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ALEUTIAN SEISMIC PROGRAM
SEISMOLOGICAL BULLETIN
NOVEMBER 1970

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY
ROCKVILLE, MARYLAND 20852

JUNE 1971

PREPARED FOR THE U.S. ATOMIC ENERGY COMMISSION
NEVADA OPERATIONS OFFICE
UNDER CONTRACT AT(29-2)-746

MASTER

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SEISMOLOGICAL BULLETIN

THE PURPOSE OF THIS BULLETIN IS TO COLLECT AND DISTRIBUTE PRELIMINARY DATA ACQUIRED FROM AN ALEUTIAN NETWORK OF SEISMIC STATIONS IN ORDER TO FACILITATE CURRENT STUDIES OF EARTHQUAKE OCCURRENCE IN THE ALEUTIAN ISLANDS. RECORD ARRIVAL TIMES AND AMPLITUDES ARE SCALED BY THE SPECIAL PROJECTS PARTY, LAS VEGAS, NEVADA. FINAL REDUCTION AND COLLATION OF DATA TO EVENT HYPOCENTERS AND DERIVATION OF RELATED PARAMETERS ARE PERFORMED BY THE SEISMOLOGY DIVISION, ROCKVILLE, MARYLAND. THIS COMPILATION IS PRELIMINARY AND MAY BE SUBJECT TO LATER REVISION ON THE BASIS OF CURRENT RESEARCH.

DESCRIPTION OF COLUMN HEADINGS

DATE - DAY,MONTH, AND YEAR IN GREENWICH MEAN TIME (GMT)

STA - STATION CODE

PHASE - NAME OF PHASE REPORTED
I OR E INDICATES THE CHARACTER OF PHASE ARRIVAL
C OR D IN THE FOURTH CHARACTER INDICATES DIRECTION OF FIRST MOTION

TIME - ARRIVAL TIME OF PHASE IN HOURS, MINUTES, AND SECONDS (GMT)

AMP - GROUND DISPLACEMENT OF PHASE IN MILLIMICRONS
AMPLITUDES REPORTED WITH S PHASES ARE MAXIMUM SURFACE WAVE DISPLACEMENTS

PER - PERIOD OF PHASE IN SECONDS

MAG - STATION MAGNITUDE DEFINED BY

$$MB = -0.76 + LOG10(AMP/PER) + 0.91*LOG10(SLANT\ DISTANCE)$$

FOR EVENTS OF EPICENTER DISTANCE LESS THAN
200 KM FROM STATION

DIST - GREAT CIRCLE DISTANCE TO EVENT IN KILOMETERS

AZI - STATION TO EPICENTER AZIMUTH IN DEGREES TAKEN CLOCKWISE FROM NORTH

RES - PHASE TRAVEL TIME RESIDUAL IN SECONDS (O-C)

REMARKS- DESCRIPTIVE INFORMATION

DESCRIPTION OF HYPOCENTER INFORMATION

HYPOCENTER DATA ARE LISTED IN CHRONOLOGICAL ORDER AND ARE FOLLOWED BY ASSOCIATED PHASE ARRIVALS

FIRST LINE
- DATE
- ORIGIN TIME (GMT)
- GEOGRAPHIC COORDINATES
- DEPTH OF FOCUS IN KILOMETERS
- AVERAGE BODY WAVE (MB) AND SURFACE WAVE (MS) MAGNITUDES
- TYPE OF SOLUTION

SECOND LINE
- GEOGRAPHIC REGION

ALEUTIAN SEISMIC NETWORK

CODE	STATION	PERIOD OF OPERATION	LATITUDE (DEG MIN SEC)	LONGITUDE (DEG MIN SEC)	ELEVATION (METERS)
ADK	ADAK OBSERVATORY		51 53 01.4 N	176 34 49.4 W	108
AG1	AMCHITKA GEOPHONE 1	02/10/69-04/10/69	51 24 58.2 N	179 10 49.8 E	
AG3	AMCHITKA GEOPHONE 3	02/10/69-04/10/69	51 25 25.8 N	179 11 24.6 E	
AMA	AMATIGNAK ISLAND	09/10/70-	51 17 17.5 N	179 06 33.5 W	503
AME	AMCHITKA EXPERIMENTAL	01/04/69-26/05/69	51 23 12.0 N	179 15 18.0 E	
ANA	AMCHITKA NORTH A	25/08/69-25/09/69	51 37 39.8 N	178 39 22.7 E	177
		25/09/69-05/11/69	51 37 34.9 N	178 39 41.8 E	133
		05/11/69-16/07/70	51 37 39.8 N	178 39 22.7 E	177
		16/07/70-	51 37 34.9 N	178 39 41.8 E	133
ANB	AMCHITKA NORTH B	09/12/69-18/07/70	51 36 12.0 N	178 47 21.0 E	247
AND	AMCHITKA NORTH D	18/07/70-	51 33 44.4 N	178 57 12.4 E	187
ASB	AMCHITKA SOUTH B	25/05/69-	51 21 37.8 N	179 14 50.3 E	34
ASC	AMCHITKA SOUTH C	28/07/69-25/09/69	51 27 44.9 N	179 09 53.9 E	40
		25/09/69-13/07/70	51 27 41.9 N	179 07 29.9 E	36
		13/07/70-	51 27 44.9 N	179 09 53.9 E	40
ASD	AMCHITKA SOUTH D	29/05/69-06/06/69	51 22 36.0 N	179 20 30.0 E	
		06/06/69-	51 23 26.9 N	179 20 31.6 E	61
AWA	AMCHITKA WOOD-ANDERSON		51 22 28.5 N	179 15 09.6 E	
CSA	CAPE SARICHEF	22/11/70-	54 35 40.0 N	164 52 30.0 W	152
GMA	GRANITE MOUNTAIN	18/09/70-	65 25 43.0 N	161 13 55.0 W	856
LSI	LITTLE SITKIN ISLAND	16/08/69-18/09/69	51 55 10.8 N	178 32 01.8 E	145
OB3	OCEAN BOTTOM SEIS 3	30/09/69-17/10/69	50 59 00.0 N	179 21 30.0 E	-3317
OB5	OCEAN BOTTOM SEIS 5	27/09/69-17/10/69	51 19 00.0 N	178 27 30.0 E	-1234
OB6	OCEAN BOTTOM SEIS 6	26/09/69-18/10/69	51 46 30.0 N	179 06 30.0 E	-859
OB8	OCEAN BOTTOM SEIS 8	26/09/69-16/10/69	51 22 00.0 N	179 35 42.0 E	-1408
RAT	RAT ISLAND	14/10/70-	51 47 56.7 N	178 19 48.3 E	226
SMY	SHEMYA	17/11/70-	52 43 51.0 N	174 06 11.0 E	58
SSI	SEMISOPOCHNOI ISLAND	13/08/69-04/11/69	51 54 52.2 N	179 37 26.4 E	335
		17/10/70-	51 53 32.8 N	179 35 17.9 E	177

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NOV   STA  PHASE    TIME        AMP   PER  MAG   DIST  AZI   RES    REMARKS
1970               (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

.....................................................................................................
. 01     4 58 23.84  51.55 N  179.69 E  DEPTH =   2.7 KM                        FREE DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                    .
.                                                                                                    .
. 01    ASB  IPGC  04 58 30.6    27.1  .1  3.10     37   55    -.0                                  .
.            IS    04 58 35.2                                   -.4                                  .
. 01    ASC  IPG   04 58 31.3                       38   75     .6                                  .
. 01    AND  IPGC  04 58 32.6                       51   91    -.5                                  .
. 01    ANA  IPG   04 58 36.7                       72   96    -.1                                  .
. 01    AMA  IPGC  04 58 39.3     3.4  .1  2.54     88  290    -.1                                  .
. 01    RAT  IPG   04 58 41.0                       98  106     .2                                  .
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. 01     7  8 57.20  52.14 N  175.42 E  DEPTH = 108.0 KM  MB = 4.0          TELESEISMIC SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                    .
.                                                                                                    .
. 01    RAT  EP    07 09 27.7                      203  282    -.5                                  .
. 01    ANA  EP    07 09 30.7                      230  286    -.5                                  .
. 01    ASD  EP    07 09 38.0                      283  289     .5                                  .
.....................................................................................................

.....................................................................................................
. 01    12 59 41.50  52.04 N  174.73 W  DEPTH =  86.0 KM  MB = 4.4          TELESEISMIC SOLUTION  .
.                   ANDREANOF ISLANDS, ALEUTIAN IS.                                                  .
.                                                                                                    .
. 01    ADK  IP C  13 00  3.7                      128   82     .8                                  .
.            ES    13 00 15.0                                  -3.5                                  .
. 01    AMA  IP D  13 00 25.2                      314   73     .3   VERY LARGE AMP.               .
. 01    ASD  EP    13 00 37.6                      415   78     .3                                  .
. 01    ASB  EP    13 00 38.6                      422   77     .4                                  .
.            ES    13 01 22.2                                   2.6                                  .
. 01    ASC  EP    13 00 39.3                      425   79     .7                                  .
. 01    AND  IP C  13 00 40.8                      438   81     .7                                  .
. 01    ANA  EP    13 00 43.3                      457   82     .9                                  .
. 01    RAT  EP    13 00 46.0                      477   84    1.1                                  .
.....................................................................................................

.....................................................................................................
. 01    13 51 42.15  51.52 N  178.76 E  DEPTH =  70.5 KM                        FREE DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                    .
.                                                                                                    .
. 01    AND  IPGD  13 51 52.5                       14  253    -.1                                  .
.            IS    13 52   .2                                   -.0                                  .
. 01    ASC  IPG   13 51 53.5                       29  284     .3                                  .
. 01    ASB  EPG   13 51 53.8     2.4  .1  2.35     39  298     .0                                  .
. 01    ASD  IPGD  13 51 54.0     2.4  .1  2.36     43  290    -.1                                  .
.....................................................................................................

.....................................................................................................
. 01    14 14 41.50  50.93 N  175.67 E  DEPTH =  33.0 KM  MB = 4.0          TELESEISMIC SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                    .
.                                                                                                    .
. 01    RAT  IP C  14 15 12.5   136.6  .1          208  244     .2                                  .
. 01    ANA  IP    14 15 14.1                      222  251     .2                                  .
. 01    AND  IP    14 15 15.8                      239  254    -.3                                  .
. 01    ASB  IP    14 15 17.3    57.2  .1          254  261    -.6                                  .
.            IS    14 15 46.1                                   1.6                                  .
. 01    ASC  IP    14 15 17.4                      251  258    -.1                                  .
. 01    ASD  IP D  14 15 18.1                      261  260    -.7                                  .
. 01    AMA  IP    14 15 31.6    37.7  .2          367  266    -.2                                  .
.....................................................................................................

  01    ADK  IP D  14 37  9.7
             ES    14 37 20.0
  01    AMA  IP    14 37 30.5
             I     14 37 34.5   175.9  .2
             ES    14 38  9.0
  01    ASD  EP    14 37 43.6
```

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NOV   STA  PHASE    TIME        AMP   PER  MAG   DIST  AZI   RES    REMARKS
1970               (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

01    ASB  EP     14 37 44.7
01    AND  EP     14 37 47.6
01    ANA  EP     14 37 50.8
01    RAT  EP     14 37 52.9

.....................................................................................................
. 01    17 12    .70  60.31 N  154.21 W  DEPTH = 182.0 KM  MB = 4.4          TELESEISMIC SOLUTION  .
.                     SOUTHERN ALASKA                                                                .
.                                                                                                    .
. 01    GMA  EP     17 13 33.5                          673  145                                     .
. 01    ADK  EP     17 15 27.6                         1668   47                                     .
. 01    AMA  EP     17 15 46.8    13.1  .2             1842   47                                     .
. 01    ASD  EP     17 15 52.4                         1914   49                                     .
. 01    AND  EP     17 15 54.3                         1922   49                                     .
. 01    ASB  EP     17 15 54.7                         1921   48                                     .
. 01    RAT  IP     17 15 56.1    49.3  .4             1938   50                                     .
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01    ADK  EP     17 57 31.0
           ES     17 57 51.8
01    AMA  IP     17 57 52.3
           I      17 57 55.0    40.8  .2
           E(S)   17 58 40.8
01    ASD  IP     17 58  6.3
01    ASB  EP     17 58  7.1
01    AND  IP     17 58 10.1
01    RAT  EP     17 58 44.5

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. 01    18 32 55.30  51.38 N  178.57 E  DEPTH =  25.0 KM                   FIXED DEPTH SOLUTION  .
.                     RAT ISLANDS, ALEUTIAN ISLANDS                                                  .
.                                                                                                    .
. 01    ANA  IPG    18 33  1.9                          29  193     .3                               .
. 01    AND  IPG    18 33  2.2                          34  232    -.0                               .
. 01    ASC  EPG    18 33  3.6                          42  257     .2                               .
. 01    RAT  EPG    18 33  4.1     9.0  .1  2.79        50  160    -.3                               .
. 01    ASB  IPG    18 33  4.1     4.1  .1  2.42        47  272     .1                               .
.           IS      18 33  9.9                                     -.5                               .
. 01    ASD  IPG    18 33  5.0                          54  269     .0                               .
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. 01    20 47 16.00  51.61 N  179.69 W  DEPTH = 120.8 KM                   FREE DEPTH SOLUTION   .
.                     DELAROF ISLANDS, ALEUTIAN ISLANDS                                              .
.                                                                                                    .
. 01    AMA  IP     20 47 34.0     8.4  .1  3.09        54  312     .0                               .
. 01    ASD  IP C   20 47 35.0                          72   70    -.1                               .
.           IS      20 47 49.1                                      .1                               .
. 01    ASB  IP     20 47 35.7     4.7  .1  2.88        79   69     .1                               .
. 01    ASC  IP     20 47 35.8                          81   78     .0                               .
.....................................................................................................

02    AMA  IP D   01 23 51.5    91.6  .1
02    ADK  EP     01 23 58.9
           ES     01 24 10.9
02    ASD  IP     01 24  5.6    12.0  .2  3.07
02    ASB  IP     01 24  6.9    15.2  .2  3.19
           ES     01 24 27.4
02    ASC  IP     01 24  7.7
02    AND  IP     01 24  8.0

02    ADK  IP D   01 35 38.5
           ES     01 35 48.8
02    AMA  IP     01 35 58.1
           I      01 35 59.5   175.9  .2
02    ASD  EP     01 36 13.7
02    ASB  EP     01 36 14.4
           ES     01 36 52.6
02    ASC  IP     01 36 15.3
```

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
02			3 29 44.34 51.65 N 179.09 E DEPTH = 76.6 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
02	AND	IP	03 29 55.4				14	45	-.1	
02	ASC	IP	03 29 56.0				21	347	.3	
02	ASD	IP	03 29 56.2	43.3	.1	3.62	33	329	-.1	
02	ASB	IP	03 29 56.3				34	342	-.0	
		IS	03 30 5.0						-.1	
02	ANA	IP	03 29 56.3				30	85	.2	
02	RAT	IP	03 29 57.7	184.5	.1	4.30	55	107	-.1	
02			15 54 32.79 52.11 N 178.78 E DEPTH = 127.4 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
02	RAT	IP	15 54 51.1	21.1	.1	3.50	47	42	-.1	
02	ANA	IP	15 54 51.6				54	9	.1	
02	AND	IP	15 54 51.9				62	349	-.1	
02	ASC	IP	15 54 53.1				77	340	.2	
02	ASB	IP	15 54 53.7				89	339	-.1	
		IS	15 55 9.1						-.0	
02	ASD	IP C	15 54 53.7				89	335	-.1	
02	AMA	IP C	15 55 1.4	33.3	.1	3.88	172	303	-.0	
02			17 45 52.20 52.37 N 174.57 W DEPTH = 159.0 KM							TELESEISMIC SOLUTION
			ANDREANOF ISLANDS, ALEUTIAN IS.							
02	ADK	EP	17 46 21.0				147	68	.1	
		ES	17 46 43.6						1.7	
02	AMA	IP D	17 46 40.7				334	67	.1	
02	ASD	IP	17 46 51.8				432	73	-.1	
		I(S)	17 47 37.4						1.8	
02	ASB	IP	17 46 52.6	221.2	.2		439	73	-.2	
02	ASC	IP	17 46 53.3				442	74	.2	
02	AND	IP	17 46 54.3				453	76	-.1	
02	ANA	IP	17 46 56.7				471	77	.1	
02	RAT	EP	17 46 58.7	28.7	.1		489	80	-.1	
02			18 43 58.92 52.05 N 179.78 W DEPTH = 151.7 KM							FREE DEPTH SOLUTION
			DELAROF ISLANDS, ALEUTIAN ISLANDS							
02	ASD	IP D	18 44 22.9				96	39	.1	
02	ASC	IP	18 44 23.0				98	48	-.0	
02	ASB	IP	18 44 23.3	6.2	.1	3.09	102	41	-.0	
		ES	18 44 41.1						-.0	
02	ASD	IP I	20 42 22.4							
		IS	20 42 34.8							
02	ASB	IP C	20 42 23.2	7.1	.1	2.98				
02	ASC	IP	20 42 23.7							
02	AND	EP	20 42 25.3							
02			21 39 52.14 51.68 N 179.71 E DEPTH = 60.0 KM							FIXED DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
02	ASD	IP	21 40 3.0				41	39	.1	
02	ASB	IP	21 40 3.4				48	42	-.1	
		IS	21 40 11.7						-.1	
02	ASC	IP	21 40 3.4				45	58	.2	
02	AND	IP C	21 40 4.0				54	76	-.1	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
02	ANA	IP	21 40 6.4				73	85	.4	
02	RAT	IP	21 40 8.4	21.6	.1	3.44	96	98	-.3	

03 2 30 11.40 62.03 N 151.16 W DEPTH = 70.0 KM MB = 5.6 TELESEISMIC SOLUTION
CENTRAL ALASKA

03	GMA	EP	02 31 37.4				625	123		
03	ADK	EP	02 34 9.0				1897	44		ML 4.5 D 17.0
		ES	02 37 20.0							
03	AMA	IP C	02 34 24.0	81.2	.3		2066	44		TELE
03	ASD	EP	02 34 31.1				2134	45		
03	ASC	EP	02 34 32.0				2137	45		
03	ASB	EP	02 34 32.1				2141	45		
03	AND	EP	02 34 32.3				2140	45		
03	RAT	IP	02 34 37.0				2152	46		

03 3 7 53.41 51.85 N 179.58 E DEPTH = 25.0 KM FIXED DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

03	AND	IP	03 08 3.1				54	53	-.0	
03	ASD	IP	03 08 3.3	5.2	.1	2.57	54	17	.2	
		IS	03 08 10.6						.4	
03	ASB	IP	03 08 4.0				59	22	.1	

03 4 23 10.34 52.68 N 179.86 E DEPTH = 175.0 KM FIXED DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

03	RAT	IP	04 23 39.9	14.4	.1	3.54	143	46	-.2	
03	AND	IP C	04 23 40.3				139	26	.5	
03	ASD	IP C	04 23 40.3	7.6	.1	3.27	148	14	-.2	
03	ASB	IP	04 23 40.9				152	16	.0	
		ES	04 24 3.2						-.0	

03	AMA	IP D	06 39 16.6							
		IS	06 39 21.7							
03	ASD	IP C	06 39 24.6							
03	ASB	IP C	06 39 25.3							
		IS	06 39 37.2							
03	ASC	IP	06 39 26.7							
03	RAT	IP	06 39 35.8	9.6	.1					

03 9 28 23.85 51.87 N 179.66 E DEPTH = 162.4 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

03	ASC	IP	09 28 46.7				57	37	-.0	
03	ASD	IP C	09 28 46.8				57	23	.1	
03	ASB	IP	09 28 47.0	8.6	.1	3.21	63	27	-.0	
		ES	09 29 3.9						-.0	

03 13 4 54.87 51.51 N 178.79 E DEPTH = 24.8 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

03	AND	IP D	13 04 59.4				13	245	-.1	
03	ANA	IP C	13 04 59.8				15	145	.1	
03	ASC	IP D	13 05 1.1				27	282	.2	
03	ASB	IP D	13 05 2.1	7.1	.1	2.58	36	298	.0	
		IS	13 05 7.2						-.2	
03	ASD	IP C	13 05 2.7				41	290	-.0	
03	RAT	IP C	13 05 3.2				45	135	-.1	

```
NOV   STA  PHASE    TIME        AMP   PER  MAG   DIST  AZI   RES    REMARKS
1970               (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

03    ASD  IP C  14 15 31.6     8.8  .1  2.87
03    ASB  IP    14 15 32.2     5.0  .1  2.65
           ES    14 15 40.5
03    ASC  IP    14 15 33.8

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. 03    15 36 39.98  51.49 N  178.34 E  DEPTH =  56.7 KM                    FREE DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                  .
.                                                                                                  .
. 03    ANA  IP    15 36 49.6                          27  235     .2                              .
. 03    RAT  IP    15 36 49.8    19.6  .1  3.19        35  179    -.2                              .
. 03    AND  IP    15 36 50.8                          43  259     .1                              .
. 03    ASC  IP    15 36 52.1                          57  273     .1                              .
. 03    ASB  IP    15 36 52.7    15.5  .1  3.19        65  283    -.1                              .
.           IS     15 37  1.9                                      -.2                              .
. 03    ASD  IP C  15 36 53.4                          70  279    -.0                              .
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. 03    15 50 10.96  52.11 N  178.42 E  DEPTH =   7.2 KM                    FREE DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                  .
.                                                                                                  .
. 03    RAT  IP C  15 50 17.5                          35   11     .0                              .
. 03    ANA  IP D  15 50 21.2                          56  343     .0                              .
. 03    AND  IP    15 50 23.3                          71  329    -.1                              .
. 03    ASC  I(P)  15 50 26.3                          88  325     .3                              .
. 03    ASB  IP    15 50 27.7   222.2  .2  4.11       101  326    -.2                              .
.           IS     15 50 40.3                                      .0                              .
. 03    ASD  IP    15 50 28.2                         102  322     .1                              .
. 03    AMA  IP    15 50 41.9                         193  299    -.0                              .
. 03    ADK  EP    15 51  1.4                         343  276     .6                              .
.           ES     15 51 40.0                                     2.8                              .
.....................................................................................................

03    RAT  IP C  17 02 54.2   148.5  .1
03    ANA  IP    17 02 58.4
03    AND  IP    17 03   .1
03    ASB  IP D  17 03  5.1
           ES    17 03 18.4
03    ASD  IP    17 03  5.1

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. 03    17 19 46.72  52.12 N  178.37 E  DEPTH =   4.5 KM                    FREE DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                  .
.                                                                                                  .
. 03    RAT  IP C  17 19 53.6   195.0  .2  3.65        36    4     .2                              .
.           IS     17 19 57.9                                     -.3                              .
. 03    ANA  IP C  17 19 57.5                          59  340     .0                              .
. 03    AND  IP C  17 19 59.6                          74  327    -.3                              .
. 03    ASC  IP    17 20  2.7                          92  324     .1                              .
. 03    ASD  IP D  17 20  4.5                         106  321    -.2                              .
. 03    ASB  IP    17 20  4.7    11.6  .1  3.14       104  325     .2                              .
.           E(S)   17 20 17.7                                      .3                              .
. 03    AMA  EP    17 20 18.5                         197  299    -.1                              .
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. 03    17 45   .01  51.35 N  176.49 E  DEPTH =   0.0 KM                    FIXED DEPTH SOLUTION .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                  .
.                                                                                                  .
. 03    RAT  IP C  17 45 23.1   294.3  .1  4.65       137  249    -.0                              .
.           IS     17 45 35.0                                    -5.0                              .
. 03    ANA  IP    17 45 26.0                         154  259     .3                              .
. 03    AND  IP    17 45 28.5                         172  263    -.1                              .
. 03    ASC  IP    17 45 30.6                         186  267    -.0                              .
. 03    ASB  IP    17 45 30.8                         192  271    -.7                              .
. 03    ASD  IP C  17 45 32.2                         198  270    -.3                              .
. 03    AMA  EP    17 45 47.4    41.7  .1             306  273    1.1                              .
. 03    ADK  EP    17 46  7.5                         482  266    -.5                              .
```

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NOV   STA  PHASE    TIME        AMP   PER  MAG   DIST  AZI   RES    REMARKS
1970               (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

.          ES    17 46 58.1                                  .4                                  .
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. 03    18 32 35.33  51.28 N  178.83 E  DEPTH =  27.9 KM                    FREE DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                 .
. 03    ASB  EP    18 32 42.1     7.1  .1  2.56     30  253     .0                               .
.          IS    18 32 47.0                                   -.0                               .
. 03    ASC  IP    18 32 42.2                        31  229     .1                               .
. 03    AND  IP    18 32 42.3                        32  196    -.0                               .
. 03    ASD  EP    18 32 42.9                        38  251    -.1                               .
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  03    RAT  IP C  20 24 11.3   130.0  .2  3.49
          IS    20 24 15.5
  03    ANA  IP    20 24 15.3
  03    AND  IP    20 24 17.3
  03    ASC  IP    20 24 20.4
  03    ASB  IP    20 24 22.4    10.6  .1
  03    ASD  IP    20 24 22.4

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. 03    23  3 13.60  62.03 N  150.69 W  DEPTH =  57.0 KM  MB = 3.7     TELESEISMIC SOLUTION  .
.                   CENTRAL ALASKA                                                                .
.                                                                                                 .
. 03    GMA  EP    23 04 38.0                       644  121                                      .
.......................................................................................................

  03    ADK  EP    23 24 45.5
          ES    23 25 31.0

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. 04     2 40 56.08  51.40 N  179.15 E  DEPTH =   2.0 KM                    FIXED DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                 .
. 04    ASC  IP    02 40 57.8                         7  189    -.0                               .
. 04    ASB  IP D  02 40 57.9    81.2  .1  2.98       8  301    -.0                               .
. 04    ASD  IP    02 40 58.9                        13  273     .0                               .
.          IS    02 41   .9                                    -.0                               .
. 04    AND  IP    02 41   .9                        23  143     .4                               .
. 04    RAT  IP    02 41  8.9                        72  128    -.3                               .
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  04    GMA  EP    06 21 41.4

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. 04    10 19  4.67  51.46 N  177.51 E  DEPTH =   0.0 KM                    FIXED DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                 .
. 04    RAT  IP    10 19 17.0    43.2  .1  3.54     68  237    -.1                               .
.          IS    10 19 26.2                                     .1                               .
. 04    ANA  IP    10 19 19.6                        82  258     .1                               .
. 04    AND  IP    10 19 22.2                       101  264    -.2                               .
. 04    ASD  EP    10 19 25.5                       128  274    -.9                               .
.          IS    10 19 42.2                                    -.1                               .
. 04    ASB  IP    10 19 26.6     8.7  .1  3.08    121  276    1.1                               .
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. 04    15 49 57.54  51.84 N  178.89 E  DEPTH =  75.4 KM                    FREE DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                 .
. 04    ANA  IP D  15 50  9.2                        29   33     .1   TIME FROM WWV.              .
. 04    AND  IP D  15 50  9.4                        32  352     .1   NO PROGRAMMER                .
. 04    RAT  IP D  15 50  9.6   103.0  .1  4.01     39   83    -.1   TIME.                        .
. 04    ASB  IP    15 50 11.3     4.7  .1  2.71     59  335     .0                               .
. 04    ASD  IP    15 50 11.3                        59  328     .0                               .
.          IS    15 50 21.4                                     .1                               .
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NOV   STA  PHASE    TIME        AMP   PER  MAG   DIST  AZI   RES    REMARKS
1970               (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

04    AMA  IP     16 20 48.0
04    ASD  IP     16 21  2.2
           IS     16 21 15.1
04    ASB  IP     16 21  3.2    11.0  .1  3.19
           IS     16 21 16.9
04    ASC  IP     16 21  4.3

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. 04    17 22 26.36  50.99 N  178.53 E  DEPTH =  49.2 KM                    FREE DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                 .
. 04    ASB  IP     17 22 38.7                          65  231    -.1                            .
.           IS     17 22 47.8                                     -.0                            .
. 04    AND  IP D   17 22 39.3                          70  205    -.1                            .
. 04    ASC  IP     17 22 39.4                          69  221     .2                            .
. 04    ASD  IP C   17 22 39.5                          72  233    -.1                            .
. 04    ANA  IP C   17 22 39.6                          71  188     .1                            .
. 04    RAT  IP     17 22 41.8    27.3  .1  3.51       91  171    -.1                            .
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04    RAT  EP     17 43 42.9    47.0  .1  3.95
           ES     17 44  1.9
04    ANA  EP     17 43 46.9
04    AND  EP     17 43 48.8
04    ASB  EP     17 43 50.9     8.0  .1
04    ASC  EP     17 43 50.9
04    ASD  EP     17 43 53.7                                                VERY EMERGENT

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. 04    17 55  8.49  51.53 N  179.50 E  DEPTH =  25.0 KM                    FIXED DEPTH SOLUTION .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                 .
. 04    ASC  EP     17 55 13.3                          25   71   -1.0                            .
. 04    ASD  EP     17 55 14.2                          19   34     .5                            .
. 04    ASB  EP     17 55 14.4     2.6  .1  2.07       26   42    -.1                            .
.           IS     17 55 19.0                                      .2                            .
. 04    AND  IP D   17 55 16.5                          38   95     .5                            .
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. 04    19 12 19.90  51.29 N  179.02 E  DEPTH =  64.6 KM                    FREE DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                 .
. 04    ASD  IP     19 12 30.0                          25  242    -.1                            .
. 04    ASB  IP C   19 12 30.0                          18  242     .2                            .
.           IS     19 12 36.7                                     -.2                            .
. 04    ASC  IP     19 12 30.0                          22  206     .1                            .
. 04    AND  IP C   19 12 30.2                          31  171    -.3                            .
. 04    ANA  IP     19 12 31.8                          46  146     .3                            .
. 04    RAT  IP     19 12 34.2    28.7  .1  3.51       75  140    -.1                            .
. 04    AMA  IP     19 12 40.3                         130  271    -.3                            .
.           IS     19 12 56.0                                      .4                            .
.....................................................................................................

