

**UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

**DATA REPORT FOR THE MAINE - QUEBEC
CROSS-STRIKE SEISMIC-REFRACTION PROFILE**

By

J. M. Murphy and J. H. Luetgert



OPEN-FILE REPORT 86-47

This report (map) is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards (and stratigraphic nomenclature). Any use of trade names is for descriptive purposes only and does not imply endorsement by the U.S.G.S.

*Menlo Park, California
1986*

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1986

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INTRODUCTION

In September of 1984, the U.S. Geological Survey and the Canadian Department of Energy, Mines, and Resources conducted a seismic-refraction experiment in Quebec and Maine. This experiment--part of a large interdisciplinary effort to understand the structure and tectonic evolution of the northern Appalachian orogen--was designed to sample several different tectono-stratigraphic terranes which have been identified in the northern Appalachians. A 300-km-long profile crossed the land exposure of the Appalachian orogen perpendicular to strike and parallel to seismic reflection profiles also recorded in Maine and Quebec. Four shorter profiles sampled individual terranes along strike. The strike lines were designed to constrain the velocity structure in the Chain Lakes, Gander, and Avalon terranes (as defined by Williams and Hatcher, 1983) in order to permit a 3-dimensional interpretation. With velocities constrained, the character and geometry of the terranes and their boundaries may be studied using both the refraction and reflection data.

This report is a compilation of the U.S. Geological Survey refraction data obtained from the cross-strike profile (deployments 1, 2, and 3). The data have been archived at the National Geophysical Data Center in Boulder, Colorado. Tapes are available from

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
325 Broadway
Boulder, CO, 80303

Appendix D contains a description of the tape format. Interpretations of these data will be published separately.

Background

Along the boundary of the eastern North American Continent, multiple episodes of plate interaction have resulted in the juxtaposition of discrete tectono-stratigraphic terranes having differing geologic histories prior to their emplacement. Our current understanding of the tectonic evolution of the northern Appalachian mountains begins with the recognition of their origin as a Paleozoic convergent plate boundary along the eastern margin of the North American craton (Bird and Dewey, 1970). The closing of the Iapetus ocean and subsequent opening of the Atlantic ocean provides a conceptual framework within which models of tectonic evolution may be constructed. Generally, there is agreement that the Precambrian-to-Cambrian oceanic plate east of the North American craton (Iapetus) was subducted toward the southeast. There is disagreement, however, about specific models. Hall and Robinson (1982) argue that the final stage of subduction was a continent-continent collision. Others (Rast and Skehan, 1983; Hatch, 1982), propose that micro-continentals were accreted between the North American and the Avalonian cratons. Still

others (Lyons et al., 1982; Boudette, 1982) propose that the closing of the Iapetus ocean involved the collision of several microplates with the North American continent.

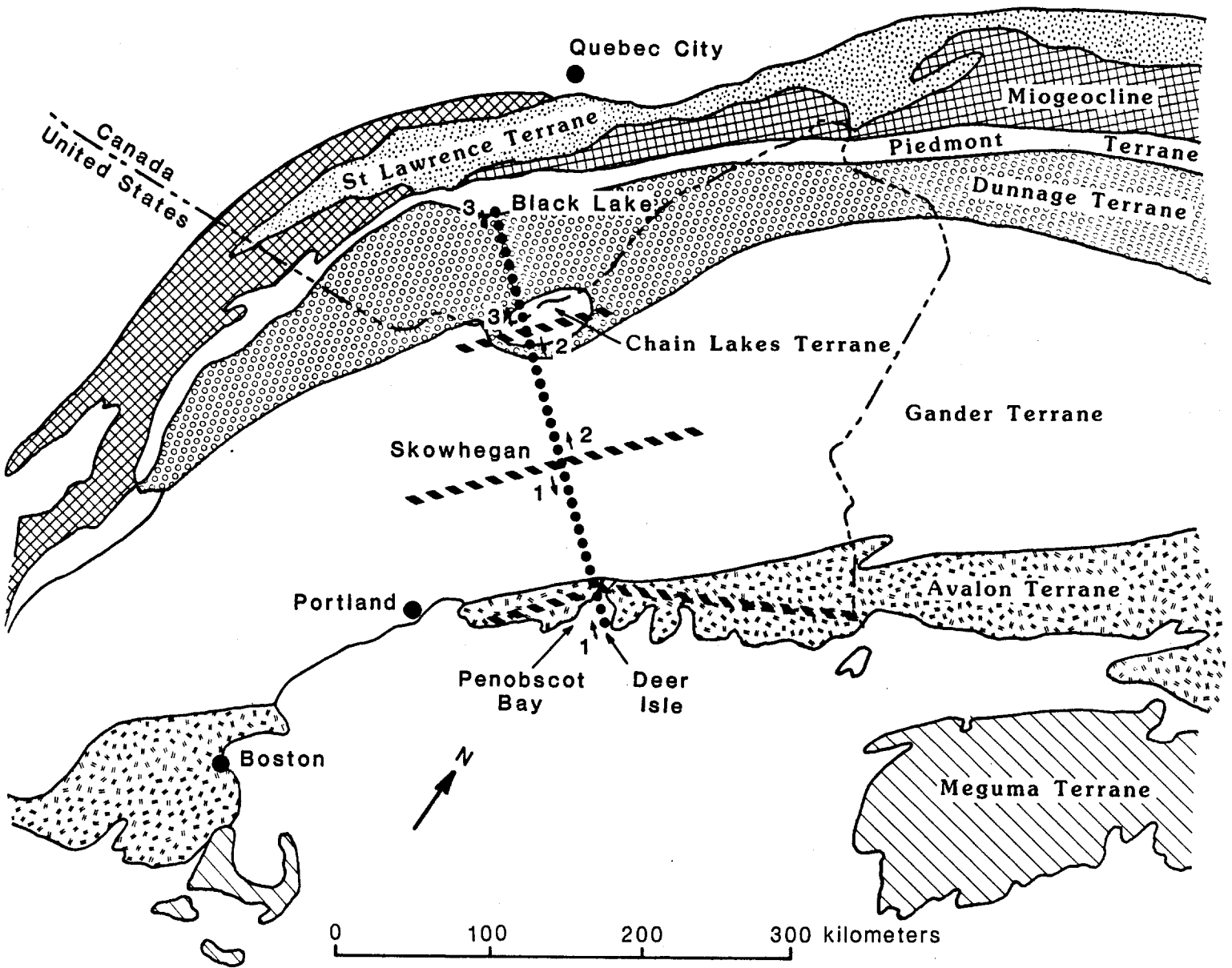
Geology

The profile presented here crosses four terranes as defined by Williams and Hatcher (1983): the Dunnage, Chain Lakes, Gander, and Avalon terranes (figure 1). The northwest section of the profile, which crosses the Dunnage terrane, extends from Black Lake on the Baie Verte-Brompton Line southeast across the St. Daniel and the St. Victor formations to the Chain Lakes massif. Ophiolites along the Baie Verte-Brompton line are bounded on the south by melange of the the St. Daniel formation. South of the St. Daniel formation lie turbidites of the St. Victor formation (Williams and St-Julien, 1982). In the central part of the Dunnage terrane, Silurian and Devonian shallow marine deposits (limestone, dolomite, sandstone, siltstone, and slate) of the Connecticut Valley-Gaspe synclinorium overlie the early Paleozoic rocks.

At the southeast edge of the Dunnage terrane lies the Chain Lakes massif. It is composed of Precambrian metavolcanic and metasedimentary rocks overlying stratified diamictite (Boudette 1982). Farther south lies the Gander terrane consisting of metamorphosed early Paleozoic clastic rocks lying on a sialic gneissic substrate; shallow Devonian granitic intrusions are common. In the area of this study, Silurian and Devonian shallow marine deposits exposed in the Merrimack synclinorium overlie the majority of the Gander terrane. The northwest limit of the terrane in this area is represented by the Boil Mountain-Jim Pond ophiolite-mafic volcanic complex (Zen, 1983). Along the southeast border of the Gander terrane lies the Avalon terrane which is composed of late Precambrian and Cambrian volcanic and sedimentary rocks overlying a gneissic basement. Compared to the Gander terrane, these rocks show little deformation.

Geophysics

This seismic-refraction study is part of a broad-based geophysical investigation of the northern Appalachian mountains that includes seismic-reflection, gravity, and magnetic studies. Seismic reflection data have been collected in three studies along a 1000-km transect extending from the North American craton to the continental slope. The northwestern 150 km of the craton-to-ocean reflection profile was obtained by the Ministere de l'Energie et des Ressources, Quebec (MERQ). Reflection sampling continued southeastward with the Quebec-Western Maine profiles collected by the U.S. Geological Survey (USGS). These profiles, parallel to the seismic-refraction profiles reported here, extend approximately 330 km from Lac Megantic, Quebec, to the Maine coast at Penobscot Bay (Stewart et al., 1985). Recently, marine reflection and refraction data have been collected in the Gulf of Maine which connect the Quebec-Western Maine profiles with USGS Marine Line 19 at the continent-ocean margin, completing the craton-to-slope transect.



USGS Instrumentation

- Cross-Strike profile
Data reported here
- //// Strike Profiles
Data not reported here

Each deployment lies between two numbers marking the profile.

- 1 Skowhegan to Deer Isle
- 2 Skowhegan to the Canadian Border
- 3 Black Lake to the Canadian Border

The MERQ profile has been interpreted by St-Julien et al. (1983) and Ando et al. (1983) to indicate extensive northwestward overthrusting. Green et al. (1985) conclude that the Grenville basement extends beneath a southeastward-dipping detachment surface at least to the Chain Lakes massif in northwestern Maine; the boundary of the North American Craton would thus be further east than was previously assumed in the northern Appalachian mountains.

Complementary studies of gravity and magnetics have been completed in the area of this study and Bouguer gravity anomaly and magnetic anomaly maps have been compiled along the land portion of the transect (Stewart et al., 1985).

DESCRIPTION OF THE SURVEY

Along the cross-strike profile, three separate lines of 120 instruments, each 90 km long, were laid out in a continuous end-to-end pattern (figure 1). For the first line or deployment, between Skowhegan and Deer Isle, Maine, six shots were fired at SPC1, SP1, SP4, SP5, SP6, and SP7. Seven shots fired at SPC1, SP1, SP2, SP3A, SP3B, SP4, and SP7 were recorded during the second deployment, which extended from Skowhegan, Maine to the Canadian border. For the third deployment, six shots fired at SPC1, SPC2, SP1, SP3B, SP4, and SP7 were recorded in Canada between Black Lake, Quebec and the international border.

Instrument and shot point locations and elevations in Maine were determined using USGS 1:24,000 and 1:62,500 topographic maps and USGS 1:24,000 orthophoto maps. Shot point and instrument locations and elevations in Canada were determined using Canadian DEMR 1:50,000 topographic maps. All the locations (appendix A; plate 1) are estimated to be accurate to within 50 ft.

The two Canadian shot points were SPC1, a lake shot point located in an abandoned, water filled quarry near Black Lake, Quebec, at the Vimy Ridge asbestos mine and SPC2, a drill hole located near Stornoway, Quebec, 35 km northwest of the international border. The source at shot point C1 was located 90 m below the surface of the water. U.S. shot points were 20 cm X 40 m drill holes. They were filled with an ammonium nitrate explosive which was detonated by electric caps, detonating cord, and boosters. The cap signal and two time-code signals, WWVB and IRIG E, were recorded on paper strip-chart records, as described by Healy et al. (1982). The shots were fired automatically and the origin times were read from the cap break on the paper record. The reported shot times are accurate to within ± 2 milliseconds, assuming that the explosives detonated at the exact time of the cap break.

TABLE 1 : Master Shot List

Shot Number	Shot Point	Date Shot Time (Julian D,H,M,S)	Latitude Longitude (Degrees, Minutes)	Size (lbs)
1	31	SEP 25, 1984 269 4 0 0.020	46 1.3800 71 24.4080	4000
2	7	SEP 25, 1984 269 4 3 0.006	44 19.6383 68 58.7814	2000
3	5	SEP 25, 1984 269 4 5 0.010	44 35.0574 69 26.5906	2000
4	1	SEP 25, 1984 269 4 7 0.012	45 23.5364 70 45.1277	4000
5	6	SEP 25, 1984 269 5 33 0.006	44 27.7061 69 13.9435	2000
6	4	SEP 25, 1984 269 7 5 0.010	44 45.8034 69 47.7814	2000
7	31	SEP 28, 1984 272 4 0 0.020	46 1.3800 71 24.4080	3000
8	37	SEP 28, 1984 272 4 2 0.007	44 19.6369 68 58.7814	4000
9	1	SEP 28, 1984 272 4 4 0.011	45 23.5364 70 45.1277	2000
10	2	SEP 28, 1984 272 4 6 0.009	45 12.8629 70 30.7310	2000
11	33	SEP 28, 1984 272 4 8 0.010	44 53.5563 69 58.4431	2000
12	3	SEP 28, 1984 272 5 36 0.010	45 2.8915 70 12.2108	2000
13	34	SEP 28, 1984 272 5 38 0.009	44 45.8253 69 47.7814	2000
14	31	OCT 4, 1984 278 4 0 0.020	46 1.3800 71 24.4080	1650
15	7	OCT 4, 1984 278 4 3 0.009	44 19.6383 68 58.7814	4000
16	44	OCT 4, 1984 278 4 5 0.007	44 45.8487 69 47.7937	4000
17	32	OCT 4, 1984 278 5 30 0.000	45 39.0540 71 7.2900	1100
18	33	OCT 4, 1984 278 5 35 0.007	44 53.5563 69 58.4431	2000
19	1	OCT 4, 1984 278 5 37 0.012	45 23.5364 70 45.1277	2000

INSTRUMENTATION AND DATA REDUCTION

Seismic Recorders

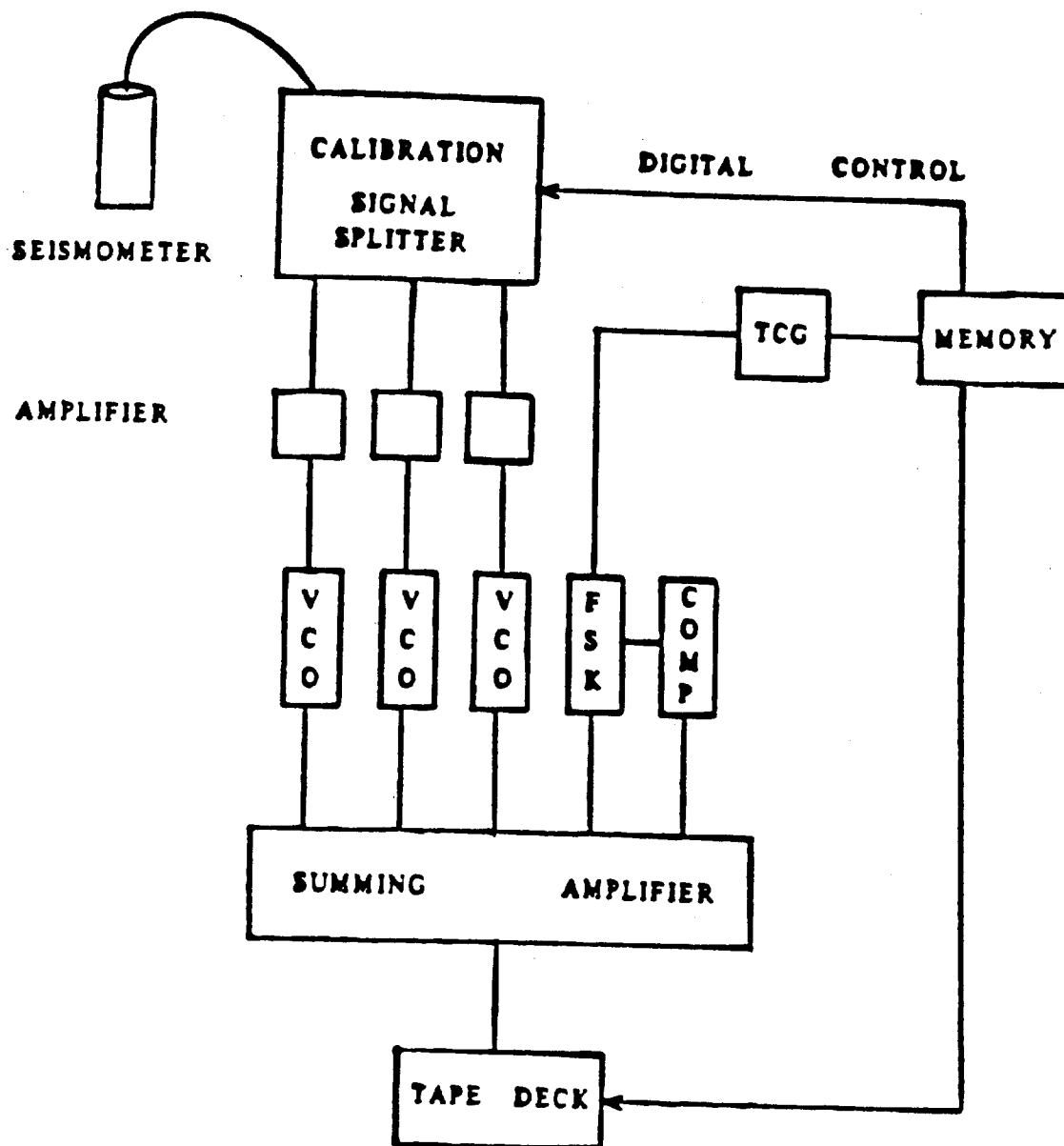
The instruments used in the seismic-refraction surveys have been described by Healy et al. (1982) (figure 2). Each instrument contains a 2-Hz vertical-component geophone. The signal from this geophone passes through three parallel amplifiers, each with an adjustable gain setting. The three seismic signals plus an internally generated time code (IRIG E) and a fixed reference frequency are recorded as a multiplexed signal on analog cassette tape. A programable memory board in each unit allows data to be recorded during ten predetermined time windows. Prior to recording the seismic data, the instrument records a geophone pulse, an amplification step, and 10-Hz sine-wave calibration signals at 1, 10, 100, 1000 mv. The displacement frequency response curve for the system peaks at about 20 Hz (figure 3).

