	7	6.6	61	52.7	147	16.0	13.9	2.1	16	9	153	82	0.53	1.2	1.5	A	354	13	1.2	261	14	0.6	125	71	1.5
28	17	55	39.8	61	20.2	147	17.0	18.3	1.9	18	9	81	63	0.30	1.4	2.3	A	199	4	1.4	290	10	0.7	88	79	2.3
28	17	55	50.3	60	18.1	143	3.4	0.9	0.9	5	4	150	49	0.64	5.0	6.1	C	328	15	2.0	81	27	3.2	216	52	7.0
28	17	57	38.2	61	19.5	147	17.9	14.1	2.3	21	11	80	76	0.37	1.3	1.7	A	197	1	1.3	288	15	0.7	103	75	1.8
28	18	51	50.0	62	53.8	150	50.8	130.7	4.7	29	5	123	160	0.55	2.5	4.5	B	81	9	1.7	347	10	2.3	211	76	4.6
	4.3 MB					3.8 ML ATWC				FELT AT PALMER																
28	19	42	8.8	61	4.1	150	51.9	20.0	1.7	11	9	87	71	1.00	1.4	5.5	B	142	1	0.8	261	2	1.1	33	61	4.8
28	20	28	49.2	61	56.5	149	42.0	10.7	1.7	13	7	172	73	0.54	1.6	3.4	B	181	1	1.6	271	19	0.8	88	71	3.6
28	23	44	54.3	63	22.0	149	18.3	29.3	3.5	23	6	121	192	0.6B	4.8	7.0	C	196	4	1.4	103	32	2.4	292	58	8.2
						3.1 ML ATWC																				

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1980	ORIGIN TIME HR	MN	SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
JUN 29	1	4	1.4	61	23.4	150	43.0	56.0	1.7	12	10	75	64	0.35	1.7	2.4	A	262	2	0.9	171	25	1.5	356	65	2.5
29	1	24	2.3	60	14.1	140	14.5	8.9	1.1A	4	1	185	100	0.21	14.1	11.0	D	304	8	2.5	38	26	15.0	198	63	9.9
29	2	12	6.3	60	49.3	146	37.5	11.1	1.7	18	11	89	38	0.78	0.9	1.5	A	292	11	0.6	200	11	0.9	66	74	1.6
29	3	9	27.0	61	41.4	149	48.6	45.5	2.4	16	9	147	51	0.34	1.9	2.0	A	93	10	1.0	357	31	1.9	199	57	2.0
29	4	41	55.1	60	56.1	149	43.3	39.7	1.7	7	5	108	54	0.15	2.0	2.3	A	25	2	1.0	116	22	1.9	290	68	2.4
29	6	41	39.9	59	49.0	140	25.1	3.3	0.9	3	3	207	100	0.16	5.9	7.8	C	81	4	3.3	171	30	4.7	344	60	8.6
29	14	23	23.1	62	22.6	147	59.9	37.8	3.0	16	6	113	127	0.46	2.2	2.4	A	0	10	1.8	99	39	1.1	258	49	2.9
29	22	41	11.0	61	34.0	146	28.9	26.8	2.2	13	6	106	82	0.66	1.5	2.2	A	297	8	0.9	30	20	1.4	186	68	2.3
30	1	2	25.6	61	34.0	146	30.8	12.9	2.0	23	10	91	57	0.72	0.8	1.3	A	27	8	0.8	295	15	0.7	144	73	1.3
30	1	22	27.8	60	12.0	140	50.8	24.1	1.2A	4	1	154	124	0.07	11.3	21.3	D	305	10	2.2	39	20	8.2	190	67	22.9
30	5	51	35.8	61	30.8	140	12.3	15.0	2.1	6	3	131	126	0.80	5.0	11.9	D	263	2	2.4	173	21	2.1	358	69	12.7
								1.7 ML EMRC																		
30	6	41	32.9	61	24.7	150	13.8	37.4	2.0	8	5	82	94	0.29	2.5	3.2	B	291	3	1.3	22	10	2.5	185	80	3.2
30	10	3	23.0	59	53.9	153	38.5	170.4	4.4	25	1	83	125	0.42	2.8	6.5	C	324	1	2.2	81	8	1.8	228	62	5.9
							3.4 ML ATWC																			
30	12	33	9.2	60	12.2	141	12.9	1.7	1.0A	5	3	141	92	0.16	6.5	12.0	D	97	4	2.5	5	25	3.7	195	65	13.2
30	12	42	52.6	61	20.6	151	1.7	64.6	2.5	17	8	88	70	0.47	1.5	3.6	B	83	7	1.1	174	8	1.4	312	79	3.7