04    RAT  IP D   19 24 56.1    18.1  .1
04    ANA  IP     19 24 57.0
04    AND  IP C   19 24 57.8
04    ASB  IP     19 25   .3
04    ASC  IP     19 25   .3
04    ASD  IP     19 25   .4     2.2  .1  2.46
           ES     19 25 12.9

05    ASB  IP     00 03  2.8     9.1  .1  2.71
           IS     00 03  7.8
05    ASD  IP     00 03  3.1

05    RAT  IP C   00 49 33.6
           I      00 49 34.6     6.7  .1
05    ANA  IP     00 49 35.4
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NOV   STA  PHASE     TIME        AMP   PER  MAG   DIST  AZI   RES    REMARKS
1970                (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

05    AND  IP      00 49 37.3
05    ASC  IP      00 49 39.3
05    ASB  IP C    00 49 39.9    15.5  .1  3.30
           ES      00 49 52.3
05    ASD  IP C    00 49 40.7

05    RAT  IP D    01 30 14.1   202.2  .2  4.16
           IS      01 30 28.2
05    ANA  IP D    01 30 15.9
05    AND  IP      01 30 16.6

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. 05     7 22 48.70  51.47 N  179.27 W  DEPTH =  36.0 KM  MB = 4.7          TELESEISMIC SOLUTION  .
.                   DELAROF ISLANDS, ALEUTIAN ISLANDS                                              .
.                                                                                                  .
. 05    AMA  IP D    07 22 55.0                          23  331   -.6                             .
. 05    ASD  IP D    07 23  4.0                          97   84  -1.1                             .
. 05    ASB  IP C    07 23  4.7   276.5  .1  4.54       103   83  -1.4                             .
. 05    ASC  IP C    07 23  6.2                         108   89   -.6                             .
. 05    AND  IP C    07 23  8.3                         123   94   -.4                             .
. 05    ANA  IP C    07 23 11.3                         144   96    .1                             .
. 05    RAT  IP      07 23 15.1                         170  102    .7    S FROM HELI              .
.           ES       07 23 38.5                                     5.3                             .
. 05    ADK  EP      07 23 17.9                         192  257    .8                             .
.           IS       07 23 40.7                                     2.9                             .
. 05    GMA  EP      07 26 39.5                        1870  222  -4.9                             .
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05    AMA  EP      08 26  8.7    22.7  .2
05    ASD  EP      08 26 13.3
05    AND  EP      08 26 19.6
           E(S)    08 26 34.8

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. 05     9 20 38.31  51.23 N  178.61 E  DEPTH =  25.0 KM                   FIXED DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                  .
.                                                                                                  .
. 05    ANA  IP D    09 20 45.2                          45  185  -1.5                             .
. 05    ASB  EP      09 20 47.0     4.9  .1  2.50        47  252   -.0    LOOKS COMPLICAT          .
.           IS       09 20 53.4                                      .1                             .
. 05    ASC  EP      09 20 47.2                          47  236    .2    ED                       .
. 05    AND  IP D    09 20 47.3                          44  213    .6                             .
. 05    ASD  EP      09 20 47.7                          54  251   -.3                             .
. 05    RAT  IP C    09 20 50.5     8.4  .1              67  163    .6                             .
.           I        09 20 52.7    12.1  .1  3.01                                                  .
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05    AMA  IP D    09 34 12.9    62.4  .1  3.64
           IS       09 34 19.3
05    ASD  IP D    09 34 17.6
05    ASB  IP C    09 34 18.4     5.1  .1
05    ASC  IP D    09 34 19.8
05    AND  IP      09 34 23.8
05    ANA  IP      09 34 26.7
05    RAT  EP      09 34 28.9

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. 05    12 53 11.60  61.67 N  150.84 W  DEPTH =  53.0 KM                   TELESEISMIC SOLUTION  .
.                   CENTRAL ALASKA                                                                 .
.                                                                                                  .
. 05    GMA  EP      12 54 12.1                         665  124                                   .
.....................................................................................................

05    RAT  IP C    13 20 58.9    44.8  .2  3.02                          S FROM HELI.
           IS       13 21  3.0
05    ANA  IP      13 21  3.2
05    AND  EP      13 21  4.9
05    ASC  IP      13 21  8.4
05    ASD  EP      13 21  9.8
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NOV   STA  PHASE    TIME        AMP   PER  MAG   DIST  AZI  RES    REMARKS
1970               (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

05    ASB  EP     13 21 10.1     2.8  .1

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. 05    13 11 53.50   6.90 N   82.61 W  DEPTH =  33.0 KM  MB = 5.6  MS = 5.6 TELESEISMIC SOLUTION  .
.                   SOUTH OF PANAMA                                                                 .
.                                                                                                   .
. 05    ADK  EP C  13 24 37.9                          9682   83                                    .
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. 05    13 30 41.59  51.08 N  179.83 W  DEPTH =  25.0 KM                      FIXED DEPTH SOLUTION  .
.                   DELAROF ISLANDS, ALEUTIAN ISLANDS                                               .
.                                                                                                   .
. 05    ASD  EP     13 30 52.9                          67  120    -.4    LOW AMP.                  .
. 05    ASB  EP     13 30 53.9                          72  115     .0                             .
.            IS     13 31  2.8                                     -.1                             .
. 05    ASC  EP     13 30 55.6                          82  121     .2                             .
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. 05    15  0  0.00  37.03 N  116.01 W  DEPTH =   0.0 KM  MB = 4.9            TELESEISMIC SOLUTION  .
.                   SOUTHERN NEVADA                                                                 .
.                                                                                                   .
. 05    ADK  EP     15 08 13.0                       4939   85                                     .
.....................................................................................................

05    ADK  EP     17 04  3.8
           ES     17 04 20.5
05    AMA  EP     17 04 25.2
           I      17 04 29.0    30.9  .2
           ES     17 05  4.2
05    ASD  EP     17 04 38.4
05    ASB  EP     17 04 39.8     5.8  .1
05    AND  EP     17 04 42.6

05    ADK  EP     18 20 22.5
           ES     18 20 46.0

05    ASB  EP     19 14 29.6     1.9  .1  2.47
           ES     19 14 45.1
05    ASD  IP     19 14 30.3

05    AMA  IP     21 28 18.7    17.3  .1  3.05
           IS     21 28 24.6
05    ASD  EP     21 28 32.3
05    ASB  EP     21 28 34.2

06    AMA  IP     02 03  7.8    14.9  .1
06    ASD  IP     02 03 12.5
           I(S)   02 03 21.4
06    ASB  EP     02 03 13.3     4.1  .1  2.61
06    AND  IP     02 03 18.7

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. 06     4 54 38.90  51.70 N  179.94 E  DEPTH =  25.0 KM                      FIXED DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                   .
.                                                                                                   .
. 06    ASD  IP C  04 54 48.6                          54   50    -.0                             .
. 06    ASC  IP    04 54 49.4                          60   63    -.1                             .
. 06    ASB  IP D  04 54 49.9     5.3  .1  2.62        61   51     .3                             .
.            ES    04 54 57.5                                      .0                             .
. 06    AND  IP    04 54 50.8                          70   77    -.1                             .
. 06    RAT  IP    04 54 57.2     9.6  .1  3.10       111   95     .1                             .
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NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
06	6 3 56.14	51.89 N 177.36 E DEPTH = 68.6 KM								FREE DEPTH SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
06	RAT	IP D	06 04 10.2	88.7	.1	3.99	67	279	.1	
		IS	06 04 20.0						-.2	
06	ANA	IP	06 04 13.0				94	289	.1	
06	AND	IP	06 04 15.1				116	289	-.2	
06	ASC	EP	06 04 17.4				133	292	.0	
06	ASB	IP	06 04 18.3	5.8	.1	3.01	143	295	-.2	
06	ASD	EP	06 04 19.2				148	293	.1	
		IS	06 04 36.1						.3	
06	ASD	IP C	09 53 33.9							
		IS	09 53 42.0							
06	ASB	IP	09 53 34.8	4.2	.1	2.59				
06	ADK	IP C	12 49 16.8							
		IS	12 49 26.6							
06	AMA	IP	15 15 5.8	16.3	.1	2.81				
		IS	15 15 9.2							
06	ASD	EP	15 15 19.8							
06	ASB	EP	15 15 21.0	7.2	.1	3.02				
		ES	15 15 35.2							
06	ASC	IP	15 15 22.4							
06	AMA	IP	16 18 54.3	5.6	.1	2.84				
		I(S)	16 19 6.3							
06	ASD	EP	16 19 5.5							
06	ASB	EP	16 19 6.0							
06	22 27 26.20	51.67 N 176.16 E DEPTH = 47.0 KM MB = 4.0								TELESEISMIC SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
06	RAT	IP	22 27 49.0				150	266	.0	VERY LARGE AMP
		IS	22 28 7.2						1.6	
06	ANA	IP	22 27 52.1				173	273	.4	
06	AND	IP	22 27 54.2				193	275	-.1	
06	ASB	EP	22 27 56.5				216	280	-.7	
		IS	22 28 23.5						3.8	
06	ASD	EP	22 27 57.5				222	279	-.4	
06	ADK	EP	22 28 34.3				500	270	2.1	
		E	22 29 25.4							
06	GMA	E(P)	22 31 32.5				2007	231	-5.8	
06	23 57 13.74	51.67 N 179.15 E DEPTH = 86.9 KM								FREE DEPTH SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
06	ASC	IP	23 57 26.5				23	358	.1	
06	ASD	IP D	23 57 26.9				34	337	.0	
06	ANA	IP C	23 57 26.9				34	81	-.0	
06	ASB	IP	23 57 27.0	4.2	.1	2.65	35	349	.0	
		IS	23 57 36.6						-.0	
07	3 14 38.32	51.99 N 178.17 E DEPTH = 143.1 KM								FREE DEPTH SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
07	RAT	IP C	03 14 57.6	24.7	.1	3.60	24	333	-.2	
		IS	03 15 12.0						-.0	
07	ANA	IP C	03 14 59.0				53	320	.2	
07	ASC	IP	03 15 1.2				90	311	.2	
07	AND	IP C	03 14 59.8				72	312	.0	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
		IS	03 15 15.5						.1	
07	SSI	IP	03 15 1.5	35.1	.1	3.82	98	277	-.0	
07	ASB	IP	03 15 1.7	23.2	.1	3.65	102	314	-.1	
		IS	03 15 18.9						-.1	
07	ASD	IP C	03 15 1.9				105	310	-.1	
07	6 32 58.66	51.23 N 179.87 E DEPTH = 25.0 KM								FIXED DEPTH SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
07	ASD	IP D	06 33 6.4				41	116	-.2	
		IS	06 33 12.2						-.2	
07	ASB	IP	06 33 7.3	2.6	.1	2.22	46	108	.0	
07	ASC	IP C	06 33 8.7				56	118	.1	
07	7 32 32.69	51.18 N 178.23 E DEPTH = 50.0 KM								FIXED DEPTH SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
07	ANA	IP C	07 32 44.4				58	211	.0	
07	AND	IP	07 32 44.9				66	230	-.4	
07	RAT	IP	07 32 45.6	15.3	.1	3.18	69	186	-.1	
07	ASB	EP	07 32 46.2				74	254	.0	
07	ASD	EP	07 32 46.8				81	253	-.2	
07	SSI	IP D	07 32 52.9	15.6	.1	3.37	123	230	.7	
		IS	07 33 6.2						-.2	
07	7 44 57.00	34.63 S 179.71 E DEPTH = 76.0 KM MB = 5.1								TELESEISMIC SOLUTION
		SOUTH OF KERMADEC ISLANDS								
07	ADK	E(P)	07 57 29.5				9586	183		
07	8 43 37.44	50.51 N 177.77 E DEPTH = 0.0 KM								FIXED DEPTH SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
07	ASB	IP C	08 44 1.3				141	228	.2	
07	AND	IP	08 44 1.5				144	216	-.1	
		IS	08 44 19.8						.6	
07	ASC	IP D	08 44 1.8				144	223	.1	
07	ANA	IP C	08 44 1.8				139	207	.8	
07	RAT	EP	08 44 2.0	6.7	.1	3.04	149	195	-.4	
07	ASD	EP	08 44 2.0				148	229	-.2	
07	SSI	IP D	08 44 9.8	17.8	.1	3.58	200	220	-.3	
		IS	08 44 33.3						-.6	
07	12 0 45.20	51.79 N 175.45 W DEPTH = 69.0 KM MB = 4.1								TELESEISMIC SOLUTION
		ANDREANOF ISLANDS, ALEUTIAN IS.								
07	ADK	IP D	12 01 .4				79	97	.1	
		IS	12 01 11.9						.7	
07	AMA	IP	12 01 21.6	10.5	.1		260	76	-.1	
		I	12 01 23.7	42.0	.1					
07	SSI	EP	12 01 33.1				342	90	1.3	
		I	12 01 34.9							
07	ASD	EP	12 01 34.8				363	81	.4	
07	ASB	IP C	12 01 35.8				370	80	.5	
07	ASC	IP	12 01 36.7				374	82	.9	
07	AND	EP	12 01 38.5				387	84	1.1	
		ES	12 02 24.6						9.1	
07	ANA	EP	12 01 40.2				407	85	.4	
07	RAT	EP	12 01 43.7				428	88	1.3	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
07	14 33 49.84		51.17 N 178.43 E DEPTH = 25.0 KM							FIXED DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
07	ANA	IP	14 33 59.8				54	197	.3	
07	AND	IP	14 34 .2				57	220	.2	
07	ASB	EP	14 34 .5	5.7	.1	2.65	61	249	-.1	
07	RAT	IP D	14 34 1.5	13.2	.1	3.07	71	174	-.5	
07	ASD	IP	14 34 1.5				68	249	-.1	
		IS	14 34 9.5						-.7	
07	SSI	IP	14 34 8.9	3.5	.1	2.66	114	225	.5	
07	15 5 20.49		51.97 N 179.30 E DEPTH = 25.0 KM							
			RAT ISLANDS, ALEUTIAN ISLANDS							
07	ANA	IP	15 05 30.8				58	49	-.0	
07	ASB	IP	15 05 31.6	5.1	.1	2.64	68	3	-.7	
07	RAT	IP	15 05 32.5	11.5	.1	3.00	69	74	.1	
07	ASD	IP	15 05 32.5				65	357	.7	
		IS	15 05 40.5						.5	
07	15 26 15.38		51.33 N 178.86 E DEPTH = 50.5 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
07	AND	IP	15 26 24.2				27	194	.0	VERY LARGE AMP
07	ASC	IP	15 26 24.2				26	235	.1	
07	ASB	IP	15 26 24.2	132.7	.1	3.96	27	263	.0	
		IS	15 26 30.3						-.3	
07	ASD	IP D	15 26 24.8				34	259	.1	
07	ANA	IP	15 26 25.1				36	157	.2	
07	RAT	UP	15 26 27.5	57.5	.1	3.74	64	145	-.3	
07	SSI	IP	15 26 29.7				80	219	.0	
07	AMA	EP	15 26 37.1				141	273	-.0	
07	16 25 58.22		51.12 N 178.59 E DEPTH = 22.8 KM							
			RAT ISLANDS, ALEUTIAN ISLANDS							
07	ASB	IP	16 26 7.7				53	240	.0	
		IS	16 26 14.2						-.3	
07	ASC	IP	16 26 8.2				55	227	.2	
07	AND	IP D	16 26 8.2				55	207	.2	
07	ANA	IP	16 26 8.5				56	185	.3	
07	ASD	IP C	16 26 8.6				60	241	-.1	
07	RAT	IP	16 26 10.9	25.3	.2	3.08	78	166	-.4	
07	SSI	IP	16 26 16.2	21.4	.1	3.44	110	219	.0	
07	ADK	EP	20 58 20.0							
		ES	20 58 48.6							
08	1 40 35.68		52.04 N 178.35 E DEPTH = 139.3 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
08	RAT	IP	01 40 54.7	57.5	.1	3.96	27	3	-.1	
		IS	01 41 8.7						-.0	
08	ANA	IP	01 40 55.8				51	335	.2	
08	AND	IP	01 40 56.4				68	322	-.1	
08	SSI	IP	01 40 57.7	25.7	.1	3.66	87	282	.0	
08	ASC	IP	01 40 57.7				86	319	.1	
08	ASB	IP	01 40 58.5	15.5	.1	3.46	98	321	-.0	
08	ASD	IP C	01 40 58.6				100	317	-.1	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
08	ADK	IP	02 50 58.1							
08			8 22 51.43 51.11 N 179.26 E DEPTH = 30.8 KM RAT ISLANDS, ALEUTIAN ISLANDS							FREE DEPTH SOLUTION
08	ASB	IP D	08 22 58.3	141.1	.1	3.86	28	179	.0	
		IS	08 23 3.1						-.1	
08	ASD	IP	08 22 58.5				32	191	-.2	
08	ASC	IP	08 22 59.9				40	171	.2	
08	AND	IP D	08 23 1.8				55	157	.2	
08	ANA	IP	08 23 4.0				71	144	.1	
08	SSI	IP	08 23 6.7				91	195	-.0	
08	RAT	IP	08 23 7.9	19.6	.1	3.37	101	140	-.3	
08			9 5 40.38 51.95 N 179.99 W DEPTH = 134.4 KM DELAROF ISLANDS, ALEUTIAN ISLANDS							FREE DEPTH SOLUTION
08	SSI	IP	09 05 58.9	16.1	.1	3.39	30	78	-.0	
08	ASD	IP	09 06 .9				77	36	-.3	
08	ASB	IP	09 06 1.7				84	39	.0	
		IS	09 06 17.3						.0	
08	ASC	IP	09 06 1.8				79	47	.4	
08	AMA	IP	09 06 2.6	7.6	.1	3.14	95	321	.1	
08			9 16 39.62 51.12 N 179.34 E DEPTH = 29.9 KM RAT ISLANDS, ALEUTIAN ISLANDS							FREE DEPTH SOLUTION
08	ASB	IP D	09 16 46.2	36.7	.1	3.26	27	166	-.0	
		IS	09 16 51.0						-.0	
08	ASD	IP D	09 16 46.3				30	181	-.2	
08	ASC	IP	09 16 47.8				40	162	.1	
08	AND	IP	09 16 49.8				56	151	-.1	
08	SSI	IP	09 16 54.4	38.5	.1	3.61	87	192	-.0	
08	AMA	IP D	09 43 39.2							
08	ASD	IP	09 43 51.1							
08	ASB	IP	09 43 52.5							
08	ASC	IP	09 43 53.2							
08	SSI	IP	09 43 53.2	36.3	.1	3.74				
		IS	09 44 8.0							
08	RAT	IP	12 37 17.0	4.2	.1					
08	ANA	IP C	12 37 18.3							
08	AND	IP	12 37 19.9							
		IS	12 37 29.1							
08	GMA	EP	14 10 36.3							
08			14 58 53.60 9.13 N 126.33 E DEPTH = 22.0 KM MB = 5.7 MS = 5.8 TELESEISMIC SOLUTION MINDANAO, PHILIPPINE ISLANDS							
08	ADK	EP	15 09 20.2				6989	249		
		ES	15 17 50.0							
		EL	15 24 40.0							
08	AMA	IP C	18 38 51.4	45.8	.1					
		I	18 38 53.8							
08	SSI	IP C	18 38 59.4							
08	ASD	EP	18 39 2.3							
08	ASB	EP	18 39 2.9							

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NOV   STA  PHASE    TIME        AMP   PER  MAG   DIST  AZI   RES    REMARKS
1970               (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

08    ADK  EP     20 16 51.9
           ES     20 17  6.2
08    AMA  IP C   20 17  8.5    38.8  .1
           ES     20 17 32.9
08    ASD  IP     20 17 19.8
08    ASB  IP     20 17 20.5     8.2  .1

08    RAT  IP     21 52 58.3     6.0  .1
08    ANA  IP     21 52 58.3
           IS     21 53  6.2
08    AND  EP     21 53   .4
08    SSI  IP     21 53  8.2
           IS     21 53 22.8

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. 08    22 15 58.92  51.94 N  179.21 W  DEPTH =  32.2 KM                    FREE DEPTH SOLUTION   .
.                    DELAROF ISLANDS, ALEUTIAN ISLANDS                                             .
.                                                                                                  .
. 08    AMA  IP C   22 16 11.9                        73  355     .2                               .
. 08    SSI  IP C   22 16 13.3                        83   86     .2                               .
. 08    ASD  IP     22 16 18.1                       117   58    -.1                               .
. 08    ASB  IP C   22 16 19.2     9.8  .2  2.85     125   58    -.1                               .
.           IS      22 16 34.0                                   -.1                               .
. 08    ASC  IP     22 16 19.2                       124   64    -.0                               .
. 08    AND  IP     22 16 20.3                       133   71    -.2                               .
. 08    ANA  IP     22 16 23.0                       151   76     .4                               .
. 08    RAT  IP     22 16 25.0                       170   84    -.0                               .
. 08    ADK  EP     22 16 26.1                       181  273    -.2                               .
.           ES      22 16 46.4                                    .1                               .
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. 08    22 35 46.70   3.44 S  135.63 E  DEPTH =  33.0 KM  MB = 6.2  MS = 6.8 TELESEISMIC SOLUTION  .
.                    WEST NEW GUINEA REGION                                                        .
.                                                                                                  .
. 08    ADK  EP     22 46 46.2                      7600  233          ER 2307370                   .
.           ES      22 55 50.0                                                                     .
.           EL      23 03 58.0                                                                     .
. 08    GMA  EP     22 48  6.6                      9148  244                                      .
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08    AMA  IP     23 36 22.7    81.6  .2  3.77
           ES     23 36 36.9
08    ASD  IP     23 36 28.4
08    RAT  EP     23 36 39.1