Prior to deployment, field technicians program the memory and synchronize the clock unit of each instrument with a USGS master reference clock (Healy et al., 1982). After the shots have been recorded, the clock unit of each instrument is compared to the master reference clock and a clock drift time (in milliseconds) is recorded in the field notes. USGS master clocks, which drift approximately one millisecond per week, are periodically checked against the standard WWVB time signal.

Data reduction

Information pertaining to the operation of each instrument was entered on team data sheets (appendix C). Chronometer corrections at shot time were calculated from each clock drift time assuming a linear drift rate. Attenuation settings of every instrument have been checked against the calibration signals. Where calibration signals indicated a different dB setting than listed on the field sheets, the correct settings were calculated and entered into the computer. After checking for errors in clock drift and site locations, the analog data were digitized for 20 seconds, starting $(X/8 - 1)$ or $(X/6 - 4)$ seconds prior to shot time, where X is the shot point to recorder distance in km. The sampling rate for digitizing was 200 samples per second.

First-arrival times relative to shot time were determined for each shot (appendix B). The arrival times were picked from record sections plotted with a reduction velocity of 6.0 km per second, and absolute arrival times were subsequently calculated from the reduced times.



- COMP = COMPENSATION
- FSK = FREQUENCY SHIFT KEYING
- TCG = TIME CODE GENERATOR
- VCO = VOLTAGE-CONTROLLED OSCILLATOR

Figure 2. Schematic diagram of seismic recorders

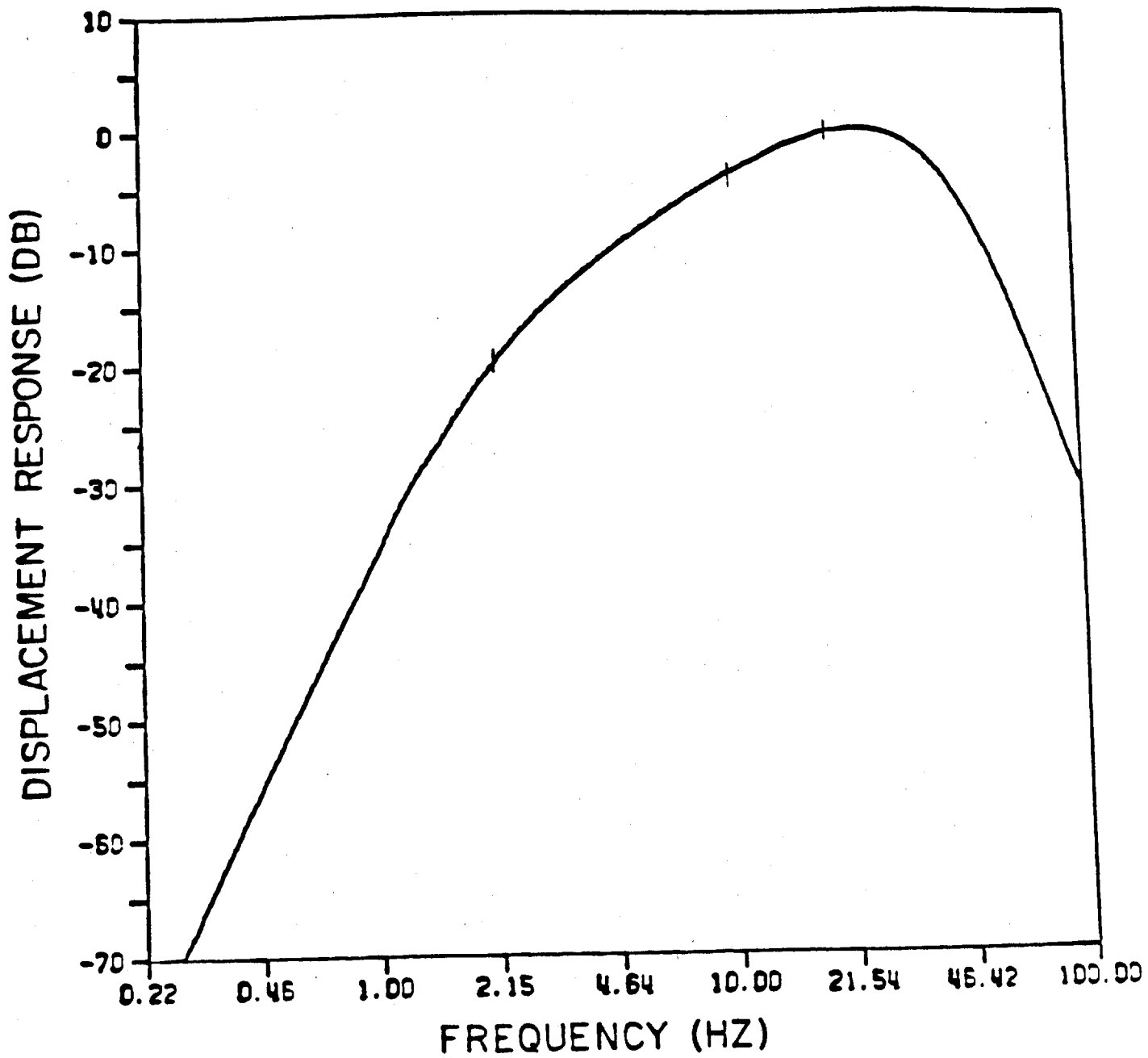


Figure 3. System response curve for cassette recording units with 2 Hz seismometers

RECORD SECTIONS

For each shot a normalized and a true-amplitude record section are presented (plates 2-15). Since shots from shot points C1, 1, 4, and 7 were recorded during all three deployments, records from deployments 1, 2, and 3 are concatenated to form a single record section (plates 2-9). These concatenated record sections, however, are too long to print as a single plot and are split with the data duplicated between shot points 3A and 3B. Records from shot point 3B recorded during deployments 2 and 3 are concatenated and displayed as a single plot (plate 10). All other shots were recorded during a single deployment (plates 11-15). A small number of traces were bandpass filtered with a 4-pole Butterworth filter. These traces and the frequency band are labeled on the record sections.

On the true-amplitude record sections, the width of each trace is proportional to the actual ground motion. Adjustments were made for instrument gain, distance from the shot point, and shot energy. Thus, the true amplitude $A(t)$ is computed from the observed amplitude $A_0(t)$ by

$$A(t) = A_0(t)f_a f_d f_s ,$$

where f_a , f_d , and f_s are multiplicative factors for the instrument amplifier gain, distance from the shot, and shot energy, respectively. The factor for instrument amplification is,

$$f_a = 10^{(A/20)} ,$$

where A is the attenuation setting, in decibels, for each trace. The attenuation setting for each instrument is listed above the trace on the true-amplitude record sections. The formula used to determine the distance factor is,

$$f_d = \left(\frac{X}{100} \right)^{1.5} ,$$

where X is the shotpoint-station distance, in km. The shot energy factor, f_s , is a scalar multiplier that is applied to all traces for a particular shot to provide the best display of energy on a true-amplitude record section (table 3). The energy factor is inversely proportional to the shot signal strength.

In order to make the record sections (plates 2-15) easier to analyze, a few traces were deleted in areas where stations were close together or where a noisy trace obscured surrounding data. Where a seismogram has been omitted, the reason is indicated by a tape grade code number which is listed on the team data sheets.

TABLE 3SCALING FACTORS FOR TRUE-AMPLITUDE PLOTS

<u>SHOT POINT</u>	<u>EFFICIENCY FACTOR</u>
C1	.005
C2	.04
1	.03
2	.03
3A	.03
3B	.02
4	.02
5	.05
6	.05
7	.02

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REFERENCES

- Ando, C.J., Cook, F.A., Oliver, J.E., Brown, L.D., and Kaufman, S., 1983, Crustal geometry of the Appalachian orogen from seismic reflection studies, in Hatcher, R.D., Williams, H., and Zietz, I., eds., Contributions to the tectonics and geophysics of mountain chains: Geological Society of America Memoir 158, p. 83-100.
- Bird, J.M., Dewey, J.F., 1970, Lithosphere Plate-Continental Margin Tectonics: Geological Society of America Bulletin, v.81, p.1031-1059.
- Boudette, E.L., 1982, Ophiolite assemblage of early Paleozoic age in central western Maine, in St-Julien, P. and Beland, J., eds., Major Structural Zones and Faults of the Northern Appalachians: Geological Association of Canada Special Paper no.24, p.209-230.
- Green, A.G., Berry, M.J., Spencer, C.P., Kanasewich, E.R., Chiu, S., Clowes, R.M., Yorath, C.J. Stewart, D.B. Unger, J.D. and Poole, W.H., 1985, Recent Seismic Reflection Studies in Canada, in Barazangi, M. and Brown, L., eds., Reflection Seismology: A Global Perspective, AGU Geodynamics Series, v.13, p.85-98.
- Hall, L.M. and Robinson, P., 1982, Stratigraphic-Tectonic subdivisions of southern New England, in St-Julien, P. and Beland, J., eds., Major Structural Zones and Faults of the Northern Appalachians: Geological Association of Canada Special Paper no.24, p.15-41.
- Hatch, N.L., 1982, Taconian line in western New England and its implications to Paleozoic tectonic history, in St-Julien, P. and Beland, J., eds., Major Structural Zones and Faults of the Northern Appalachians: Geological Association of Canada Special Paper no.24, p.67-85.
- Healy, J.H., Mooney, W.D., Blank, H.R., Gettings, M.E., Kohler, W.M., Lamson, R.J., Leone, L.E., 1982, Saudi Arabian seismic deep-refraction profile: final report: U.S. Geological Survey Open-File Report 02-37, 141 p.
- Lyons, J.B., Boudette, E.L. and Aleinkoff, J.N., 1982, The Avalonian and Gander zones in central eastern New England, in St-Julien, P. and Beland, J., eds., Major Structural Zones and Faults of the Northern Appalachians: Geological Association of Canada Special Paper no.24, p.43-66.
- Rast, N. and Skehan, J.W., 1983, The evolution of the Avalonian plate: Tectonophysics, v.100, p.257-286.

- Stewart, D.B., Unger, J.D., Phillips, J.D., Goldsmith, R., Poole, W.H., Spencer, C.P., Green, A.G., Loiselle, M.C., and St-Julien, P., 1985, The Quebec-Western Maine seismic reflection profile: setting and first year results, in Barazangi, M. and Brown, L., eds., Reflection Seismology: The Continental Crust, AGU Geodynamics Series, v.14.
- St. Julien, P., A. Slivitsky and T. Feininger, 1983, A deep structural profile across the Appalachians of southern Quebec, in Hatcher, R.D. Jr., Williams, H., and Zietz, I., eds., Contributions to the Tectonics and Geophysics of Mountain Chains: Geological Society of America, Memoir 158, p.103-112.
- Williams, H. and St-Julien, P., 1982, The Baie Verte-Brompton line: early Paleozoic continent-ocean interface in the Canadian Appalachians, in St-Julien, P. and Beland, J., eds., Major Structural Zones and Faults of the Northern Appalachians: Geological Association of Canada Special Paper no.24, p.177-207.
- Williams, H. and Hatcher, R. D., 1983, Appalachian Suspect Terranes, in Hatcher, R.D., Williams, H. and Zietz, I., eds., Contributions to the Tectonics and Geophysics of Mountain Chains: Geological Society of America Memoir 158, p.33-53.
- Zen, E-an, 1983, Exotic terranes in the New England Appalachians - limits, candidates, and ages: a speculative essay, in Hatcher, R. D., Williams, H., and Zietz, I., eds., Contributions to the Tectonics and Geophysics of Mountain Chains: Geological Society of America Memoir 158, p.55-81.

APPENDIX A
SEISMIC RECORDER LOCATIONS

U.S.G.S. SEISMIC STATION LOCATIONS
MAINE 1984

LOCATION NUMBER	LATITUDE (DEG,MIN)	LONGITUDE (DEG,MIN)	ELEV (M)
101	44 45.821	69 47.803	121
102	44 46.130	69 47.504	106
103	44 45.601	69 46.462	88
104	44 45.908	69 45.993	109
105	44 45.766	69 45.292	97
106	44 45.246	69 44.834	57
107	44 45.186	69 44.063	73
108	44 44.572	69 43.542	73
109	44 44.410	69 42.775	85
110	44 43.918	69 42.610	140
111	44 43.563	69 42.397	176
112	44 43.391	69 41.867	176
113	44 43.162	69 41.308	131
114	44 43.401	69 40.465	97
115	44 42.899	69 40.121	91
116	44 42.571	69 39.721	60
117	44 42.527	69 38.765	42
118	44 42.278	69 38.013	36
119	44 41.927	69 37.852	39
120	44 41.576	69 37.753	36
121	44 40.776	69 37.536	48
122	44 40.396	69 37.342	51
123	44 40.182	69 37.143	54
124	44 39.680	69 36.823	48
125	44 39.296	69 36.563	51
126	44 39.383	69 35.887	54
127	44 39.015	69 35.249	60
128	44 38.864	69 34.585	70
129	44 38.762	69 34.055	67
130	44 38.651	69 33.374	79
131	44 38.307	69 32.731	88
132	44 37.885	69 32.812	73
133	44 37.224	69 32.756	57
134	44 36.805	69 32.723	48
135	44 36.626	69 31.613	42
136	44 36.498	69 31.103	45
137	44 36.124	69 30.584	48
138	44 36.232	69 29.844	54
139	44 36.225	69 29.155	42
140	44 36.171	69 28.413	51
141	44 35.957	69 28.257	67
142	44 35.216	69 27.818	48
143	44 35.115	69 26.982	48
144	44 35.061	69 26.586	51
145	44 34.782	69 26.124	60
146	44 34.572	69 25.765	48
147	44 34.117	69 25.529	54
148	44 33.705	69 25.327	73
149	44 33.250	69 25.422	85
150	44 32.652	69 25.329	73

U.S.G.S. SEISMIC STATION LOCATIONS
MAINE 1984

LOCATION NUMBER	LATITUDE (DEG,MIN)	LONGITUDE (DEG,MIN)	ELEV (M)
151	44 32.143	69 24.849	79
152	44 32.274	69 24.113	97
153	44 32.193	69 23.377	137
154	44 32.035	69 22.839	124
155	44 31.728	69 22.354	152
156	44 31.633	69 21.792	176
157	44 31.529	69 21.216	158
158	44 31.238	69 20.849	170
159	44 31.117	69 20.293	167
160	44 31.103	69 19.590	161
161	44 30.557	69 19.099	152
162	44 30.169	69 19.283	161
163	44 29.802	69 18.387	213
164	44 29.703	69 17.482	219
165	44 29.864	69 17.201	188
166	44 29.638	69 16.395	164
167	44 29.352	69 16.084	158
168	44 28.981	69 15.775	170
169	44 28.593	69 15.016	207
170	44 28.381	69 14.626	195
171	44 28.099	69 14.168	237
172	44 27.710	69 13.920	262
173	44 27.400	69 13.578	158
174	44 27.193	69 12.807	103
175	44 26.839	69 12.505	103
176	44 26.384	69 12.074	149
177	44 26.315	69 11.393	137
178	44 26.209	69 10.678	106
179	44 26.768	69 9.766	82
180	44 26.503	69 8.924	73
181	44 26.082	69 8.397	79
182	44 25.369	69 9.072	82
183	44 25.233	69 9.539	94
184	44 25.013	69 8.423	76
185	44 24.541	69 8.264	73
186	44 23.887	69 8.086	115
187	44 23.767	69 7.352	128
188	44 23.727	69 6.709	121
189	44 23.271	69 6.349	103
190	44 22.807	69 5.921	85
191	44 22.911	69 4.982	106
192	44 22.593	69 4.534	115
193	44 22.327	69 4.341	137
194	44 22.357	69 3.642	175
195	44 22.371	69 3.008	152
196	44 22.036	69 2.477	118
197	44 21.628	69 2.310	94
198	44 21.186	69 2.059	103
199	44 20.687	69 1.597	128
200	44 20.544	69 1.196	131