30	16	31	42.8	62	1.6	148	59.1	13.5	2.1	13	8	179	74	0.34	4.4	4.6	B	177	27	2.5	285	31	1.5	54	47	6.0
30	18	7	39.9	59	56.0	141	9.5	14.6	4.0	24	2	79	72	0.49	2.5	1.7	A	103	8	0.8	198	29	2.8	359	60	1.2
	5.0 MB					5.1 ML ATWC		4.3 ML EMRC FELT (IV) IN THE ICY BAY AREA AND AT YAKUTAT																		
30	18	11	51.7	59	54.3	141	9.9	13.9	2.6	15	7	118	72	0.79	3.1	1.3	B	287	0	0.9	197	17	3.2	17	73	1.0
								3.1 ML EMRC																		
30	18	13	48.7	59	56.5	141	1.4	5.4	1.4	7	6	124	78	0.58	2.3	2.5	B	90	18	0.6	347	35	1.4	202	49	3.2
30	18	14	24.0	59	55.2	140	58.6	7.8	1.3A	6	3	138	75	0.62	8.6	7.0	C	98	12	2.1	195	28	9.2	347	59	6.3
30	18	15	38.8	59	58.8	141	4.0	6.5	1.6A	6	1	123	100	0.15	5.1	7.0	C	326	8	3.7	81	28	0.8	224	52	7.9
30	18	15	49.7	59	59.1	141	7.3	8.1	2.3	15	7	92	73	0.43	2.8	2.8	B	89	11	0.8	348	43	1.1	190	45	3.8
								2.7 ML EMRC																		
30	18	17	21.9	59	59.4	141	4.2	4.5	0.9	6	4	124	101	0.37	3.3	4.3	B	327	18	2.0	81	24	0.9	210	53	5.0
30	18	17	37.5	59	56.5	140	59.3	0.8	1.4	5	6	127	76	0.42	4.1	4.2	B	86	14	0.9	344	41	2.2	191	46	5.5
30	18	19	16.0	59	56.6	141	2.8	5.6	1.4A	6	5	120	98	0.41	4.7	4.4	B	81	28	0.8	328	33	3.1	201	43	5.9
30	18	20	39.8	59	58.0	141	6.7	9.0	1.7	9	8	121	102	0.28	3.4	3.0	B	322	26	1.2	81	33	0.8	206	41	4.4
30	18	24	15.1	61	42.9	149	35.9	37.5	3.2	27	4	82	52	0.43	1.5	1.2	A	195	21	1.6	94	27	0.7	318	55	1.3
							3.0 ML ATWC																			
30	18	27	5.3	60	0.2	141	4.6	1.9	2.5	17	6	95	75	0.63	2.0	2.9	B	88	13	0.7	351	29	1.0	199	58	3.3
								3.0 ML EMRC																		
30	18	44	27.7	59	57.5	141	0.6	3.7	1.0A	6	4	122	77	0.45	6.8	9.5	C	89	13	1.7	351	29	4.2	200	58	11.0
30	18	47	49.3	59	58.0	141	6.7	9.1	3.8	25	4	80	74	0.41	2.5	2.4	B	101	9	0.7	200	43	3.3	2	46	1.1
							4.5 ML ATWC																			
30	18	59	31.8	59	55.8	141	7.9	14.5	4.3	24	0	105	73	0.50	2.4	1.7	A	105	4	0.7	197	30	2.7	8	60	1.2
	4.9 MB		4.8 MS		5.2 ML ATWC					FELT (IV) IN THE ICY BAY AREA AND AT YAKUTAT																
30	19	8	57.3	59	57.0	141	8.8	11.9	2.3	17	5	96	72	0.26	2.9	2.3	B	103	6	0.8	198	38	3.5	5	51	1.1
								2.8 ML EMRC																		
30	19	13	28.0	59	57.8	141	3.0	8.0	1.2A	6	3	121	79	0.41	3.9	4.3	B	88	20	0.9	343	35	1.5	202	48	5.6
30	19	13	33.1	59	55.0	141	4.9	7.3	0.9A	6	3	130	81	0.29	8.5	6.9	C	101	18	2.5	205	37	10.3	350	47	4.1
30	19	14	20.0	59	59.8	141	2.8	5.6	1.9	9	5	125	79	0.38	2.6	3.9	B	83	17	0.8	344	27	1.2	201	57	4.5
30	19	15	35.7	59	57.4	141	4.7	9.2	1.2A	6	5	120	100	0.24	3.7	3.3	B	323	25	1.4	81	35	0.9	209	41	4.8
30	19	16	34.1	59	57.0	141	5.0	8.4	1.7	8	8	120	100	0.53	3.9	3.6	B	85	29	0.8	333	34	1.2	205	42	5.2