.......................................................................................................
. 09     2  5 29.90  51.82 N  176.23 E  DEPTH =  49.0 KM  MB = 3.9          TELESEISMIC SOLUTION   .
.                    RAT ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                  .
. 09    ANA  IP     02 05 54.8                       169  278    -.2                               .
. 09    AND  EP     02 05 57.1                       190  280    -.5                               .
. 09    ASB  IP D   02 06   .7                       215  285     .0                               .
.           IS      02 06 28.7                                   5.5                               .
. 09    ASD  IP     02 06  1.1                       220  284    -.3                               .
. 09    SSI  IP C   02 06  4.0                       231  269    1.3                               .
. 09    AMA  IP D   02 06 16.8                       328  282    2.2                               .
. 09    ADK  EP     02 06 36.9                       494  272    1.7                               .
.           ES      02 07 32.9                                  10.1                               .
. 09    GMA  EP     02 09 38.7                      1991  231   -1.2                               .
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. 09     2 45 55.59  51.13 N  179.14 E  DEPTH =  28.3 KM                    FREE DEPTH SOLUTION   .
.                    RAT ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                  .
. 09    ASB  IP C   02 46  2.0   108.2  .1  3.72      26  197     .1                               .
.           IS      02 46  6.4                                    -.2                               .
. 09    ASD  IP D   02 46  2.4                        32  206    -.2                               .
```

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
09	ASC	IP	02 46 3.4				37	183	.2	
09	AND	IP D	02 46 5.0				49	165	.1	
09	ANA	EP	02 46 7.0				64	149	.1	
09	SSI	IP	02 46 10.7	40.6	.1	3.65	90	200	-.0	
09	RAT	IP	02 46 10.9				93	143	-.2	

09 3 17 55.19 51.91 N 179.39 E DEPTH = 185.4 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

09	AND	EP	03 18 20.5				49	38	.1	
09	ASD	IP	03 18 20.6				58	3	-.2	
09	ASC	IP	03 18 20.7				52	17	.2	
09	ANA	EP	03 18 20.8				59	57	-.0	
09	ASB	IP D	03 18 21.0	6.5	.1	3.14	62	9	.1	
		IS	03 18 39.7						-.0	
09	RAT	IP D	03 18 21.4	19.1	.1	3.61	74	80	-.0	

09	AMA	IP C	04 09 26.6	4.1	.1	2.59				
		IS	04 09 35.5							
09	SSI	I(P)	04 09 28.1							
		IS	04 09 37.7							
09	ASD	IP	04 09 33.1							
09	ASB	EP	04 09 34.6	4.7	.1					

09 7 18 55.32 51.03 N 179.13 E DEPTH = 25.0 KM FIXED DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

09	ASB	EP	07 19 3.1	1.3	.1	1.86	38	192	.4	
		ES	07 19 8.3						.2	
09	ASD	IP	07 19 3.4				43	200	-.0	
09	AND	EP	07 19 5.9				60	168	-.1	
09	SSI	EP	07 19 11.4				101	198	-.6	

09 9 26 12.18 51.89 N 178.16 E DEPTH = 101.0 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

09	RAT	IP D	09 26 26.2	38.4	.1	3.65	15	312	-.1	
		IS	09 26 36.7						.0	
09	ANA	IP	09 26 27.7				45	311	.2	
09	AND	IP D	09 26 28.8				66	304	-.0	
09	ASC	IP D	09 26 30.4				84	305	.1	
09	ASB	IP D	09 26 31.4				95	309	.1	
09	ASD	IP	09 26 31.4				99	305	-.2	
09	SSI	IP D	09 26 31.6	3.8	.1	2.77	98	270	.1	
		IS	09 26 45.6						-.1	

09 12 17 33.42 51.50 N 179.00 E DEPTH = 66.9 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

09	AND	IP D	12 17 43.2				7	152	-.1	
09	ASC	IP C	12 17 43.4				12	293	.0	
09	ASB	IP D	12 17 43.8				23	313	.0	
		IS	12 17 51.3						-.0	
09	ASD	IP D	12 17 43.8				27	298	-.1	
09	ANA	IP D	12 17 44.3				27	120	.3	
09	RAT	IP C	12 17 46.0	67.1	.1	3.83	57	125	-.2	
09	SSI	IP D	12 17 46.4				59	223	-.0	
09	AMA	IP C	12 17 54.6	5.7	.1	2.98	133	281	.0	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
09			12 25 32.05 51.58 N 178.82 E DEPTH = 75.2 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
09	AND	EP	12 25 42.9				10	283	-.1	
09	ASB	EP	12 25 44.3	1.5	.1	2.17	39	310	.1	
09	RAT	EP	12 25 44.4	3.3	.1	2.52	41	125	.0	
09	ASD	EP	12 25 44.4				42	301	-.0	
09	SSI	EP	12 25 46.1	2.2	.1	2.40	63	237	-.0	
		IS	12 25 56.4						.0	
09			12 45 25.23 51.13 N 178.58 E DEPTH = 0.0 KM							FIXED DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
09	ASB	IP	12 45 35.1	4.4	.1	2.45	53	241	.2	
		IS	12 45 41.9						-.0	
09	AND	IP C	12 45 35.1				55	208	-.1	
09	ASC	EP	12 45 35.4				55	228	.2	
09	ASD	EP	12 45 35.8				61	242	-.4	
09			16 46 29.53 50.81 N 179.56 W DEPTH = 25.0 KM							FIXED DEPTH SOLUTION
			DELAROF ISLANDS, ALEUTIAN ISLANDS							
09	AMA	IP D	16 46 40.7	16.3	.1	3.11	62	211	.3	
09	ASD	EP	16 46 45.3				101	130	-.9	
09	ASB	IP	16 46 47.6	14.5	.2	2.95	104	126	1.0	
09	ASC	IP	16 46 47.8				115	129	-.5	
09	SSI	IP	16 46 50.7	9.2	.1	3.15	135	153	-.5	
09	AND	EP	16 46 51.2				134	128	.1	
		ES	16 47 7.4						.6	
09	RAT	EP	16 46 58.1				184	126	.1	
09	AMA	EP	17 19 16.2	6.5	.1					
		ES	17 19 42.2							
09	ASD	EP	17 19 16.4							
09	AND	EP	17 19 16.6							
09	ASB	EP	17 19 16.8	6.1	.1					
09	ASC	IP C	17 19 16.8							
09	RAT	IP D	17 19 17.9	2.8	.1					
09	ANA	EP	20 16 52.9							
09	ASB	EP	20 16 53.0							
09	AND	EP	20 16 53.4							
		IS	20 17 12.6							
09	ASC	IP D	20 16 53.6							
09	ASD	EP	20 16 53.7							
09	SSI	IP	20 17 1.4	8.0	.1					
09			20 42 22.06 51.67 N 179.08 W DEPTH = 91.4 KM							FREE DEPTH SOLUTION
			DELAROF ISLANDS, ALEUTIAN ISLANDS							
09	AMA	IP C	20 42 36.2	14.1	.1	3.21	43	3	-.0	
		ES	20 42 46.5						-.0	
09	SSI	IP C	20 42 40.4	7.3	.1	3.03	95	104	.0	
09	ASD	EP	20 42 42.4				114	73	.1	
09	ASB	IP C	20 42 43.0				121	73	-.0	
09	ASC	IP	20 42 43.4				124	78	.1	
09	AND	EP	20 42 44.6				137	84	-.1	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
09			21 28 45.46 52.25 N 178.45 W DEPTH = 186.5 KM							FREE DEPTH SOLUTION
			DELAROF ISLANDS, ALEUTIAN ISLANDS							
09	AMA	IP C	21 29 14.3	5.3	.1	3.09	116	23	-.0	
		IS	21 29 35.4						-.0	
09	SSI	EP	21 29 16.1	3.8	.1	2.97	140	73	.0	
09	ASD	IP	21 29 19.7				179	57	.3	
09	ASB	IP	21 29 19.9				187	57	-.1	
09	ASC	EP	21 29 20.0				186	61	.1	
09	AND	EP	21 29 20.5				194	66	-.2	
09			22 35 11.12 51.21 N 178.77 E DEPTH = 28.4 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
09	ASB	IP C	22 35 18.8	19.3	.1	3.04	37	243	.1	
		IS	22 35 24.0						-.3	
09	ASC	IP	22 35 19.1				39	224	.1	
09	AND	IP	22 35 19.4				41	198	.1	
09	ASD	EP	22 35 19.6				44	243	-.1	
09	ANA	EP	22 35 20.2				47	170	.2	
09	RAT	IP	22 35 23.4	9.9	.1	2.96	72	155	-.3	
09	SSI	IP	22 35 26.9	10.5	.1	3.08	94	217	-.0	
10			0 26 21.60 34.60 N 136.71 E DEPTH = 349.0 KM MB = 5.3							TELESEISMIC SOLUTION
			SOUTHERN HONSHU, JAPAN							
10	ADK	E(P)	00 33 2.7				4161	261		
10			2 23 44.60 52.38 N 179.87 E DEPTH = 160.0 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
10	ASD	EP	02 24 10.9				116	18	.1	
		IS	02 24 30.1						.2	
10	ASB	IP C	02 24 11.2	3.7	.1	2.90	121	21	-.0	
10	RAT	IP	02 24 11.4	18.1	.1	3.59	124	58	-.0	
10			5 30 1.51 51.43 N 178.83 E DEPTH = 42.6 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
10	AND	IP	05 30 8.8				17	211	-.0	
10	ANA	IP	05 30 9.3				24	152	-.0	
10	ASC	IP	05 30 9.5				24	262	.2	
10	ASB	IP C	05 30 9.8	2.3	.1	2.16	30	285	-.0	
		IS	05 30 15.8						-.1	
10	ASD	EP	05 30 10.4				36	277	-.0	
10	SSI	IP C	05 30 14.8	4.0	.1	2.60	73	226	-.0	
		IS	05 30 24.5						-.0	
10			5 49 56.53 51.58 N 179.67 W DEPTH = 189.9 KM							FREE DEPTH SOLUTION
			DELAROF ISLANDS, ALEUTIAN ISLANDS							
10	AMA	EP	05 50 22.4	2.6	.1	2.75	51	310	.0	
10	ASD	EP	05 50 23.0				71	73	-.2	
10	ASB	IP	05 50 23.7	9.3	.1	3.31	79	72	.1	
		ES	05 50 43.3						.0	
10	ASC	IP	05 50 23.8				82	81	.1	
10	AND	IP	05 50 24.3				95	88	-.1	
10	ANA	IP	05 50 25.8				115	92	.1	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
10	AMA	IP	07 37 .1	30.2	.1	3.23				
		IS	07 37 5.1							
10	ASD	EP	07 37 14.8							
10	ASB	IP	07 37 15.8							
		ES	07 37 33.4							
10	ASC	EP	07 37 16.8							
10	AMA	IP	08 16 12.6	26.5	.1	3.19				
		IS	08 16 17.8							
10	ASD	EP	08 16 27.4							
10	ASB	EP	08 16 28.6							
		ES	08 16 45.7							
10	ASC	EP	08 16 29.4							
10	AMA	IP	10 43 7.2	13.4	.2					
10	SSI	IP	10 43 21.8	4.3	.1					
10	ASD	EP	10 43 23.1							
10	ASB	EP	10 43 23.8							
		ES	10 43 42.3							
10	SSI	IP	11 27 12.6							VERY LOCAL
10	SSI	IP	11 27 39.4							VERY LOCAL
10	SSI	IP	11 32 57.9							VERY LOCAL
10	ADK	EP	11 33 26.7							
		ES	11 34 7.9							
10	SSI	IP C	11 33 45.4							
		I	11 33 46.7	18.6	.1	3.44				
		I(S)	11 33 59.8							
10	AMA	EP	11 33 47.7							
		I	11 33 50.1	8.7	.1					
10	ASD	EP	11 34 1.7							
10	ASB	EP	11 34 2.5							

10 13 12 56.08 51.70 N 179.81 W DEPTH = 25.0 KM FIXED DEPTH SOLUTION
DELAROF ISLANDS, ALEUTIAN ISLANDS

10	SSI	IP	13 13 4.9	55.6	.1	3.55	47	117	.1	
		IS	13 13 10.7						-.4	
10	AMA	EP	13 13 7.6	9.0	.2	2.58	67	314	-.1	
10	ASD	IP C	13 13 7.6				68	59	-.3	
10	ASB	IP	13 13 9.1	7.0	.1	2.81	75	60	.2	
10	ASC	IP	13 13 9.1				76	69	.1	
10	ANA	IP	13 13 13.7				106	85	.2	

10	AMA	IP D	14 47 46.1	12.7	.2	2.91				
		IS	14 47 58.6							
10	SSI	EP	14 47 55.5	3.8	.1					
10	ASD	EP	14 47 57.5							
10	ASB	EP	14 47 58.9							

10 15 57 41.83 50.58 N 178.09 E DEPTH = 50.0 KM FIXED DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

10	ASB	IP	15 58 .7	3.5	.1	2.71	119	223	-.1	
		IS	15 58 12.3						-2.4	
10	AND	IP	15 58 1.1				125	209	-.5	
10	ASD	EP	15 58 1.3				126	224	-.4	
10	SSI	IP	15 58 9.3	2.5	.1	2.70	180	216	1.0	
		IS	15 58 27.6						-.0	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
10	16	3 17.67	50.87 N 178.30 E DEPTH = 25.0 KM							FIXED DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
10	ASB	IP	16 03 32.2				86	231	.1	
		IS	16 03 42.6						-.0	
10	AND	IP	16 03 32.5				90	211	-.2	
10	ASC	IP	16 03 32.7				90	223	.0	
10	ANA	IP	16 03 32.8				88	197	.4	
10	ASD	IP	16 03 33.0				93	232	-.2	
10	RAT	IP	16 03 34.6	112.6	.1	4.14	104	181	-.2	
10	SSI	IP	16 03 40.8	29.9	.1	3.69	145	219	-.2	
10	17	39 10.32	50.82 N 178.22 E DEPTH = 25.0 KM							FIXED DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
10	ASB	IP	17 39 26.0	17.7	.1	3.30	94	231	.1	
		ES	17 39 37.2						.0	
10	AND	IP	17 39 26.5				97	212	.1	
10	ASC	IP	17 39 26.5				97	223	.1	
10	ASD	IP	17 39 26.7				101	232	-.3	
10	RAT	IP	17 39 28.2	31.1	.1	3.60	109	184	-.0	
10	SSI	IP	17 39 34.5	12.7	.1	3.34	153	219	-.2	
10	ASC	IP	18 57 13.3							
10	AND	IP	18 57 13.4							
10	ANA	IP	18 57 13.8							
10	ASD	EP	18 57 13.8							
10	RAT	IP	18 57 13.9	33.6	.1					
10	ASB	IP	18 57 14.2							
		ES	18 57 33.0							
10	20	3 3.64	51.58 N 179.39 E DEPTH = 18.6 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
10	ASD	IP C	20 03 8.3				21	10	-.1	
10	ASC	IP	20 03 8.4				20	51	.1	
10	ASB	IP	20 03 9.1	50.9	.1	3.31	26	23	.0	
		IS	20 03 13.2						.1	
10	AND	IP	20 03 9.6				30	87	-.1	
10	SSI	IP	20 03 10.7	44.9	.1	3.37	38	201	.0	
10	ANA	IP	20 03 12.7				51	96	.1	
10	RAT	IP	20 03 16.6				77	108	-.0	
10	AMA	IP	20 03 21.4				109	288	.0	
11	0	53 5.59	51.71 N 179.94 E DEPTH = 16.1 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
11	SSI	IP D	00 53 11.8	62.0	.1	3.45	32	130	.1	
		IS	00 53 16.2						-.0	
11	ASD	IP D	00 53 15.1				55	50	-.0	
11	ASB	IP C	00 53 16.2	23.2	.1	3.25	62	51	.0	
		IS	00 53 24.0						.1	
11	AND	IP	00 53 17.3				70	76	-.2	
11	AMA	IP D	00 53 19.0				80	306	-.0	
11	ANA	IP	00 53 20.4				89	84	.1	
11	RAT	IP	00 53 23.8				112	95	.1	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
11			2 26 48.36 51.69 N 178.61 W DEPTH = 144.1 KM							FREE DEPTH SOLUTION
			DELAROF ISLANDS, ALEUTIAN ISLANDS							
11	AMA	IP	02 27 9.0	25.0	.1	3.63	57	37	-.1	
		IS	02 27 24.4						.1	
11	SSI	IP	02 27 13.9				126	99	.0	
11	ASD	EP	02 27 15.1				146	76	-.5	
11	ASB	EP	02 27 17.0				153	75	.7	
		ES	02 27 36.6						-.1	
11	AMA	IP	03 08 27.4							
		IS	03 08 31.5							
11	SSI	IP	03 08 41.0							
		IS	03 08 55.7							
11	ASD	IP	03 08 41.1							
11	AMA	IP C	12 13 59.0	29.1	.1	3.45				
		IS	12 14 8.2							
11	SSI	IP	12 14 13.9	17.1	.1					
11	ASD	EP	12 14 14.0							
11	ASB	EP	12 14 15.2							
11	ASC	IP	12 14 16.8							
11	14 52 42.69 51.40 N 178.78 E DEPTH = 44.9 KM									FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
11	AND	IP D	14 52 50.5				22	215	-.0	
11	ANA	IP	14 52 50.9				26	162	.0	
11	ASC	EP	14 52 51.1				28	256	.1	
11	ASB	IP	14 52 51.4	2.3	.1	2.19	33	278	-.1	
11	ASD	IP	14 52 52.1				39	272	.0	
		IS	14 52 58.9						.0	
11	SSI	EP	14 52 56.6				78	226	-.0	
11	17 37 39.85 52.13 N 179.24 W DEPTH = 50.0 KM									FIXED DEPTH SOLUTION
			DELAROF ISLANDS, ALEUTIAN ISLANDS							
11	SSI	IP D	17 37 54.7	3.2	.1	2.56	84	71	.1	
		IS	17 38 4.6						-.8	
11	ASD	IP	17 37 59.7				128	49	-.2	
11	ASB	EP	17 38 .7	4.7	.1	2.88	135	50	-.1	
11	AND	IP	17 38 1.7				139	62	.4	
		IS	17 38 17.7						.7	
11	20 23 15.78 51.92 N 179.24 E DEPTH = 130.9 KM									FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
11	SSI	IP	20 23 33.8	15.9	.1	3.37	24	277	.0	
11	AND	EP	20 23 34.4				44	26	-.0	
11	ASC	EP	20 23 34.7				51	5	-.1	
11	ANA	IP C	20 23 35.0				51	50	.2	
11	ASD	IP C	20 23 35.2				59	353	.0	
11	RAT	IP	20 23 35.3	7.8	.1	3.10	64	78	-.1	
11	ASB	IP	20 23 35.4				62	359	.1	
		ES	20 23 49.6						-.0	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
11	21	1 54.34	51.50 N 178.69 E DEPTH = 21.3 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
11	ANA	IP D	21 01 58.8				15	171	.1	
11	AND	IP C	21 01 59.1				19	248	-.1	
11	ASC	IP	21 02 1.1				33	277	.2	
11	ASB	IP	21 02 1.9	5.4	.1	2.49	41	292	-.2	
11	RAT	IP C	21 02 2.2	12.0	.1	2.84	42	143	.0	
		IS	21 02 7.7						-.2	
11	ASD	IP	21 02 2.7				46	285	-.1	
11	SSI	IP D	21 02 7.3	17.1	.1	3.20	76	235	.2	
		IS	21 02 16.3						-.2	
12	1	56 52.85	51.70 N 178.23 E DEPTH = 82.6 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
12	RAT	IPG	01 57 4.6	20.5	.1	3.30	13	210	-.1	
		IS	01 57 13.3						-.1	
12	ANA	EPG	01 57 5.6				30	285	.2	
12	AND	EPG	01 57 6.8				52	287	.1	
		IS	01 57 16.8						.1	
12	ASC	EPG	01 57 8.2				69	292	.1	
12	ASB	EP	01 57 8.9				79	298	-.1	
		ES	01 57 20.7						-.1	
12	ASD	EP	01 57 9.3	4.9	.2	2.51	84	294	-.1	
12	SSI	EP	01 57 10.6				96	257	-.0	
12	5	58 46.19	51.18 N 179.63 W DEPTH = 50.0 KM							FIXED DEPTH SOLUTION
			DELAROF ISLANDS, ALEUTIAN ISLANDS							
12	ASD	EPG	05 58 59.6	1.8	.1	2.28	75	107	-.3	
		I(S)	05 59 9.7						-.2	
12	ASB	EPG	05 59 .8				81	104	.3	
12	SSI	IPG	05 59 2.3	12.9	.1	3.20	96	145	-.0	
		ES	05 59 14.2						.1	
12	6	9 14.79	51.51 N 179.96 E DEPTH = 81.3 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
12	ASD	EP	06 09 28.0	2.4	.1	2.41	45	72	.0	
		IS	06 09 37.6						-.0	
12	SSI	EP	06 09 28.3				49	148	.0	
12	ASB	EP	06 09 28.5	2.3	.1	2.41	52	71	-.0	
		IS	06 09 38.6						.1	
12	ASC	IP	06 09 28.8				55	84	.1	
12	AMA	EP	06 09 29.9				69	291	-.0	
12	AND	EP	06 09 30.0				70	94	.0	
12	RAT	EP	06 09 34.7				117	105	-.0	QP
		IPG	06 09 35.1	5.1	.1	2.91				
12	6	7 12.40	5.05 S 145.06 E DEPTH = 15.0 KM MB = 5.8 MS = 6.5 TELESEISMIC SOLUTION							
			EAST NEW GUINEA REGION							
12	ASB	EP	06 17 46.2				7044	219		QP
12	AND	EP	06 17 46.2				7049	218		
12	ASD	EP	06 17 46.5				7051	219		
12	SSI	EP	06 17 47.2				7105	219		
12	AMA	EP	06 17 47.9				7111	220		TELE
12	ADK	EP	06 17 58.6				7277	223		ER 0637100
		ES	06 26 50.0							

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NOV   STA  PHASE    TIME        AMP   PER  MAG   DIST  AZI   RES    REMARKS
1970               (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

.          EL     06 34  5.0                                                    .
.........................................................................................

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. 12     7 22 33.00  51.70 N  178.94 W  DEPTH = 100.0 KM                FIXED DEPTH SOLUTION .
.                   DELAROF ISLANDS, ALEUTIAN ISLANDS                                        .
.                                                                                            .
. 12    SSI  EP     07 22 52.8                        103  102     .0                        .
. 12    ASD  EP     07 22 55.0                        123   73     .2                        .
.            E(S)   07 23 10.8                                     .1                        .
. 12    ASB  EP     07 22 55.4                        131   73    -.2                        .
.........................................................................................

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. 12     9 31 56.86  51.54 N  179.14 E  DEPTH =  20.4 KM                FREE DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                            .
.                                                                                            .
. 12    ASC  EPG    09 32   .6                         8  348     .0                        .
. 12    ASB  EPG    09 32  1.8                        21  339     .0                        .
.            IS     09 32  5.4                                     .0                        .
. 12    ASD  EPG    09 32  2.0      .7  .1  1.42      21  319     .1   POOR LOCAL           .
.........................................................................................

  12    AMA  IPGC   12 36 28.6    11.3  .1  2.88
             IS     12 36 34.7
  12    ASD  EP     12 36 36.0     2.8  .1
  12    SSI  EPG    12 36 45.2     6.8  .1                             PN OBSCURED

  12    ANA  EP     15 25 59.2                                         NOISY
             ES     15 26 11.5
  12    ASB  EP     15 26  2.3
             ES     15 26 17.3
  12    ASD  EP     15 26  2.8

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. 12    16 16 24.40  62.45 N  150.10 W  DEPTH =  48.0 KM                TELESEISMIC SOLUTION .
.                   CENTRAL ALASKA                                                           .
.                                                                                            .
. 12    GMA  E(P)   16 17 51.0                        639  116                               .
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. 12    17 45 49.50  52.19 N  173.74 E  DEPTH = 136.0 KM  MB = 3.9      TELESEISMIC SOLUTION .
.                   NEAR ISLANDS, ALEUTIAN ISLANDS                                           .
.                                                                                            .
.........................................................................................

  13    SSI  IP C   02 22 39.3
  13    AMA  IP D   02 22 39.5                                         VERY NOISY
             IS     02 22 44.4

.........................................................................................
. 13     4 22 57.39  50.39 N  177.71 E  DEPTH =  15.7 KM                FREE DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                            .
.                                                                                            .
. 13    ANA  IP     04 23 21.9                        153  206     .1                        .
. 13    ASB  IP     04 23 22.0    25.1  .1  3.63     153  226     .2                        .
.            I(S)   04 23 39.7                                     .2                        .
. 13    AND  IP C   04 23 22.3                        157  214    -.1                        .
.            IS     04 23 40.7                                     .1                        .
. 13    ASC  IP     04 23 22.5                        157  221     .1                        .
. 13    ASD  IP     04 23 22.7                        160  226    -.1                        .
. 13    RAT  IP     04 23 22.7                        163  196    -.6                        .
.            IS     04 23 41.8                                    -.3                        .
. 13    SSI  IP     04 23 30.6    77.0  .1            213  219     .4                        .
.            IS     04 23 54.7                                     .6                        .
. 13    AMA  IP     04 23 34.1    12.1  .1            245  247    -.1                        .
.            IS     04 24  0.0                                   -1.0                        .
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  13    SSI  EP     10 09 42.7
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NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
		ES	10 09 52.3							
13	ASD	IP C	10 09 47.7							
13	ASB	EP	10 09 49.3							
		ES	10 10 3.6							
13	SSI	IPGD	12 35 32.2	85.5	.1	3.53				
		IS	12 35 35.6							
13	ASD	IPGC	12 35 36.5							
		IS	12 35 43.4							
13	ASC	IP	12 35 37.2							
13	ASB	IPG	12 35 37.8							
		IS	12 35 45.4							
13	RAT	IP D	12 35 44.1							

13 14 16 18.00 11.95 N 123.97 E DEPTH = 15.0 KM MB = 5.4 MS = 6.3 TELESEISMIC SOLUTION
LEYTE, PHILIPPINE ISLANDS

13	ADK	EP	14 26 49.4				6892	253		ER 1445560
		ES	14 35 10.0							
		EL	14 42 14.0							
13	ASD	IP	14 28 14.7							
		E(S)	14 28 29.2							
13	ASB	EP	14 28 16.2							
13	ADK	EP	15 22 37.4							
		ES	15 22 49.3							

13 13 10 25.40 51.62 N 175.34 W DEPTH = 51.0 KM MB = 4.9 TELESEISMIC SOLUTION
ANDREANOF ISLANDS, ALEUTIAN IS.

13	ADK	IP D	13 10 41.2				91	109	.3	FELT I,ML 4.4
		ES	13 10 59.9						7.6	
13	AMA	IP C	13 11 1.9				264	81	-.4	WHITEOUT
13	SSI	IP	13 11 14.3				351	93	1.3	LARGE
13	ASD	EP	13 11 15.7				369	84	.4	
13	ASB	EP	13 11 17.7				376	84	1.6	3RD LEV.CLIPPED
13	ASC	EP	13 11 17.7				381	85	1.0	
13	AND	EP	13 11 19.4				395	87	1.0	
13	RAT	EPN	13 11 25.2				437	90	1.6	I(PTOS)13121214
		IPG	13 11 41.3							
		I(S)	13 12 21.5						15.4	
13	GMA	EP	13 14 6.7				1739	214	2.3	

13 16 3 16.80 52.29 N 173.97 W DEPTH = 132.0 KM MB = 3.7 TELESEISMIC SOLUTION
ANDREANOF ISLANDS, ALEUTIAN IS.

13	ADK	EP C	16 03 47.2				184	75	.2	
		ES	16 04 10.8						1.7	
13	AMA	IP	16 04 8.7	78.5	.2		371	70	.3	REGIONAL
		I(S)	16 04 47.0						1.0	
13	SSI	EP	16 04 17.3				443	82	.3	
13	ASD	EP	16 04 20.4				471	75	.1	
		I(S)	16 05 8.2						1.5	
13	ASB	EP	16 04 21.6				478	75	.4	
13	ASC	EP	16 04 21.9				480	76	.4	
13	AND	E(P)	16 04 23.2				492	78	.2	

```
NOV   STA  PHASE    TIME        AMP   PER  MAG   DIST  AZI   RES    REMARKS
1970               (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

. 13    16 41 42.30  51.20 N  178.78 E  DEPTH =  25.0 KM                    FIXED DEPTH SOLUTION .
.                    RAT ISLANDS, ALEUTIAN ISLANDS                                                .
.                                                                                                 .
. 13    ASB  EPG    16 41 49.6    12.9  .1  2.85     37  241    -.1                              .
.            IS     16 41 55.0                                    -.1                              .
. 13    ASC  EPG    16 41 50.2                       40  222     .2                              .
. 13    AND  IPG    16 41 50.3                       42  196    -.1                              .
.            IS     16 41 56.3                                     .0                              .
. 13    ASD  EPG    16 41 50.6                       45  241    -.1                              .

  13    ASD  IPG    17 13 25.2     7.0  .1  2.50
             E(S)   17 13 29.1
  13    ASC  IPG    17 13 27.5

  13    AMA  EPN    18 57 42.7
             IPG    18 57 43.2    47.2  .2
  13    ASD  EP     18 57 44.9     8.7  .1
  13    ASB  EP     18 57 45.8
  13    ASC  IP     18 57 46.4

  13    AMA  IP D   19 02 15.5    91.1  .2  3.55
             IS     19 02 22.6
  13    SSI  EP     19 02 19.7
  13    ASC  EP     19 02 22.2

. 13    19  2 19.20  51.80 N  176.79 E  DEPTH =  66.0 KM  MB = 4.5        TELESEISMIC SOLUTION .
.                    RAT ISLANDS, ALEUTIAN ISLANDS                                                .
.                                                                                                 .
. 13    RAT  IP C   19 02 37.0                      106  270    -.1    LARGE                      .
. 13    ANA  EP     19 02 40.2                      131  279     .2                              .
. 13    ASC  EP     19 02 44.2                      168  284    -.3                              .
. 13    AND  IP     19 02 42.4                      152  281    -.1                              .
. 13    ASB  EP     19 02 45.1   497.8  .2  4.71    177  287    -.5                              .
. 13    ASD  EP     19 02 45.9                      182  285    -.3                              .
. 13    SSI  EP     19 02 48.4                      193  268     .9                              .
. 13    AMA  EP     19 03  1.0                      290  283    1.7                              .
. 13    ADK  IP     19 03 20.6                      456  271     .8                              .
.            IS     19 04  8.8                                    4.7                              .

. 13    20 57 55.49  51.93 N  178.29 E  DEPTH = 138.7 KM                    FREE DEPTH SOLUTION  .
.                    RAT ISLANDS, ALEUTIAN ISLANDS                                                .
.                                                                                                 .
. 13    AND  IP D   20 58 15.8                       61  312    -.1                              .
.            I(S)   20 58 30.7                                    -.0                              .
. 13    ASC  EP     20 58 17.1                       79  311     .2                              .
. 13    SSI  EP     20 58 17.6    40.6  .2  3.56     89  273     .0                              .
. 13    ASB  EP     20 58 17.8                       91  314     .0                              .
. 13    ASD  EP     20 58 17.9    12.5  .1  3.36     94  310    -.1                              .
.            I(S)   20 58 34.5                                     .2                              .

. 14     4 51 37.80  12.64 N  143.30 E  DEPTH =  95.0 KM  MB = 5.5        TELESEISMIC SOLUTION .
.                    SOUTH OF MARIANA ISLANDS                                                     .
.                                                                                                 .
. 14    ADK  EP     05 00 50.8                     5639  234                                      .
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NOV   STA  PHASE    TIME        AMP   PER  MAG   DIST  AZI   RES    REMARKS
1979               (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

.....................................................................................
. 14     7 58 19.80  22.71 N  121.34 E  DEPTH =  28.0 KM  MB = 5.7  MS = 6.1 TELESEISMIC SOLUTION .
.                   TAIWAN REGION                                                                 .
.                                                                                                 .
. 14   RAT  E(P)  08 07 29.4    40.4  .4          5801  259          NOISY NO S                  .
. 14   ASC  EP    08 07 34.1                      5851  260                                      .
. 14   ASB  E(P)  08 07 34.3                      5855  260                                      .
. 14   ASD  E(P)  08 07 34.3                      5862  260                                      .
. 14   ADK  EP    08 07 51.5                      6149  263                                      .
.....................................................................................

  14   AMA  IP D  14 46 28.4    75.0  .1  3.72
            ES    14 46 34.8
  14   ASD  EP    14 46 43.0
  14   SSI  EP    14 46 43.5
  14   ASB  EP    14 46 43.9
  14   ASC  E(P)  14 46 44.5                                          NOISY
  14   RAT  E(P)  14 46 55.0    10.3  .1

  14   RAT  IP    15 48 38.2    23.5  .1  3.47
            ES    15 48 50.3
  14   ANA  EP    15 48 40.9
  14   AND  EP    15 48 42.2
  14   ASC  EP    15 48 44.2
  14   ASD  EP    15 48 45.1

.....................................................................................
. 14   18 53 30.60  58.76 N  149.73 W  DEPTH =  33.0 KM  MB = 3.9          TELESEISMIC SOLUTION .
.                   GULF OF ALASKA                                                                .
.                                                                                                 .
. 14   GMA  E(P)  18 55 39.0                      954  136                                        .
.....................................................................................