U.S.G.S. SEISMIC STATION LOCATIONS

MAINE 1984

LOCATION NUMBER	LATITUDE (DEG,MIN)	LONGITUDE (DEG,MIN)	ELEV (M)
201	44 20.246	69 0.736	134
202	44 20.162	69 0.201	152
203	44 20.139	68 59.520	134
204	44 20.171	68 58.837	103
205	44 19.654	68 58.754	86
206	44 19.354	68 57.729	36
207	44 19.090	68 57.504	24
208	44 17.630	68 55.726	6
209	44 17.427	68 55.475	12
210	44 17.195	68 55.025	15
211	44 17.043	68 54.507	24
212	44 16.950	68 54.125	27
213	44 14.151	68 49.202	6
214	44 13.020	68 46.612	6
215	44 10.945	68 42.632	27
216	44 10.743	68 41.764	12
217	44 10.422	68 40.803	12
218	44 10.938	68 39.836	7
219	44 10.827	68 38.780	15
220	44 10.628	68 37.564	12
221	44 45.921	69 46.869	106
222	44 42.568	69 38.206	42
223	44 17.837	68 55.648	6
302	44 45.887	69 48.314	115
303	44 46.421	69 48.730	124
304	44 46.994	69 49.218	131
305	44 46.869	69 50.162	131
306	44 47.295	69 50.678	106
307	44 47.841	69 51.218	94
308	44 48.489	69 51.843	88
309	44 48.813	69 52.544	91
310	44 49.100	69 52.838	82
311	44 49.312	69 53.701	94
312	44 49.775	69 54.288	115
313	44 50.459	69 54.350	109
314	44 51.083	69 55.180	100
315	44 51.299	69 55.754	118
316	44 51.592	69 56.513	112
317	44 51.873	69 57.305	103
318	44 52.294	69 58.069	109
319	44 52.814	69 58.016	118
320	44 53.006	69 58.832	121
321	44 53.327	69 59.359	109
322	44 53.759	69 59.734	109
323	44 54.096	70 0.528	115
324	44 54.319	70 1.121	106
325	44 54.768	70 1.719	131
326	44 55.422	70 1.913	115
327	44 55.418	70 2.573	128
328	44 55.557	70 3.153	131

U.S.G.S. SEISMIC STATION LOCATIONS

MAINE 1984

LOCATION NUMBER	LATITUDE (DEG,MIN)	LONGITUDE (DEG,MIN)	ELEV (M)
329	44 56.022	70 3.694	137
330	44 56.370	70 4.235	158
331	44 56.755	70 4.777	195
332	44 56.920	70 5.704	225
333	44 57.224	70 6.540	237
334	44 57.402	70 6.939	237
335	44 57.500	70 7.390	195
336	44 57.531	70 8.417	190
337	44 57.922	70 9.420	176
338	44 58.391	70 9.505	198
339	44 58.823	70 10.246	195
340	44 59.457	70 10.278	195
341	45 0.223	70 10.182	237
342	45 0.779	70 10.262	237
343	45 1.485	70 10.532	237
344	45 2.234	70 11.036	231
345	45 2.480	70 11.573	231
346	45 2.949	70 11.934	237
347	45 3.645	70 12.026	237
348	45 4.117	70 12.339	246
349	45 4.726	70 12.829	259
350	45 5.203	70 13.206	265
351	45 5.446	70 13.635	280
352	45 5.666	70 14.402	310
353	45 5.519	70 15.413	344
354	45 5.310	70 16.618	362
355	45 5.047	70 17.771	381
356	45 4.690	70 19.033	399
357	45 5.115	70 19.619	445
358	45 5.465	70 20.141	469
359	45 5.698	70 20.808	457
360	45 6.120	70 21.389	435
361	45 6.505	70 22.045	387
362	45 6.670	70 22.727	381
363	45 6.930	70 23.413	365
364	45 7.153	70 24.170	365
365	45 7.382	70 24.800	359
366	45 7.767	70 25.457	396
367	45 8.273	70 25.900	350
368	45 8.559	70 26.210	350
369	45 8.988	70 26.853	350
370	45 9.548	70 26.929	350
371	45 10.206	70 27.233	350
372	45 10.725	70 27.510	350
373	45 11.248	70 27.876	353
374	45 11.947	70 27.805	350
375	45 12.358	70 28.224	359
376	45 12.814	70 28.711	365
377	45 13.418	70 29.031	356
378	45 13.293	70 29.828	368

U.S.G.S. SEISMIC STATION LOCATIONS

MAINE 1984

LOCATION NUMBER	LATITUDE (DEG,MIN)	LONGITUDE (DEG,MIN)	ELEV (M)
379	45 12.863	70 30.749	365
380	45 13.722	70 29.384	358
381	45 14.201	70 29.680	362
382	45 14.586	70 30.229	371
383	45 14.810	70 30.952	371
384	45 14.891	70 31.702	365
385	45 14.975	70 32.610	371
386	45 15.322	70 32.911	365
387	45 15.713	70 33.962	368
388	45 16.206	70 34.213	371
389	45 16.604	70 34.536	371
390	45 16.722	70 35.023	377
391	45 17.201	70 35.488	384
392	45 17.545	70 36.077	377
393	45 18.073	70 36.274	374
394	45 18.630	70 36.923	390
395	45 18.883	70 37.304	396
396	45 19.149	70 37.835	408
397	45 19.614	70 38.578	425
398	45 19.877	70 39.140	408
399	45 20.289	70 39.610	399
400	45 20.679	70 40.212	408
401	45 20.922	70 40.690	396
402	45 21.119	70 41.335	402
403	45 21.540	70 41.869	396
404	45 21.921	70 42.301	396
405	45 22.057	70 43.184	402
406	45 22.293	70 43.759	405
407	45 22.569	70 44.381	398
408	45 22.606	70 45.018	408
412	45 24.753	70 48.105	481
413	45 24.411	70 47.334	472
414	45 24.411	70 46.819	445
415	45 24.415	70 45.076	420
416	45 2.891	70 12.211	249
417	44 53.556	69 58.443	172
420	44 19.638	68 58.781	86
421	45 23.191	70 45.174	409
422	45 23.543	70 45.172	420
423	45 23.996	70 45.120	426
424	45 24.333	70 46.711	441
501	46 1.176	71 24.465	441
502	46 0.872	71 24.761	359
503	46 0.598	71 24.982	374
504	46 0.303	71 25.512	335
505	45 59.708	71 25.563	313
506	45 59.284	71 24.518	327
507	45 58.819	71 23.398	307
508	45 58.559	71 23.189	304
509	45 58.457	71 22.100	274

U.S.G.S. SEISMIC STATION LOCATIONS

MAINE 1984

LOCATION NUMBER	LATITUDE (DEG,MIN)	LONGITUDE (DEG,MIN)	ELEV (M)
510	45 57.928	71 21.613	286
511	45 57.699	71 21.177	291
512	45 57.704	71 20.636	342
513	45 57.494	71 20.240	377
514	45 57.239	71 19.591	396
515	45 56.899	71 19.073	352
516	45 56.330	71 19.204	359
517	45 55.748	71 19.257	315
518	45 55.310	71 19.665	309
519	45 54.925	71 20.039	284
520	45 54.836	71 17.230	385
521	45 54.461	71 18.113	327
522	45 53.804	71 18.576	304
523	45 53.362	71 19.042	298
524	45 52.843	71 19.623	300
525	45 52.356	71 19.425	289
526	45 51.973	71 18.849	289
527	45 51.551	71 18.124	315
528	45 51.232	71 17.570	297
529	45 51.024	71 17.183	301
530	45 50.750	71 16.731	292
531	45 50.476	71 16.237	315
532	45 50.257	71 15.536	356
533	45 49.973	71 15.280	342
534	45 49.468	71 15.327	379
535	45 48.908	71 15.633	385
536	45 48.510	71 15.674	416
537	45 47.975	71 16.144	356
538	45 43.694	71 11.585	388
539	45 43.424	71 10.900	371
540	45 43.132	71 10.369	376
541	45 49.933	71 11.521	306
542	45 49.518	71 11.641	310
543	45 49.078	71 11.759	310
544	45 48.694	71 11.790	304
545	45 48.447	71 11.463	306
546	45 48.175	71 10.974	312
547	45 47.766	71 10.595	312
548	45 47.253	71 10.606	313
549	45 46.902	71 10.461	316
550	45 46.569	71 10.224	326
551	45 46.077	71 9.989	338
552	45 45.256	71 10.681	358
553	45 44.910	71 10.870	350
554	45 44.317	71 11.379	356
555	45 39.054	71 7.290	451
556	45 42.833	71 9.871	420
557	45 43.290	71 8.702	338
558	45 42.421	71 9.724	451
559	45 42.363	71 9.048	464

U.S.G.S. SEISMIC STATION LOCATIONS

MAINE 1984

LOCATION NUMBER	LATITUDE (DEG,MIN)	LONGITUDE (DEG,MIN)	ELEV (M)
560	45 42.065	71 8.535	457
561	45 41.829	71 8.160	443
562	45 41.532	71 7.879	451
563	45 41.193	71 7.528	449
564	45 40.836	71 6.948	426
565	45 40.621	71 6.589	411
566	45 40.344	71 6.120	377
567	45 40.092	71 5.683	411
568	45 39.852	71 5.235	411
569	45 39.643	71 4.881	411
570	45 39.375	71 4.463	420
571	45 39.137	71 3.861	437
572	45 39.061	71 3.304	454
573	45 38.760	71 2.923	472
574	45 38.566	71 2.585	484
575	45 38.215	71 1.961	507
576	45 37.375	71 1.857	502
577	45 36.791	71 2.217	512
578	45 36.403	71 1.868	554
579	45 35.933	71 1.828	556
580	45 35.570	71 1.577	571
581	45 35.340	71 1.183	571
582	45 35.131	71 0.303	518
583	45 34.768	70 59.902	518
584	45 34.511	70 59.770	515
585	45 34.154	70 59.480	505
586	45 33.698	70 59.341	490
587	45 33.256	70 58.995	480
588	45 33.201	70 58.397	429
589	45 32.970	70 58.009	408
590	45 32.631	70 57.659	411
591	45 32.435	70 56.783	411
592	45 32.085	70 56.418	457
593	45 31.907	70 55.782	518
594	45 31.521	70 55.607	525
595	45 31.026	70 55.467	510
596	45 30.549	70 55.589	490
597	45 30.544	70 54.621	438
598	45 30.087	70 54.145	419
599	45 29.779	70 54.004	403
600	45 29.358	70 54.120	411
601	45 28.867	70 53.805	417
602	45 28.351	70 53.779	403
603	45 29.305	70 52.115	403
604	45 28.646	70 52.285	403
605	45 28.298	70 52.089	405
606	45 27.967	70 51.702	409
607	45 27.838	70 51.283	409
608	45 27.474	70 50.796	419
609	45 27.300	70 50.353	419

U.S.G.S. SEISMIC STATION LOCATIONS

MAINE 1984

LOCATION NUMBER	LATITUDE (DEG,MIN)	LONGITUDE (DEG,MIN)	ELEV (M)
610	45 26.843	70 50.135	411
611	45 26.416	70 50.109	400
612	45 25.876	70 50.122	419
613	45 25.444	70 49.767	435
614	45 25.384	70 49.109	441
615	45 24.728	70 49.916	460

APPENDIX B

TEAM DATA SHEETS

Team data sheets contain all the information related to the performance of the seismic recorders. The recorders are grouped into six teams of twenty instruments, and information for each team is given for each shot. Numerical values were assigned to all shot points. Shot points 4 and 7, which had multiple drill holes, have multiple shot point numbers corresponding to different drill hole locations. These are listed below the column headings. The column headings are as follows:

LOC	- location number from the seismic recorder location file
DIST (KM)	- distance from the shot point to the recorder location in kilometers
AZIM (DEG)	- azimuth clockwise north from the shotpoint to the recorder location
UNIT	- I. D. number of the recording unit
CHRON	- chronometer correction in milliseconds for the recorder at shot time (calculated from the total drift assuming a linear drift rate)
CHAN	- channel number (1, 2, or 3) which was digitized
C1 C2 C3	- attenuation settings (dB) for channels 1, 2, and 3
TAPE GRADE	- number used to code the instrument performance, the data quality, and/or the reason for omitting the trace from a record section

SHOT POINTLOCATION NUMBERS

C1	31
C2	32
3A	3
3B	33
4	4, 34, 44
7	7, 37

DIRECTORY OF TAPE GRADE CODES

- 0 - Digitized
- 1 - Tape did not run
- 2 - Dropout in data
- 3 - Skipped record time
- 5 - Time code translator read time but detected error
- 6 - Time code translator cannot read time.
- 12 - Random noise
- 17 - Bad time code
- 21 - Geophone disconnected or shorted
- 32 - No seismic arrival
- 33 - Trace deleted from record section;
Deployed off line
- 34 - Trace deleted from record section;
Overlapping traces
- 35 - Clipped record
- 36 - Trace deleted from true-amplitude record section;
Noisy trace.
- 37 - Filtered data plotted

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 6 SHOT POINT 4 TEAM 1
SHOT TIME: 269: 7: 5: 0.010

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	TAPE	GRADE
1	0.044	319.7	1	16	3	30	12	88	5/34	
2	1.223	79.7	2	0	3	30	12	68	0	
3	1.781	102.2	3	13	3	30	12	68	0	
4	2.358	85.3	4	-195	3	30	12	68	0	
5	3.286	91.2	5	20	3	30	12	48	0	
6	4.024	104.9	6	8	3	30	12	48	0	
7	5.039	103.1	7	-19	3	30	12	48	0	
8	6.042	112.2	8	11	3	30	12	48	0	
9	7.094	111.3	9	65	3	30	12	48	0	
10	8.230	120.3	10	-13	3	30	12	48	0	
11	9.846	119.8	11	-18	3	30	12	48	0	
12	10.632	114.7	12	14	3	30	12	48	0	
13	11.455	118.0	13	14	3	30	12	48	0	
14	12.210	119.4	14	-23	3	30	12	48	0	
15	13.989	115.4	15	-109	3	30	12	48	0	
16	14.456	116.9	16	-11	3	30	12	48	0	
17	14.947	118.7	17	31	3	30	12	48	1	
18	15.383	120.6	18	-13	1	30	12	48	0	
19			19	13	1	30	12	48	0	
20			20	-5	1	30	12	48	0	

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 5 SHOT POINT 6 TEAM 5
SHOT TIME: 269: 5:33: 0.006

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	TAPE	GRADE
1	7.949	112.2	81		1	30	12	48	0/34	
2	7.778	123.8	82		3	30	12	48	0	
3	7.425	128.1	83		3	30	12	48	0	
4	8.862	124.3	84		3	30	12	48	0	
5	9.547	127.9	85		3	30	12	48	17	
6	10.510	132.3	86		3	30	12	48	0	
7	11.391	129.8	87		3	30	12	48	0	
8	12.104	127.5	88		3	30	12	48	0	
9	13.003	129.2	89		3	30	12	48	1	
10	13.990	130.4	90		3	30	12	48	0	
11	14.844	126.7	91		3	30	12	48	0	
12	15.652	127.2	92		3	30	12	48	0	
13	16.178	128.0	93		3	30	12	48	0	
14	16.886	125.9	94		3	30	12	48	0	
15	17.560	124.2	95		3	30	12	48	0	
16	18.493	124.6	96		3	30	12	48	0	
17	19.111	126.1	97		3	30	12	48	0	
18	19.869	127.4	98		3	30	12	48	17	
19	20.921	128.4	99		3	30	12	48	0	
20	21.303	128.1	100		3	30	12	48	1	

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 6 SHOT POINT 4 TEAM 2
SHOT TIME: 269: 7: 5: 0.010