30	19	22	10.3	59	56.9	141	3.7	2.6	1.7	8	4	120	77	0.22	4.6	5.0	C	81	20	0.9	333	34	2.5	195	48	6.4
30	19	27	59.9	59	53.0	140	57.7	7.5	1.2A	7	2	155	75	0.72	12.3	9.6	D	105	2	2.7	197	36	14.8	12	54	4.9
30	19	28	48.3	59	57.8	141	2.0	7.7	2.6	16	5	114	78	0.57	2.5	2.8	B	88	16	0.8	346	37	1.2	197	49	3.5
								2.9 ML EMRC																		
30	19	30	59.2	59	58.2	141	5.2	5.1	0.8A	5	2	173	81	0.10	12.0	15.3	D	330	19	5.8	81	27	1.6	213	52	18.8
30	19	31	21.6	59	56.0	140	58.3	0.9	1.7	7	7	132	75	0.54	3.3	4.1	B	90	13	0.9	351	34	1.7	198	53	5.0
30	19	32	25.9	59	54.1	141	5.2	12.6	1.0A	6	1	139	98	0.18	13.9	9.7	D	91	30	3.5	201	31	15.7	327	44	7.2
30	19	39	23.1	59	56.3	141	1.9	4.8	0.8A	5	1	125	100	0.10	23.6	20.0	D	93	10	3.3	189	29	25.0	346	59	18.6
30	19	39	34.3	59	54.8	141	1.4	2.2	1.0A	6	3	138	78	0.29	8.4	8.1	C	81	18	1.4	334	41	4.6	189	43	10.8

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1980	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
JUN 30	19	42	11.1	59	49.3	141	3.2	11.8	1.2A	6	3	185	81	0.57	8.9	3.6	C	203	11	9.0	104	40	1.6	305	48	4.1
30	19	42	56.8	59	56.9	141	4.8	8.7	0.8A	6	1	120	81	0.19	12.1	10.1	D	316	24	4.4	81	34	1.5	205	38	15.1
30	19	43	0.7	59	56.3	140	58.2	0.6	2.1	13	6	131	75	0.64	2.8	3.7	B	82	12	0.8	345	32	1.5	190	55	4.3
								2.2 ML	EMRC																	
30	19	48	25.2	61	45.6	150	20.6	45.4	2.6	17	3	149	67	0.27	2.4	3.5	B	100	1	1.1	190	22	2.2	8	68	3.7
30	19	54	4.0	59	55.9	141	1.0	7.0	1.1A	6	3	129	77	0.61	7.0	7.6	C	86	27	2.0	341	27	5.6	214	50	9.2
30	19	54	43.1	59	53.9	141	1.3	17.8	1.0A	6	1	146	78	0.48	13.0	9.4	D	96	18	3.1	197	30	14.5	339	54	7.4
30	20	8	50.7	63	13.1	149	33.7	40.3	3.3	9	6	168	205	0.51	5.1	25.0	D	41	1	3.0	132	2	5.0	285	88	25.0
30	20	10	19.1	59	53.7	141	0.6	13.9	1.1A	6	3	149	77	0.32	9.8	6.0	C	198	25	10.6	90	35	1.9	316	45	5.7
30	20	13	28.7	59	58.3	141	0.8	20.7	1.5A	5	2	123	77	0.33	14.9	11.6	D	312	29	4.7	196	37	18.6	69	39	2.0
30	20	19	45.6	59	57.4	140	59.3	1.6	1.2A	6	3	122	76	0.28	4.6	5.8	C	81	20	1.0	337	24	3.7	205	56	6.7
30	20	28	55.4	59	59.5	141	2.8	2.4	1.7	8	7	125	77	0.43	3.1	4.1	B	320	18	1.6	81	20	0.9	202	50	4.5
30	20	34	43.2	59	56.8	141	2.2	11.0	1.0A	5	2	169	78	0.34	15.4	12.7	D	81	28	2.3	324	38	7.2	196	38	19.0
30	20	35	1.7	58	44.0	138	47.7	12.5	2.4	4	3	208	144	0.10	9.7	7.8	C	154	1	2.2	81	34	10.8	245	52	5.3
30	20	49	54.7	59	43.2	140	56.6	2.0	1.0A	6	1	196	78	0.63	13.1	16.0	D	119	12	3.0	216	29	11.0	9	58	17.8
30	20	49	59.1	59	56.7	141	4.4	5.4	1.0A	6	3	119	80	0.41	4.7	5.2	C	344	10	4.7	81	23	1.8	233	64	5.6
30	20	51	34.4	59	56.7	141	4.0	9.0	0.7A	6	3	119	80	0.21	8.1	7.1	C	325	28	4.7	81	35	1.8	208	41	10.2