.....................................................................................
. 14   21 10  7.86  51.63 N  177.97 E  DEPTH =  56.7 KM                   FREE DEPTH SOLUTION   .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                 .
. 14   RAT  IP    21 10 17.6                       32  233    -.0                                 .
. 14   ANA  EP    21 10 19.0                       48  270     .0                                 .
. 14   AND  EP    21 10 21.1                       69  276    -.0                                 .
. 14   ASC  EP    21 10 23.0                       85  283     .1                                 .
. 14   ASB  EP    21 10 23.9                       94  289    -.1                                 .
.            ES    21 10 35.7                                  .0                                 .
. 14   ASD  IP    21 10 24.6                       99  286     .0                                 .
. 14   SSI  EP    21 10 26.6                      116  256     .0                                 .
.            ES    21 10 40.2                                 -.0                                 .
.....................................................................................

.....................................................................................
. 14   23  1 25.15  50.88 N  177.53 E  DEPTH =  25.0 KM                   FIXED DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                 .
. 14   ANA  E(P)  23 01 43.2                      115  224    -.7    NOISY                        .
. 14   ASB  EP    23 01 46.0     6.0  .1  2.95    132  247    -.4                                 .
.            ES    23 02  2.5                                   .6                                 .
. 14   ASD  EP    23 01 47.0                      139  246    -.5                                 .
. 14   SSI  EP    23 01 55.4     9.2  .1  3.27    183  233    2.0                                 .
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. 14   23 46 52.10  51.59 N  179.39 E  DEPTH =  82.0 KM  MB = 4.1          TELESEISMIC SOLUTION .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                 .
. 14   ASD  IP D  23 47  4.1                       22    9    -.1                                 .
. 14   ASC  IP    23 47  4.2                       21   49     .1                                 .
. 14   ASB  IP    23 47  4.4   270.5  .1  4.43     27   22     .0                                 .
.            ES    23 47 13.3                                  -.0                                 .
. 14   AND  IP D  23 47  4.5                       30   85    -.0                                 .
. 14   SSI  IP    23 47  4.9                       37  202     .0                                 .
```

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
14	ANA	IP	23 47 6.3				51	95	.5	
14	RAT	IP	23 47 8.1				77	107	.1	
14	AMA	EP C	23 47 11.8				109	288	.6	
15	AMA	EP	01 15 29.8	12.5	.1					
15	SSI	EP	01 15 31.3	17.1	.1					
15	ASD	EP	01 15 36.3							
15	ASC	EP	01 15 37.2							
15	ASB	EP	01 15 37.3							
		ES	01 15 52.1							
15	AND	IP	01 15 38.3							
		ES	01 15 53.4							

15 8 3 29.18 51.18 N 178.69 E DEPTH = 25.4 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

15	ASB	EP	08 03 37.5	14.6	.1	2.95	44	243	.0
		ES	08 03 43.1						-.4
15	ASC	EP C	08 03 38.0				46	227	.3
15	AND	EP	08 03 38.0				46	203	.2
15	ASD	EP	08 03 38.4				51	243	-.1
15	ANA	EP	08 03 38.6				50	178	.3
15	RAT	IP C	08 03 41.3				73	160	-.4
15	SSI	IP	08 03 45.8				101	219	-.0

15 9 48 23.15 51.28 N 179.62 E DEPTH = 54.7 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

15	ASD	EP	09 48 32.2	2.0	.1	2.14	23	122	.1
		ES	09 48 38.5						-.2
15	ASB	EP	09 48 32.4	2.9	.1	2.32	28	108	-.0
15	ASC	IP	09 48 33.1				38	122	-.1
		ES	09 48 40.6						.1
15	SSI	EP	09 48 36.2	1.6	.1	2.21	68	178	-.0

15 12 5 44.64 51.66 N 177.81 E DEPTH = 59.8 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

15	RAT	IP	12 05 55.2	67.1	.1	3.75	39	246	-.1
15	ANA	IP	12 05 57.1				59	274	.1
15	AND	IP	12 05 59.2				80	278	-.1
15	ASC	EP	12 06 1.6				96	283	.5
15	ASB	EP	12 06 1.9	2.9	.1	2.60	105	289	-.3
15	ASD	EP C	12 06 2.7				110	286	-.1
15	SSI	IP C	12 06 4.6	4.3	.1	2.82	125	259	.0
		ES	12 06 19.1						-.0

15 15 57 36.56 51.59 N 177.74 E DEPTH = 56.3 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

15	RAT	IP	15 57 47.6	13.8	.1	3.08	47	241	.1
15	ANA	EP	15 57 49.5				64	267	.2
15	AND	E(P)	15 57 50.5				84	273	-1.0
15	ASC	EP	15 57 53.9				100	279	.5
15	ASB	E(P)	15 57 54.3	3.8	.1	2.72	108	284	-.0
15	ASD	EP	15 57 55.1	2.4	.1	2.53	114	282	.1
		ES	15 58 8.6						.1
15	SSI	EP	15 57 57.3	6.5	.1	3.02	132	256	.1

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 NOV   STA  PHASE    TIME        AMP   PER  MAG   DIST  AZI   RES    REMARKS
 1970               (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

.......................................................................................................
. 15    17  1 21.98  50.12 N  179.31 W  DEPTH =  25.0 KM                          FIXED DEPTH SOLUTION .
.                   DELAROF ISLANDS, ALEUTIAN ISLANDS                                                   .
.                                                                                                       .
. 15    AMA  IP C  17 01 42.9   145.7  .1  4.34    131  186    -.2                                     .
.            ES    17 01 58.4                                   -.1                                     .
. 15    ASD  IP    17 01 48.6   112.3  .2  4.02    170  146    -.1                                     .
.            ES    17 02  8.0                                   -.2                                     .
. 15    ASB  EP    17 01 49.1    31.9  .2  3.48    171  143     .2                                     .
. 15    ASC  EP    17 01 50.6                      184  144     .2                                     .
. 15    AND  IP    17 01 52.7                      202  142     .1                                     .
. 15    SSI  IP    17 01 54.4    55.6  .1          212  158     .5                                     .
. 15    ANA  E(P)  17 01 55.2                      220  139     .3                                     .
. 15    RAT  EP    17 01 56.7    36.1  .2          250  137   -1.8                                     .
.......................................................................................................

  15    AMA  IP D  17 29    .4
  15    ASD  EP    17 29 10.4
  15    ASB  EP    17 29 12.3
             ES    17 29 25.5
  15    ASC  E(P)  17 29 12.7
  15    SSI  EP    17 29 13.2

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. 15    22 43 48.63  51.10 N  179.98 W  DEPTH =  35.5 KM                          FREE DEPTH SOLUTION  .
.                   DELAROF ISLANDS, ALEUTIAN ISLANDS                                                   .
.                                                                                                       .
. 15    ASD  IP    22 43 59.3                       57  124    -.1                                     .
. 15    ASB  EP    22 43 59.9                       61  117    -.1                                     .
. 15    AMA  IP D  22 44    .7    13.4  .2  2.76     64  252     .4                                     .
.            ES    22 44  8.3                                   -.6                                     .
. 15    SSI  IP    22 44  4.6                       93  161     .2                                     .
. 15    RAT  EP    22 44 10.7    12.1  .1  3.29    141  123    -.1                                     .
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. 16     2 54 49.64  52.25 N  179.97 E  DEPTH = 230.2 KM  MB = 3.7                  FREE DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                       .
.                                                                                                       .
. 16    SSI  IP D  02 55 20.3                       48   33     .1    WHITE OUT                          .
. 16    AND  IP D  02 55 22.5                      104   42     .0                                       .
. 16    ASD  IP C  02 55 22.6                      105   24     .1                                       .
. 16    ASB  IP C  02 55 22.9                      111   26     .0                                       .
.            I(S)  02 55 47.1                                   -.0                                       .
. 16    ANA  IP C  02 55 23.1                      114   52     .1                                       .
. 16    RAT  IP    02 55 23.4                      123   65    -.2                                       .
. 16    AMA  IP D  02 55 23.6                      125  330    -.1                                       .
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  16    AMA  EP    03 16 48.3    66.0  .2                                QP
             I     03 17 25.6
  16    SSI  EP    03 16 58.3
  16    ASD  EP    03 17  1.6
  16    ASB  EP    03 17  2.5

  16    GMA  E(P)  06 29 14.0

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. 16     6 44 21.40   6.08 S  148.58 E  DEPTH =  81.0 KM  MB = 5.5                TELESEISMIC SOLUTION  .
.                   NEW BRITAIN REGION                                                                  .
.                                                                                                       .
. 16    ADK  EP    06 54 54.7                     7222  219                                             .
.......................................................................................................

  16    RAT  IP    08 04 15.9
             I(S)  08 04 34.5
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NOV   STA  PHASE    TIME       AMP   PER  MAG   DIST  AZI   RES    REMARKS
1970               (GMT)      (MU)  (SEC)       (KM) (DEG) (SEC)

. 16   14  5  5.90  50.89 N  179.83 E  DEPTH =  32.0 KM  MB = 4.1          TELESEISMIC SOLUTION .
.                  RAT ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                .
. 16   ASD  IP D  14 05 17.5                          66  148    -.1   TOTAL OVERLOAD             .
. 16   ASB  IP D  14 05 17.9                          67  142     .1                             .
.           ES    14 05 24.2                                     -2.2                            .
. 16   ASC  EP    14 05 19.4                          79  143    -.2                             .
. 16   AND  EP D  14 05 21.7                          97  140    -.5                             .
. 16   SSI  EP    14 05 23.8                         113  171    -.7                             .
. 16   ANA  EP    14 05 24.5                         116  135    -.5                             .
. 16   PAT  EP    14 05 28.4                         146  133    -.6                             .

. 16   18  4 43.10  57.84 N  154.32 W  DEPTH =  33.0 KM                  TELESEISMIC SOLUTION .
.                  KODIAK ISLAND REGION                                                          .
.                                                                                                .
. 16   GMA  E(P)  18 06 43.8                         922  154                                    .

  17   AMA  IPGC  09 36 53.1    87.4  .1  3.49
           I(S)  09 36 56.1
  17   ASD  EP    09 37  3.5
  17   SSI  EP    09 37  4.6    42.8  .1  3.75
           ES    09 37 17.4
  17   ASB  EP    09 37  5.0
           ES    09 37 18.1
  17   ASC  IP    09 37  5.5
  17   RAT  EP    09 37 13.8

. 17   13 13  4.68  51.40 N  179.91 E  DEPTH =  66.4 KM                  FREE DEPTH SOLUTION  .
.                  RAT ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                .
. 17   ASD  IPGC  13 13 15.0   121.8  .1  4.04    39   89     .0                                .
. 17   ASB  EPG   13 13 16.5                       46   85     .0                                .
.           ES    13 13 25.0                                  -.1                                .
. 17   ASC  EPG   13 13 17.1                       52   98     .1                                .
. 17   SSI  EPG   13 13 17.7    49.2  .1  3.71    60  158     .0                                .
. 17   AND  EPG   13 13 18.4                       69  105    -.2                                .
. 17   AMA  IP D  13 13 18.6    72.8  .1  3.91    69  280    -.0   P SPIKE                     .
. 17   ANA  EP    13 13 21.0                       90  106     .2   QP                          .
. 17   RAT  EP    13 13 23.9                      118  112    -.1                               .

. 17   14 21 42.10  51.41 N  178.77 E  DEPTH =  45.0 KM                  FREE DEPTH SOLUTION  .
.                  RAT ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                .
. 17   AND  IPGD  14 21 50.0                       21  217     .1                                .
. 17   ANA  EPG   14 21 50.4                       25  163     .2   QP                          .
. 17   ASC  IPG   14 21 50.6                       28  258     .1                                .
. 17   ASB  EPG   14 21 51.0    12.4  .1  2.92    34  280     .1                                .
.           IS    14 21 56.9                                  -.5                                .
. 17   ASD  IPGC  14 21 51.6    14.0  .1  3.00    40  273     .1                                .
. 17   RAT  IPGD  14 21 52.7    23.9  .1  3.29    53  145    -.3                                .
. 17   SSI  IPGD  14 21 56.0    50.5  .1  3.72    78  227     .0                                .

. 17   16  6 31.71  51.10 N  179.47 W  DEPTH =   0.0 KM                  FIXED DEPTH SOLUTION .
.                  DELAROF ISLANDS, ALEUTIAN ISLANDS                                             .
.                                                                                                .
. 17   AMA  IPGD  16 06 37.5   104.1  .1  3.64    33  231    -.1                                .
.           ES    16 06 42.2                                   .2                                .
. 17   ASC  EP    16 06 49.9                      103  112     .2                                .
. 17   SSI  IPGC  16 06 50.6    38.5  .1  3.68   110  143    -.1                                .
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NOV   STA  PHASE    TIME        AMP   PER  MAG   DIST  AZI   RES    REMARKS
1970               (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

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. 17    22 42 58.93  51.44 N  178.25 W  DEPTH =  24.0 KM                          FREE DEPTH SOLUTION .
.                   ANDREANOF ISLANDS, ALEUTIAN IS.                                                   .
.                                                                                                     .
. 17    AMA  IPGC  22 43 10.2    56.2  .1  3.65     62   74     .4                                   .
.            IS    22 43 17.2                                   -.6                                   .
. 17    ADK  EP    22 43 19.3                      125  248     .1                                   .
.            ES    22 43 33.6                                   -.3                                   .
. 17    SSI  IP D  22 43 24.2                      158  108     .1                                   .
. 17    ASD  EP    22 43 25.5                      168   87     .1                                   .
. 17    ASC  EP    22 43 26.8                      180   90    -.1                                   .
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  18    ASB  IPGC  01 21 15.5     7.0  .1  2.63
             IS    01 21 21.0
  18    ASD  IPGC  01 21 15.9     2.4  .1  2.18
  18    ASC  EPG   01 21 16.8
  18    AND  EPG   01 21 18.1

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. 18     1 57 25.90   6.08 S  154.43 E  DEPTH =  15.0 KM  MB = 5.2  MS = 5.6 TELESEISMIC SOLUTION      .
.                   SOLOMON ISLANDS                                                                   .
.                                                                                                     .
. 18    ADK  EP    02 08 11.0                     6986  213                                           .
.....................................................................................................

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. 18     3 18 37.29  51.12 N  179.93 W  DEPTH =  26.5 KM                          FREE DEPTH SOLUTION .
.                   DELAROF ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                     .
. 18    ASD  IPGC  03 18 47.8     4.2  .1  2.51     59  120    -.1                                   .
.            E(S)  03 18 55.6                                    .0                                   .
. 18    AMA  EPG   03 18 47.9                      60  252    -.0                                   .
. 18    ASC  IPG   03 18 50.0                      74  121     .0                                   .
.            E(S)  03 18 58.9                                   -.3                                   .
. 18    SSI  IPGC  03 18 52.8     9.7  .1  3.03     93  158     .1                                   .
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  18    ADK  EP    07 35 20.4
             ES    07 35 41.4

  18    ADK  EP    07 59  3.4
             ES    07 59 14.7

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. 18     8 45 20.28  51.91 N  179.27 W  DEPTH =  25.2 KM                          FREE DEPTH SOLUTION .
.                   DELAROF ISLANDS, ALEUTIAN ISLANDS                                                 .
.                                                                                                     .
. 18    AMA  IPGC  08 45 32.3     8.0  .1  2.84     70  351     .0                                   .
.            ES    08 45 41.1                                    .1                                   .
. 18    SSI  IPGC  08 45 33.7    12.7  .1  3.09     79   88     .1                                   .
.            IS    08 45 43.5                                    .2                                   .
. 18    ASD  EP    08 45 38.6     7.7  .1  3.00    112   59     .0                                   .
. 18    ASB  EP    08 45 39.7    40.5  .2  3.44    119   59     .0                                   .
. 18    ASC  EP    08 45 39.6                     119   65    -.0                                   .
. 18    AND  IP C  08 45 40.7                     128   72    -.4                                   .
. 18    ANA  IP C  08 45 43.7                     146   77     .0                                   .
. 18    RAT  EP    08 45 46.5                     166   85     .1                                   .
.....................................................................................................

  18    AMA  EP    08 56 12.4     3.1  .1
  18    ASD  IP    08 56 18.8     2.8  .1  2.60
             ES    08 56 32.8
  18    ASB  IP    08 56 20.4    12.2  .2  2.97
  18    ASC  EP    08 56 20.5
```

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NOV   STA  PHASE    TIME        AMP   PER  MAG  DIST  AZI   RES    REMARKS
1970               (GMT)       (MU)  (SEC)      (KM) (DEG) (SEC)

. 18     9 45 28.50   3.66 S  148.91 E  DEPTH =  33.0 KM  MB = 4.9  MS = 5.8 TELESEISMIC SOLUTION .
.                    BISMARCK SEA                                                                   .
.                                                                                                   .
. 18    GMA  EP    09 57 24.5                          8651  231                                    .

. 18    10 41  3.44  51.15 N  178.27 E  DEPTH =  50.0 KM                    FIXED DEPTH SOLUTION   .
.                    RAT ISLANDS, ALEUTIAN ISLANDS                                                  .
.                                                                                                   .
. 18    ANA  EP    10 41 15.0                           59  207    -.3                              .
. 18    AND  IP    10 41 15.3                           66  226    -.7                              .
.            IS    10 41 22.6                                     -2.6                              .
. 18    RAT  EP    10 41 16.9     2.7  .1  2.45         72  183     .2                              .
. 18    SSI  IP C  10 41 23.8     5.9  .1  2.94        123  228     .9                              .
.            IS    10 41 37.0                                      -.1                              .

. 18    11 52 38.68  50.34 N  178.31 E  DEPTH =   0.0 KM                    FIXED DEPTH SOLUTION   .
.                    RAT ISLANDS, ALEUTIAN ISLANDS                                                  .
.                                                                                                   .
. 18    ASB  IP    11 53  1.2     3.8  .1  2.75        131  211     .3    NOISY                    .
. 18    ASD  IP D  11 53  1.7     2.9  .1  2.65        137  212    -.2                              .
.            ES    11 53 18.4                                      -.4                              .
. 18    ASC  EP    11 53  2.2                           138  206     .2                              .
. 18    ANA  I(P)  11 53  2.6                           145  190    -.4                              .
. 18    AND  IP    11 53  3.0                           143  199     .2                              .
.            ES    11 53 20.8                                       .5                              .
. 18    RAT  IP    11 53  5.7                           162  181     .1                              .
. 18    SSI  IP    11 53 10.2     7.3  .1  3.19        194  208    -.3                              .
.            IS    11 53 33.2                                      -.5                              .

. 18    12 11 18.31  51.47 N  179.45 E  DEPTH =  50.0 KM                    FIXED DEPTH SOLUTION   .
.                    RAT ISLANDS, ALEUTIAN ISLANDS                                                  .
.                                                                                                   .
. 18    ASD  IP    12 11 26.2     6.0  .1  2.58         12   40    -.0                              .
.            E     12 11 32.8                                                                       .
. 18    ASB  EP    12 11 26.5     6.7  .1  2.64         19   49    -.0                              .
.            I     12 11 33.3                                                                       .
. 18    ASC  IP    12 11 26.8                            20   87     .2                              .
. 18    AND  IP D  12 11 27.7                            36  106    -.1                              .
. 18    SSI  IP    12 11 28.9     4.6  .1  2.58         48  192    -.0                              .
.            I     12 11 37.5                                                                       .
. 18    ANA  EP    12 11 29.9                            57  107    -.0                              .
. 18    RAT  EP    12 11 33.2     6.8  .2  2.59         86  115    -.0                              .

. 18    12 23 18.00  35.15 N   35.74 W  DEPTH =  33.0 KM  MB = 5.4  MS = 6.0 TELESEISMIC SOLUTION   .
.                    NORTH ATLANTIC RIDGE                                                           .
.                                                                                                   .
. 18    GMA  EP    12 34 31.2                          7922   45                                    .