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	TAPE	GRADE
1	16.424	124.5	21	-11	3	30	12	48	0	
2	17.039	126.0	22	14	1	30	12	48	0	
3	17.486	126.5	23	21	3	30	12	48	0	
4	18.387	128.1	24	-6	1	30	12	48	0	
5	19.100	129.1	25	6	1	30	12	48	0	
6	19.702	127.1	26	9	1	30	12	48	1	
7	20.786	127.2	27	8	3	30	12	48	0	
8	21.657	126.4	28	-85	1	30	12	48	0	
9	22.334	125.7	29	12	1	30	12	48	0	
10	23.187	124.8	30	8	1	30	12	48	0	
11	24.249	124.9	31	10	1	30	12	48	0	
12	24.620	126.6	32	19	1	30	12	48	0	
13	25.428	128.7	33	32	1	30	12	48	0	
14	25.953	130.0	34	12	1	30	12	48	0	
15	27.299	128.5	35	-35	1	30	12	48	0	
16	27.976	128.0	36	2	1	30	12	48	0	
17	28.945	128.3	37	0	1	30	12	48	0	
18	29.598	126.8	38	4	2	30	12	48	0	
19	30.340	125.8	39	4	1	30	12	48	0	
20	31.197	124.9	40	7	1	30	12	48	0	

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 5 SHOT POINT 6 TEAM 6
SHOT TIME: 269: 5:33: 0.006

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	TAPE	GRADE
1	22.326	128.2	101	20	1	30	12	68	0	
2	22.982	127.4	102	10	1	30	12	68	0	
3	23.732	126.2	103	3	1	30	12	88	0	
4	24.435	124.8	104	-3	1	30	12	88	0	
5	25.084	126.5	105	21	1	30	12	88	0	
6	26.512	125.7	106	-6	1	30	12	88	0	
7	27.042	126.2	107	13	1	30	12	68	0	
8	30.558	127.6	108	-6	1	30	12	48	0	
9	31.051	127.8	109	2	2	30	12	48	0	
10	31.789	127.8	110	23	1	30	12	48	0	
11	32.505	127.4	111	25	1	30	12	48	0	
12	33.014	127.1	112	-6	1	30	12	48	0	
13	41.368	127.4	113	-11	2	30	12	48	0	
14	45.381	126.8	114	-5	2	30	12	48	0	
15	51.930	126.7	115	2	2	30	12	48	0	
16	53.081	126.3	116	31	2	30	12	48	0	
17	54.464	126.0	117	--	--	30	12	48	1	
18	54.962	124.4	118	1	2	30	12	48	0	
19	56.240	123.8	119	4	4	30	12	48	1	
20	57.794	123.2	120	3	2	30	12	48	0	

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 11 SHOT POINT 33 TEAM 3
SHOT TIME: 272: 4: 8: 0.010

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE GRADE. Rows 1-20.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 11 SHOT POINT 33 TEAM 1
SHOT TIME: 272: 4: 8: 0.010

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE GRADE. Rows 1-20.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 11 SHOT POINT 33 TEAM 4
SHOT TIME: 272: 4: 8: 0.010

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE GRADE. Rows 1-20.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 11 SHOT POINT 33 TEAM 2
SHOT TIME: 272: 4: 8: 0.010

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE GRADE. Rows 1-20.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 12 SHOT POINT 3 TEAM 1
SHOT TIME: 272: 5:36: 0.010

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE, GRADE. Contains 20 rows of field data.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 11 SHOT POINT 33 TEAM 5
SHOT TIME: 272: 4: 8: 0.010

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE, GRADE. Contains 20 rows of field data.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 12 SHOT POINT 3 TEAM 2
SHOT TIME: 272: 5:36: 0.010

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE, GRADE. Contains 20 rows of field data.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 11 SHOT POINT 33 TEAM 6
SHOT TIME: 272: 4: 8: 0.010

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE, GRADE. Contains 20 rows of field data.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
 SHOT NUMBER 12 SHOT POINT 3 TEAM 5
 SHOT TIME: 272: 5:36: 0.010

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	TAPE	GRADE
1	381	31.036	312.4	81	-19		30	12 68	1	
2	382	32.048	312.5	82	-6	1	30	12 48	0	
3	383	33.027	311.9	83	31	1	30	12 48	0	
4	384	33.862	311.0	84	36	1	30	12 48	0	
5	385	34.869	309.9	85	20		30	12 48	17	
6	386	35.584	310.3	86	-3	2	30	12 48	0	
7	387	37.102	309.8	87	10	1	30	12 48	0	
8	388	37.942	310.5	88	24	1	30	12 48	0	
9	389	38.743	311.0	89	0	1	30	12 48	0	
10	390	39.368	310.6	90	54	1	30	12 48	0	
11	391	40.408	311.0	91	16	1	30	12 48	0	
12	392	41.408	311.0	92	1	1	30	12 48	0	
13	393	42.244	311.7	93	30	1	30	12 48	0	
14	394	43.565	312.0	94	29	1	30	12 48	0	
15	395	44.247	312.0	95	2	1	30	12 48	0	
16	396	45.094	311.9	96	-3	2	30	12 48	0	
17	397	46.393	311.9	97	6	2	30	12 48	0	
18	398	47.265	311.7	98	9	1	30	12 48	0	
19	399	48.230	311.9	99	25	1	30	12 48	0	
20	400	49.298	311.9	100	17	1	30	12 48	0	

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
 SHOT NUMBER 12 SHOT POINT 3 TEAM 6
 SHOT TIME: 272: 5:36: 0.010

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	TAPE	GRADE
1	401	50.064	311.8	101	25	1	30	12 48	0	
2	402	50.937	311.5	102	19	1	30	12 48	0	
3	403	51.976	311.6	103	4		30	12 48	6	
4	404	52.866	311.8	104	1	1	30	12 48	0	
5	405	53.898	311.2	105	40	1	30	12 48	0	
6	406	54.752	311.0	106	1	1	30	12 68	0	
7	407	55.700	310.9	107	54		30	12 68	6	
8	408	56.378	310.4	108	11	1	30	12 68	0	
9	421	57.236	311.1	109	10	2	30	12 88	0	
10	422	57.663	311.6	110	28	1	30	12 88	0	
11	423	58.172	312.2	111	63	1	30	12 88	0	
12	412	62.024	310.8	112	18	1	30	12 48	0	
13	413	61.177	311.3	113	-12	1	30	12 48	0	
14	424	60.139	311.3	114	8	1	30	12 68	0	
15	415	58.651	312.8	115	13	2	30	12 68	0	
16	416	0.000	180.0	116	47	3	30	12 88	0	
17	417	25.033	133.7	117	-4	1	30	12 88	0	
18	144	79.214	130.6	118	11	1	30	12 48	0/33	
19	172	100.672	130.3	119	4	2	30	12 48	0/33	
20	420	125.633	129.5	120	3	1	30	12 88	0	

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
 SHOT NUMBER 12 SHOT POINT 3 TEAM 3
 SHOT TIME: 272: 5:36: 0.010

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	TAPE	GRADE
1	341	5.616	151.7	41	-23	3	30	12 48	0	
2	342	4.675	146.8	42	13	3	30	12 48	0	
3	343	3.413	139.8	43	10	3	30	12 48	0	
4	344	1.966	128.3	44	67	3	30	12 68	0	
5	345	1.132	132.3	45	3	3	30	12 68	0	
6	346	0.378	73.7	46	22	3	30	12 88	0/34	
7	347	1.417	9.8	47	48	3	30	12 68	0	
8	348	2.276	355.8	48	7	3	30	12 68	0	
9	349	3.493	346.6	49	19	3	30	12 48	0	
10	350	4.477	343.0	50	2	3	30	12 48	0	
11	351	5.087	338.4	51	21	3	30	12 48	0	
12	352	5.889	330.8	52	37	3	30	12 48	0	
13	353	6.431	319.2	53	13	3	30	12 48	0	
14	354	7.317	307.8	54	-9	3	30	12 48	0	
15	355	8.320	298.7	55	28	3	30	12 48	0	
16	356	9.555	290.4	56	32	3	30	12 48	0	
17	357	10.560	292.9	57	29	3	30	12 48	0	
18	358	11.449	294.6	58	19	3	30	12 48	0	
19	359	12.424	294.7	59	1	3	30	12 48	0	
20	360	13.448	296.4	60	-6	3	30	12 48	0	

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
 SHOT NUMBER 12 SHOT POINT 3 TEAM 4
 SHOT TIME: 272: 5:36: 0.010

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	TAPE	GRADE
1	361	14.539	297.4	61	18	1	30	12 48	0	
2	362	15.474	296.9	62	2	3	30	12 48	0	
3	363	16.494	297.0	63	10	1	30	12 48	0	
4	364	17.567	296.7	64	23		30	12 48	17	
5	365	18.495	296.7	65	-2		30	12 48	17	
6	366	19.586	297.5	66	19	3	30	12 48	0	
7	367	20.541	299.0	67	12	1	30	12 48	0	
8	368	21.155	299.8	68	-2	1	30	12 48	0	
9	369	22.282	300.5	69	2	1	30	12 48	0	
10	370	22.908	302.6	70	47	1	30	12 48	0	
11	371	23.912	304.5	71	24	1	30	12 48	0	
12	372	24.762	305.9	72	25	1	30	12 48	0	
13	373	25.723	307.0	73	-21	1	30	12 48	0	
14	374	26.447	309.4	74	1	1	30	12 48	0	
15	375	27.356	309.9	75	19	1	30	12 48	0/12	
16	376	28.387	310.3	76	9	1	30	12 68	0	
17	377	29.435	311.5	77	11	1	30	12 68	0	
18	378	30.078	309.8	78	-5	2	30	12 68	0	
19	379	30.528	307.2	79	35	1	30	12 88	0	
20	380	30.154	311.7	80	18	1	30	12 68	0/34	

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 14 SHOT POINT 31 TEAM 5
SHOT TIME: 278: 4: 0: 0.020

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, GRADE, TAPE. Rows 1-20.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 14 SHOT POINT 31 TEAM 6
SHOT TIME: 278: 4: 0: 0.020

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, GRADE, TAPE. Rows 1-20.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 14 SHOT POINT 31 TEAM 3
SHOT TIME: 278: 4: 0: 0.020

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, GRADE, TAPE. Rows 1-20.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 14 SHOT POINT 31 TEAM 4
SHOT TIME: 278: 4: 0: 0.020

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, GRADE, TAPE. Rows 1-20.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 15 SHOT POINT 7 TEAM 1
SHOT TIME: 278: 4: 3: 0.009

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE GRADE. Contains 20 rows of field data for Shot 15.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 15 SHOT POINT 7 TEAM 3
SHOT TIME: 278: 4: 3: 0.009

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE GRADE. Contains 20 rows of field data for Shot 15.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 15 SHOT POINT 7 TEAM 2
SHOT TIME: 278: 4: 3: 0.009

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE GRADE. Contains 20 rows of field data for Shot 15.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 15 SHOT POINT 7 TEAM 4
SHOT TIME: 278: 4: 3: 0.009

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE GRADE. Contains 20 rows of field data for Shot 15.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 17 SHOT POINT 32 TEAM 3
SHOT TIME: 278: 5:30: 0.000

	LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	GRADE	TAPE
1	541	20.887	344.8	41	-23	1	30	12	48	0	0
2	542	20.188	343.8	42	11	1	30	12	48	0	0
3	543	19.452	342.7	43	12	1	30	12	48	0	0
4	544	18.787	341.9	44	36	1	30	12	48	0	0
5	545	18.222	342.7	45	3	2	30	12	48	0	0
6	546	17.559	344.2	46	27	1	30	12	48	0	0
7	547	16.699	345.1	47	3	1	30	12	48	0	0
8	548	15.786	344.2	48	17	1	30	12	48	0	0
9	549	15.109	344.2	49	18	1	30	12	48	0	0
10	550	14.433	344.7	50	1	1	30	12	48	0	0
11	551	13.473	344.9	51	25	1	30	12	48	0	0
12	552	12.303	339.0	52	6	1	30	12	48	1	1
13	553	11.800	336.8	53	10	1	30	12	48	0	0
14	554	11.099	331.4	54	-5	1	30	12	48	0	0
15	555	0.000	180.0	55	26	3	30	12	88	0	0
16	556	7.761	334.4	56	27	3	30	12	48	0	0
17	557	8.058	346.9	57	28	3	30	12	48	0	0
18	558	6.991	333.1	58	16	3	30	12	48	0	0
19	559	6.540	339.6	59	2	3	30	12	48	0	0
20	560	5.807	343.8	60	-4	3	30	12	48	0	0

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 17 SHOT POINT 32 TEAM 4
SHOT TIME: 278: 5:30: 0.000

	LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	GRADE	TAPE
1	561	5.263	347.6	61	17	3	30	12	48	0	0
2	562	4.652	350.5	62	0	3	30	12	48	0	0
3	563	3.973	355.6	63	9	3	30	12	48	0	0
4	564	3.331	7.7	64	29	3	30	12	48	0	0
5	565	3.043	17.4	65	1	3	30	12	68	0	0
6	566	2.831	32.5	66	14	3	30	12	68	0	0
7	567	2.839	47.3	67	0	3	30	12	68	0	0
8	568	3.051	61.0	68	16	3	30	12	48	0	0
9	569	3.314	70.8	69	3	3	30	12	48	0	0
10	570	3.721	80.8	70	50	3	30	12	48	0	0
11	571	4.458	88.0	71	44	3	30	12	48	0	0
12	572	5.179	89.9	72	25	3	30	12	48	0	0
13	573	5.700	95.5	73	-20	3	30	12	48	0	0
14	574	6.179	98.4	74	1	3	30	12	48	0	0
15	575	7.097	102.6	75	20	3	30	12	48	0	0
16	576	7.715	113.8	76	5	3	30	12	48	0/34	0
17	577	7.814	122.5	77	13	1	30	12	48	0	0
18	578	8.590	124.9	78	0	3	30	12	48	0	0
19	579	9.155	129.2	79	31	3	30	12	48	0	0
20	580	9.839	131.0	80	17	3	30	12	48	0	0

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 17 SHOT POINT 32 TEAM 1
SHOT TIME: 278: 5:30: 0.000

	LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	GRADE	TAPE
1	501	46.625	331.5	1	27	1	30	12	88	0	0
2	502	46.318	330.8	2	27	2	30	12	68	0	0
3	503	46.017	330.1	3	14	2	30	12	68	0	0
4	504	45.894	329.1	4	-103	1	30	12	68	0/34	0
5	505	44.988	328.3	5	22	2	30	12	48	0	0
6	506	43.616	329.2	6	8	2	30	12	48	0	0
7	507	42.141	330.3	7	14	1	30	12	48	0	0
8	508	41.589	330.3	8	34	1	30	12	48	1	1
9	509	40.743	331.9	9	23	1	30	12	48	0	0
10	510	39.581	332.0	10	19	2	30	12	48	0	0
11	511	38.943	332.5	11	15	1	30	12	48	0	0
12	512	38.633	333.4	12	21	2	30	12	48	0	0
13	513	38.056	333.8	13	21	1	30	12	48	0	0
14	514	37.267	334.7	14	25	2	30	12	48	0	0
15	515	36.412	335.2	15	-79	2	30	12	48	0	0
16	516	35.531	334.2	16	-10	2	30	12	48	0	0
17	517	34.596	333.4	17	33	2	30	12	48	0	0
18	518	34.118	332.0	18	-21	2	30	12	48	0	0
19	519	33.725	330.7	19	-70	1	30	12	48	0	0
20	520	31.948	336.2	20	9	2	30	12	48	0	0

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 17 SHOT POINT 32 TEAM 2
SHOT TIME: 278: 5:30: 0.000

	LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	GRADE	TAPE
1	521	31.802	333.8	21	-20	1	30	12	48	0	0
2	522	30.994	331.8	22	15	2	30	12	48	0	0
3	523	30.571	330.1	23	34	1	30	12	48	0	0
4	524	30.135	328.0	24	4	1	30	12	48	0	0
5	525	29.235	327.4	25	35	1	30	12	48	0	0
6	526	28.237	327.9	26	2	1	30	12	48	0	0
7	527	27.078	328.7	27	11	1	30	12	48	0	0
8	528	26.204	329.4	28	-65	1	30	12	48	0	0
9	529	25.617	329.9	29	16	1	30	12	48	0	0
10	530	24.885	330.5	30	10	1	30	12	48	0	0
11	531	24.131	331.3	31	8	1	30	12	48	17	17
12	532	23.347	332.7	32	45	1	30	12	48	0	0
13	533	22.727	332.9	33	67	1	30	12	48	0	0
14	534	21.927	331.6	34	17	1	30	12	48	0	0
15	535	21.221	329.3	35	-34	3	30	12	48	0	0
16	536	20.619	328.2	36	9	1	30	12	48	0/34	0
17	537	20.125	325.2	37	10	1	30	12	48	0	0
18	538	10.246	327.0	38	4	1	30	12	48	0	0
19	539	9.354	329.9	39	-2	1	30	12	48	0	0
20	540	8.546	332.1	40	10	3	30	12	48	0	0

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
 SHOT NUMBER 18 SHOT POINT 33 TEAM 1
 SHOT TIME: 278; 5:35: 0.007