30	21	0	1.4	59	56.5	141	5.7	14.4	1.1A	5	2	118	82	0.13	20.5	14.6	D	302	23	4.3	194	35	25.0	58	46	1.7
30	21	2	32.7	59	58.2	140	59.3	0.6	1.2A	6	4	124	100	0.29	3.4	4.7	B	81	17	0.9	332	20	2.6	203	58	5.2
30	21	7	21.6	59	59.4	141	1.0	0.5	1.1A	5	3	125	77	0.29	6.9	12.5	D	333	13	4.6	81	18	2.0	214	62	13.4
30	21	14	13.6	59	56.6	141	5.5	8.3	1.4	6	4	119	100	0.22	3.1	2.7	B	82	33	0.9	327	34	2.0	204	39	3.8
30	21	26	54.3	59	59.0	141	2.1	6.0	1.2A	6	5	124	78	0.33	5.9	6.5	C	332	24	3.0	81	30	1.5	212	48	8.4
30	21	29	19.8	59	56.0	141	20.7	12.7	1.5	6	4	153	135	0.22	5.9	4.9	C	101	15	0.8	203	39	7.3	354	47	2.6
30	21	31	11.7	59	58.8	141	1.9	4.6	1.1	5	4	124	135	0.55	4.5	5.4	C	323	11	1.4	81	31	1.0	219	48	6.6
30	21	33	36.5	59	57.6	141	3.7	6.7	1.6	7	7	121	80	0.33	2.4	2.7	B	87	24	0.7	342	30	1.2	209	50	3.4
30	21	34	45.0	59	55.7	141	6.8	8.9	1.2	7	4	117	83	0.34	7.0	5.0	C	302	16	2.0	200	35	8.5	52	50	1.3
30	21	47	48.6	59	56.7	141	1.5	5.4	1.7	8	7	122	78	0.57	3.3	3.1	B	83	19	0.7	336	41	1.7	192	43	4.2
30	21	50	54.1	59	58.2	140	60.0	2.7	1.0A	6	4	142	96	0.23	6.0	6.6	C	81	27	1.3	332	28	2.7	206	48	8.7
30	21	52	20.7	59	59.2	141	2.9	0.5	1.3	6	4	124	79	0.34	2.3	4.2	B	164	5	2.3	81	18	0.8	269	70	4.4
30	21	59	21.2	59	58.5	141	8.2	10.5	2.1	12	8	121	84	0.34	3.2	2.9	B	102	6	0.8	198	41	4.1	5	48	1.1
30	22	3	21.3	59	54.7	141	4.1	6.7	1.1A	7	2	134	80	0.27	4.6	3.7	B	98	14	0.9	197	33	5.2	348	53	3.1
30	22	32	59.2	59	54.3	141	1.4	4.0	1.9	9	7	142	95	0.42	2.5	2.5	B	90	21	0.7	342	38	1.7	202	44	3.2
30	22	34	15.7	59	51.7	140	59.5	5.9	0.9A	6	1	166	77	0.19	17.8	10.3	D	5	16	18.3	103	27	3.0	248	58	10.6
30	22	45	3.9	59	48.5	141	6.9	10.4	1.3A	6	3	189	98	0.24	8.1	3.4	C	208	7	8.1	112	42	1.3	306	47	4.2
30	22	46	36.3	60	1.5	140	59.3	11.8	1.3A	6	6	129	76	0.65	4.0	4.3	B	98	16	1.4	356	36	3.1	208	50	5.0
30	22	48	52.8	59	59.1	141	1.0	4.2	1.3A	6	4	125	77	0.26	4.9	5.7	C	322	16	3.0	81	27	1.4	211	49	6.7
30	22	50	11.5	59	57.0	141	3.9	6.7	1.2A	5	3	120	80	0.39	9.3	9.7	C	294	13	3.0	35	41	1.8	190	46	13.3
30	23	27	8.9	59	55.4	141	8.9	11.6	1.6	8	6	116	72	0.24	4.1	2.5	B	308	25	1.3	202	30	4.7	70	49	0.9
30	23	27	46.2	59	56.0	141	0.2	4.5	2.1	8	6	130	77	0.61	2.6	2.6	B	86	21	0.7	339	36	2.0	200	46	3.2
30	23	29	50.7	59	53.6	141	1.8	4.1	1.2	7	7	149	78	0.46	4.2	3.2	B	92	24	0.8	200	35	5.0	335	45	2.1
30	23	33	50.1	59	55.7	141	3.0	6.9	1.3A	5	4	127	133	0.30	5.1	4.2	C	81	28	0.8	191	38	6.0	324	41	3.3
30	23	39	1.2	59	58.1	141	6.1	9.9	2.0	11	7	121	74	0.34	2.0	1.7	A	91	23	0.6	201	39	2.5	338	42	0.8
30	23	46	29.4	59	56.2	141	5.4	10.3	0.9A	4	3	118	136	0.19	12.8	7.1	C	323	23	6.0	261	40	10.9	83	39	1.9