  18    AMA  IPGD  16 10 31.6
             ES    16 10 34.2
  18    ASD  EP    16 10 46.3     2.8  .1
  18    ASB  EP    16 10 47.4     3.1  .1
  18    SSI  IPG   16 10 47.7    34.6  .1  3.69
             IS    16 11  1.6
  18    ASC  EP    16 10 48.3
  18    AND  EP    16 10 50.9
```

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
18	16 47 32.26		51.13 N 179.20 E DEPTH = 25.6 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
18	ASB	IPG	16 47 38.3	4.5	.1	2.31	26	188	.0	
		IS	16 47 42.7						.0	
18	ASD	IPG	16 47 38.7	1.1	.1	1.75	31	199	-.2	V.LOCAL
18	ASC	EPG	16 47 39.7				37	177	.0	V.QUESTIONABLE
18	16 43 14.10		21.89 S 175.17 E DEPTH = 570.0 KM MB = 5.5							TELESEISMIC SOLUTION
			SOUTH OF FIJI ISLANDS							
18	ASB	EP	16 53 47.0	9.9	.3		8119	184		TELE
18	ASD	IP	16 53 47.2	14.3	.3		8123	184		
18	AMA	IP	16 53 47.4	14.7	.4		8121	186		
18	ASC	EP	16 53 47.8				8130	184		
18	AND	EP	16 53 48.2				8141	184		
18	ANA	EP	16 53 48.8				8146	183		
18	RAT	EP	16 53 49.1	13.0	.3		8164	183		
18	SSI	IP	16 53 50.3	29.6	.4		8180	184		
18	ADK	EP	16 53 51.0				8207	188		
18	RAT	IP	19 45 18.4	23.6	.2					REGIONAL
		E(S)	19 45 43.2							
18	ASD	EP	19 45 29.6							QP
18	22 8 38.99		51.69 N 178.70 E DEPTH = 83.0 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
18	ANA	IP	22 08 51.0				7	20	.2	
18	AND	IP	22 08 51.3				23	308	.1	
		ES	22 09 .4						.3	
18	RAT	IP C	22 08 51.3	16.3	.1	3.22	28	116	-.1	
		ES	22 09 .3						-.2	
18	ASC	IP D	22 08 52.3				41	308	.2	
18	ASB	EP	22 08 52.8				53	314	-.1	
18	ASD	IP D	22 08 53.1	1.8	.1	2.32	56	307	-.0	
		ES	22 09 3.2						-.2	
18	SSI	EP	22 08 53.9	2.6	.1	2.49	65	250	-.0	
18	AMA	IPGD	22 34 36.4	10.7	.1	2.89				
		IS	22 34 43.0							
18	SSI	EP	22 34 48.0							
18	ASD	EP	22 34 49.1							QP
18	ASC	EP	22 34 51.0							
18	22 52 32.32		51.28 N 179.90 E DEPTH = 25.0 KM							FIXED DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
18	ASD	EPG	22 52 40.0				41	107	-.2	LOCAL
18	ASB	IPG	22 52 41.0				46	101	.1	
		IS	22 52 47.2						-.0	
18	ASC	EPG	22 52 42.2				55	111	.0	
18	23 16 33.99		51.19 N 178.44 E DEPTH = 38.8 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
18	AND	IPGC	23 16 44.5				54	221	-.2	
18	ANA	IPGD	23 16 44.5				51	198	.3	
		IS	23 16 51.8						.1	
18	ASC	EP	23 16 45.1				59	239	-.1	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
18	ASB	EP	23 16 45.2				59	252	-.1	QP
18	RAT	IPG	23 16 46.3	2.6	.1	2.38	68	173	-.2	
18	ASD	EP	23 16 46.4				67	251	.1	
18	SSI	IP D	23 16 52.4	9.2	.1	3.09	111	226	.2	
		IS	23 17 5.4						-.2	

19 0 30 12.47 51.12 N 179.43 W DEPTH = 0.0 KM FIXED DEPTH SOLUTION
DELAROF ISLANDS, ALEUTIAN ISLANDS

19	AMA	IPGD	00 30 17.9				30	230	.1	
19	ASD	EP	00 30 28.6	57.8	.2	3.48	91	109	-.0	
19	ASB	EP	00 30 30.3	18.9	.1	3.32	96	106	.9	EMERGENT
19	ASC	EP	00 30 30.9				105	111	.1	
19	SSI	IP C	00 30 31.5	30.8	.1	3.59	110	141	-.0	
		I(S)	00 30 45.7						.3	
19	AND	EP	00 30 33.3				123	113	-.2	
19	ANA	EP	00 30 36.7				144	112	-.0	QP
19	RAT	EP	00 30 40.1				173	115	-1.0	

19 0 31 56.54 50.99 N 179.84 W DEPTH = 29.6 KM FREE DEPTH SOLUTION
DELAROF ISLANDS, ALEUTIAN ISLANDS

19	AMA	EP	00 32 7.5	7.1	.2	2.46	61	237	.0	VERY ODD FREQ
		I(S)	00 32 15.4						-.0	
19	ASD	EP	00 32 8.9	3.5	.1	2.51	73	128	-.3	NICE LOCAL
19	ASB	EP	00 32 9.4	13.5	.2	2.81	76	123	-.3	
19	ASC	EP	00 32 11.5				88	127	.2	QP
19	AND	IP	00 32 14.4				106	127	.3	
19	SSI	EP	00 32 14.5	6.2	.1	2.90	109	158	.1	
		I(S)	00 32 27.4						-.1	
19	RAT	EP	00 32 21.1				156	125	-.1	QP,EMERGENT

19	AMA	IPGD	04 57 56.8	8.8	.1	2.46				
		IS	04 57 59.6							
19	ASD	EP	04 58 11.3							
19	SSI	EP	04 58 11.6	1.9	.1					
19	ASB	EP	04 58 12.1							
19	ASC	EP	04 58 13.4							POOR

19 6 58 9.20 50.17 N 179.13 E DEPTH = 50.0 KM FIXED DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

19	ASB	IP C	06 58 29.6				133	184	-.3	
		IP	06 58 30.8	34.5	.2	3.43				
19	ASD	IP C	06 58 30.0				137	186	-.3	POSS. T PHASES
		IP	06 58 31.2	15.1	.2	3.09				
		I(S)	06 58 45.2						-.6	
19	ASC	EP	06 58 31.5				144	181	.3	QP
		IP	06 58 32.6							
19	AND	IP	06 58 32.5				155	175	-.1	
19	ANA	EP	06 58 34.0				165	168	.1	QP
19	AMA	EP	06 58 34.9	5.7	.2	2.75	176	226	-.3	
19	RAT	EP	06 58 36.5	2.6	.1	2.73	190	163	-.4	
19	SSI	EP	06 58 38.5	14.8	.2	3.20	194	190	1.1	

19 8 4 58.27 51.82 N 179.99 W DEPTH = 102.4 KM FREE DEPTH SOLUTION
DELAROF ISLANDS, ALEUTIAN ISLANDS

19	SSI	IP	08 05 13.0				31	106	-.1	
		I(S)	08 05 26.5						2.7	
19	ASD	EP	08 05 15.0	18.1	.1	3.39	66	44	-.1	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
		ES	08 05 27.6						.2	
19	ASB	EP	08 05 15.5	18.7	.1	3.42	73	46	-.1	
19	ASC	IP	08 05 15.5				71	56	.1	
19	AND	IP D	08 05 16.0				78	69	-.0	
19	AMA	EP	08 05 16.6	12.1	.1	3.25	84	314	.1	
		ES	08 05 29.9						.0	
19	ANA	IP D	08 05 17.8				96	77	.3	
19	RAT	IP C	08 05 19.4	25.4	.1	3.64	116	88	-.1	

19 11 20 38.50 51.89 N 179.32 W DEPTH = 106.7 KM FREE DEPTH SOLUTION
DELAROF ISLANDS, ALEUTIAN ISLANDS

19	AMA	EP	11 20 55.9	2.9	.2	2.32	68	348	-.0	VERY POOR
		E(S)	11 21 8.6						-.0	
19	SSI	EP	11 20 56.4				75	90	-.0	
19	ASD	EP	11 20 59.3				108	59	.1	
19	AMA	IPGD	11 46 21.7	28.0	.1	3.15				
		IS	11 46 26.2							
19	ASD	EP	11 46 33.8							
19	SSI	EP	11 46 35.6							
19	AMA	EP	12 16 2.7	5.4	.2					
19	SSI	EP	12 16 12.5	3.3	.1					
19	ASD	EP	12 16 13.8	1.7	.1					
19	ASB	EP	12 16 15.8	5.6	.2					
19	RAT	IPGC	12 59 41.9	1.9	.1	2.20				
		E(S)	12 59 49.7							
19	SSI	IP	12 59 53.1							
19	RAT	IPG	13 21 42.9							SMALL
19	ANA	EP	13 21 44.5							QP
19	AND	IP	13 21 45.6							
19	ASC	EP	13 21 47.2							QP
19	ASD	EP	13 21 48.4	.7	.1					
19	SSI	EP	13 21 48.8							

19 14 30 37.55 52.14 N 179.88 W DEPTH = 178.4 KM FREE DEPTH SOLUTION
DELAROF ISLANDS, ALEUTIAN ISLANDS

19	SSI	IP C	14 31 1.9	4.2	.2	2.62	46	53	.0	
19	ASD	EP	14 31 4.5	1.3	.1	2.44	99	33	.1	
		ES	14 31 24.2						.1	
19	ASB	EP	14 31 4.8	3.8	.1	2.93	106	35	-.1	
19	ASC	EP	14 31 4.8				100	41	.3	
19	AMA	IP C	14 31 5.0	8.2	.2	2.96	108	331	-.0	
19	RAT	EP	14 31 6.4				129	72	-.1	
19	RAT	IP	15 30 54.2	7.5	.1	3.10				
		ES	15 31 11.0							
19	SSI	EP	15 31 5.6							

19 16 29 58.49 51.23 N 179.81 E DEPTH = 25.0 KM FIXED DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

19	ASD	IPGC	16 30 5.9	3.4	.1	2.27	37	119	.0	
		IS	16 30 10.9						-.4	
19	ASB	EPG	16 30 6.2				42	111	-.3	
19	ASC	IPG	16 30 7.4				52	120	-.5	
19	SSI	IPGD	16 30 11.3	3.3	.1	2.49	76	168	-.1	
19	AND	EP	16 30 11.8				70	122	1.2	QP

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
19	AMA	IP C	17 18 53.9	7.1	.1	2.84				
		E(S)	17 19 3.0							
19	ASD	EP	17 19 9.4	1.0	.1					
19	SSI	EP	17 19 10.0	4.4	.1					
19	ASC	EP	17 19 12.1							QP

19 17 20 38.85 51.08 N 178.44 E DEPTH = 25.0 KM FIXED DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

19	ASB	EP	17 20 50.0	6.1	.2	2.40	64	241	-.0	P SPIKE
		ES	17 20 58.0						-.2	
19	AND	IP D	17 20 50.0				64	214	-.0	
		ES	17 20 58.1						-.1	
19	ANA	IP	17 20 50.1				62	194	.3	
19	ASC	IP	17 20 50.4				66	230	.1	
19	ASD	EP	17 20 50.8				71	242	-.3	
19	RAT	IP C	17 20 52.1	5.7	.1	2.75	80	174	-.3	
19	SSI	EP	17 20 58.6	2.4	.1	2.52	120	222	.2	QP

19	AMA	IPGD	19 16 17.1	9.0	.1	2.82				
		IS	19 16 23.9							
19	SSI	IP	19 16 30.9	4.4	.1					
19	RAT	EP	19 47 .6							
		EP	19 47 2.9	4.6	.1	2.80				
		E(S)	19 47 13.9							
19	SSI	EP	19 47 13.9	3.2	.1					

19 21 6 47.55 51.20 N 178.51 E DEPTH = 24.8 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

19	ANA	EPG	21 06 56.8				48	193	.4	
19	AND	IPGC	21 06 56.9				50	218	.2	
		IS	21 07 3.6						.2	
19	ASB	IPG	21 06 57.4	3.3	.1	2.37	54	252	.1	P SPIKE
		ES	21 07 3.7						-.7	
19	ASC	IPG	21 06 57.5				54	238	.3	
19	ASD	EPG	21 06 58.2				62	251	-.2	
19	RAT	IPGC	21 06 58.7	2.5	.1	2.32	67	169	-.5	
19	SSI	IP D	21 07 5.1	8.5	.1	3.03	107	225	-.0	

19 22 51 48.28 51.31 N 179.85 W DEPTH = 24.7 KM FREE DEPTH SOLUTION
DELAROF ISLANDS, ALEUTIAN ISLANDS

19	AMA	EP	22 51 57.6	2.3	.1	2.20	51	273	-.0	
		ES	22 52 4.4						.0	
19	ASD	EP	22 51 58.4				57	99	-.0	
19	ASB	EP	22 51 59.3	2.6	.1	2.32	63	95	-.0	
		IS	22 52 7.4						.0	
19	ASC	EP	22 52 .5				71	104	.1	
19	SSI	EP	22 52 1.2	2.4	.1	2.35	76	149	-.0	

20	ASD	IP	00 18 24.1							
		E(S)	00 18 31.2							
20	ASB	IP	00 18 24.9							
		E(S)	00 18 32.7							
20	AND	IP	00 18 29.1							
20	ASD	EP	01 57 30.6	11.8	.1	3.00				
		I(P)	01 57 32.8							
20	ASB	EP	01 57 30.9							
		I(S)	01 57 39.1							
20	AMA	EP	01 57 31.0	23.4	.2					

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NOV   STA  PHASE    TIME        AMP   PER  MAG  DIST  AZI   RES    REMARKS
1970               (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

20    SSI  EP     01 57 36.9    21.0  .1

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. 20     2 26 17.65  51.77 N  179.90 W  DEPTH =  83.2 KM                    FREE DEPTH SOLUTION   .
.                   DELAROF ISLANDS, ALEUTIAN ISLANDS                                              .
.                                                                                                  .
. 20    SSI  IP C   02 26 30.5     2.6  .1  2.44     38  112    -.1                                .
.            ES     02 26 40.1                                   .1                                .
. 20    ASD  EP     02 26 32.6     2.0  .1  2.38     67   51    -.1                                .
. 20    ASB  EP     02 26 33.2     2.4  .1  2.48     74   52    -.2                                .
.            ES     02 26 44.8                                  -.0                                .
. 20    AMA  EP     02 26 33.6     1.8  .1  2.35     76  314     .0                                .
. 20    ASC  EP     02 26 33.6                       73   62     .4                                .
.....................................................................................................

20    ASD  EP     02 47  7.7     2.1  .1
20    ASC  EP     02 47  7.9
20    ANA  EP     02 47  8.0
20    ASB  EP     02 47  8.2     2.4  .1
20    RAT  IP D   02 47  8.5     9.5  .1

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. 20     3 35 44.07  52.26 N  179.05 W  DEPTH = 125.0 KM                   FIXED DEPTH SOLUTION   .
.                   DELAROF ISLANDS, ALEUTIAN ISLANDS                                              .
.                                                                                                  .
. 20    ASD  EP     03 36 10.0     1.3  .1  2.42    147   48    -.0                                .
. 20    ASB  EP     03 36 10.6     1.6  .1  2.54    154   49    -.1                                .
.            E(S)   03 36 30.2                                  -.0                                .
. 20    ASC  EP     03 36 10.7                      152   54     .2                                .
. 20    AND  EP     03 36 11.2                      158   60     .1                                .
. 20    ANA  EP     03 36 12.7                      172   65     .1                                .
. 20    RAT  EP     03 36 14.0     3.0  .1  2.86    187   73    -.2                                .
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20    ASB  EP     03 43 34.5
             ES     03 43 40.6
20    ASD  EP     03 43 34.9

20    ASB  EP     03 44 33.2
             ES     03 44 39.5
20    ASD  EP     03 44 33.7

20    ASD  EP     03 47 52.9     1.4  .1  1.89
             IS     03 47 57.8
20    ASB  EP     03 47 54.1
             IS     03 47 59.7
20    ASC  EP     03 47 55.3

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. 20     4 11 26.93  50.91 N  179.22 E  DEPTH =  27.9 KM                    FREE DEPTH SOLUTION   .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                  .
.                                                                                                  .
. 20    ASB  IPGD   04 11 36.5    32.3  .1  3.35     51  182     .2                                .
.            E(S)   04 11 42.9                                  -.3                                .
. 20    ASD  IPGD   04 11 36.8    28.1  .1  3.31     55  189    -.1                                .
. 20    ASC  IPG    04 11 38.2                       62  176     .2                                .
. 20    AND  IPGD   04 11 39.9                       75  165     .0                                .
. 20    ANA  IPGD   04 11 42.0                       89  154     .1                                .
. 20    SSI  EP     04 11 45.5                      113  193     .1                                .
. 20    RAT  IPG    04 11 45.8    16.8  .2  3.06    117  148    -.3                                .
. 20    AMA  EP     04 11 47.0    11.5  .2  2.91    124  251    -.1                                .
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NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
20	4 33 2.60	51.30 N 179.94 W DEPTH = 40.0 KM MB = 5.1								TELESEISMIC SOLUTION
		DELAROF ISLANDS, ALEUTIAN ISLANDS								
20	ASD	IP D	04 33 12.0				51	101	-1.0	
20	ASB	IP D	04 33 12.5				57	97	-1.2	
20	AMA	IP D	04 33 13.6				58	271	-.2	TOTAL WIPE OUT
20	ASC	IP	04 33 14.1				65	106	-.7	
20	AND	IP D	04 33 16.6				82	111	-.6	
20	SSI	IP D	04 33 18.3				74	153	2.3	
20	ANA	EP D	04 33 19.2				104	110	-.6	
20	RAT	IP D	04 33 23.1				132	114	-.2	
20	ADK	EP	04 33 37.7				241	256	.9	
		IS	04 34 5.2						3.5	
20	SMY	EP	04 34 3.5				438	109	2.4	
20	GMA	EP	04 37 4.4				1909	223	1.7	
20	ASD	IPG	04 38 21.3	4.3	.1	2.51				
		IS	04 38 28.2							
20	ASB	EPG	04 38 21.8	7.0	.1	2.74				
20	AMA	IPGC	04 38 23.3	6.3	.1	2.87				
		I(S)	04 38 34.4							
20	ASC	IPG	04 38 23.7							
20	AND	EP	04 38 26.3							
20	SSI	IPGC	04 38 27.8	20.5	.1					
20	4 48 43.41	51.02 N 179.95 E DEPTH = 22.4 KM								FREE DEPTH SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
20	ASD	IPG	04 48 53.8	4.1	.1	2.49	59	134	-.0	
		IS	04 49 .7						-.7	
20	ASB	IPG	04 48 54.3	13.7	.2	2.73	62	128	.1	
		ES	04 49 2.1						.0	
20	AMA	EPG	04 48 55.8	6.8	.1	2.78	73	246	.0	
		ES	04 49 4.5						-.3	
20	ASC	EPG	04 48 56.1				74	132	.2	
20	AND	EPG	04 48 59.2				92	131	.5	QP
20	SSI	IPG	04 49 .2	38.9	.1	3.66	101	166	.2	
20	ANA	EP	04 49 1.5				112	127	-.2	
20	RAT	EP	04 49 5.5	4.5	.1	2.86	142	127	-.7	
20	AMA	EP	04 53 17.8							POOR,EMERGENT
20	SSI	EP	04 53 28.9							
20	ASD	EP	04 53 32.4							
20	ASC	EP	04 53 34.0							
20	AND	EP	04 53 35.1							
20	ANA	EP	04 53 37.8							
20	RAT	EP	04 53 40.2							
20	ANA	IPG	05 07 11.6							WEST END LOCAL
		IS	05 07 15.0							
20	RAT	IPG	05 07 12.8							
		IS	05 07 17.0							
20	5 14 23.82	51.06 N 179.98 E DEPTH = .3 KM								FREE DEPTH SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
20	ASD	EP	05 14 34.4	1.3	.1	1.94	58	129	.1	
		ES	05 14 41.9						-.1	
20	ASB	EP	05 14 35.0	1.7	.1	2.10	61	123	.1	
		IS	05 14 42.7						-.3	
20	AMA	EP	05 14 36.2	1.9	.1	2.18	68	249	-.0	
20	ASC	EP	05 14 36.7				72	128	-.3	
20	SSI	IP	05 14 40.8				96	163	-.0	
		IP	05 14 42.2							

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
20			5 46 40.65 51.57 N 179.15 E DEPTH = 64.4 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
20	ASD	EP	05 46 50.5	1.4	.1	2.06	24	327	-.3	
20	ASC	EP	05 46 50.5				12	357	.2	
20	ASB	EP	05 46 50.7				24	345	-.1	
		ES	05 46 57.8						-.4	
20	ANA	IP	05 46 51.3				35	100	-.1	
20	AND	EP	05 46 51.4				14	86	1.0	
20	SSI	EP	05 46 52.5	1.5	.1	2.14	47	220	.2	
		ES	05 47 .5						-.3	
20	RAT	IP	05 46 53.3	2.0	.1	2.31	62	114	-.4	
20			5 54 37.92 51.04 N 179.96 E DEPTH = 12.6 KM							FREE DEPTH SOLUTION
			RAT ISLANDS, ALEUTIAN ISLANDS							
20	ASD	EP	05 54 47.7				58	132	-.2	
20	ASB	EP	05 54 48.3				61	125	-.0	
		E(S)	05 54 55.8						-.1	
20	AMA	EP	05 54 49.8				71	248	-.0	POOR
20	ASC	EP	05 54 50.2				72	130	.1	
20	SSI	E(P)	05 54 54.0				98	165	.0	
20			5 56 56.98 50.88 N 179.92 W DEPTH = 30.0 KM							FREE DEPTH SOLUTION
			DELAROF ISLANDS, ALEUTIAN ISLANDS							
20	AMA	EP	05 57 9.3				73	231	-.3	IP0557069
		IP	05 57 9.9							
		I(S)	05 57 19.3						.5	
20	ASD	EP	05 57 10.1				77	137	-.2	
		IP	05 57 11.5	68.5	.1	3.82				
20	ASB	EP	05 57 10.6				80	132	-.0	
		IP	05 57 11.9	121.5	.2	3.78				
		E(S)	05 57 20.6						.0	
20	ASC	EP	05 57 12.4				91	135	.0	
20	AND	EP D	05 57 14.9				110	134	-.2	
		IP	05 57 15.7							
20	SSI	IP D	05 57 16.3	141.1	.1	4.29	118	163	-.0	
		IS	05 57 30.2						-.2	
20	ANA	IP D	05 57 18.3				130	129	.3	
20	RAT	EP	05 57 22.0	11.8	.1	3.32	159	129	.0	
20	AMA	IPGD	07 30 43.6	9.1	.2	2.55				
		ES	07 30 50.9							
20	SSI	EP	07 30 59.1	3.1	.1					
20	AMA	IP D	07 33 28.3							
20	ASD	IP	07 33 38.4	138.5	.2					
20	ASB	IP	07 33 39.4							
		IP	07 33 40.4	228.5	.3					
20	ASC	IP	07 33 40.7							
20	SSI	IP D	07 33 41.8							
20	AND	EP	07 33 43.1							
		IP	07 33 45.1							
20	ANA	IP	07 33 46.1							
		IP	07 33 47.2							
20	RAT	IP	07 33 49.8							
		E(S)	07 34 12.8							
20	ADK	EP	07 33 50.7							
		ES	07 34 15.6							
20	AMA	IPGD	07 37 46.8	81.6	.2	3.38				
		IS	07 37 52.1							

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
20	ASD	EP	07 37 58.2							
20	SSI	EP	07 38 .2	5.5	.1					
20	AMA	IPGD	07 45 20.3							
20	ASD	EP	07 45 30.8	6.6	.1					
20	ASB	EP	07 45 31.3							
20	ASC	EP	07 45 32.9							
20	SSI	IP	07 45 33.8	49.2	.1	3.89				
		I(S)	07 45 49.4							
20	AND	EP	07 45 35.3							
20	ANA	EP	07 45 40.1							
20	RAT	EP	07 45 42.0							
		EP	07 45 44.5	48.2	.3					
20	ADK	EP	07 45 42.6							
		ES	07 46 5.8							

20 7 50 31.54 51.73 N 179.74 E DEPTH = 100.0 KM FIXED DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

20	ASD	EP	07 50 46.8	1.0	.1	2.09	47	36	-.0	
		IS	07 50 58.1						.1	
20	ASB	EP	07 50 47.2	1.4	.1	2.26	54	40	-.1	
		ES	07 50 58.7						-.0	
20	ASC	EP	07 50 47.2				50	53	.2	
20	AND	IP D	07 50 47.5				58	71	-.0	
20	ANA	IP	07 50 49.1				76	81	.2	
20	RAT	IP D	07 50 50.6	2.0	.1	2.49	98	94	-.2	

20 8 6 26.68 51.40 N 179.76 E DEPTH = 28.0 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

20	ASD	IPGC	08 06 33.1	2.8	.1	2.15	29	88	-.2	
20	ASB	IPGC	08 06 34.1	4.8	.1	2.43	36	83	-.0	
		IS	08 06 39.5						-.1	
20	ASC	IPGC	08 06 35.1				42	99	.2	
		IS	08 06 41.2						.3	
20	SSI	IPG	08 06 36.8	3.6	.1	2.43	56	168	-.1	
20	AMA	IPGD	08 06 40.3	1.9	.1	2.26	79	279	.1	
20	RAT	EP	08 06 44.5	4.8	.2	2.48	109	114	-.0	

20	ADK	EP	08 16 30.9							
		ES	08 16 38.5							
20	RAT	EP	09 03 3.4							
		IP	09 03 4.1	4.8	.1	2.94				
		E(S)	09 03 21.5							
20	ANA	EP	09 03 6.8							

20 9 22 7.65 51.96 N 179.53 E DEPTH = 179.4 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

20	SSI	EP	09 22 31.3				8	331	-.1	QP
		E(L)	09 22 50.9							
20	ASD	EP	09 22 31.5				64	12	-1.3	
20	ASC	EP	09 22 33.1				60	25	.5	
20	ANA	IP	09 22 33.1				70	58	.0	
		ES	09 22 51.5						-.1	
20	ASB	EP	09 22 33.2	1.1	.1	2.36	69	16	.2	QP
		ES	09 22 51.6						.1	
20	AND	EP	09 22 33.3				59	42	.7	QP
20	RAT	IP	09 22 33.5	6.1	.1	3.11	84	78	-.3	
20	AMA	EP	09 22 36.1	2.1	.1	2.69	120	309	.0	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
20	10 5 40.32	50.97 N 179.81 E DEPTH = 32.4 KM								FREE DEPTH SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
20	ASD	IP	10 05 50.9	9.5	.1	2.87	57	145	.0	
		ES	10 05 57.7						-.8	
20	ASB	IP C	10 05 51.4	6.3	.1	2.70	58	137	.3	
		ES	10 05 58.8						-.1	
20	ASC	EP	10 05 53.1				71	140	.3	
20	AMA	EP	10 05 54.7	4.7	.1	2.68	83	246	.1	
		IS	10 06 4.4						-.6	
20	AND	IP	10 05 55.5				89	137	.1	
		I	10 05 58.6							
20	ANA	EP	10 05 57.4				108	132	-.9	
20	SSI	EP	10 05 58.2	9.8	.1	3.08	104	171	.6	
20	RAT	EP	10 06 2.3				138	131	-.1	
		I	10 06 5.0	14.7	.1	3.37				
20	AMA	IPG	10 40 50.3	7.1	.1	2.46				
		IS	10 40 53.8							
20	ASD	EP	10 41 3.0	1.0	.1	2.10				
20	SSI	EP	10 41 3.7	2.4	.1					
20	ASB	EP	10 41 4.4	1.4	.1	2.29				
		ES	10 41 18.0							
20	ASD	EP	10 49 9.1	1.0	.1					
20	SSI	EP	10 49 17.0	1.6	.1	2.22				
		E(S)	10 49 26.9							
20	SSI	EPG	10 57 29.9	2.3	.1	2.01				
		I(S)	10 57 33.8							
20	ASD	EPGD	10 57 33.5	2.0	.1	2.19				
20	ASC	EPG	10 57 34.4							QP
20	ASB	EPGD	10 57 34.6	3.0	.1	2.42				P SPIKE
		I(S)	10 57 42.7							
20	11 13 7.30	51.39 N 178.29 W DEPTH = 34.0 KM MB = 5.1								TELESEISMIC SOLUTION
		DELAROF ISLANDS, ALEUTIAN ISLANDS								
20	AMA	IP D	11 13 18.6				58	79	.5	WHITE OUT
20	ASD	EP	11 13 32.3				165	89	-.3	
20	SSI	IP D	11 13 32.7				157	110	1.1	
20	ASB	EP	11 13 33.3				171	88	-.1	
20	ADK	IP C	11 13 29.5				130	246	1.2	FELT I,ML 4.8
		IS	11 13 45.2						1.6	
20	ASC	EP	11 13 34.3				177	92	.2	
20	AND	EP D	11 13 36.5				192	95	.5	
20	ANA	IP	11 13 39.6				213	96	1.1	
20	RAT	IP D	11 13 42.8				238	100	1.1	
20	SMY	EP	11 14 20.0				542	103	.9	
20	GMA	EP	11 17 0.0				1848	220	-.4	
20	AMA	IPGC	11 19 19.2	17.3	.1	3.18				
		ES	11 19 27.3							
20	ASD	EP	11 19 33.1	2.0	.1					
20	SSI	EP	11 19 33.7	8.1	.1	3.16				
		IS	11 19 51.6							
20	ASB	EP	11 19 34.3							QP
20	ASC	EP	11 19 36.3							QP
20	AMA	EP	11 25 16.5							
		I	11 25 16.9	6.4	.1	2.72				
	*	ES	11 25 24.1							
20	SSI	IP	11 25 31.1	3.0	.1	2.73				
		IS	11 25 49.1							

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
20	AMA	IPGD	11 27 54.0	120.7	.1					MIN.AMPLITUDE
20	ASD	IP D	11 28 7.6	19.3	.1	3.58				
20	SSI	IP	11 28 8.3	58.6	.1	4.07				
		ES	11 28 28.6							
20	ASB	EP	11 28 8.7	46.9	.2	3.68				
		ES	11 28 29.2							
20	ADK	EP	11 28 4.7							
		ES	11 28 20.4							
20	ASC	EP	11 28 9.6							
20	AND	EP	11 28 11.9							
20	ANA	EP	11 28 15.2							
20	RAT	EP	11 28 18.4	34.7	.2					
20	ASB	EP	11 43 35.2	2.3	.1	2.61				
		ES	11 43 52.9							
20	ASC	EP	11 43 35.2							
20	ASD	EP	11 43 35.6	1.7	.1	2.48				
20	SSI	EP	11 43 43.5	2.0	.1					QP
20	AMA	IP	12 09 50.3							
		IP	12 09 50.7	8.1	.1					
20	SSI	IP	12 10 4.7	3.6	.1	2.82				
		ES	12 10 23.2							

20 12 13 4.52 50.96 N 178.64 E DEPTH = 25.5 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

20	ASB	IPGC	12 13 15.3	6.6	.1	2.72	62	224	-.1
		IS	12 13 23.1						-.1
20	ASD	IPGC	12 13 16.2	5.3	.1	2.66	69	226	-.2
		IS	12 13 24.8						-.2
20	ASC	EPG	12 13 16.2				67	214	.1
20	AND	IPGC	12 13 16.7				70	198	.1
20	ANA	IPGC	12 13 17.5				74	181	.3
20	RAT	EP	12 13 20.1	2.7	.1	2.49	96	167	-.3
20	SSI	EP	12 13 24.5	6.1	.1	2.93	123	213	.0

20	ADK	EP	12 19 50.0							
		ES	12 19 57.7							

20 12 44 31.90 49.99 N 159.26 E DEPTH = 35.0 KM MB = 4.6 TELESEISMIC SOLUTION
KURIL ISLANDS REGION

20	RAT	IP C	12 47 25.1	57.3	.3		1354	269	REGIONAL
		E(S)	12 49 29.4						
20	ANA	EP	12 47 28.4				1377	270	
20	AND	EP	12 47 30.1				1397	271	
20	ASC	EP	12 47 32.2				1412	271	
20	ASB	EP	12 47 32.2	15.7	.3		1418	272	
20	ASD	EP	12 47 33.7	9.8	.3		1424	272	
20	SSI	EP	12 47 35.3	16.6	.3		1441	270	QP
20	ADK	EP	12 48 16.9				1705	272	
		ES	12 48 30.6						

20 13 46 52.80 28.12 N 142.48 E DEPTH = 33.0 KM MB = 5.5 MS = 5.4 TELESEISMIC SOLUTION
BONIN ISLANDS REGION

20	RAT	EP	13 53 24.3	39.6	.4		3970	242	TELE
20	ANA	EP	13 53 26.2				3981	243	EMERGENT
20	ASB	EP	13 53 29.1	22.2	.4		4004	244	
20	SSI	EP	13 53 32.0	9.2	.3		4052	244	
20	ADK	EP	13 53 51.0				4292	248	
		ES	13 58 18.0						
		ER	14 01 0.0						

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
20	AMA	IPGC	14 16 25.4	33.3	.1					
20	ASD	EP	14 16 39.5	5.9	.1	3.01				
20	SSI	EP	14 16 39.8	12.8	.1	3.36				
		IS	14 16 57.8							
20	ASB	EP	14 16 41.1	6.5	.1	3.08				
		ES	14 16 59.7							
20	ASC	EP	14 16 42.4							
		ES	14 17 2.1							
20	AND	EP	14 16 44.3							
20	ANA	EP	14 16 47.0							
20	RAT	EP	14 16 50.1	16.0	.2					
20	AMA	IPGC	14 17 47.1							
		IP	14 17 47.6	36.2	.1	3.51				
		ES	14 17 55.5							
20	ASD	EP	14 18 1.1	2.8	.1	2.70				
20	SSI	EP	14 18 1.6	14.5	.1	3.42				EMERGENT
		IS	14 18 19.6							
20	ASB	EP	14 18 3.3	3.0	.1	2.76				QP
		ES	14 18 22.6							
20	ASC	EP	14 18 4.1							
20	AND	EP	14 18 6.1							QP
20	ANA	EP	14 18 8.6							QP
20	RAT	EP	14 18 11.9	5.1	.1					QP
20	AMA	IPGD	14 36 1.3	3.9	.1	2.10				
		IS	14 36 4.0							
20	SSI	IP	14 36 17.9	2.6	.1	2.60				
		E(S)	14 36 32.9							
20	AMA	EP	14 36 34.1	3.1	.1	2.26				
		E(S)	14 36 39.3							
20	SSI	EP	14 36 48.3	1.9	.1					
20	AMA	IPGC	15 20 31.5	11.1	.1	2.99				
		I(S)	15 20 39.8							
20	SSI	EP	15 20 46.2	4.6	.1	2.92				
		ES	15 21 4.3							

20 15 55 33.90 51.17 N 178.30 W DEPTH = 31.0 KM MB = 3.9 TELESEISMIC SOLUTION
DELAROF ISLANDS, ALEUTIAN ISLANDS

20	AMA	IPGD	15 55 44.9				58	103	.4	
20	ADK	IP C	15 55 55.7				143	237	-1.1	
		IS	15 56 11.2						-2.2	
20	ASD	EP	15 55 58.5				166	97	-1.1	QS
		E(S)	15 56 20.6						2.3	
20	SSI	IP D	15 55 59.1				167	118	-.6	
20	ASB	EP	15 55 59.6	325.9	.3	4.32	172	96	-.8	
20	ASC	EP	15 56 .6				179	99	-.6	
20	AND	EP	15 56 2.8				196	102	-.5	
20	ANA	EP	15 56 5.9				217	102	-.0	
20	RAT	EP	15 56 8.8	177.0	.2		244	105	-.4	

20 16 14 14.77 52.02 N 178.70 E DEPTH = 73.4 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

20	RAT	EPG	16 14 26.5	.9	.1	1.92	35	47	-.0	V.V. EMERGENT
		IS	16 14 34.9						-.2	
20	ANA	EPG	16 14 27.2				44	4	.1	
		IS	16 14 36.1						.1	
20	AND	EPG	16 14 27.9				53	341	.1	
20	ASC	EPG	16 14 29.4				69	333	.2	
20	ASD	EPG	16 14 30.4	.3	.1	1.55	82	328	-.1	QP,QTAMP
20	ASB	EPG	16 14 30.5	.5	.1	1.80	82	333	-.0	QP,QTAMP

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NOV   STA  PHASE    TIME        AMP   PER  MAG   DIST  AZI   RES    REMARKS
1970               (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

20    AMA  IPGD  16 24 38.1    31.3  .1  3.39
           ES    16 24 45.4
20    SSI  EP    16 24 50.8     .7  .1  2.06
           ES    16 25  7.2

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. 20    16 55  9.99  52.38 N  179.69 W  DEPTH = 147.0 KM                    FREE DEPTH SOLUTION  .
.                   DELAROF ISLANDS, ALEUTIAN ISLANDS                                              .
.                                                                                                  .
. 20    AMA  EP    16 55 35.9     1.0  .1  2.31    128  342    -.0    V.V. EMERGENT               .
. 20    ASD  EP    16 55 36.2     1.3  .1  2.42    128   31     .2                                .
. 20    AND  EP    16 55 36.2                      130   45     .1                                .
. 20    ASB  EP    16 55 36.3     1.8  .1  2.59    135   32    -.2                                .
.           E(S)   16 55 55.9                                   -.0                                .
. 20    ASC  EP    16 55 36.3                      129   37     .3                                .
. 20    ANA  EP    16 55 37.1                      141   53     .0                                .
. 20    RAT  EP    16 55 37.8     1.4  .1  2.49    150   64    -.1                                .
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. 20    17 21 45.90  52.60 N  176.11 W  DEPTH = 276.0 KM                    TELESEISMIC SOLUTION  .
.                   ANDREANOF ISLANDS, ALEUTIAN IS.                                                .
.                                                                                                  .
. 20    AMA  IP    17 22 33.3                      252   54    -.7    DEEP,I172301.6              .
.           I      17 22 34.3    47.4  .1                                                          .
.           E(S)   17 23  3.6                                  -5.5                               .
. 20    SSI  EP    17 22 37.7    10.7  .1          304   73    -.9                               .
. 20    ASD  EP    17 22 40.9     8.4  .1          339   65   -1.1    QTAMP                      .
.           ES     17 23 18.7                                  -4.4                               .
. 20    ASB  EP    17 22 41.7     7.9  .1          347   65   -1.1    QTAMP                      .
.           ES     17 23 20.0                                  -4.3                               .
. 20    ASC  IP D  17 22 41.8                      347   67   -1.0                               .
. 20    AND  EP    17 22 42.5                      357   69   -1.3                               .
.           IP     17 22 43.8                                                                      .
. 20    ANA  EP    17 22 44.4                      373   71   -1.0                               .
.           IP     17 22 45.7                                                                      .
. 20    RAT  EP    17 22 45.8                      390   75   -1.3                               .
.           I      17 22 47.7    20.1  .1                                                          .
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20    RAT  EP    17 24  1.9     4.1  .1  2.77                          POOR
           E(S)   17 24 15.8
20    ANA  EP    17 24  4.2
20    AND  EP    17 24  6.8

20    AMA  IPGD  18 00  2.4                                            NWEST END LOCAL
           ES     18 00  5.2
20    RAT  IPGD  18 00  4.2     2.0  .1  1.96
           ES     18 00  8.3
20    AND  EPG   18 00  4.4
           IS     18 00  8.4

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. 20    18 41 21.80  51.50 N  179.42 E  DEPTH =  23.8 KM                    FREE DEPTH SOLUTION  .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                                  .
.                                                                                                  .
. 20    ASD  IPGC  18 41 26.5     6.9  .1  2.37     13   24     .2                                .
.           ES     18 41 29.6                                   -.0                                .
. 20    ASC  IPGD  18 41 26.8                       18   77     .0                                .
.           ES     18 41 30.8                                    .4                                .
. 20    ASB  IPGC  18 41 27.0     1.2  .1  1.67     20   38     .1                                .
.           IS     18 41 30.6                                   -.1                                .
. 20    AND  EP    18 41 28.5                       33  102    -.0                                .
.           ES     18 41 33.2                                   -.2                                .
. 20    SSI  EP    18 41 30.2     1.6  .1  2.00     45  195    -.0                                .
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20    AMA  IPGC  18 51   .2     9.7  .1  2.94
           I      18 51  6.6
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NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
		I(S)	18 51 8.6							
20	ASD	EP	18 51 14.0	1.3	.1					QP
20	SSI	EP	18 51 14.9	8.6	.1	3.20				
		IS	18 51 33.3							
20	RAT	EP	18 51 24.6	3.0	.2					QP

20 19 59 24.85 51.38 N 178.80 E DEPTH = 50.0 KM FIXED DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

20	ASB	EP	19 59 33.8	1.1	.1	1.89	31	274	-.1	
		IS	19 59 40.3						-.2	
20	ANA	EP	19 59 34.0				29	161	.3	
20	ASD	E(P)	19 59 34.7				38	268	.2	QP,V.EMERGENT
20	RAT	EP	19 59 36.2	.6	.1	1.72	57	145	-.2	

20	RAT	EP	20 19 36.6	3.9	.1					
		I(S)	20 20 2.2							
20	ANA	EP	20 19 41.0							QP

20 21 12 8.60 50.91 N 173.11 W DEPTH = 62.0 KM TELESEISMIC SOLUTION
ANDREANOF ISLANDS, ALEUTIAN IS.

20	ADK	EP	21 12 45.9				265	113		
		ES	21 13 3.3							
20	AMA	EP	21 13 5.9				423	93		QS
		IP	21 13 7.5	5.1	.1					
		E(S)	21 13 41.4							
20	SSI	EP	21 13 18.3	2.8	.1		520	99		
20	ASD	EP	21 13 19.4	.7	.1		531	93		
20	ASB	EP	21 13 20.5	1.3	.1		538	92		
20	ASC	IP	21 13 21.6				544	94		
20	ANA	EP	21 13 26.1				580	95		
20	RAT	EP	21 13 28.7	1.5	.2		605	96		QP

20 21 53 25.00 51.12 N 178.66 E DEPTH = 28.3 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

20	ASB	IPGD	21 53 34.2	23.6	.1	3.21	49	238	.0	NICE
		IS	21 53 40.6						-.3	
20	ASC	IPGC	21 53 34.8				52	223	.2	
20	AND	IPGD	21 53 34.9				53	203	.1	
20	ASD	IPG	21 53 35.1	7.8	.1	2.77	56	238	-.1	
20	ANA	IPGD	21 53 35.4				56	180	.2	
20	RAT	IPGD	21 53 38.1	9.9	.1	2.98	79	163	-.3	
20	SSI	IP C	21 53 42.7	27.8	.1	3.54	107	217	.0	
20	AMA	E(P)	21 53 49.8	21.6	.1	3.58	157	264	-.0	QP,V.EMERGENT

20 22 9 37.77 51.54 N 177.65 E DEPTH = 50.2 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

20	RAT	IPG	22 09 49.1	21.1	.1	3.27	55	239	-.1	
		ES	22 09 57.4						-.1	
20	ANA	IPG	22 09 51.3				71	262	.4	
20	AND	IPG	22 09 53.2				90	269	-.1	
20	ASC	EP	22 09 55.2				106	275	.1	
20	ASB	EP	22 09 55.9	7.8	.1	3.04	113	281	-.1	
		IS	22 10 9.4						.1	
20	ASD	EP	22 09 56.6	11.3	.1	3.21	119	279	-.1	
		ES	22 10 10.5						-.0	
20	SSI	IP C	22 09 59.3	10.5	.1	3.24	140	254	.0	
		IS	22 10 15.0						.0	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
20	22 36 2.89	51.15 N 178.67 E DEPTH = 34.8 KM								FREE DEPTH SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
20	ASB	EP	22 36 12.2	1.1	.1	1.88	47	240	-.1	POOR
		ES	22 36 18.9						-.2	
20	ASC	EP	22 36 12.7				49	225	.1	
20	AND	IP C	22 36 12.7				50	203	-.0	
20	ASD	EP	22 36 13.1				54	240	-.1	
20	ANA	IP C	22 36 13.4				53	179	.3	
20	RAT	EP	22 36 16.0	.8	.1	1.88	76	162	-.3	
20	RAT	EP	22 43 22.1	1.8	.1	2.50				
		I(S)	22 43 39.8							
20	ANA	EP	22 43 23.1							
20	AND	EP	22 43 24.2							
20	SSI	EP	22 43 33.3	1.7	.1					
20	23 33 1.30	50.07 N 177.47 E DEPTH = 33.0 KM								TELESEISMIC SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
20	ASB	IP C	23 33 29.2	3.8	.1	2.90	190	222	-.6	
20	ANA	IP C	23 33 29.5				192	206	-.5	
20	AND	IP C	23 33 29.7				196	213	-.8	
		I(S)	23 33 48.1						-3.7	
20	ASD	EP	23 33 29.8	6.3	.1	3.13	197	223	-.9	
20	ASC	EP	23 33 30.0				195	218	-.4	
20	RAT	EP	23 33 30.7	2.8	.1		201	198	-.5	
20	SSI	IP	23 33 37.7	12.9	.1		251	217	.4	
20	AMA	EP	23 33 40.5	1.9	.1		276	242	.1	
20	23 53 53.95	51.01 N 179.51 E DEPTH = 25.0 KM								FIXED DEPTH SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
20	ASD	IPGC	23 54 2.0	7.7	.1	2.68	44	164	-.3	
		IS	23 54 7.5						-.8	
20	ASB	IPGC	23 54 2.4	4.6	.2	2.15	43	155	.2	
		IS	23 54 8.5						.4	
20	ASC	IPGD	23 54 4.0				56	154	.0	
		IS	23 54 11.3						.1	
20	AND	EP	23 54 6.3				73	147	-.1	
20	ANA	EP	23 54 9.3				91	139	.2	
20	RAT	E(P)	23 54 13.1	2.6	.1	2.56	120	136	-.4	
21	1 11 44.28	51.46 N 179.66 W DEPTH = 66.7 KM								FREE DEPTH SOLUTION
		DELAROF ISLANDS, ALEUTIAN ISLANDS								
21	AMA	EP	01 11 55.8	2.1	.1	2.30	43	297	-.0	
		ES	01 12 4.3						.0	
21	ASD	IP	01 11 58.2	2.9	.1	2.51	70	83	-.1	
21	SSI	EP	01 11 58.4	2.4	.1	2.43	71	132	-.0	
		IS	01 12 8.7						-.0	
21	ASB	EP	01 11 59.0	6.2	.1	2.86	77	81	-.0	
21	ASC	EP	01 11 59.7				82	90	.2	
21	1 45 57.43	51.33 N 179.94 E DEPTH = 9.1 KM								FREE DEPTH SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
21	ASD	IPGD	01 46 5.3	1.3	.1	1.83	42	99	.0	
		ES	01 46 10.9						-.1	
21	ASB	IPGC	01 46 6.2	3.2	.1	2.29	48	94	-.1	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
		IS	01 46 12.6						-.1	
21	ASC	EPG	01 46 7.5				56	105	.1	
		IS	01 46 14.8						.1	
21	SSI	EPG	01 46 9.1	1.1	.1	1.95	68	159	-.1	
		ES	01 46 17.7						-.0	
21	AMA	EP	02 10 24.2	3.0	.2					
21	ASD	EP	02 10 24.3	2.8	.1	2.71				
		IS	02 10 42.5							
21	ASB	EP	02 10 24.3	2.7	.1	2.69				
21	ASC	EP	02 10 26.1							
21	AND	EP	02 10 27.9							
21	SSI	EP	02 10 32.0	4.8	.1					
		IS	02 10 55.5							
21	RAT	EP	02 10 33.6	2.1	.1					

21 3 22 21.03 51.72 N 179.90 E DEPTH = 21.0 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

21	SSI	IPGC	03 22 27.2	42.8	.1	3.28	29	132	.2	
		ES	03 22 31.1						-.2	
21	ASD	IP C	03 22 30.4	2.9	.1	2.30	53	46	-.0	
21	ASC	EP	03 22 31.3				58	60	.1	
21	ASB	IP C	03 22 31.5	3.1	.1	2.37	60	48	.0	
		IS	03 22 39.2						.1	
21	AND	IP D	03 22 32.5				68	75	-.1	
21	AMA	EP	03 22 35.0	1.5	.1	2.17	84	305	-.0	
21	ANA	EP	03 22 35.3				86	83	-.1	

21 4 11 33.84 51.46 N 178.93 E DEPTH = 45.5 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

21	AND	IPGC	04 11 41.3				12	189	.1	
		ES	04 11 46.4						-.2	
21	ASC	EPG	04 11 41.7				17	267	.2	
21	ASB	EPG	04 11 41.8	1.4	.1	1.94	25	295	-.2	
21	ANA	IPGC	04 11 42.2				26	136	.1	
		ES	04 11 48.2						.1	
21	ASD	IPGD	04 11 42.4	3.1	.1	2.30	30	284	.0	
		IS	04 11 48.6						.0	
21	RAT	IPGD	04 11 45.0	2.9	.1	2.40	56	133	-.1	
21	AMA	IPGC	04 43 4.6	16.1	.1	3.19				
		IP	04 43 5.1							
		ES	04 43 13.6							
21	ASD	EP	04 43 18.4	3.1	.1					
21	SSI	IP	04 43 19.3	10.4	.1	3.29				
		IS	04 43 37.9							
21	ASB	EP	04 43 19.8	2.4	.1					
21	ASC	EP	04 43 20.5							
21	AND	EP	04 43 23.5							
21	ANA	EP	04 43 26.3							
21	RAT	IPGD	05 34 59.2	7.4	.1					
21	ANA	EP	05 35 .2							
		I(S)	05 35 9.2							
21	AND	EP	05 35 2.4							
21	ASD	EP	06 48 .5	.4	.1					LOW FREQ.L WAVE
		I(L)	06 48 9.0							
21	ASC	EP	06 48 .7							QP
21	AND	EP	06 48 .9							
21	ANA	EP	06 48 1.8							

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
21	SSI	IPGD	07 20 22.9	3.0	.1	2.21				
		IS	07 20 27.7							
21	ASD	EPG	07 20 23.7	1.1	.1	1.81				
21	ASB	IPGD	07 20 24.8	1.1	.1	1.86				
		ES	07 20 30.7							
21	ASC	EPG	07 20 25.4							

21 9 26 12.56 52.08 N 178.10 E DEPTH = 147.1 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

21	RAT	IP C	09 26 32.6	35.4	.1	3.77	36	333	-.2	
		ES	09 26 47.5						-.1	
21	ANA	IP D	09 26 34.2				64	323	.2	
21	AND	IP	09 26 35.1				83	315	-.0	
21	ASC	EP	09 26 36.4				101	314	.0	
21	SSI	IP D	09 26 36.8	15.1	.1	3.47	104	282	.2	
21	ASB	EP	09 26 37.5	5.1	.1	3.01	113	316	.2	
21	ASD	IP	09 26 37.4	6.3	.1	3.11	115	312	-.1	
		ES	09 26 55.7						.0	
21	AMA	EP	09 26 46.5	4.5	.1		212	296	-.2	

21 9 34 44.54 51.07 N 179.00 E DEPTH = 27.6 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

21	ASB	IPGD	09 34 52.1	10.0	.1	2.75	37	209	.0	
		IS	09 34 57.6						.0	
21	ASD	IPGC	09 34 52.8	6.3	.1	2.59	43	214	-.1	
		IS	09 34 58.9						-.1	
21	ASC	IPGC	09 34 53.3				45	195	.1	
21	AND	IPGC	09 34 54.5				55	177	-.0	
21	ANA	IPGC	09 34 56.1				66	159	-.0	
21	SSI	IPGC	09 35 1.2	6.7	.1	2.90	100	204	.0	

21 10 53 14.80 51.88 N 178.70 E DEPTH = 85.3 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

21	RAT	EP	10 53 27.5	9.6	.1	3.00	27	70	.0	
21	ANA	IP	10 53 27.5				29	6	-.0	
		ES	10 53 36.8						.0	
21	AND	IP	10 53 28.0				40	334	-.1	
		ES	10 53 37.8						.0	
21	ASC	IP	10 53 29.3				57	326	.1	

21	AMA	EP	12 20 9.9							
		EP	12 20 12.1	8.7	.1					
		E(S)	12 20 35.8							

21 12 47 58.50 52.04 N 176.23 W DEPTH = 132.0 KM TELESEISMIC SOLUTION
ANDREANOF ISLANDS, ALEUTIAN IS.

21	AMA	IP C	12 48 32.4				215	66	.3	AMA WHITED OUT
21	SSI	IP C	12 48 40.3	41.3	.2		287	85	.1	PROB. DEEP
		E(S)	12 49 12.1						1.4	
21	ASD	EP	12 48 43.4	8.4	.1		313	75	.1	
21	ASB	EP	12 48 44.1	11.8	.1		321	75	-.0	
		E(S)	12 49 18.1						.6	
21	ASC	EP	12 48 44.6				323	77	.1	
21	AND	EP	12 48 46.1				335	79	.2	
21	ANA	EP	12 48 48.2				354	81	.1	
21	RAT	EP	12 48 50.9	11.3	.1		374	84	.4	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
21	15 13 32.97	51.52 N 179.36 E DEPTH = 70.3 KM								FREE DEPTH SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
21	AND	IPGD	15 13 43.4				28	100	-.6	
21	ASD	IPGD	15 13 43.5	40.2	.1	3.53	14	4	.1	
		ES	15 13 50.9						-.1	
21	ASC	EPG	15 13 43.6				15	65	.2	
21	ASB	IPGD	15 13 43.7	63.5	.1	3.74	19	23	.1	
		IS	15 13 51.2						-.1	
21	SSI	EPG	15 13 45.1	5.1	.1	2.69	45	201	.1	
21	ANA	EPG	15 13 45.6				50	104	.2	
		IS	15 13 54.8						.3	
21	RAT	IPGD	15 13 47.9	35.4	.1	3.63	77	113	-.1	
21	AMA	IPGC	15 47 46.3	15.4	.1	3.06				WIND NOISE
		E(S)	15 47 53.1							
21	SSI	EP	15 48 1.9	11.1	.1					
21	19 26 28.00	56.95 N 156.98 W DEPTH = 90.0 KM MB = 4.6								TELESEISMIC SOLUTION
		ALASKA PENINSULA								
21	GMA	EP	19 28 37.6				973	165		
21	AMA	EP	19 29 42.7	51.2	.3		1571	58		
21	ASB	EP	19 29 53.7	17.0	.2		1664	59		
21	19 32 47.80	52.32 N 178.55 W DEPTH = 170.0 KM MB = 4.6								TELESEISMIC SOLUTION
		DELAROF ISLANDS, ALEUTIAN ISLANDS								
21	AMA	IP C	19 33 15.2				121	18	-.2	TOTAL WHITE OUT
21	SSI	IP C	19 33 17.1				136	69	.6	
21	ASD	IP C	19 33 20.0				178	54	-.2	
21	ASB	IP C	19 33 20.8	227.2	.1	4.78	185	54	-.1	
		E(S)	19 33 54.2						9.1	
21	ASC	IP	19 33 20.9				184	58	.2	
21	AND	IP C	19 33 21.4				191	63	-.0	
21	ADK	EP	19 33 17.1				143	291	-.0	
		ES	19 33 38.8						.3	
21	RAT	IP C	19 33 24.6				221	74	.2	
21	AMA	IPGD	22 04 59.6	9.7	.1	2.92				
		ES	22 05 7.6							
21	ADK	EP	22 05 8.7							
		ES	22 05 22.0							
21	ASD	EP	22 05 14.5							
21	SSI	IP	22 05 14.8	54.6	.1					
21	22 20 27.63	50.65 N 178.05 E DEPTH = 50.0 KM								FIXED DEPTH SOLUTION
		RAT ISLANDS, ALEUTIAN ISLANDS								
21	ASB	IP	22 20 46.2	37.9	.2	3.43	115	227	.0	
		E(S)	22 20 59.7						-.0	
21	ASC	IP	22 20 46.3				120	221	-.4	
21	ASD	IP	22 20 47.1	11.8	.2	2.94	123	228	.0	
		E(S)	22 21 .9						-.3	
21	SSI	IPN	22 20 53.7				175	218	.2	
		IPG	22 20 54.6	26.9	.1	3.73				
		IS	22 21 12.5						.1	