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	GRADE	TAPE
1	501	167.942	318.2	1	27	2	30	12	88	0/34
2	502	167.784	317.9	2	27	2	30	12	68	0
3	503	167.601	317.7	3	15	2	30	12	68	0
4	504	167.664	317.4	4	-103	2	30	12	68	0/34
5	505	166.904	317.2	5	22	2	30	12	48	0
6	506	165.411	317.3	6	8	2	30	12	48	0
7	507	163.797	317.5	7	14	2	30	12	48	0
8	508	163.261	317.4	8	34	2	30	12	48	1
9	509	162.170	317.8	9	24	2	30	12	48	0
10	510	161.023	317.7	10	19	2	30	12	48	0
11	511	160.331	317.8	11	15	1	30	12	48	0
12	512	159.867	317.9	12	21	2	30	12	48	0
13	513	159.235	318.0	13	21	2	30	12	48	0
14	514	158.323	318.1	14	25	2	30	12	48	0
15	515	157.408	318.1	15	-79	2	30	12	48	0
16	516	156.742	317.8	16	-10	2	30	12	48	0
17	517	155.997	317.5	17	33	2	30	12	48	0
18	518	155.762	317.2	18	-21	2	30	12	48	0
19	519	155.574	316.9	19	-70	2	30	12	48	0
20	520	152.982	317.8	20	9	2	30	12	48	0

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
 SHOT NUMBER 17 SHOT POINT 32 TEAM 5
 SHOT TIME: 278; 5:30: 0.000

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	GRADE	TAPE
1	581	10.505	130.9	81	-21	3	30	12	48	0
2	582	11.632	128.7	82	-6	3	30	12	48	0
3	583	12.462	129.6	83	34	1	30	12	48	0
4	584	12.900	130.7	84	39	3	30	12	48	0
5	585	13.619	131.8	85	22	3	30	12	48	17
6	586	14.328	133.8	86	-5	3	30	12	48	0
7	587	15.222	134.9	87	8	3	30	12	48	0
8	588	15.851	133.2	88	25	3	30	12	48	0
9	589	16.513	133.0	89	0	3	30	12	48	0
10	590	17.276	133.5	90	61	3	30	12	48	0
11	591	18.359	131.9	91	108	3	30	12	48	0
12	592	19.147	132.4	92	0	3	30	12	48	17
13	593	19.983	131.5	93	-213	1	30	12	48	0
14	594	20.631	132.6	94	32	1	30	12	48	0
15	595	21.393	134.0	95	0	1	30	12	48	0
16	596	21.906	136.0	96	6	1	30	12	48	0
17	597	22.806	133.7	97	6	1	30	12	48	0
18	598	23.840	134.2	98	-5	3	30	12	48	1
19	599	24.371	134.8	99	28	3	30	12	48	0
20	600	24.823	136.3	100	19	1	30	12	48	0

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
 SHOT NUMBER 18 SHOT POINT 33 TEAM 2
 SHOT TIME: 278; 5:35: 0.007

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	GRADE	TAPE
1	521	153.246	317.3	21	-21	2	30	12	48	0/34
2	522	152.770	316.9	22	15	2	30	12	48	0
3	523	152.592	316.5	23	34	2	30	12	48	0/34
4	524	152.424	316.0	24	4	2	30	12	48	0
5	525	151.600	315.9	25	35	2	30	12	48	0
6	526	150.573	315.9	26	2	2	30	12	48	0
7	527	149.359	315.9	27	11	1	30	12	48	0
8	528	148.437	316.0	28	-65	1	30	12	48	0
9	529	147.811	316.0	29	16	2	30	12	48	0
10	530	147.041	316.0	30	10	2	30	12	48	17
11	531	146.232	316.1	31	8	1	30	12	48	0
12	532	145.311	316.2	32	45	1	30	12	48	0
13	533	144.702	316.2	33	67	2	30	12	48	0
14	534	144.075	315.9	34	17	2	30	12	48	0
15	535	143.615	315.5	35	-34	1	30	12	48	0
16	536	143.132	315.3	36	9	2	30	12	48	0/34
17	537	142.866	314.8	37	10	1	30	12	48	0
18	538	133.113	314.2	38	4	2	30	12	48	0
19	539	132.126	314.3	39	-2	2	30	12	48	0
20	540	131.255	314.3	40	10	1	30	12	48	0

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
 SHOT NUMBER 17 SHOT POINT 32 TEAM 6
 SHOT TIME: 278; 5:30: 0.000

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	GRADE	TAPE
1	601	25.768	137.1	101	26	1	30	12	48	0
2	602	26.498	138.4	102	19	1	30	12	48	0
3	603	26.758	132.4	103	4	1	30	12	48	0
4	604	27.439	134.6	104	1	1	30	12	48	0
5	605	28.076	135.2	105	41	1	30	12	48	0
6	606	28.867	135.4	106	0	3	30	12	48	0
7	607	29.420	134.9	107	53	1	30	12	48	17
8	608	30.347	135.0	108	6	1	30	12	48	0
9	609	30.983	134.6	109	8	1	30	12	48	0
10	610	31.784	135.4	110	28	3	30	12	48	0
11	611	32.375	136.3	111	63	1	30	12	48	0
12	612	33.095	137.5	112	22	1	30	12	48	0
13	613	33.999	137.9	113	-13	1	30	12	48	0
14	614	34.661	139.9	114	9	1	30	12	48	0/34
15	615	34.869	139.6	115	11	1	30	12	68	0
16	412	36.409	136.7	116	52	1	30	12	68	0
17	413	37.198	135.7	117	7	1	30	12	68	0
18	424	38.230	135.5	118	37	1	30	12	68	0
19	415	39.647	133.2	119	10	1	30	12	88	0
20	423	40.141	134.0	120	8	1	30	12	88	0

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
 SHOT NUMBER 18 SHOT POINT 33 TEAM 5
 SHOT TIME: 278; 5:35: 0.007

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	TAPE	GRADE
1	581	112.684	313.3	81	-21	1	30	12 48	0	0
2	582	111.586	313.6	82	-6	2	30	12 48	0	0
3	583	110.746	313.5	83	34	2	30	12 48	0	0
4	584	110.295	313.4	84	39	2	30	12 48	0	0
5	585	109.569	313.3	85	22	2	30	12 48	17	0
6	586	108.861	313.0	86	-5	2	30	12 48	0	0
7	587	107.976	312.9	87	8	1	30	12 48	0	0
8	588	107.338	313.1	88	25	1	30	12 48	0	0
9	589	106.677	313.1	89	0	1	30	12 48	0	0
10	590	105.916	313.0	90	61	1	30	12 48	0	0
11	591	104.837	313.3	91	108	1	30	12 48	0	0
12	592	104.048	313.2	92	0	1	30	12 48	0	0
13	593	103.219	313.4	93	-213	2	30	12 48	0	0
14	594	102.565	313.2	94	32	2	30	12 48	0	0
15	595	101.809	312.9	95	0	2	30	12 48	0	0
16	596	101.329	312.5	96	6	2	30	12 48	0	0
17	597	100.395	313.0	97	6	1	30	12 48	0	0
18	598	99.367	312.8	98	-5	30	12 48	1	0	0
19	599	98.846	312.7	99	28	1	30	12 48	0	0
20	600	98.434	312.3	100	19	1	30	12 48	0	0

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
 SHOT NUMBER 18 SHOT POINT 33 TEAM 6
 SHOT TIME: 278; 5:35: 0.007

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	TAPE	GRADE
1	601	97.519	312.0	101	26	1	30	12 48	0	0
2	602	96.861	311.6	102	19	2	30	12 48	0	0
3	603	96.447	313.3	103	4	1	30	12 48	0	0
4	604	95.781	312.7	104	1	1	30	12 48	0	0
5	605	95.158	312.5	105	41	1	30	12 48	0	0
6	606	94.373	312.4	106	0	1	30	12 48	0	0
7	607	93.810	312.5	107	53	2	30	12 48	17	0
8	608	92.887	312.5	108	6	2	30	12 48	0	0
9	609	92.245	312.6	109	8	1	30	12 48	0	0
10	610	91.465	312.3	110	29	1	30	12 48	0	0
11	611	90.912	312.0	111	64	1	30	12 48	0	0
12	612	90.261	311.5	112	22	1	30	12 48	0	0
13	613	89.387	311.3	113	-13	1	30	12 48	0	0
14	614	88.670	311.6	114	9	1	30	12 48	0	0
15	615	88.669	310.6	115	11	1	30	12 48	0/34	0
16	412	86.917	311.6	116	53	1	30	12 68	0/34	0/34
17	413	86.081	312.0	117	7	1	30	12 68	0/34	0/34
18	424	85.044	312.0	118	37	1	30	12 68	0/34	0/34
19	415	83.574	313.1	119	10	2	30	12 88	0/34	0/34
20	423	83.091	312.7	120	8	2	30	12 88	0/34	0/34

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
 SHOT NUMBER 18 SHOT POINT 33 TEAM 3
 SHOT TIME: 278; 5:35: 0.007

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	TAPE	GRADE
1	541	141.310	317.6	41	-23	2	30	12 48	0	0
2	542	140.850	317.3	42	11	2	30	12 48	0	0
3	543	140.360	317.0	43	12	2	30	12 48	0	0
4	544	139.871	316.8	44	36	2	30	12 48	0	0
5	545	139.248	316.8	45	3	2	30	12 48	0	0
6	546	138.447	316.9	46	27	2	30	12 48	0	0
7	547	137.561	316.8	47	3	2	30	12 48	0	0
8	548	136.883	316.5	48	17	2	30	12 48	0	0
9	549	136.284	316.4	49	18	2	30	12 48	0	0
10	550	135.628	316.3	50	2	2	30	12 48	0	0
11	551	134.761	316.1	51	25	2	30	12 48	0	0
12	552	134.304	315.4	52	6	30	12 48	1	0	0
13	553	134.024	315.1	53	10	2	30	12 48	0	0
14	554	133.722	314.6	54	-5	2	30	12 48	0	0
15	555	123.167	313.1	55	26	1	30	12 88	0/34	0
16	556	130.408	314.3	56	27	2	30	12 48	0	0
17	557	129.919	315.1	57	28	2	30	12 48	0	0
18	558	129.740	314.2	58	16	2	30	12 48	0	0
19	559	129.036	314.4	59	2	2	30	12 48	0	0
20	560	128.176	314.4	60	-4	1	30	12 48	0/37	0

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
 SHOT NUMBER 18 SHOT POINT 33 TEAM 4
 SHOT TIME: 278; 5:35: 0.007

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	TAPE	GRADE
1	561	127.522	314.4	61	17	2	30	12 48	0	0
2	562	126.878	314.4	62	0	2	30	12 48	0	0
3	563	126.114	314.3	63	9	2	30	12 48	0	0
4	564	125.115	314.4	64	29	2	30	12 48	5	0
5	565	124.505	314.4	65	1	2	30	12 68	0	0
6	566	123.710	314.4	66	14	1	30	12 68	0	0
7	567	122.980	314.4	67	0	1	30	12 68	0/37	0
8	568	122.254	314.5	68	16	2	30	12 48	0	0
9	569	121.654	314.5	69	3	1	30	12 48	0	0
10	570	120.920	314.5	70	50	1	30	12 48	0	0
11	571	120.055	314.6	71	44	1	30	12 48	0	0
12	572	119.440	314.8	72	25	1	30	12 48	0	0
13	573	118.697	314.8	73	-21	1	30	12 48	0	0
14	574	118.134	314.8	74	1	2	30	12 48	0	0
15	575	117.100	314.9	75	20	2	30	12 48	0	0
16	576	115.916	314.4	76	5	1	30	12 48	0/37	0
17	577	115.502	313.8	77	13	2	30	12 48	0	0
18	578	114.679	313.7	78	0	2	30	12 48	0	0
19	579	114.046	313.4	79	31	1	30	12 48	0	0
20	580	113.348	313.3	80	17	1	30	12 48	0	0

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 19 SHOT POINT 1 TEAM 1
SHOT TIME: 278; 5:37; 0.012

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE, GRADE. Contains 20 rows of data for Shot Point 1, Team 1.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 19 SHOT POINT 1 TEAM 3
SHOT TIME: 278; 5:37; 0.012

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE, GRADE. Contains 20 rows of data for Shot Point 1, Team 3.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 19 SHOT POINT 1 TEAM 2
SHOT TIME: 278; 5:37; 0.012

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE, GRADE. Contains 20 rows of data for Shot Point 1, Team 2.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
SHOT NUMBER 19 SHOT POINT 1 TEAM 4
SHOT TIME: 278; 5:37; 0.012

Table with columns: LOC, DIST(KM), AZIM, UNIT, CHRON, CHAN, C1, C2, C3, TAPE, GRADE. Contains 20 rows of data for Shot Point 1, Team 4.

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
 SHOT NUMBER 19 SHOT POINT 1 TEAM 5
 SHOT TIME: 278: 5:37: 0.012

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	TAPE	GRADE
1	581	30.259	316.3	81	-21	1	30	12 48	0	0
2	582	29.193	317.4	82	-6	1	30	12 48	0	0
3	583	28.345	317.2	83	34	1	30	12 48	0	0
4	584	27.880	316.8	84	39	1	30	12 48	0	0
5	585	27.141	316.4	85	22	1	30	12 48	17	0
6	586	26.407	315.5	86	-5	1	30	12 48	0	0
7	587	25.510	314.9	87	8	1	30	12 48	0	0
8	588	24.891	316.0	88	25	1	30	12 48	0	0
9	589	24.232	316.1	89	0	1	30	12 48	0	0
10	590	23.464	315.9	90	61	3	30	12 48	0	0
11	591	22.416	317.3	91	108	3	30	12 48	0	0
12	592	21.617	317.1	92	0	3	30	12 48	0	0
13	593	20.815	318.1	93	-214	1	30	12 48	17	0
14	594	20.133	317.3	94	32	1	30	12 48	0	0
15	595	19.344	315.8	95	0	1	30	12 48	0	0
16	596	18.835	313.6	96	6	1	30	12 48	0	0
17	597	17.935	316.4	97	6	1	30	12 48	0	0
18	598	16.896	315.9	98	-5	1	30	12 48	1	0
19	599	16.361	315.0	99	28	3	30	12 48	0	0
20	600	15.931	312.6	100	19	3	30	12 48	0	0

DKDAT FIELD DATA TABLE

MAINE - 1984 EXPERIMENT
 SHOT NUMBER 19 SHOT POINT 1 TEAM 6
 SHOT TIME: 278: 5:37: 0.012

LOC	DIST(KM)	AZIM	UNIT	CHRON	CHAN	C1	C2	C3	TAPE	GRADE
1	601	15.018	311.1	101	26	3	30	12 48	0	0
2	602	14.383	308.3	102	19	1	30	12 48	0	0
3	603	14.043	319.5	103	4	3	30	12 48	0	0
4	604	13.293	315.4	104	1	3	30	12 48	0	0
5	605	12.658	314.2	105	41	3	30	12 48	0	0
6	606	11.869	313.7	106	0	3	30	12 48	0	0
7	607	11.312	314.8	107	53	3	30	12 48	17	0
8	608	10.385	314.6	108	6	3	30	12 48	0	0
9	609	9.750	315.6	109	8	3	30	12 48	0	0
10	610	8.954	313.2	110	29	3	30	12 48	0	0
11	611	8.408	309.4	111	64	3	30	12 48	0	0
12	612	7.826	303.6	112	22	3	30	12 48	0	0
13	613	7.009	300.3	113	-13	3	30	12 48	0	0
14	614	6.221	303.4	114	9	3	30	12 48	0	0
15	615	6.627	289.5	115	11	3	30	12 48	0	0
16	412	4.492	300.1	116	53	3	30	12 68	0/34	0
17	413	3.578	306.4	117	7	3	30	12 68	0/34	0
18	424	2.539	305.6	118	37	3	30	12 68	0/34	0
19	415	1.629	2.4	119	10	3	30	12 88	0/34	0
20	423	0.852	0.7	120	8	3	30	12 88	0/34	0

APPENDIX C

FIRST-ARRIVAL TIMES

For each shot, first-arrival times (in seconds) are listed in order from that at the most distant station to the southeast (positive distance, in km) to that at the most distant station to the northwest (negative distance, in km).