```
NOV   STA  PHASE    TIME        AMP   PER  MAG   DIST  AZI   RES    REMARKS
1970               (GMT)       (MU)  (SEC)       (KM) (DEG) (SEC)

. 22     1  6 44.23  51.93 N  179.20 W  DEPTH =  34.9 KM                    FREE DEPTH SOLUTION .
.                   DELAROF ISLANDS, ALEUTIAN ISLANDS                                           .
.                                                                                               .
. 22    AMA  IP C  01 06 57.1    59.7  .2  3.45     72  355     .1                             .
. 22    SSI  IP C  01 06 58.5    33.4  .1  3.54     83   86    -.1                             .
. 22    ASD  IP    01 07  3.5    29.5  .1  3.61    117   59    -.1                             .
. 22    ASB  IP    01 07  4.6                      125   59     .1                             .
.            IP    01 07  5.2   156.3  .2  4.05                                                 .
.            IS    01 07 19.3                                   .0                             .
. 22    AND  IP    01 07  5.5                      134   71    -.1                             .
.            IS    01 07 20.8                                  -.4                             .
. 22    ANA  EP    01 07  8.4                      151   76     .6                             .
. 22    ADK  EP    01 07 11.2                      180  273    -.1                             .
.            ES    01 07 31.1                                   .0                             .
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```
. 22    19 32 53.36  51.13 N  179.21 E  DEPTH =  27.8 KM                    FREE DEPTH SOLUTION .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                               .
.                                                                                               .
. 22    ASB  IPGD  19 32 59.6   174.1  .1  3.91     26  186     .0    LOCAL                    .
.            IS    19 33  4.1                                  -.0                             .
. 22    ASD  IPGD  19 32 59.9    98.3  .1  3.70     31  198    -.2                             .
. 22    ASC  EPG   19 33  1.0                      37  175     .1                             .
. 22    AND  EP    19 33  2.8                      51  160    -.0    QP                       .
. 22    SSI  IP D  19 33  8.3    59.9  .1  3.81     89  197     .0    QTAMP                    .
```

```
. 23     1 13 57.80  61.49 N  149.85 W  DEPTH =  48.0 KM  MB = 4.0    TELESEISMIC SOLUTION .
.                   SOUTHERN ALASKA                                                             .
.                                                                                               .
. 23    GMA  EP    01 15 33.0                     717  123                                      .
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```
. 23    23  3 18.69  51.41 N  179.14 E  DEPTH =  53.8 KM                    FREE DEPTH SOLUTION .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                               .
.                                                                                               .
. 23    ASC  EP    23 03 26.0                       6  197    -.9                             .
. 23    ASB  IP    23 03 27.0                       9  308     .0                             .
. 23    ASD  IP    23 03 27.5    33.7  .1  3.35     14  280     .4                             .
.            ES    23 03 33.5                                   .2                             .
. 23    AND  E(P)  23 03 27.9                      21  142     .4                             .
```