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
C1	220	43.632	-6.295	299.559	C1	160	35.552	-3.350	233.409
C1	218	43.327	-6.173	296.998	C1	159	35.513	-3.279	232.753
C1	216	43.170	-6.069	295.432	C1	158	35.467	-3.214	232.085
C1	215	43.083	-5.975	294.351	C1	157	35.454	-3.106	231.361
C1	214	42.299	-5.683	287.893	C1	155	35.330	-3.014	230.064
C1	213	41.876	-5.455	283.983	C1	154	35.236	-2.966	229.210
C1	212	40.739	-5.211	275.701	C1	153	35.148	-2.937	228.511
C1	211	40.703	-5.168	275.223	C1	152	35.060	-2.896	227.739
C1	210	40.612	-5.144	274.541	C1	151	35.011	-2.865	227.259
C1	209	40.520	-5.116	273.816	C1	149	34.777	-2.763	225.238
C1	208	40.446	-5.106	273.315	C1	148	34.714	-2.737	224.705
C1	207	40.056	-4.900	269.732	C1	146	34.514	-2.676	223.137
C1	206	39.981	-4.881	269.173	C1	145	34.481	-2.608	222.530
C1	205	39.860	-4.778	267.825	C1	144	34.362	-2.594	221.736
C1	420	39.888	-4.749	267.821	C1	143	34.367	-2.517	221.305
C1	204	39.780	-4.730	267.064	C1	142	34.255	-2.481	220.415
C1	203	39.691	-4.721	266.473	C1	140	34.048	-2.383	218.586
C1	202	39.618	-4.683	265.811	C1	139	33.960	-2.347	217.846
C1	201	39.575	-4.626	265.205	C1	138	33.933	-2.270	217.218
C1	199	39.441	-4.530	263.824	C1	137	33.878	-2.240	216.704
C1	197	39.193	-4.460	261.915	C1	136	33.773	-2.181	215.730
C1	196	39.085	-4.452	261.220	C1	135	33.673	-2.177	215.100
C1	195	38.951	-4.429	260.284	C1	134	33.546	-2.099	213.869
C1	194	38.869	-4.417	259.716	C1	133	33.435	-2.109	213.266
C1	193	38.859	-4.326	259.111	C1	132	33.319	-2.066	212.312
C1	192	38.806	-4.287	258.560	C1	131	33.234	-2.068	211.809
C1	191	38.743	-4.214	257.743	C1	130	33.123	-2.005	210.765
C1	190	38.672	-4.165	257.017	C1	129	33.002	-1.998	210.006
C1	188	38.433	-4.078	255.066	C1	128	32.950	-1.949	209.395
C1	187	38.320	-4.083	254.421	C1	127	32.926	-1.840	208.598
C1	186	38.221	-4.044	253.589	C1	125	32.692	-1.817	207.049
C1	184	37.966	-3.997	251.775	C1	124	32.652	-1.730	206.291
C1	182	37.826	-3.958	250.703	C1	123	32.560	-1.660	205.318
C1	183	37.769	-3.974	250.456	C1	122	32.481	-1.660	204.848
C1	181	37.788	-3.942	250.378	C1	121	32.532	-1.494	204.155
C1	180	37.676	-3.879	249.333	C1	120	32.330	-1.482	202.869
C1	179	37.535	-3.832	248.204	C1	119	32.457	-1.260	202.302
C1	178	37.507	-3.845	248.108	C1	222	32.110	-1.409	201.113
C1	177	37.355	-3.863	247.311	C1	116	31.811	-1.482	199.758
C1	176	37.298	-3.802	246.595	C1	115	31.678	-1.482	198.955
C1	175	37.131	-3.802	245.592	C1	114	31.686	-1.307	197.961
C1	174	37.079	-3.728	244.842	C1	113	31.601	-1.323	197.542
C1	173	36.916	-3.728	243.860	C1	112	31.544	-1.245	196.733
C1	172	36.850	-3.672	243.132	C1	111	31.448	-1.223	196.029
C1	171	36.737	-3.660	242.385	C1	110	31.493	-1.066	195.353
C1	170	36.605	-3.660	241.588	C1	109	31.413	-1.009	194.531
C1	169	36.516	-3.641	240.948	C1	108	31.704	-0.568	193.631
C1	168	36.400	-3.555	239.734	C1	107	31.558	-0.496	192.328
C1	167	36.295	-3.531	238.955	C1	106	31.492	-0.436	191.564
C1	166	36.239	-3.475	238.287	C1	105	31.367	-0.374	190.445
C1	164	36.109	-3.426	237.210	C1	104	31.232	-0.373	189.633
C1	163	36.048	-3.328	236.254	C1	103	31.242	-0.366	189.646
C1	162	35.836	-3.322	234.947	C1	221	31.161	-0.313	188.846
C1	161	35.777	-3.322	234.590	C1	101	31.052	-0.310	188.169

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
C1	302	30.951	-0.322	187.635	C1	357	22.311	-0.012	133.939
C1	303	30.810	-0.278	186.531	C1	359	22.084	0.063	132.125
C1	304	30.563	-0.322	185.309	C1	360	21.927	0.086	131.041
C1	306	29.931	-0.673	183.625	C1	361	21.759	0.101	129.949
C1	307	30.083	-0.317	182.395	C1	362	21.661	0.135	129.159
C1	308	29.842	-0.317	180.950	C1	363	21.500	0.129	128.229
C1	309	29.785	-0.197	179.891	C1	365	21.252	0.176	126.459
C1	310	29.400	-0.473	179.237	C1	366	21.080	0.185	125.371
C1	311	29.352	-0.347	178.196	C1	367	20.874	0.162	124.275
C1	312	29.139	-0.368	177.042	C1	368	20.828	0.227	123.606
C1	313	29.002	-0.337	176.033	C1	369	20.573	0.162	122.465
C1	314	28.859	-0.215	174.444	C1	370	20.472	0.209	121.580
C1	315	28.732	-0.209	173.647	C1	371	20.271	0.209	120.371
C1	316	28.580	-0.184	172.583	C1	374	19.850	0.289	117.370
C1	317	28.420	-0.165	171.509	C1	375	19.648	0.242	116.432
C1	318	28.230	-0.147	170.262	C1	376	19.461	0.232	115.376
C1	319	28.198	-0.065	169.579	C1	377	19.187	0.147	114.240
C1	320	28.005	-0.096	168.608	C1	378	19.123	0.160	113.775
C1	417	27.983	-0.046	168.173	C1	379	19.090	0.145	113.669
C1	321	27.886	-0.065	167.706	C1	380	19.047	0.129	113.512
C1	322	27.775	-0.021	166.779	C1	382	18.719	0.124	111.572
C1	323	27.602	-0.002	165.625	C1	383	18.558	0.115	110.660
C1	324	27.497	0.029	164.805	C1	384	18.437	0.115	109.937
C1	325	27.325	0.048	163.663	C1	386	18.157	0.101	108.336
C1	326	27.157	0.060	162.577	C1	387	17.894	0.073	106.928
C1	327	27.070	0.067	162.018	C1	388	17.740	0.073	106.003
C1	328	26.941	0.053	161.329	C1	389	17.667	0.140	105.161
C1	329	26.760	0.058	160.212	C1	390	17.517	0.083	104.602
C1	331	26.316	-0.060	158.258	C1	391	17.394	0.140	103.527
C1	332	26.115	-0.091	157.238	C1	392	17.222	0.130	102.554
C1	333	25.895	-0.122	156.103	C1	393	17.056	0.119	101.623
C1	334	25.864	-0.055	155.513	C1	394	16.839	0.124	100.288
C1	335	25.676	-0.128	154.827	C1	395	16.694	0.091	99.615
C1	336	25.587	-0.095	154.093	C1	396	16.577	0.110	98.802
C1	337	25.395	-0.055	152.699	C1	397	16.365	0.110	97.529
C1	338	25.283	-0.043	151.956	C1	398	16.226	0.110	96.699
C1	339	25.063	-0.058	150.721	C1	399	16.068	0.115	95.721
C1	341	24.654	-0.142	148.776	C1	400	15.907	0.129	94.672
C1	342	24.441	-0.213	147.919	C1	401	15.794	0.138	93.938
C1	343	24.208	-0.241	146.694	C1	402	15.653	0.129	93.144
C1	344	23.937	-0.264	145.210	C1	403	15.479	0.129	92.103
C1	345	23.817	-0.250	144.405	C1	404	15.362	0.162	91.201
C1	346	23.672	-0.235	143.437	C1	405	15.205	0.152	90.318
C1	416	23.661	-0.219	143.283	C1	406	15.083	0.162	89.525
C1	347	23.534	-0.196	142.380	C1	408	14.831	0.147	88.103
C1	348	23.408	-0.168	141.452	C1	421	14.627	0.110	87.101
C1	349	23.210	-0.154	140.179	C1	422	14.590	0.162	86.571
C1	350	23.068	-0.130	139.189	C1	423	14.497	0.176	85.930
C1	351	22.964	-0.116	138.481	C1	415	14.385	0.162	85.338
C1	352	22.822	-0.097	137.515	C1	424	14.276	0.190	84.217
C1	353	22.717	-0.092	136.858	C1	413	14.055	0.185	83.221
C1	354	22.616	-0.074	136.138	C1	412	13.956	0.199	82.542
E1	355	22.522	-0.071	135.553	C1	615	13.743	0.198	81.270
C1	356	22.451	-0.055	135.032	C1	614	13.681	0.208	80.841

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
C1	613	13.598	0.220	80.270	C1	540	6.500	0.104	38.377
C1	612	13.431	0.198	79.399	C1	539	6.355	0.093	37.575
C1	611	13.307	0.210	78.579	C1	538	6.233	0.114	36.723
C1	610	13.195	0.210	77.909	C1	554	6.070	0.100	35.824
C1	609	13.057	0.215	77.050	C1	553	5.963	0.100	35.180
C1	608	12.965	0.222	76.457	C1	551	5.783	0.128	33.933
C1	606	12.775	0.269	75.036	C1	550	5.638	0.137	33.005
C1	605	12.650	0.276	74.245	C1	549	5.524	0.137	32.321
C1	604	12.586	0.324	73.569	C1	548	5.422	0.142	31.677
C1	602	12.427	0.269	72.947	C1	547	5.286	0.135	30.904
C1	603	12.439	0.324	72.691	C1	546	5.138	0.137	30.003
C1	601	12.305	0.283	72.129	C1	545	5.001	0.130	29.226
C1	600	12.152	0.295	71.142	C1	544	4.903	0.135	28.609
C1	599	12.074	0.311	70.576	C1	543	4.812	0.137	28.050
C1	597	11.853	0.361	68.952	C1	542	4.734	0.154	27.483
C1	596	11.747	0.373	68.248	C1	537	4.653	0.161	26.952
C1	595	11.646	0.380	67.597	C1	536	4.550	0.154	26.380
C1	594	11.516	0.394	66.734	C1	535	4.444	0.154	25.739
C1	592	11.259	0.380	65.278	C1	534	4.334	0.168	24.996
C1	591	11.175	0.429	64.475	C1	533	4.185	0.158	24.161
C1	590	10.985	0.394	63.547	C1	532	4.079	0.149	23.581
C1	589	10.825	0.363	62.771	C1	531	3.988	0.189	22.794
C1	588	10.724	0.368	62.138	C1	530	3.855	0.180	22.051
C1	587	10.615	0.342	61.636	C1	529	3.693	0.137	21.337
C1	586	10.459	0.342	60.703	C1	528	3.602	0.140	20.772
C1	584	10.204	0.349	59.132	C1	527	3.447	0.124	19.938
C1	583	10.080	0.307	58.638	C1	526	3.253	0.111	18.849
C1	582	9.912	0.281	57.790	C1	525	3.104	0.119	17.915
C1	581	9.759	0.283	56.853	C1	524	2.934	0.104	16.980
C1	580	9.639	0.269	56.221	C1	523	2.827	0.095	16.391
C1	579	9.506	0.260	55.477	C1	522	2.747	0.093	15.928
C1	578	9.369	0.250	54.711	C1	520	2.624	0.086	15.233
C1	577	9.222	0.245	53.862	C1	521	2.622	0.093	15.179
C1	576	9.120	0.252	53.202	C1	519	2.241	0.043	13.189
C1	575	8.896	0.257	51.831	C1	518	2.159	0.024	12.805
C1	574	8.719	0.245	50.838	C1	517	2.082	0.020	12.373
C1	573	8.628	0.245	50.297	C1	516	1.933	0.013	11.519
C1	572	8.487	0.227	49.560	C1	515	1.761	-0.037	10.787
C1	571	8.394	0.220	49.046	C1	514	1.601	-0.046	9.882
C1	570	8.250	0.208	48.255	C1	513	1.468	-0.030	8.989
C1	569	8.146	0.232	47.546	C1	512	1.373	-0.023	8.372
C1	568	8.005	0.176	46.974	C1	511	1.321	-0.011	7.994
C1	555	8.005	0.184	46.923	C1	510	1.206	-0.018	7.343
C1	567	7.880	0.165	46.290	C1	509	1.106	0.076	6.180
C1	566	7.777	0.177	45.597	C1	507	0.835	0.015	4.920
C1	565	7.642	0.168	44.842	C1	506	0.674	0.027	3.885
C1	564	7.526	0.149	44.263	C1	505	0.618	0.045	3.438
C1	563	7.349	0.130	43.312	C1	504	0.478	0.069	2.451
C1	562	7.218	0.128	42.540	C1	503	0.340	0.069	1.628
C1	561	7.103	0.123	41.881	C1	502	0.220	0.045	1.045
C1	560	6.975	0.099	41.258	C1	501	0.098	0.034	0.385
C1	559	6.858	0.116	40.451					
C1	558	6.760	0.104	39.933	C2	423	7.089	0.398	40.141
C1	556	6.633	0.104	39.170	C2	415	6.999	0.391	39.647

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
C2	424	6.782	0.410	38.230	C2	561	0.977	0.100	-5.262
C2	413	6.612	0.412	37.198	C2	560	1.091	0.123	-5.807
C2	412	6.481	0.412	36.409	C2	559	1.225	0.135	-6.540
C2	615	6.236	0.424	34.869	C2	558	1.314	0.149	-6.991
C2	614	6.206	0.429	34.661	C2	556	1.452	0.158	-7.761
C2	613	6.091	0.424	33.999	C2	557	1.462	0.119	-8.058
C2	612	5.938	0.422	33.095	C2	540	1.583	0.158	-8.546
C2	611	5.820	0.424	32.375	C2	539	1.696	0.137	-9.354
C2	610	5.722	0.424	31.784	C2	538	1.838	0.130	-10.246
C2	609	5.574	0.410	30.983	C2	554	1.987	0.137	-11.099
C2	608	5.470	0.412	30.347	C2	553	2.083	0.116	-11.800
C2	606	5.266	0.455	28.867	C2	551	2.380	0.135	-13.473
C2	605	5.144	0.464	28.076	C2	550	2.536	0.130	-14.433
C2	604	5.059	0.485	27.439	C2	549	2.648	0.130	-15.109
C2	603	4.896	0.436	26.758	C2	548	2.759	0.128	-15.786
C2	602	4.881	0.464	26.498	C2	547	2.918	0.135	-16.699
C2	601	4.766	0.471	25.768	C2	546	3.064	0.137	-17.559
C2	599	4.525	0.463	24.371	C2	545	3.174	0.137	-18.222
C2	600	4.597	0.460	24.823	C2	544	3.273	0.142	-18.787
C2	597	4.265	0.464	22.806	C2	543	3.379	0.137	-19.452
C2	596	4.111	0.460	21.906	C2	542	3.495	0.130	-20.188
C2	595	4.030	0.464	21.393	C2	537	3.487	0.111	-20.253
C2	594	3.896	0.458	20.631	C2	536	3.567	0.130	-20.619
C2	592	3.620	0.429	19.147	C2	541	3.597	0.116	-20.887
C2	591	3.526	0.467	18.359	C2	535	3.691	0.154	-21.221
C2	590	3.315	0.436	17.276	C2	534	3.785	0.130	-21.927
C2	589	3.151	0.398	16.513	C2	533	3.913	0.119	-22.768
C2	588	3.040	0.398	15.851	C2	532	4.014	0.123	-23.347
C2	587	2.910	0.373	15.222	C2	530	4.306	0.158	-24.885
C2	586	2.744	0.356	14.328	C2	529	4.411	0.142	-25.617
C2	584	2.500	0.350	12.900	C2	528	4.514	0.147	-26.204
C2	583	2.391	0.314	12.462	C2	527	4.648	0.135	-27.078
C2	582	2.215	0.276	11.632	C2	526	4.865	0.158	-28.237
C2	581	2.034	0.283	10.505	C2	525	5.026	0.154	-29.235
C2	580	1.899	0.260	9.839	C2	524	5.219	0.196	-30.135
C2	579	1.764	0.238	9.155	C2	523	5.298	0.203	-30.571
C2	578	1.654	0.222	8.590	C2	522	5.362	0.196	-30.994
C2	577	1.510	0.208	7.814	C2	521	5.515	0.215	-31.802
C2	576	1.513	0.227	7.715	C2	520	5.551	0.220	-31.987
C2	575	1.372	0.189	7.097	C2	519	5.886	0.260	-33.758
C2	574	1.207	0.177	6.179	C2	518	5.943	0.257	-34.118
C2	573	1.108	0.158	5.700	C2	517	6.026	0.260	-34.596
C2	572	0.998	0.135	5.179	C2	516	6.210	0.288	-35.531
C2	571	0.859	0.116	4.458	C2	515	6.368	0.300	-36.412
C2	570	0.727	0.107	3.721	C2	514	6.509	0.295	-37.283
C2	569	0.621	0.069	3.314	C2	513	6.642	0.300	-38.056
C2	568	0.535	0.027	3.052	C2	512	6.750	0.311	-38.633
C2	567	0.521	0.047	2.839	C2	511	6.792	0.302	-38.944
C2	566	-0.004	-0.004	0.000	C2	510	6.903	0.307	-39.581
C2	565	0.499	0.027	-2.831	C2	509	7.147	0.356	-40.743
C2	564	0.534	0.027	-3.043	C2	507	7.349	0.325	-42.141
C2	563	0.605	0.050	-3.331	C2	506	7.614	0.344	-43.616
C2	562	0.720	0.057	-3.973	C2	505	7.781	0.283	-44.988
C2	562	0.875	0.100	-4.653	C2	504	7.890	0.241	-45.894