```
. 24     5  6 41.40  47.44 N  152.49 E  DEPTH = 136.0 KM  MB = 5.3    TELESEISMIC SOLUTION .
.                   KURIL ISLANDS                                                               .
.                                                                                               .
. 24    ADK  EP    05 11  7.9                    2271  270                                      .
. 24    GMA  EP    05 12 41.5                    3372  256                                      .
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```
  24    ADK  EP    10 34 43.8
             ES    10 34 57.1
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. 24    11 28 58.58  51.17 N  179.02 E  DEPTH =  23.9 KM                    FREE DEPTH SOLUTION .
.                   RAT ISLANDS, ALEUTIAN ISLANDS                                               .
.                                                                                               .
. 24    ASB  IPGD  11 29  4.5   473.4  .2  4.02     26  217     .0    QS,LOCAL                 .
.            E(S)  11 29  8.8                                   .0                             .
. 24    ASD  IPGD  11 29  5.2                      33  223    -.2                             .
. 24    AND  IPGD  11 29  6.8                      44  174     .0                             .
. 24    SSI  EP    11 29 13.5                      89  206     .0    QP,OBSCURED              .
```

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
24	AMA	IPGD	19 58 .3							AMA WHITE OUT
		ES	19 58 8.8							
24	ADK	EP	19 58 10.7							
		ES	19 58 26.1							
24	SSI	EP	19 58 15.9	21.4	.1	3.63				QTAMP
		IS	19 58 36.0							
25	ADK	EP D	02 34 12.9							
		ES	02 34 25.1							

25 3 34 28.22 51.76 N 178.68 E DEPTH = 83.7 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

25	RAT	IPG	03 34 40.6				25	100	.0	
		IS	03 34 49.5						-.1	
25	AND	IPGD	03 34 40.8				29	319	.0	
		IS	03 34 50.0						.1	
25	ASB	IPG	03 34 42.8	11.5	.1	3.13	59	319	.1	
		IS	03 34 53.2						-.1	
25	ASD	IPGD	03 34 42.8	22.8	.1	3.43	61	312	-.1	
25	SSI	IPG	03 34 43.1	49.2	.1	3.77	64	257	-.0	

25 8 32 28.97 51.52 N 179.26 E DEPTH = 62.9 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

25	ASC	IP	08 32 38.5				10	44	.1	
25	ASD	IPGD	08 32 38.6				16	339	.0	
25	ASB	IPGD	08 32 38.7	231.3	.1	4.25	18	3	.0	
		ES	08 32 45.4						-.3	
25	AND	EPG	08 32 39.0				22	101	.2	
25	SSI	IPGD	08 32 40.5				47	209	-.0	
25	RAT	IPGC	08 32 42.7				71	115	-.2	
25	AMA	EP	08 32 47.9				116	284	-.1	
25	ADK	EP	08 33 8.8				290	264	-.3	
		ES	08 33 39.0						.6	

26 6 23 52.60 51.13 N 178.23 W DEPTH = 26.0 KM MB = 3.7 TELESEISMIC SOLUTION
ANDREANOF ISLANDS, ALEUTIAN IS.

26	AMA	IPG	06 24 4.1				64	105	.3	WHITE OUT
26	ADK	IP C	06 24 14.8				142	235	-.6	
		IS	06 24 30.3						-1.7	
26	ASD	EP	06 24 18.7				171	99	-.7	OBSCURED
26	SSI	EP	06 24 18.8				173	118	-.8	QP,OBSCURED
26	ASB	EP	06 24 19.2				178	97	-1.0	QP
		ES	06 24 39.1						-1.2	
26	AND	EP	06 24 22.9				202	103	-.2	QP
26	RAT	EP	06 24 29.1				250	106	.0	OBSCURED
28	ASB	EPG	01 31 10.3							QP
		ES	01 31 16.0							
28	ASD	EPG	01 31 10.4	2.1	.1	2.12				LOCAL
		ES	01 31 16.1							

28 14 43 39.39 51.22 N 179.46 E DEPTH = 41.5 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

28	ASD	IPGC	14 43 47.0				20	156	.2	
		IS	14 43 52.0						-.2	
28	ASB	IPGC	14 43 47.0	110.7	.1	3.80	21	136	.1	
28	AND	IPGD	14 43 50.0				52	137	.0	
		IS	14 43 57.3						-.4	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
28	SSI	IPGD	14 43 53.2				75	187	.3	
		IS	14 44 2.8						-.0	
28	AMA	EP D	14 43 55.8	19.2	.1	3.37	100	266	-.2	NICE LOCAL
28	RAT	EPNC	14 43 56.1				101	129	-.1	
		IPG	14 43 56.3	98.2	.1	4.09				
28	ADK	IP D	19 33 22.4							
		I	19 33 26.6							

28 20 22 50.60 4.13 S 142.90 E DEPTH = 114.0 KM MB = 5.8 TELESEISMIC SOLUTION
NEW GUINEA

28	RAT	EP	20 33 9.1				7044	220		
		IP	20 33 12.1							
28	ASR	EP	20 33 9.4				7049	221		FIRST P QUES.
		EP	20 33 12.1							
28	AND	EP	20 33 9.5				7052	221		
		EP	20 33 12.6							
		EP	20 33 47.0							
28	SSI	EP	20 33 9.9				7109	222		
		IP	20 33 13.1							
		EP	20 33 49.3							
28	ASD	EP	20 33 9.9				7056	221		
		IP	20 33 12.7							
28	AMA	IP	20 33 14.0				7120	223		NICE TELE,OL
		EP	20 33 50.3							
28	ADK	EP	20 33 23.3				7290	225		
		ES	20 42 5.0							
		EL	20 49 55.0							
29	AMA	EP	03 29 55.3	25.0	.1	3.26				
		ES	03 30 1.9							
29	ASD	EP	03 29 59.4	3.9	.1					QP
29	SSI	IP	03 30 3.7	26.5	.1					

29 4 3 16.37 51.26 N 177.95 E DEPTH = 50.0 KM FIXED DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

29	AND	IP	04 03 29.7				77	245	-.6	
		ES	04 03 39.8						-.6	
29	ASD	E(P)	04 03 33.0				98	262	.2	QP
29	SSI	EP	04 03 37.4	108.2	.1	4.23	133	239	.3	
		IS	04 03 52.8						.6	
29	ADK	IP	10 11 32.8							
		IS	10 11 51.8							
29	ADK	EP	15 16 41.6							
		ES	15 16 52.0							

29 18 45 44.30 50.74 N 176.90 W DEPTH = 47.0 KM MB = 3.8 TELESEISMIC SOLUTION
ANDREANOF ISLANDS, ALEUTIAN IS.

29	ADK	EP	18 46 4.0				129	190	-.5	
		ES	18 46 22.8						3.6	
29	AMA	IP D	18 46 9.5	52.0	.1	3.99	166	110	.4	
		ES	18 46 28.9						1.7	
29	ASD	EP	18 46 22.3	7.0	.1		273	104	.1	
		ES	18 46 50.8						.9	
29	ASB	EP	18 46 22.7	9.2	.1		278	103	-.2	QP
		ES	18 46 51.2						.1	
29	SSI	IP	18 46 24.6	46.2	.1		276	116	2.0	
		I(L)	18 46 55.4							

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
29	AND	EP	18 46 26.4				304	106	.4	
29	RAT	EP	18 46 33.0	12.0	.1		352	108	.9	

29 20 35 55.50 51.43 N 179.56 W DEPTH = 24.0 KM FREE DEPTH SOLUTION
DELAROF ISLANDS, ALEUTIAN ISLANDS

29	AMA	IPG	20 36 2.4	35.9	.2	2.98	35	296	-.1	
		ES	20 36 7.8						.2	
29	ASD	EP	20 36 8.3	20.7	.1	3.29	76	87	-.1	
29	SSI	EP	20 36 8.8	9.4	.1	2.95	78	131	.0	
		IS	20 36 18.3						-.1	
29	ASB	EP	20 36 9.4	22.7	.1	3.36	83	85	-.0	
		ES	20 36 19.6						.0	
29	AND	EP	20 36 12.8				104	98	.2	QP
29	RAT	EP	20 36 19.7	16.3	.1	3.44	151	105	-.0	QP

29	ADK	EP	21 44 59.1
		ES	21 45 13.2

30 1 4 41.00 51.74 N 179.02 E DEPTH = 194.8 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

30	AND	EP	01 05 6.6				20	13	-.1	
30	ASD	EP	01 05 7.3	12.3	.1	3.42	45	330	.1	
		ES	01 05 26.6						.2	
30	ASB	E(P)	01 05 7.3				45	340	.0	QP
		IS	01 05 26.3						-.1	
30	RAT	IP	01 05 7.4	88.9	.2	3.98	48	98	.1	

30 3 29 46.06 51.13 N 178.83 E DEPTH = 25.6 KM FREE DEPTH SOLUTION
RAT ISLANDS, ALEUTIAN ISLANDS

30	ASB	EP	03 29 53.7	59.4	.1	3.53	39	229	.0	
		ES	03 29 59.2						-.0	
30	ASD	EP	03 29 54.5				46	231	-.2	
30	AND	IP	03 29 55.1				49	190	.0	
30	RAT	IP	03 29 59.9				82	155	-.0	

30	ADK	EP	07 09 29.9			
		ES	07 09 55.4			
30	ADK	EP	08 56 28.1			
		ES	08 57 15.2			
30	AMA	IPGD	09 49 10.0	117.5	.2	3.53
		IS	09 49 15.2			
30	SSI	EP	09 49 23.1	12.8	.1	
30	AMA	IPG	11 12 16.2	39.5	.1	
30	SSI	EP	11 12 28.7	23.9	.1	3.50
		IS	11 12 41.4			

30 18 18 49.30 51.19 N 178.20 W DEPTH = 27.0 KM TELESEISMIC SOLUTION
ANDREANOF ISLANDS, ALEUTIAN IS.

30	AMA	IPGD	18 19 .9				64	99	.3	
30	ADK	EP	18 19 10.7				136	236	-.6	
		ES	18 19 25.6						-1.7	
30	SSI	EP	18 19 15.4				172	116	-.7	
30	ASD	EP	18 19 15.4	20.0	.1	3.58	173	96	-.8	
30	ASB	EP	18 19 16.2	83.7	.2	3.92	179	95	-.7	

NOV 1970	STA	PHASE	TIME (GMT)	AMP (MU)	PER (SEC)	MAG	DIST (KM)	AZI (DEG)	RES (SEC)	REMARKS
		ES	18 19 36.1						-1.0	
30	AND	EP	18 19 19.7				202	101	-.1	
30	RAT	EP	18 19 25.3	37.4	.1		250	104	-.4	

30 18 19 6.10 59.71 N 150.59 W DEPTH = 50.0 KM MB = 4.0 TELESEISMIC SOLUTION
KENAI PENINSULA, ALASKA

30	GMA	EP	18 20 56.0				839	135		
30	ADK	EP	18 22 55.1				1834	51		

NOV 1970	ORIGIN TIME (GMT)	LAT	LONG	DEPTH* (KM)	MB	MS	GEOGRAPHIC REGION
01	4 58 23.84	51.55 N	179.69 E	2.7 F			RAT ISLANDS, ALEUTIAN ISLANDS
01	7 8 57.20	52.14 N	175.42 E	108.0 T	4.0		RAT ISLANDS, ALEUTIAN ISLANDS
01	12 59 41.50	52.04 N	174.73 W	86.0 T	4.4		ANDREANOF ISLANDS, ALEUTIAN IS.
01	13 51 42.15	51.52 N	178.76 E	70.5 F			RAT ISLANDS, ALEUTIAN ISLANDS
01	14 14 41.50	50.93 N	175.67 E	33.0 T	4.0		RAT ISLANDS, ALEUTIAN ISLANDS
01	17 12 .70	60.31 N	154.21 W	182.0 T	4.4		SOUTHERN ALASKA
01	18 32 55.30	51.38 N	178.57 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
01	20 47 16.00	51.61 N	179.69 W	120.8 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
02	3 29 44.34	51.65 N	179.09 E	76.6 F			RAT ISLANDS, ALEUTIAN ISLANDS
02	15 54 32.79	52.11 N	178.78 E	127.4 F			RAT ISLANDS, ALEUTIAN ISLANDS
02	17 45 52.20	52.37 N	174.57 W	159.0 T			ANDREANOF ISLANDS, ALEUTIAN IS.
02	18 43 58.92	52.05 N	179.78 W	151.7 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
02	21 39 52.14	51.68 N	179.71 E	60.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
03	2 30 11.40	62.03 N	151.16 W	70.0 T	5.6		CENTRAL ALASKA
03	3 7 53.41	51.85 N	179.58 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
03	4 23 10.34	52.68 N	179.86 E	175.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
03	9 28 23.85	51.87 N	179.66 E	162.4 F			RAT ISLANDS, ALEUTIAN ISLANDS
03	13 4 54.87	51.51 N	178.79 E	24.8 F			RAT ISLANDS, ALEUTIAN ISLANDS
03	15 36 39.98	51.49 N	178.34 E	56.7 F			RAT ISLANDS, ALEUTIAN ISLANDS
03	15 50 10.96	52.11 N	178.42 E	7.2 F			RAT ISLANDS, ALEUTIAN ISLANDS
03	17 19 46.72	52.12 N	178.37 E	4.5 F			RAT ISLANDS, ALEUTIAN ISLANDS
03	17 45 .01	51.35 N	176.49 E	0.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
03	18 32 35.33	51.28 N	178.83 E	27.9 F			RAT ISLANDS, ALEUTIAN ISLANDS
03	23 3 13.60	62.03 N	150.69 W	57.0 T	3.7		CENTRAL ALASKA
04	2 40 56.08	51.40 N	179.15 E	2.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
04	10 19 4.67	51.46 N	177.51 E	0.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
04	15 49 57.54	51.84 N	178.89 E	75.4 F			RAT ISLANDS, ALEUTIAN ISLANDS
04	17 22 26.36	50.99 N	178.53 E	49.2 F			RAT ISLANDS, ALEUTIAN ISLANDS
04	17 55 8.49	51.53 N	179.50 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
04	19 12 19.90	51.29 N	179.02 E	64.6 F			RAT ISLANDS, ALEUTIAN ISLANDS
05	7 22 48.70	51.47 N	179.27 W	36.0 T	4.7		DELAROF ISLANDS, ALEUTIAN ISLANDS

NOV 1970	ORIGIN TIME (GMT)	LAT	LONG	DEPTH* (KM)	MB	MS	GEOGRAPHIC REGION
05	9 20 38.31	51.23 N	178.61 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
05	12 53 11.60	61.67 N	150.84 W	53.0 T			CENTRAL ALASKA
05	13 11 53.50	6.90 N	82.61 W	33.0 T	5.6	5.6	SOUTH OF PANAMA
05	13 30 41.59	51.08 N	179.83 W	25.0 D			DELAROF ISLANDS, ALEUTIAN ISLANDS
05	15 0 0.00	37.03 N	116.01 W	0.0 T	4.9		SOUTHERN NEVADA
06	4 54 38.90	51.70 N	179.94 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
06	6 3 56.14	51.89 N	177.36 E	68.6 F			RAT ISLANDS, ALEUTIAN ISLANDS
06	22 27 26.20	51.67 N	176.16 E	47.0 T	4.0		RAT ISLANDS, ALEUTIAN ISLANDS
06	23 57 13.74	51.67 N	179.15 E	86.9 F			RAT ISLANDS, ALEUTIAN ISLANDS
07	3 14 38.32	51.99 N	178.17 E	143.1 F			RAT ISLANDS, ALEUTIAN ISLANDS
07	6 32 58.66	51.23 N	179.87 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
07	7 32 32.69	51.18 N	178.23 E	50.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
07	7 44 57.00	34.63 S	179.71 E	76.0 T	5.1		SOUTH OF KERMADEC ISLANDS
07	8 43 37.44	50.51 N	177.77 E	0.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
07	12 0 45.20	51.79 N	175.45 W	69.0 T	4.1		ANDREANOF ISLANDS, ALEUTIAN IS.
07	14 33 49.84	51.17 N	178.43 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
07	15 5 20.49	51.97 N	179.30 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
07	15 26 15.38	51.33 N	178.86 E	50.5 F			RAT ISLANDS, ALEUTIAN ISLANDS
07	16 25 58.22	51.12 N	178.59 E	22.8 F			RAT ISLANDS, ALEUTIAN ISLANDS
08	1 40 35.68	52.04 N	178.35 E	139.3 F			RAT ISLANDS, ALEUTIAN ISLANDS
08	8 22 51.43	51.11 N	179.26 E	30.8 F			RAT ISLANDS, ALEUTIAN ISLANDS
08	9 5 40.38	51.95 N	179.99 W	134.4 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
08	9 16 39.62	51.12 N	179.34 E	29.9 F			RAT ISLANDS, ALEUTIAN ISLANDS
08	14 58 53.60	9.13 N	126.33 E	22.0 T	5.7	5.8	MINDANAO, PHILIPPINE ISLANDS
08	22 15 58.92	51.94 N	179.21 W	32.2 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
08	22 35 46.70	3.44 S	135.63 E	33.0 T	6.2	6.8	WEST NEW GUINEA REGION
09	2 5 29.90	51.82 N	176.23 E	49.0 T	3.9		RAT ISLANDS, ALEUTIAN ISLANDS
09	2 45 55.59	51.13 N	179.14 E	28.3 F			RAT ISLANDS, ALEUTIAN ISLANDS
09	3 17 55.19	51.91 N	179.39 E	185.4 F			RAT ISLANDS, ALEUTIAN ISLANDS
09	7 18 55.32	51.03 N	179.13 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
09	9 26 12.18	51.89 N	178.16 E	101.0 F			RAT ISLANDS, ALEUTIAN ISLANDS

NOV 1970	ORIGIN TIME (GMT)	LAT	LONG	DEPTH* (KM)	MB	MS	GEOGRAPHIC REGION
09	12 17 33.42	51.50 N	179.00 E	66.9 F			RAT ISLANDS, ALEUTIAN ISLANDS
09	12 25 32.05	51.58 N	178.82 E	75.2 F			RAT ISLANDS, ALEUTIAN ISLANDS
09	12 45 25.23	51.13 N	178.58 E	0.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
09	16 46 29.53	50.81 N	179.56 W	25.0 D			DELAROF ISLANDS, ALEUTIAN ISLANDS
09	20 42 22.06	51.67 N	179.08 W	91.4 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
09	21 28 45.46	52.25 N	178.45 W	186.5 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
09	22 35 11.12	51.21 N	178.77 E	28.4 F			RAT ISLANDS, ALEUTIAN ISLANDS
10	0 26 21.60	34.60 N	136.71 E	349.0 T	5.3		SOUTHERN HONSHU, JAPAN
10	2 23 44.60	52.38 N	179.87 E	160.0 F			RAT ISLANDS, ALEUTIAN ISLANDS
10	5 30 1.51	51.43 N	178.83 E	42.6 F			RAT ISLANDS, ALEUTIAN ISLANDS
10	5 49 56.53	51.58 N	179.67 W	189.9 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