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
C2	503	7.896	0.227	-46.017	1	161	24.964	0.037	149.559
C2	502	7.930	0.210	-46.318	1	160	24.798	0.064	148.403
C2	501	7.974	0.203	-46.625	1	159	24.696	0.081	147.691
1	220	33.436	-2.466	215.410	1	158	24.618	0.119	146.992
1	216	32.910	-2.256	210.998	1	157	24.493	0.114	146.272
1	215	32.771	-2.209	209.878	1	156	24.391	0.128	145.576
1	212	30.663	-1.179	191.051	1	155	24.301	0.150	144.907
1	211	30.604	-1.155	190.555	1	154	24.148	0.140	144.049
1	210	30.500	-1.142	189.852	1	153	24.072	0.185	143.325
1	209	30.415	-1.105	189.119	1	152	23.941	0.190	142.503
1	208	30.360	-1.077	188.621	1	151	23.851	0.192	141.951
1	207	29.935	-0.910	185.068	1	150	23.676	0.202	140.845
1	206	29.861	-0.893	184.521	1	149	23.520	0.185	140.008
1	205	29.700	-0.822	183.130	1	148	23.439	0.183	139.536
1	420	30.608	0.088	183.122	1	146	23.184	0.178	138.035
1	204	29.605	-0.799	182.421	1	145	23.087	0.183	137.423
1	203	29.635	-0.661	181.775	1	144	22.944	0.173	136.624
1	202	29.543	-0.634	181.064	1	143	22.879	0.185	136.166
1	199	29.516	-0.323	179.031	1	142	22.728	0.192	135.218
1	197	29.280	-0.249	177.173	1	141	22.586	0.192	134.365
1	196	29.208	-0.211	176.512	1	140	22.485	0.242	133.455
1	195	29.096	-0.166	175.573	1	139	22.364	0.254	132.658
1	194	29.022	-0.137	174.956	1	137	22.163	0.266	131.385
1	193	28.940	-0.109	174.294	1	136	22.016	0.281	130.411
1	192	28.880	-0.080	173.757	1	135	21.900	0.274	129.753
1	191	28.780	-0.044	172.942	1	134	21.579	0.170	128.452
1	190	28.404	-0.285	172.134	1	133	21.486	0.170	127.894
1	188	28.177	-0.194	170.225	1	132	21.315	0.146	127.013
1	187	28.252	-0.004	169.536	1	131	21.233	0.138	126.569
1	186	28.137	0.027	168.661	1	130	21.057	0.138	125.512
1	184	27.785	-0.040	166.948	1	129	20.888	0.104	124.707
1	182	27.615	-0.030	165.866	1	128	20.766	0.089	124.063
1	181	27.573	-0.040	165.679	1	127	20.602	0.064	123.227
1	183	27.560	-0.035	165.568	1	125	20.336	0.069	121.601
1	180	27.406	-0.035	164.643	1	124	20.206	0.062	120.866
1	179	27.122	-0.124	163.477	1	123	20.076	0.089	119.925
1	178	27.560	0.353	163.242	1	122	19.980	0.069	119.464
1	177	27.166	0.099	162.401	1	120	19.626	0.027	117.597
1	176	27.111	0.170	161.641	1	115	19.059	0.119	113.638
1	175	26.788	0.012	160.655	1	114	18.866	0.086	112.679
1	174	26.707	0.053	159.922	1	113	18.806	0.114	112.151
1	173	26.492	0.008	158.904	1	112	18.630	0.077	111.321
1	172	26.357	-0.007	158.184	1	111	18.528	0.096	110.590
1	171	26.296	0.052	157.462	1	110	18.410	0.086	109.941
1	170	26.159	0.049	156.662	1	109	18.275	0.081	109.167
1	169	26.106	0.104	156.015	1	108	18.142	0.106	108.217
1	168	25.784	-0.014	154.786	1	107	17.918	0.094	106.946
1	167	25.642	-0.030	154.026	1	106	17.819	0.133	106.118
1	166	25.578	0.017	153.367	1	105	17.669	0.165	105.024
1	165	25.404	0.022	152.291	1	103	17.507	0.158	104.096
1	164	25.375	0.006	152.209	1	221	17.377	0.160	103.299
1	163	25.216	0.017	151.193	1	101	17.258	0.170	102.528
1	162	25.006	0.030	149.856	1	302	17.191	0.198	101.955
					1	303	17.021	0.208	100.878

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
1	304	16.841	0.227	99.682	1	361	7.407	0.128	43.673
1	306	16.464	0.147	97.905	1	362	7.310	0.170	42.837
1	307	16.301	0.186	96.692	1	363	7.158	0.180	41.872
1	308	16.075	0.196	95.270	1	365	6.849	0.177	40.032
1	309	15.858	0.160	94.187	1	366	6.733	0.245	38.928
1	310	15.715	0.124	93.542	1	367	6.510	0.203	37.841
1	311	15.486	0.078	92.448	1	369	6.225	0.222	36.020
1	312	15.305	0.089	91.298	1	370	6.123	0.260	35.182
1	313	15.135	0.074	90.369	1	371	5.915	0.245	34.019
1	314	14.873	0.076	88.783	1	372	5.762	0.250	33.073
1	315	14.741	0.081	87.958	1	373	5.574	0.234	32.044
1	316	14.562	0.086	86.860	1	374	5.482	0.281	31.205
1	317	14.367	0.076	85.746	1	375	5.299	0.252	30.282
1	318	14.161	0.081	84.481	1	376	5.121	0.247	29.240
1	319	14.066	0.088	83.871	1	377	4.873	0.177	28.177
1	320	13.884	0.076	82.846	1	378	4.760	0.166	27.566
1	417	13.853	0.099	82.525	1	379	4.563	0.017	27.279
1	321	13.725	0.069	81.935	1	382	4.411	0.149	25.572
1	322	13.560	0.055	81.028	1	383	4.244	0.147	24.586
1	323	13.389	0.064	79.945	1	384	4.108	0.149	23.755
1	324	13.251	0.069	79.094	1	386	3.813	0.137	22.053
1	325	13.061	0.069	77.951	1	387	3.569	0.142	20.564
1	326	12.880	0.057	76.936	1	388	3.419	0.137	19.691
1	327	12.787	0.069	76.306	1	389	3.300	0.154	18.878
1	328	12.670	0.074	75.576	1	390	3.179	0.135	18.265
1	329	12.480	0.069	74.466	1	391	3.041	0.173	17.213
1	331	12.152	0.069	72.499	1	392	2.856	0.154	16.215
1	332	11.993	0.093	71.405	1	393	2.692	0.130	15.368
1	333	11.799	0.095	70.224	1	394	2.479	0.137	14.051
1	334	11.726	0.123	69.616	1	395	2.347	0.119	13.369
1	335	11.617	0.137	68.878	1	396	2.215	0.128	12.520
1	336	11.506	0.161	68.069	1	397	1.977	0.107	11.222
1	337	11.289	0.184	66.627	1	398	1.829	0.104	10.347
1	338	11.184	0.196	65.930	1	399	1.683	0.119	9.386
1	339	10.968	0.189	64.676	1	400	1.498	0.111	8.319
1	341	10.563	0.076	62.922	1	401	1.351	0.093	7.551
1	342	10.430	0.074	62.139	1	402	1.193	0.081	6.676
1	343	10.221	0.055	60.994	1	403	1.013	0.074	5.636
1	344	9.984	0.055	59.575	1	404	0.866	0.074	4.750
1	345	9.841	0.050	58.744	1	405	0.691	0.069	3.734
1	346	9.679	0.043	57.813	1	406	0.560	0.074	2.915
1	416	9.626	0.024	57.612	1	408	0.338	0.050	1.729
1	347	9.504	0.024	56.875	1	421	0.068	-0.040	0.643
1	348	9.390	0.057	55.997	1	422	0.006	-0.004	0.039
1	349	9.180	0.050	54.779	1	423	0.155	0.013	-0.852
1	350	9.061	0.088	53.836	1	415	0.317	0.045	-1.629
1	351	8.947	0.095	53.115	1	424	0.462	0.038	-2.539
1	352	8.827	0.147	52.079	1	413	0.630	0.034	-3.578
1	353	8.687	0.147	51.242	1	412	0.787	0.038	-4.492
1	354	8.544	0.158	50.315	1	614	1.122	0.086	-6.221
1	355	8.350	0.093	49.544	1	615	1.209	0.104	-6.628
1	356	8.255	0.116	48.835	1	613	1.249	0.081	-7.009
1	359	7.807	0.161	45.874	1	612	1.392	0.088	-7.826
1	360	7.594	0.130	44.783	1	611	1.501	0.100	-8.408

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
1	610	1.599	0.107	-8.954	1	554	8.933	0.356	-51.462
1	609	1.729	0.104	-9.750	1	553	8.985	0.342	-51.857
1	608	1.830	0.100	-10.385	1	551	9.182	0.380	-52.814
1	606	2.125	0.147	-11.869	1	550	9.321	0.368	-53.721
1	605	2.252	0.142	-12.658	1	549	9.429	0.363	-54.397
1	604	2.350	0.135	-13.293	1	548	9.544	0.373	-55.028
1	603	2.452	0.111	-14.043	1	547	9.667	0.370	-55.780
1	602	2.478	0.081	-14.383	1	546	9.826	0.380	-56.681
1	602	2.565	0.168	-14.383	1	545	9.933	0.356	-57.463
1	601	2.584	0.081	-15.018	1	544	10.041	0.361	-58.083
1	600	2.748	0.093	-15.932	1	543	10.132	0.361	-58.630
1	599	2.815	0.088	-16.361	1	542	10.215	0.349	-59.199
1	597	3.089	0.100	-17.935	1	541	10.300	0.344	-59.736
1	596	3.246	0.107	-18.836	1	537	10.432	0.302	-60.783
1	595	3.340	0.116	-19.344	1	536	10.453	0.290	-60.974
1	594	3.483	0.128	-20.133	1	535	10.556	0.307	-61.499
1	592	3.768	0.166	-21.617	1	534	10.630	0.290	-62.040
1	591	3.932	0.196	-22.416	1	533	10.737	0.276	-62.767
1	590	4.130	0.220	-23.464	1	532	10.845	0.288	-63.346
1	589	4.242	0.203	-24.232	1	530	11.101	0.263	-65.029
1	588	4.352	0.203	-24.892	1	529	11.228	0.263	-65.793
1	587	4.459	0.208	-25.510	1	528	11.351	0.283	-66.410
1	586	4.623	0.222	-26.407	1	527	11.509	0.289	-67.322
1	584	4.885	0.238	-27.879	1	526	11.704	0.283	-68.524
1	583	4.984	0.260	-28.345	1	525	11.867	0.276	-69.546
1	582	5.154	0.289	-29.193	1	524	12.048	0.314	-70.403
1	581	5.350	0.307	-30.259	1	523	12.111	0.333	-70.672
1	580	5.465	0.311	-30.922	1	522	12.158	0.335	-70.940
1	579	5.591	0.318	-31.634	1	520	12.288	0.380	-71.451
1	578	5.709	0.325	-32.304	1	521	12.263	0.340	-71.541
1	577	5.853	0.329	-33.140	1	519	12.686	0.391	-73.770
1	576	5.949	0.342	-33.644	1	518	12.726	0.391	-74.007
1	575	6.165	0.344	-34.927	1	517	12.792	0.403	-74.336
1	574	6.347	0.356	-35.944	1	516	12.960	0.434	-75.160
1	573	6.456	0.373	-36.500	1	515	13.088	0.436	-75.914
1	572	6.599	0.391	-37.244	1	514	13.232	0.429	-76.816
1	571	6.685	0.382	-37.818	1	513	13.370	0.422	-77.691
1	570	6.842	0.398	-38.660	1	512	13.469	0.417	-78.308
1	568	7.039	0.375	-39.985	1	511	13.525	0.405	-78.716
1	567	7.208	0.424	-40.703	1	510	13.623	0.391	-79.392
1	566	7.296	0.391	-41.427	1	509	13.870	0.455	-80.493
1	565	7.434	0.398	-42.216	1	507	14.064	0.391	-82.035
1	564	7.540	0.403	-42.823	1	506	14.319	0.386	-83.598
1	563	7.696	0.394	-43.817	1	505	14.462	0.288	-85.045
1	562	7.856	0.424	-44.589	1	504	14.570	0.257	-85.874
1	561	7.962	0.422	-45.243	1	503	14.580	0.264	-85.893
1	560	8.078	0.429	-45.894	1	502	14.596	0.241	-86.129
1	559	8.232	0.441	-46.748	1	501	14.607	0.215	-86.353
1	558	8.351	0.448	-47.418					
1	557	8.383	0.424	-47.750	2	420	26.118	0.104	156.080
1	556	8.447	0.429	-48.111	2	419	22.056	0.208	131.088
1	540	8.560	0.401	-48.955	2	418	18.684	0.429	109.531
1	539	8.669	0.365	-49.819	2	101	12.850	0.276	75.446
1	538	8.814	0.349	-50.790	2	302	12.761	0.283	74.865

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
3A	420	21.252	0.314	125.633	3A	354	1.190	-0.030	-7.317
3A	419	17.157	0.382	100.652	3A	355	1.352	-0.034	-8.319
3A	418	13.669	0.467	79.214	3A	356	1.539	-0.053	-9.556
3A	301	7.854	0.342	45.074	3A	357	1.700	-0.060	-10.560
3A	302	7.749	0.330	44.512	3A	358	1.848	-0.060	-11.449
3A	303	7.570	0.333	43.425	3A	359	2.017	-0.053	-12.424
3A	304	7.367	0.330	42.221	3A	360	2.181	-0.060	-13.448
3A	306	7.089	0.344	40.466	3A	361	2.375	-0.049	-14.539
3A	307	6.883	0.342	39.245	3A	362	2.537	-0.041	-15.474
3A	308	6.613	0.311	37.813	3A	363	2.731	-0.018	-16.494
3A	309	6.413	0.290	36.735	3A	366	3.254	-0.011	-19.587
3A	310	6.305	0.290	36.086	3A	367	3.370	-0.053	-20.541
3A	311	6.130	0.295	35.008	3A	368	3.461	-0.065	-21.155
3A	312	5.911	0.269	33.854	3A	369	3.642	-0.072	-22.282
3A	313	5.724	0.241	32.897	3A	370	3.802	-0.016	-22.908
3A	314	5.475	0.257	31.307	3A	371	3.939	-0.046	-23.912
3A	315	5.334	0.252	30.488	3A	372	4.021	-0.106	-24.762
3A	316	5.152	0.252	29.398	3A	373	4.189	-0.098	-25.723
3A	317	4.950	0.234	28.298	3A	374	4.331	-0.077	-26.447
3A	318	4.736	0.229	27.039	3A	375	4.549	-0.011	-27.356
3A	319	4.638	0.238	26.397	3A	376	4.758	0.027	-28.387
3A	320	4.454	0.222	25.391	3A	377	4.907	0.001	-29.435
3A	417	4.445	0.273	25.033	3A	378	4.983	-0.030	-30.078
3A	321	4.300	0.220	24.482	3A	379	5.046	-0.041	-30.528
3A	322	4.154	0.227	23.563	3A	382	5.354	-0.013	-32.048
3A	323	3.961	0.229	22.390	3A	383	5.482	-0.023	-33.027
3A	324	3.812	0.220	21.556	3A	384	5.621	-0.023	-33.862
3A	325	3.629	0.227	20.412	3A	386	5.896	-0.034	-35.584
3A	326	3.448	0.222	19.355	3A	387	6.168	-0.016	-37.103
3A	327	3.342	0.215	18.764	3A	388	6.306	-0.018	-37.942
3A	329	3.013	0.189	16.946	3A	389	6.420	-0.037	-38.743
3A	331	2.659	0.161	14.988	3A	390	6.503	-0.058	-39.368
3A	332	2.507	0.177	13.980	3A	391	6.688	-0.046	-40.408
3A	333	2.314	0.168	12.874	3A	392	6.864	-0.037	-41.408
3A	334	2.223	0.173	12.302	3A	393	7.011	-0.030	-42.244
3A	335	2.109	0.161	11.686	3A	394	7.206	-0.055	-43.565
3A	336	2.031	0.180	11.110	3A	395	7.299	-0.076	-44.247
3A	337	1.824	0.173	9.908	3A	396	7.440	-0.076	-45.094
3A	338	1.699	0.189	9.062	3A	397	7.682	-0.050	-46.393
3A	339	1.477	0.149	7.965	3A	398	7.843	-0.035	-47.265
3A	341	1.052	0.116	5.616	3A	399	8.024	-0.014	-48.230
3A	342	0.898	0.119	4.675	3A	400	8.202	-0.014	-49.298
3A	343	0.668	0.100	3.413	3A	401	8.330	-0.014	-50.064
3A	344	0.404	0.076	1.966	3A	402	8.455	-0.035	-50.937
3A	345	0.253	0.064	1.132	3A	404	8.857	0.045	-52.866
3A	346	0.106	0.043	0.378	3A	405	9.014	0.031	-53.898
3A	416	0.013	0.013	0.000	3A	406	9.157	0.031	-54.752
3A	347	0.256	0.020	-1.417	3A	408	9.447	0.050	-56.378
3A	348	0.404	0.024	-2.276	3A	421	9.547	0.008	-57.236
3A	349	0.576	-0.006	-3.493	3A	422	9.626	0.015	-57.663
3A	350	0.754	0.008	-4.477	3A	423	9.710	0.015	-58.172
3A	351	0.830	-0.008	-5.087	3A	415	9.790	0.015	-58.651
3A	352	0.963	-0.018	-5.889	3A	424	10.043	0.020	-60.139
3A	353	1.056	-0.016	-6.431	3A	413	10.197	0.001	-61.177