10	13 12 56.08	51.70 N	179.81 W	25.0 D			DELAROF ISLANDS, ALEUTIAN ISLANDS
10	15 57 41.83	50.58 N	178.09 E	50.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
10	16 3 17.67	50.87 N	178.30 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
10	17 39 10.32	50.82 N	178.22 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
10	20 3 3.64	51.58 N	179.39 E	18.6 F			RAT ISLANDS, ALEUTIAN ISLANDS
11	0 53 5.59	51.71 N	179.94 E	16.1 F			RAT ISLANDS, ALEUTIAN ISLANDS
11	2 26 48.36	51.69 N	178.61 W	144.1 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
11	14 52 42.69	51.40 N	178.78 E	44.9 F			RAT ISLANDS, ALEUTIAN ISLANDS
11	17 37 39.85	52.13 N	179.24 W	50.0 D			DELAROF ISLANDS, ALEUTIAN ISLANDS
11	20 23 15.78	51.92 N	179.24 E	130.9 F			RAT ISLANDS, ALEUTIAN ISLANDS
11	21 1 54.34	51.50 N	178.69 E	21.3 F			RAT ISLANDS, ALEUTIAN ISLANDS
12	1 56 52.85	51.70 N	178.23 E	82.6 F			RAT ISLANDS, ALEUTIAN ISLANDS
12	5 58 46.19	51.18 N	179.63 W	50.0 D			DELAROF ISLANDS, ALEUTIAN ISLANDS
12	6 9 14.79	51.51 N	179.96 E	81.3 F			RAT ISLANDS, ALEUTIAN ISLANDS
12	6 7 12.40	5.05 S	145.06 E	15.0 T	5.8	6.5	EAST NEW GUINEA REGION
12	7 22 33.00	51.70 N	178.94 W	100.0 D			DELAROF ISLANDS, ALEUTIAN ISLANDS
12	9 31 56.86	51.54 N	179.14 E	20.4 F			RAT ISLANDS, ALEUTIAN ISLANDS
12	16 16 24.40	62.45 N	150.10 W	48.0 T			CENTRAL ALASKA
12	17 45 49.50	52.19 N	173.74 E	136.0 T	3.9		NEAR ISLANDS, ALEUTIAN ISLANDS
13	4 22 57.39	50.39 N	177.71 E	15.7 F			RAT ISLANDS, ALEUTIAN ISLANDS

NOV 1970	ORIGIN TIME (GMT)	LAT	LONG	DEPTH* (KM)	MB	MS	GEOGRAPHIC REGION
13	14 16 18.00	11.95 N	123.97 E	15.0 T	5.4	6.3	LEYTE, PHILIPPINE ISLANDS
13	13 10 25.40	51.62 N	175.34 W	51.0 T	4.9		ANDREANOF ISLANDS, ALEUTIAN IS.
13	16 3 16.80	52.29 N	173.97 W	132.0 T	3.7		ANDREANOF ISLANDS, ALEUTIAN IS.
13	16 41 42.30	51.20 N	178.78 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
13	19 2 19.20	51.80 N	176.79 E	66.0 T	4.5		RAT ISLANDS, ALEUTIAN ISLANDS
13	20 57 55.49	51.93 N	178.29 E	138.7 F			RAT ISLANDS, ALEUTIAN ISLANDS
14	4 51 37.80	12.64 N	143.30 E	95.0 T	5.5		SOUTH OF MARIANA ISLANDS
14	7 58 19.80	22.71 N	121.34 E	28.0 T	5.7	6.1	TAIWAN REGION
14	18 53 30.60	58.76 N	149.73 W	33.0 T	3.9		GULF OF ALASKA
14	21 10 7.86	51.63 N	177.97 E	56.7 F			RAT ISLANDS, ALEUTIAN ISLANDS
14	23 1 25.15	50.88 N	177.53 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
14	23 46 52.10	51.59 N	179.39 E	82.0 T	4.1		RAT ISLANDS, ALEUTIAN ISLANDS
15	8 3 29.18	51.18 N	178.69 E	25.4 F			RAT ISLANDS, ALEUTIAN ISLANDS
15	9 48 23.15	51.28 N	179.62 E	54.7 F			RAT ISLANDS, ALEUTIAN ISLANDS
15	12 5 44.64	51.66 N	177.81 E	59.8 F			RAT ISLANDS, ALEUTIAN ISLANDS
15	15 57 36.56	51.59 N	177.74 E	56.3 F			RAT ISLANDS, ALEUTIAN ISLANDS
15	17 1 21.98	50.12 N	179.31 W	25.0 D			DELAROF ISLANDS, ALEUTIAN ISLANDS
15	22 43 48.63	51.10 N	179.98 W	35.5 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
16	2 54 49.64	52.25 N	179.97 E	230.2 F	3.7		RAT ISLANDS, ALEUTIAN ISLANDS
16	6 44 21.40	6.08 S	148.58 E	81.0 T	5.5		NEW BRITAIN REGION
16	14 5 5.90	50.89 N	179.83 E	32.0 T	4.1		RAT ISLANDS, ALEUTIAN ISLANDS
16	18 4 43.10	57.84 N	154.32 W	33.0 T			KODIAK ISLAND REGION
17	13 13 4.68	51.40 N	179.91 E	66.4 F			RAT ISLANDS, ALEUTIAN ISLANDS
17	14 21 42.10	51.41 N	178.77 E	45.0 F			RAT ISLANDS, ALEUTIAN ISLANDS
17	16 6 31.71	51.10 N	179.47 W	0.0 D			DELAROF ISLANDS, ALEUTIAN ISLANDS
17	22 42 58.93	51.44 N	178.25 W	24.0 F			ANDREANOF ISLANDS, ALEUTIAN IS.
18	1 57 25.90	6.08 S	154.43 E	15.0 T	5.2	5.6	SOLOMON ISLANDS
18	3 18 37.29	51.12 N	179.93 W	26.5 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
18	8 45 20.28	51.91 N	179.27 W	25.2 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
18	9 45 28.50	3.66 S	148.91 E	33.0 T	4.9	5.8	BISMARCK SEA
18	10 41 3.44	51.15 N	178.27 E	50.0 D			RAT ISLANDS, ALEUTIAN ISLANDS

NOV 1970	ORIGIN TIME (GMT)	LAT	LONG	DEPTH* (KM)	MB	MS	GEOGRAPHIC REGION
18	11 52 38.68	50.34 N	178.31 E	0.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
18	12 11 18.31	51.47 N	179.45 E	50.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
18	12 23 18.00	35.15 N	35.74 W	33.0 T	5.4	6.0	NORTH ATLANTIC RIDGE
18	16 47 32.26	51.13 N	179.20 E	25.6 F			RAT ISLANDS, ALEUTIAN ISLANDS
18	16 43 14.10	21.89 S	175.17 E	570.0 T	5.5		SOUTH OF FIJI ISLANDS
18	22 8 38.99	51.69 N	178.70 E	83.0 F			RAT ISLANDS, ALEUTIAN ISLANDS
18	22 52 32.32	51.28 N	179.90 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
18	23 16 33.99	51.19 N	178.44 E	38.8 F			RAT ISLANDS, ALEUTIAN ISLANDS
19	0 30 12.47	51.12 N	179.43 W	0.0 D			DELAROF ISLANDS, ALEUTIAN ISLANDS
19	0 31 56.54	50.99 N	179.84 W	29.6 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
19	6 58 9.20	50.17 N	179.13 E	50.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
19	8 4 58.27	51.82 N	179.99 W	102.4 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
19	11 20 38.50	51.89 N	179.32 W	106.7 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
19	14 30 37.55	52.14 N	179.88 W	178.4 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
19	16 29 58.49	51.23 N	179.81 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
19	17 20 38.85	51.08 N	178.44 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
19	21 6 47.55	51.20 N	178.51 E	24.8 F			RAT ISLANDS, ALEUTIAN ISLANDS
19	22 51 48.28	51.31 N	179.85 W	24.7 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
20	2 26 17.65	51.77 N	179.90 W	83.2 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
20	3 35 44.07	52.26 N	179.05 W	125.0 D			DELAROF ISLANDS, ALEUTIAN ISLANDS
20	4 11 26.93	50.91 N	179.22 E	27.9 F			RAT ISLANDS, ALEUTIAN ISLANDS
20	4 33 2.60	51.30 N	179.94 W	40.0 T	5.1		DELAROF ISLANDS, ALEUTIAN ISLANDS
20	4 48 43.41	51.02 N	179.95 E	22.4 F			RAT ISLANDS, ALEUTIAN ISLANDS
20	5 14 23.82	51.06 N	179.98 E	.3 F			RAT ISLANDS, ALEUTIAN ISLANDS
20	5 46 40.65	51.57 N	179.15 E	64.4 F			RAT ISLANDS, ALEUTIAN ISLANDS
20	5 54 37.92	51.04 N	179.96 E	12.6 F			RAT ISLANDS, ALEUTIAN ISLANDS
20	5 56 56.98	50.88 N	179.92 W	30.0 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
20	7 50 31.54	51.73 N	179.74 E	100.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
20	8 6 26.68	51.40 N	179.76 E	28.0 F			RAT ISLANDS, ALEUTIAN ISLANDS
20	9 22 7.65	51.96 N	179.53 E	179.4 F			RAT ISLANDS, ALEUTIAN ISLANDS
20	10 5 40.32	50.97 N	179.81 E	32.4 F			RAT ISLANDS, ALEUTIAN ISLANDS

NOV 1970	ORIGIN TIME (GMT)	LAT	LONG	DEPTH* (KM)	MB	MS	GEOGRAPHIC REGION
20	11 13 7.30	51.39 N	178.29 W	34.0 T	5.1		DELAROF ISLANDS, ALEUTIAN ISLANDS
20	12 13 4.52	50.96 N	178.64 E	25.5 F			RAT ISLANDS, ALEUTIAN ISLANDS
20	12 44 31.90	49.99 N	159.26 E	35.0 T	4.6		KURIL ISLANDS REGION
20	13 46 52.80	28.12 N	142.48 E	33.0 T	5.5	5.4	BONIN ISLANDS REGION
20	15 55 33.90	51.17 N	178.30 W	31.0 T	3.9		DELAROF ISLANDS, ALEUTIAN ISLANDS
20	16 14 14.77	52.02 N	178.70 E	73.4 F			RAT ISLANDS, ALEUTIAN ISLANDS
20	16 55 9.99	52.38 N	179.69 W	147.0 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
20	17 21 45.90	52.60 N	176.11 W	276.0 T			ANDREANOF ISLANDS, ALEUTIAN IS.
20	18 41 21.80	51.50 N	179.42 E	23.8 F			RAT ISLANDS, ALEUTIAN ISLANDS
20	19 59 24.85	51.38 N	178.80 E	50.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
20	21 12 8.60	50.91 N	173.11 W	62.0 T			ANDREANOF ISLANDS, ALEUTIAN IS.
20	21 53 25.00	51.12 N	178.66 E	28.3 F			RAT ISLANDS, ALEUTIAN ISLANDS
20	22 9 37.77	51.54 N	177.65 E	50.2 F			RAT ISLANDS, ALEUTIAN ISLANDS
20	22 36 2.89	51.15 N	178.67 E	34.8 F			RAT ISLANDS, ALEUTIAN ISLANDS
20	23 33 1.30	50.07 N	177.47 E	33.0 T			RAT ISLANDS, ALEUTIAN ISLANDS
20	23 53 53.95	51.01 N	179.51 E	25.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
21	1 11 44.28	51.46 N	179.66 W	66.7 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
21	1 45 57.43	51.33 N	179.94 E	9.1 F			RAT ISLANDS, ALEUTIAN ISLANDS
21	3 22 21.03	51.72 N	179.90 E	21.0 F			RAT ISLANDS, ALEUTIAN ISLANDS
21	4 11 33.84	51.46 N	178.93 E	45.5 F			RAT ISLANDS, ALEUTIAN ISLANDS
21	9 26 12.56	52.08 N	178.10 E	147.1 F			RAT ISLANDS, ALEUTIAN ISLANDS
21	9 34 44.54	51.07 N	179.00 E	27.6 F			RAT ISLANDS, ALEUTIAN ISLANDS
21	10 53 14.80	51.88 N	178.70 E	85.3 F			RAT ISLANDS, ALEUTIAN ISLANDS
21	12 47 58.50	52.04 N	176.23 W	132.0 T			ANDREANOF ISLANDS, ALEUTIAN IS.
21	15 13 32.97	51.52 N	179.36 E	70.3 F			RAT ISLANDS, ALEUTIAN ISLANDS
21	19 26 28.00	56.95 N	156.98 W	90.0 T	4.6		ALASKA PENINSULA
21	19 32 47.80	52.32 N	178.55 W	170.0 T	4.6		DELAROF ISLANDS, ALEUTIAN ISLANDS
21	22 20 27.63	50.65 N	178.05 E	50.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
22	1 6 44.23	51.93 N	179.20 W	34.9 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
22	19 32 53.36	51.13 N	179.21 E	27.8 F			RAT ISLANDS, ALEUTIAN ISLANDS
23	1 13 57.80	61.49 N	149.85 W	48.0 T	4.0		SOUTHERN ALASKA

NOV 1970	ORIGIN TIME (GMT)	LAT	LONG	DEPTH* (KM)	MB	MS	GEOGRAPHIC REGION
23	23 3 18.69	51.41 N	179.14 E	53.8 F			RAT ISLANDS, ALEUTIAN ISLANDS
24	5 6 41.40	47.44 N	152.49 E	136.0 T	5.3		KURIL ISLANDS
24	11 28 58.58	51.17 N	179.02 E	23.9 F			RAT ISLANDS, ALEUTIAN ISLANDS
25	3 34 28.22	51.76 N	178.68 E	83.7 F			RAT ISLANDS, ALEUTIAN ISLANDS
25	8 32 28.97	51.52 N	179.26 E	62.9 F			RAT ISLANDS, ALEUTIAN ISLANDS
26	6 23 52.60	51.13 N	178.23 W	26.0 T	3.7		ANDREANOF ISLANDS, ALEUTIAN IS.
28	14 43 39.39	51.22 N	179.46 E	41.5 F			RAT ISLANDS, ALEUTIAN ISLANDS
28	20 22 50.60	4.13 S	142.90 E	114.0 T	5.8		NEW GUINEA
29	4 3 16.37	51.26 N	177.95 E	50.0 D			RAT ISLANDS, ALEUTIAN ISLANDS
29	18 45 44.30	50.74 N	176.90 W	47.0 T	3.8		ANDREANOF ISLANDS, ALEUTIAN IS.
29	20 35 55.50	51.43 N	179.56 W	24.0 F			DELAROF ISLANDS, ALEUTIAN ISLANDS
30	1 4 41.00	51.74 N	179.02 E	194.8 F			RAT ISLANDS, ALEUTIAN ISLANDS
30	3 29 46.06	51.13 N	178.83 E	25.6 F			RAT ISLANDS, ALEUTIAN ISLANDS
30	18 18 49.30	51.19 N	178.20 W	27.0 T			ANDREANOF ISLANDS, ALEUTIAN IS.
30	18 19 6.10	59.71 N	150.59 W	50.0 T	4.0		KENAI PENINSULA, ALASKA

* F = FREE DEPTH SOLUTION
D = FIXED DEPTH SOLUTION
T = TELESEISMIC SOLUTION

SEISMICITY MAPS

ALEUTIAN EARTHQUAKES WHICH WERE LOCATED DURING THE MONTH BY THE ALEUTIAN SEISMIC NETWORK AND BY THE WORLD NETWORK OF SEISMOLOGICAL STATIONS REPORTING TO THE NATIONAL OCEAN SURVEY (NOS) ARE PLOTTED ON SIX MAPS COVERING THE ALEUTIAN ISLANDS FROM THE NEAR ISLANDS TO UNIMAK ISLAND (170 DEGREES EAST LONGITUDE TO 160 DEGREES WEST LONGITUDE).

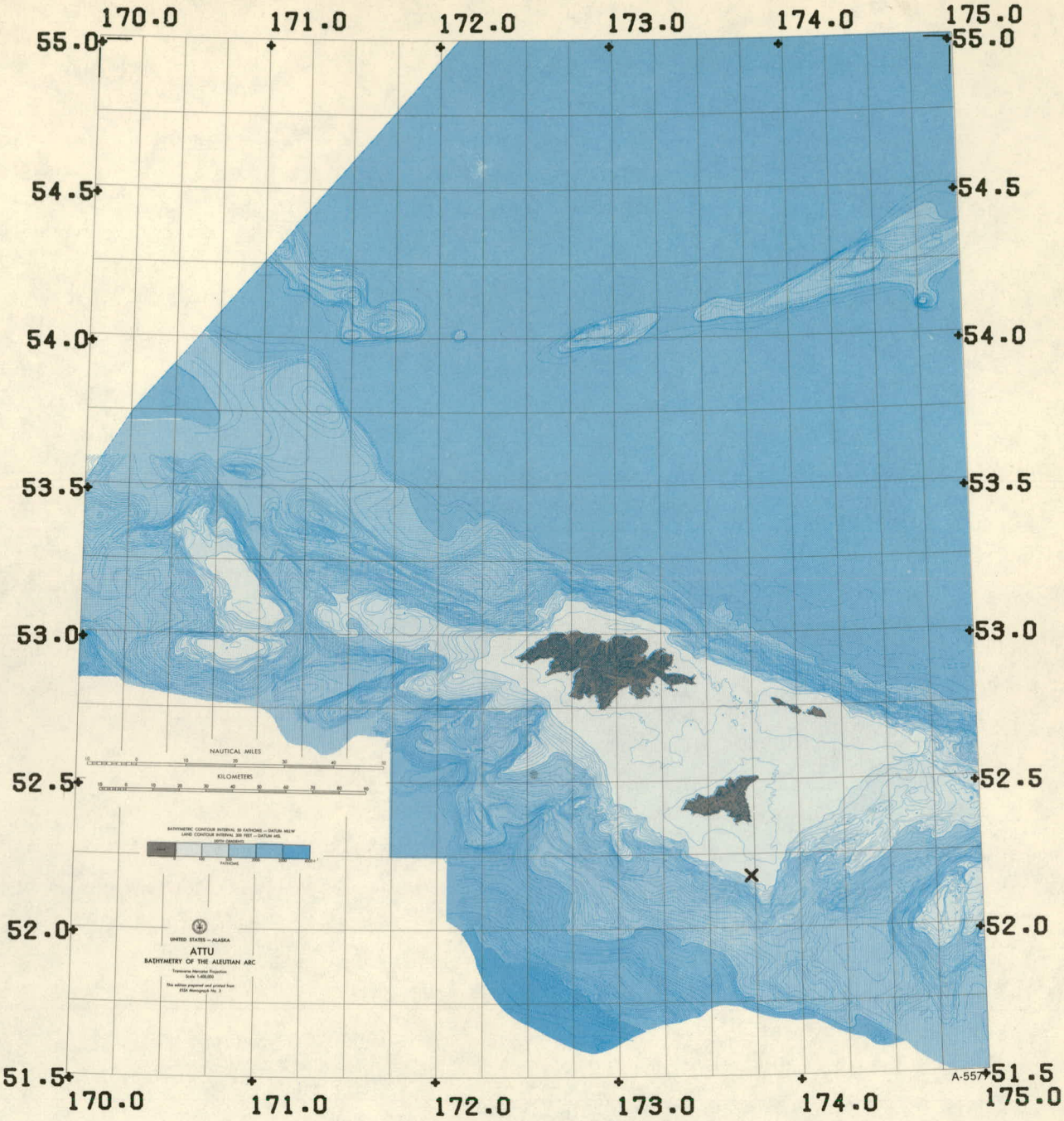
THE BASE MAPS ARE MODIFIED VERSIONS OF LARGE PLATES PUBLISHED BY THE NOS AS PART OF ESSA MONOGRAPH NO. 3 (BATHYMETRY OF THE ALEUTIAN ARC). THE TRANSVERSE MERCATOR PROJECTION, IN WHICH AREAL DISTORTION IS SMALL AND BEARINGS REMAIN TRUE, WAS EMPLOYED.

EPICENTERS WERE PLOTTED AUTOMATICALLY BY A FLAT-BED INCREMENTAL PLOTTER TO PRODUCE PLATES WHICH WERE USED TO OVERPRINT THE BASE MAPS. REGISTRATION MARKS ALONG THE MARGINS OF THE MAPS ALLOW AN ESTIMATION OF THE PRECISION OF PRINTING REGISTRATION.

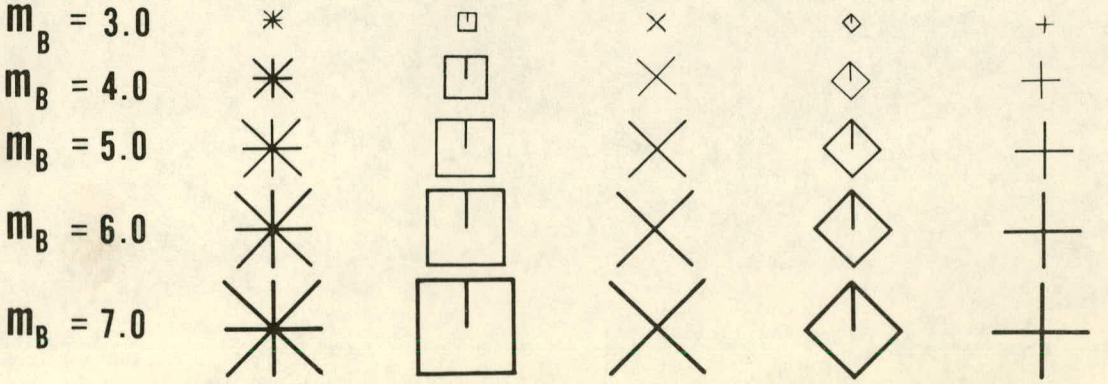
EACH PLOTTED SYMBOL, CENTERED UPON THE EPICENTRAL COORDINATES, REPRESENTS ONE EARTHQUAKE. THE TYPE OF SYMBOL DENOTES THE DEPTH-OF-FOCUS CLASS OF THE SEISMIC EVENT. THE BODY-WAVE MAGNITUDE (MB) IS INDICATED BY THE SYMBOL SIZE, WHICH VARIES CONTINUOUSLY ACCORDING TO THE RELATIONSHIP

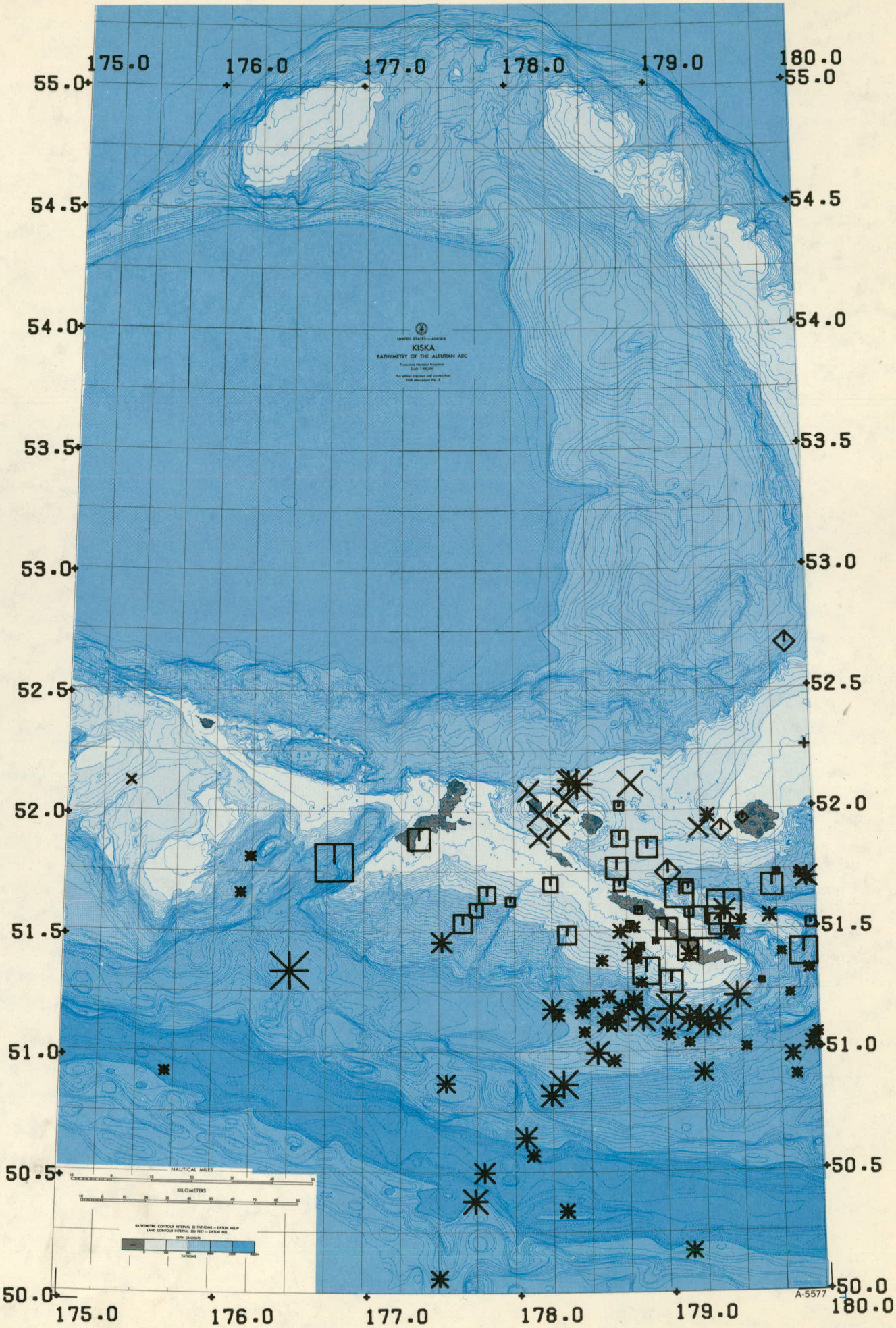
$$\text{SYMBOL SIZE (INCHES)} = .07 + (MB - 2.5)*.10$$

EVENTS WHOSE MAGNITUDES ARE UNDETERMINED OR LESS THAN 2.5 ARE PLOTTED AS .07 INCH SYMBOLS. A LEGEND BLOCK DEPICTING THE FIVE DEPTH-OF-FOCUS CLASSES AND A RANGE OF MAGNITUDES IS PROVIDED ON THE ATTU PLATE.



DEPTH OF FOCUS (km)

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180.0
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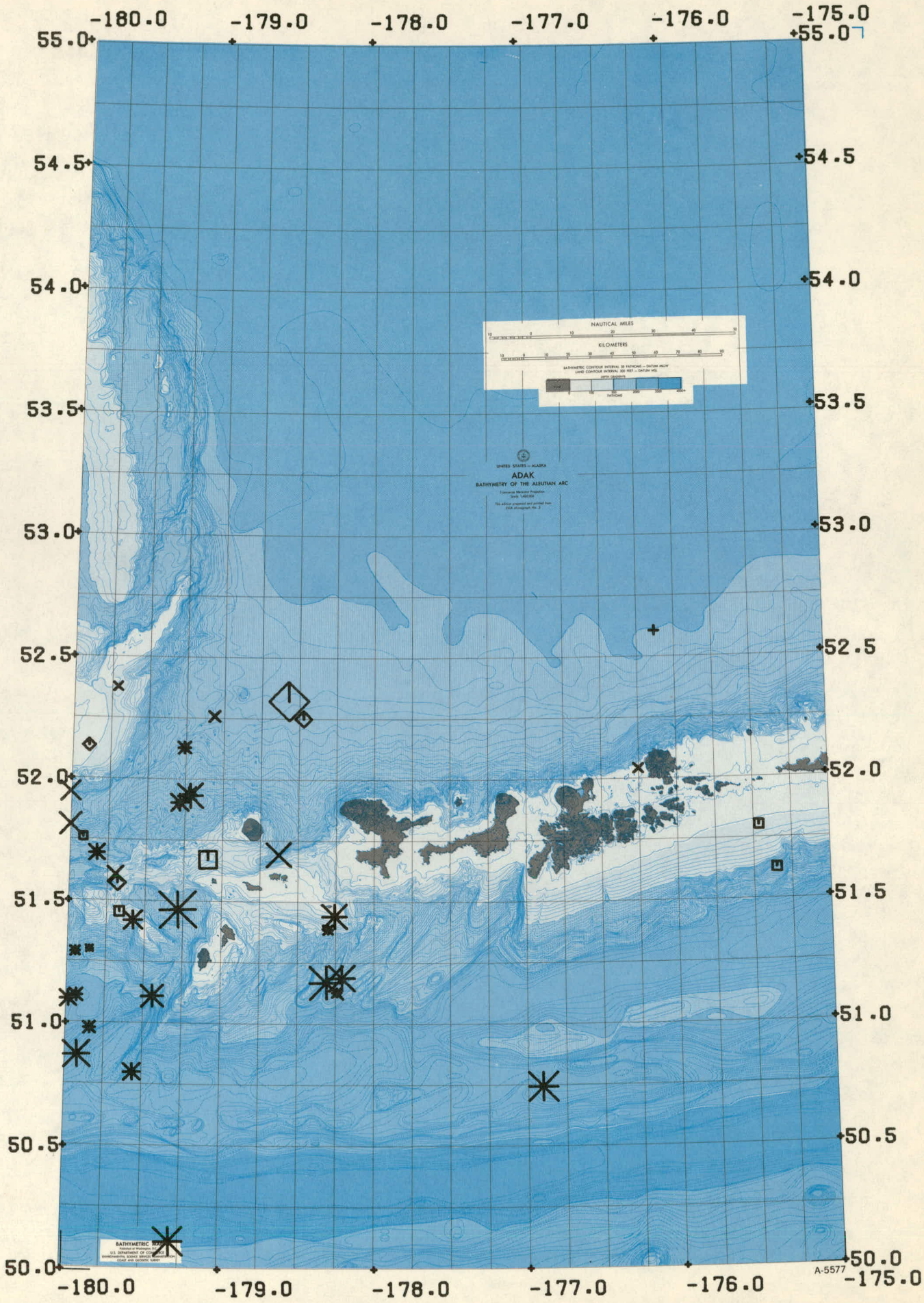
54.5
54.0
53.5
53.0
52.5
52.0
51.5
51.0
50.5
50.0
UNITED STATES — ALASKA
KISKA
BATHYMETRY OF THE ALEUTIAN ARC
NAUTICAL MILES
KILOMETERS
BATHYMETRIC CONTOUR INTERVAL 20 FATHOMS — DATUM MLLW
LAND CONTOUR INTERVAL 200 FEET — DATUM MSL
DEPTH (INDEX)
FATHOMS
A-5577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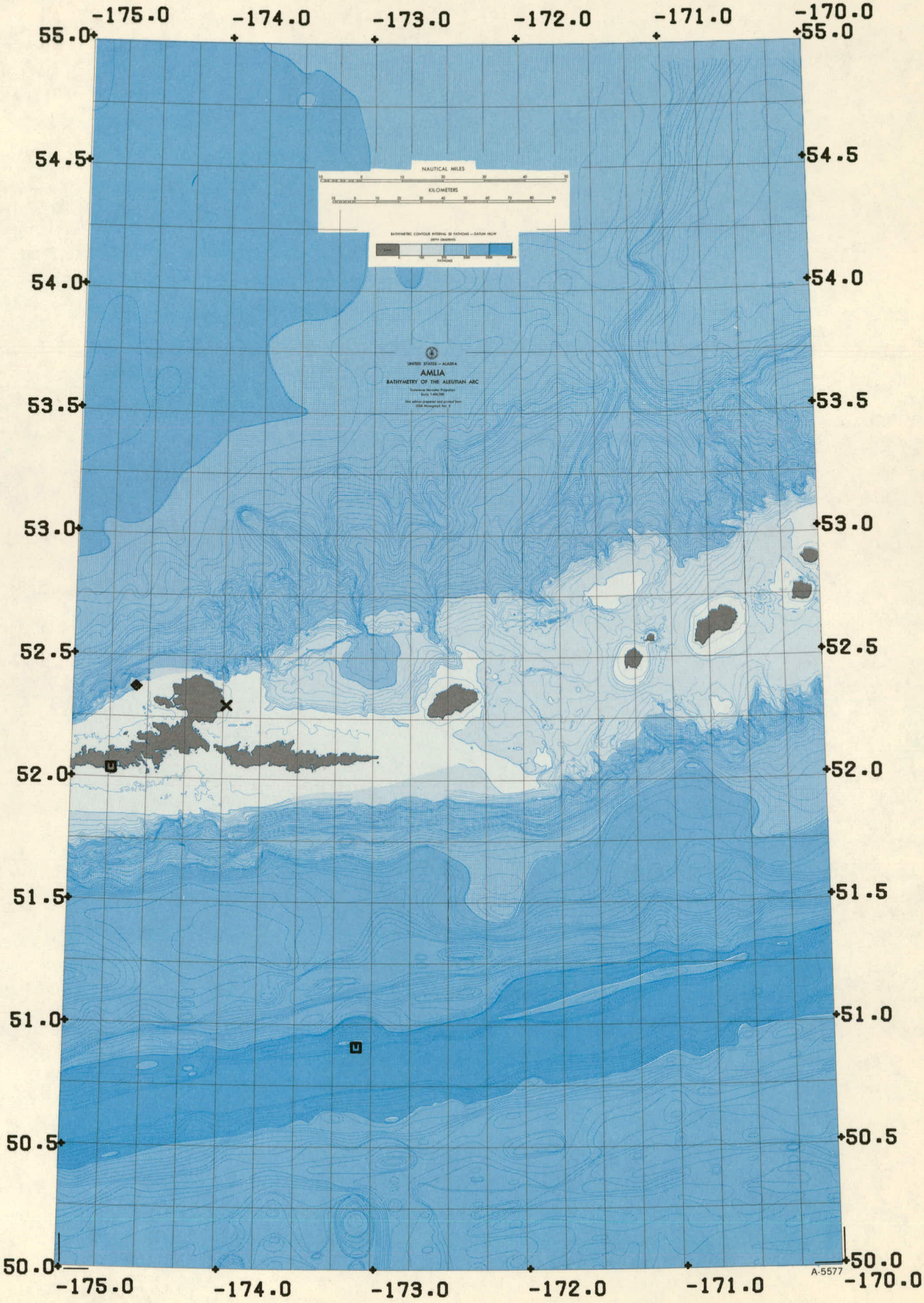
54.0
53.5
53.0
52.5
52.0
51.5
51.0
50.5
50.0
NAUTICAL MILES
KILOMETERS
UNITED STATES — ALASKA
ADAK
BATHYMETRY OF THE ALEUTIAN ARC
A-5577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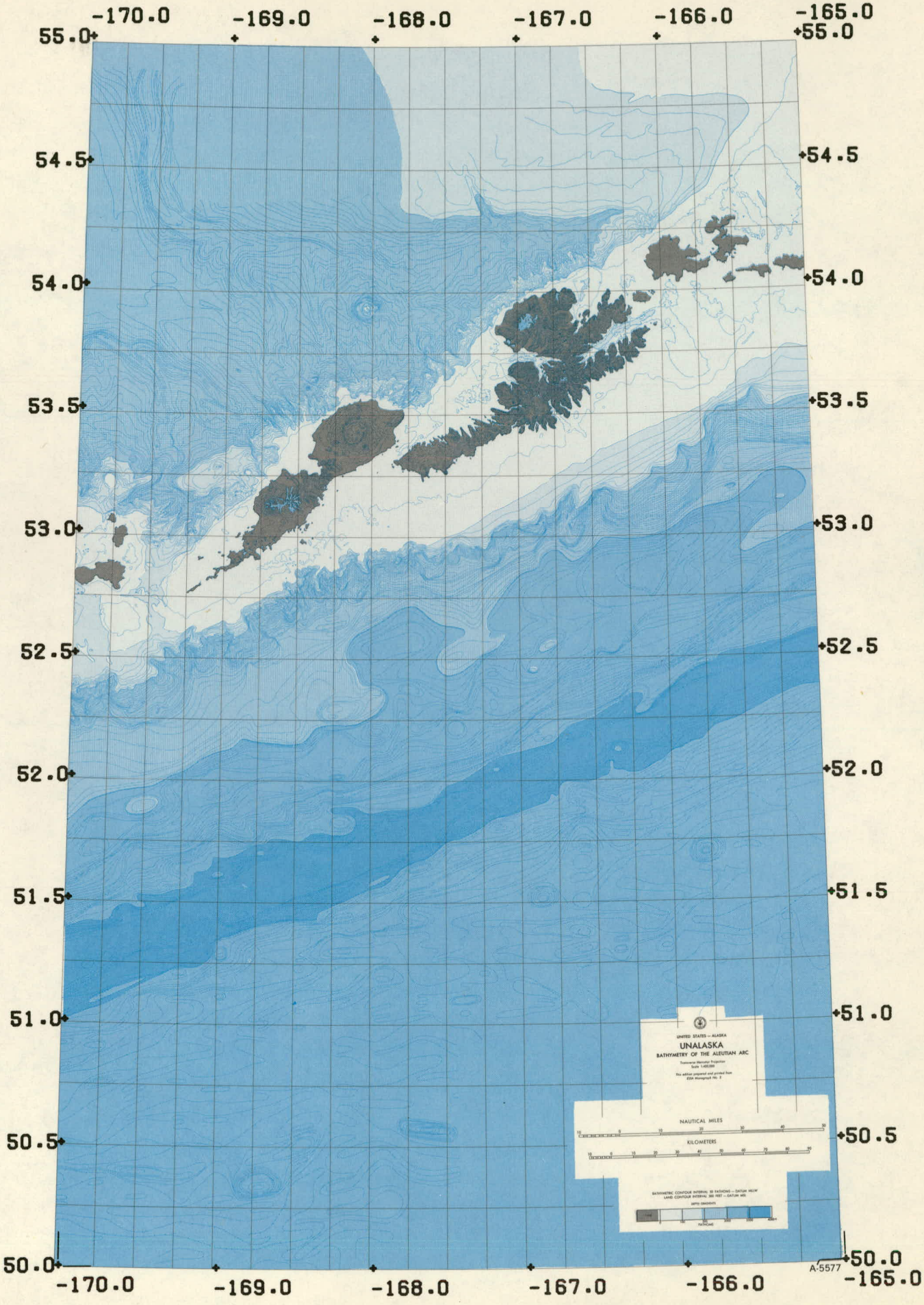
52.0
51.5
51.0
50.5
50.0
NAUTICAL MILES
KILOMETERS
BATHYMETRIC CONTOUR INTERVAL 50 FATHOMS — DATUM MLLW
(DEPTH GRADIENT)
FATHOMS
UNITED STATES — ALASKA
AMLIA
BATHYMETRY OF THE ALEUTIAN ARC
Transverse Mercator Projection
Scale 1:400,000
Data without geographical grid printed from
USGS Monograph No. 2
A-5577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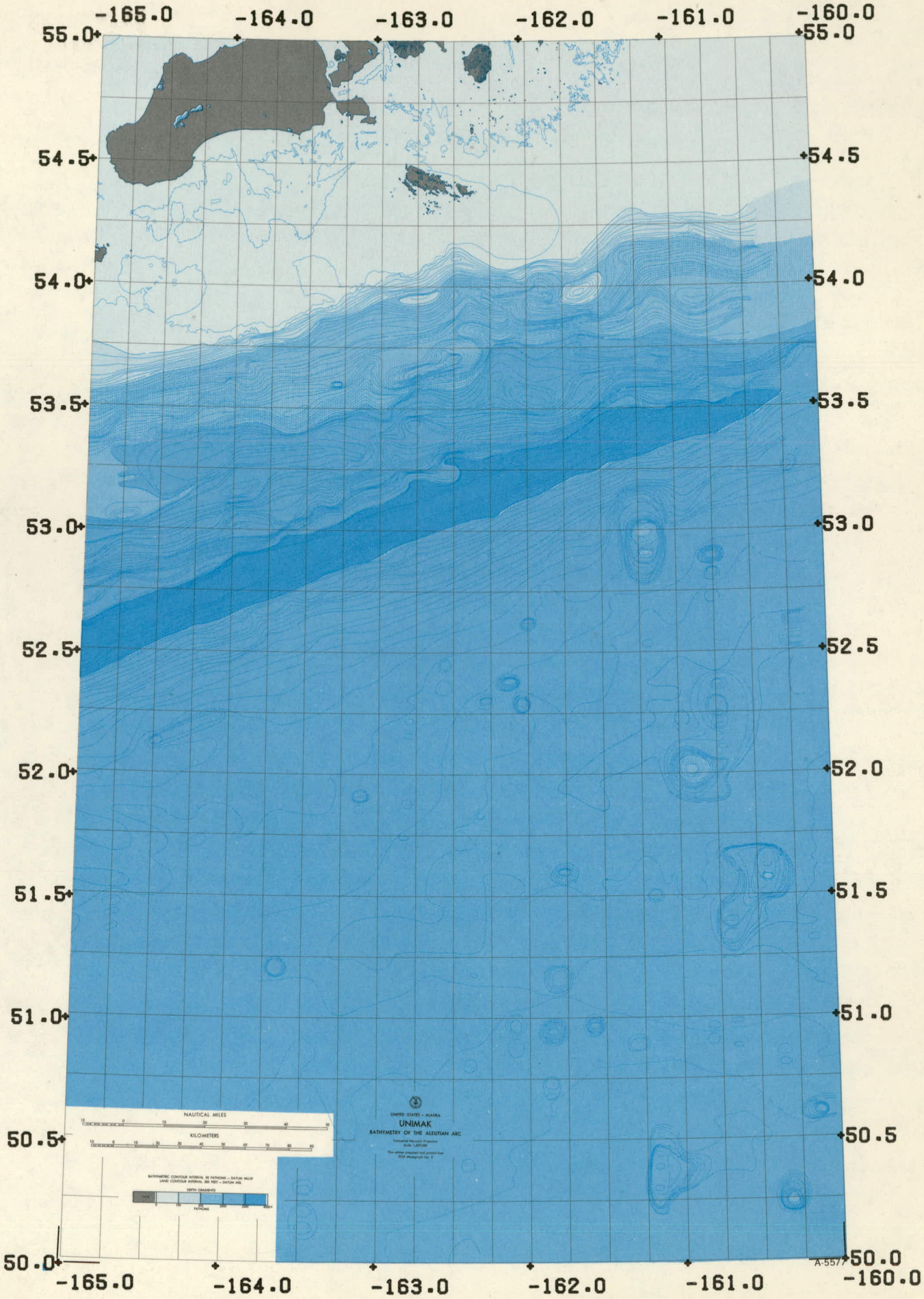
51.0
50.5
50.0
UNITED STATES — ALASKA
UNALASKA
BATHYMETRY OF THE ALEUTIAN ARC
Transverse Mercator Projection
Scale 1:400,000
This edition prepared and printed from
ESSA Monograph No. 2
NAUTICAL MILES
KILOMETERS
BATHYMETRIC CONTOUR INTERVAL 20 FATHOMS — DATUM MLLW
LAND CONTOUR INTERVAL 200 FEET — DATUM MSL
DEPTH GRADIENTS
FATHOMS
A-5577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50.5
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NAUTICAL MILES
KILOMETERS
BATHYMETRIC CONTOUR INTERVAL 50 FATHOMS — DATUM MLLW
LAND CONTOUR INTERVAL 500 FEET — DATUM MSL
DEPTH GRADIENTS
FATHOMS
UNITED STATES — ALASKA
UNIMAK
BATHYMETRY OF THE ALEUTIAN ARC
A-5577