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
2	303	12.594	0.295	73.795	2	359	3.246	0.149	18.581
2	304	12.312	0.210	72.608	2	360	3.080	0.165	17.490
2	306	12.033	0.232	70.803	2	361	2.921	0.191	16.378
2	307	11.821	0.222	69.596	2	362	2.768	0.177	15.543
2	308	11.536	0.178	68.181	2	363	2.596	0.166	14.585
2	309	11.362	0.180	67.092	2	365	2.292	0.161	12.785
2	310	11.230	0.155	66.450	2	366	2.165	0.215	11.698
2	311	11.093	0.203	65.340	2	367	1.939	0.173	10.599
2	312	10.878	0.180	64.191	2	368	1.835	0.180	9.931
2	313	10.671	0.123	63.289	2	369	1.631	0.166	8.793
2	314	10.412	0.128	61.705	2	370	1.537	0.220	7.906
2	315	10.276	0.130	60.872	2	371	1.305	0.184	6.724
2	316	10.103	0.142	59.763	2	372	1.153	0.189	5.786
2	317	9.920	0.147	58.638	2	373	0.984	0.186	4.787
2	318	9.716	0.155	57.367	2	374	0.900	0.201	4.191
2	319	9.594	0.130	56.783	2	375	0.714	0.145	3.413
2	320	9.420	0.130	55.740	2	376	0.595	0.154	2.646
2	417	9.373	0.130	55.460	2	377	0.466	0.057	2.452
2	321	9.273	0.135	54.827	2	378	0.269	0.031	1.425
2	322	9.135	0.147	53.928	2	379	0.005	0.001	0.024
2	323	8.935	0.147	52.730	2	380	0.451	0.055	-2.375
2	324	8.794	0.149	51.872	2	381	0.650	0.107	-3.259
2	325	8.628	0.173	50.732	2	382	0.896	0.093	-3.618
2	326	8.389	0.099	49.743	2	383	0.696	0.123	-3.965
2	327	8.329	0.147	49.091	2	384	0.784	0.128	-5.375
2	328	8.207	0.149	48.351	2	386	1.024	0.145	-6.763
2	329	8.004	0.130	47.246	2	387	1.272	0.145	-7.688
2	331	7.675	0.128	45.280	2	388	1.447	0.166	-8.533
2	332	7.503	0.142	44.166	2	389	1.569	0.147	-9.090
2	333	7.274	0.111	42.974	2	390	1.645	0.130	-10.164
2	334	7.149	0.088	42.364	2	391	1.860	0.166	-11.142
2	335	7.012	0.076	41.613	2	392	2.018	0.135	-12.071
2	336	6.860	0.062	40.789	2	393	2.147	0.142	-13.406
2	337	6.638	0.081	39.341	2	394	2.376	0.130	-14.080
2	338	6.542	0.100	38.652	2	395	2.477	0.135	-14.897
2	339	6.267	0.034	37.397	2	396	2.618	0.147	-16.178
2	341	5.951	0.001	35.702	2	397	2.843	0.154	-17.023
2	342	5.845	0.020	34.952	2	398	2.991	0.180	-18.001
2	343	5.661	0.020	33.850	2	399	3.180	0.168	-19.061
2	344	5.427	0.015	32.474	2	400	3.345	0.166	-19.810
2	345	5.284	0.012	31.637	2	401	3.467	0.158	-20.643
2	346	5.111	-0.011	30.734	2	402	3.599	0.161	-21.690
2	416	5.055	-0.030	30.508	2	403	3.776	0.189	-22.591
2	347	4.964	-0.016	29.880	2	404	3.954	0.166	-23.562
2	348	4.863	0.022	29.047	2	405	4.092	0.180	-24.397
2	349	4.685	0.037	27.889	2	406	4.246	0.177	-25.973
2	350	4.588	0.088	26.999	2	408	4.506	0.158	-26.878
2	351	4.473	0.093	26.283	2	421	4.638	0.161	-27.344
2	352	4.307	0.104	25.214	2	422	4.718	0.161	-27.911
2	353	4.127	0.086	24.250	2	423	4.813	0.177	-28.449
2	354	3.953	0.088	23.192	2	415	4.919	0.173	-29.793
2	355	3.819	0.100	22.319	2	424	5.138	0.158	-30.826
2	356	3.714	0.123	21.547	2	413	5.296	0.154	-31.634
2	357	3.555	0.147	20.447	2	412	5.426		

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
3A	412	10.331	-0.006	-62.024	3R	353	5.358	0.119	-31.439
3R	420	17.240	0.452	100.727	3R	354	5.498	0.111	-32.321
3R	418	9.530	0.490	54.240	3R	355	5.654	0.130	-33.142
3R	101	3.601	0.260	20.046	3R	356	5.735	0.064	-34.026
3R	302	3.501	0.252	19.494	3R	357	5.922	0.069	-35.115
3R	303	3.317	0.250	18.399	3R	359	6.249	0.081	-37.010
3R	304	3.106	0.241	17.190	3R	360	6.422	0.074	-38.090
3R	306	2.830	0.252	15.466	3R	361	6.622	0.088	-39.207
3R	307	2.611	0.238	14.237	3R	362	6.810	0.126	-40.104
3R	308	2.352	0.220	12.795	3R	363	6.980	0.128	-41.112
3R	309	2.135	0.180	11.729	3R	365	7.335	0.156	-43.071
3R	310	2.026	0.180	11.075	3R	366	7.511	0.147	-44.188
3R	311	1.862	0.189	10.041	3R	367	7.647	0.111	-45.213
3R	312	1.635	0.154	8.889	3R	368	7.750	0.107	-45.857
3R	313	1.428	0.116	7.872	3R	369	7.916	0.081	-47.009
3R	314	1.154	0.107	6.281	3R	370	8.028	0.074	-47.722
3R	315	1.025	0.111	5.479	3R	371	8.201	0.069	-48.794
3R	316	0.839	0.100	4.438	3R	372	8.326	0.045	-49.684
3R	317	0.641	0.064	3.460	3R	373	8.449	0.003	-50.674
3R	318	0.467	0.069	2.388	3R	374	8.606	0.031	-51.446
3R	319	0.305	0.057	1.485	3R	375	8.843	0.116	-52.363
3R	320	0.229	0.038	1.140	3R	376	9.007	0.107	-53.400
3R	417	0.046	0.045	0.000	3R	377	9.176	0.100	-54.460
3R	321	0.259	0.045	-1.279	3R	378	9.250	0.069	-55.083
3R	322	0.359	0.069	-1.740	3R	379	9.311	0.064	-55.478
3R	323	0.544	0.057	-2.921	3R	382	9.613	0.100	-57.079
3R	324	0.728	0.095	-3.798	3R	383	9.752	0.076	-58.055
3R	325	0.926	0.116	-4.861	3R	384	9.878	0.064	-58.882
3R	326	1.092	0.137	-5.727	3R	386	10.164	0.064	-60.595
3R	327	1.222	0.149	-6.438	3R	387	10.443	0.093	-62.105
3R	328	1.362	0.158	-7.438	3R	388	10.573	0.081	-62.955
3R	329	1.534	0.154	-8.284	3R	389	10.670	0.043	-63.761
3R	331	1.877	0.173	-10.226	3R	390	10.743	0.013	-64.381
3R	332	2.060	0.158	-11.407	3R	391	10.931	0.027	-65.426
3R	333	2.271	0.166	-12.636	3R	392	11.126	0.055	-66.426
3R	334	2.406	0.196	-13.257	3R	393	11.285	0.074	-67.270
3R	335	2.531	0.184	-14.080	3R	394	11.513	0.081	-68.593
3R	336	2.688	0.180	-15.048	3R	395	11.620	0.074	-69.275
3R	337	2.962	0.203	-16.552	3R	396	11.756	0.069	-70.121
3R	338	3.056	0.208	-17.089	3R	397	11.991	0.088	-71.420
3R	339	3.255	0.198	-18.337	3R	398	12.125	0.076	-72.291
3R	341	3.505	0.210	-19.770	3R	399	12.309	0.100	-73.258
3R	342	3.638	0.220	-20.509	3R	400	12.473	0.086	-74.326
3R	343	3.817	0.210	-21.642	3R	401	12.603	0.088	-75.091
3R	344	4.075	0.229	-23.076	3R	402	12.746	0.086	-75.960
3R	345	4.205	0.222	-23.901	3R	403	12.910	0.076	-77.001
3R	416	4.406	0.234	-25.033	3R	404	13.077	0.095	-77.893
3R	347	4.535	0.227	-25.847	3R	405	13.239	0.086	-78.919
3R	348	4.671	0.210	-26.764	3R	406	13.390	0.095	-79.770
3R	349	4.832	0.161	-28.028	3R	408	13.652	0.107	-81.273
3R	350	4.990	0.154	-29.015	3R	421	13.806	0.116	-82.142
3R	351	5.080	0.126	-29.726	3R	422	13.832	0.069	-82.576
3R	352	5.241	0.123	-30.708	3R	423	13.906	0.057	-83.091
					3R	415	13.974	0.045	-83.574

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
3R	424	14.231	0.057	-85.044	3R	539	22.255	0.234	-132.126
3R	413	14.402	0.055	-86.081	3R	538	22.419	0.234	-133.113
3R	412	14.548	0.062	-86.917	3R	554	22.514	0.227	-133.722
3R	615	14.908	0.130	-88.669	3R	553	22.483	0.146	-134.024
3R	613	14.983	0.086	-89.387	3R	551	22.670	0.210	-134.761
3R	612	15.124	0.081	-90.261	3R	550	22.853	0.249	-135.628
3R	611	15.221	0.069	-90.912	3R	549	22.934	0.220	-136.284
3R	610	15.229	-0.016	-91.465	3R	548	23.024	0.210	-136.883
3R	609	15.351	-0.023	-92.245	3R	547	23.145	0.218	-137.561
3R	608	15.463	-0.018	-92.887	3R	546	23.313	0.238	-138.447
3R	606	15.920	0.191	-94.373	3R	545	23.430	0.222	-139.248
3R	605	16.049	0.189	-95.158	3R	544	23.520	0.208	-139.870
3R	604	16.122	0.158	-95.781	3R	543	23.608	0.215	-140.360
3R	603	16.205	0.130	-96.447	3R	542	23.685	0.210	-140.850
3R	602	16.238	0.095	-96.861	3R	541	23.710	0.158	-141.310
3R	601	16.318	0.064	-97.520	3R	536	23.971	0.116	-143.132
3R	600	16.475	0.069	-98.434	3R	534	24.124	0.111	-144.075
3R	597	16.905	0.173	-100.395	3R	533	24.230	0.107	-144.740
3R	596	16.992	0.104	-101.329	3R	532	24.330	0.111	-145.311
3R	595	17.145	0.177	-101.809	3R	530	24.581	0.074	-147.041
3R	594	17.236	0.142	-102.565	3R	529	24.710	0.074	-147.811
3R	593	17.357	0.154	-103.219	3R	528	24.834	0.095	-148.438
3R	592	17.594	0.252	-104.048	3R	525	25.389	0.123	-151.600
3R	591	17.669	0.196	-104.837	3R	524	25.511	0.107	-152.424
3R	590	17.893	0.241	-105.916	3R	520	25.618	0.116	-153.008
3R	589	17.959	0.180	-106.677	3R	517	26.382	0.382	-155.997
3R	588	18.058	0.168	-107.338	3R	515	26.658	0.423	-157.408
3R	587	18.180	0.184	-107.976	3R	514	26.788	0.403	-158.312
3R	586	18.363	0.220	-108.861	3R	513	26.921	0.382	-159.235
3R	584	18.593	0.210	-110.295	3R	512	27.027	0.382	-159.867
3R	583	18.661	0.203	-110.746	3R	511	27.104	0.382	-160.331
3R	581	19.070	0.290	-112.684	3R	510	27.233	0.395	-161.023
3R	580	19.150	0.259	-113.348	3R	509	27.436	0.408	-162.170
3R	579	19.277	0.269	-114.046	3R	507	27.645	0.345	-163.797
3R	576	19.609	0.290	-115.916	3R	506	27.807	0.239	-165.411
3R	574	20.000	0.311	-118.134	3R	505	27.990	0.173	-166.904
3R	573	20.089	0.307	-118.697	3R	503	28.050	0.116	-167.601
3R	572	20.207	0.300	-119.440	3R	504	28.045	0.101	-167.664
3R	571	20.334	0.325	-120.054	3R	502	28.049	0.085	-167.784
3R	570	20.490	0.337	-120.920	3R	501	28.041	0.050	-167.942
3R	569	20.606	0.330	-121.654					
3R	568	20.694	0.318	-122.254					
3R	567	20.797	0.300	-122.980					
3R	566	20.970	0.351	-123.710					
3R	565	21.041	0.290	-124.505					
3R	564	21.112	0.260	-125.115					
3R	563	21.290	0.271	-126.114					
3R	562	21.385	0.238	-126.878					
3R	561	21.502	0.249	-127.522					
3R	559	21.766	0.260	-129.036					
3R	558	21.906	0.283	-129.740					
3R	557	21.929	0.276	-129.919					
3R	556	21.983	0.249	-130.408					
3R	540	22.218	0.342	-131.255					
					4	220	19.433	0.524	113.453
					4	218	19.031	0.586	110.668
					4	216	18.758	0.621	108.826
					4	215	18.585	0.638	107.680
					4	214	17.522	0.665	101.142
					4	213	16.875	0.685	97.137
					4	212	15.248	0.449	88.796
					4	211	15.168	0.454	88.288
					4	210	15.054	0.458	87.573
					4	209	14.931	0.458	86.837
					4	208	14.859	0.468	86.344
					4	207	14.271	0.466	82.829
					4	206	14.197	0.481	82.296

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
4	420	13.998	0.516	80.890	4	146	6.388	0.426	35.769
4	205	13.977	0.498	80.877	4	145	6.276	0.417	35.157
4	204	13.857	0.488	80.214	4	144	6.133	0.407	34.359
4	203	13.756	0.481	79.654	4	143	6.060	0.414	33.874
4	202	13.631	0.481	78.905	4	142	5.885	0.407	32.871
4	201	13.541	0.500	78.246	4	141	5.723	0.384	32.028
4	199	13.319	0.512	76.841	4	140	5.589	0.389	31.197
4	197	13.055	0.549	75.033	4	139	5.441	0.384	30.340
4	196	12.957	0.557	74.404	4	138	5.310	0.377	29.598
4	195	12.796	0.552	73.467	4	137	5.187	0.362	28.945
4	194	12.686	0.552	72.807	4	136	5.000	0.338	27.976
4	193	12.569	0.552	72.100	4	135	4.893	0.343	27.299
4	192	12.491	0.562	71.576	4	134	4.636	0.311	25.953
4	191	12.364	0.569	70.768	4	133	4.531	0.293	25.428
4	190	12.213	0.564	69.894	4	132	4.382	0.279	24.620
4	188	11.895	0.557	68.027	4	131	4.327	0.286	24.249
4	187	11.779	0.562	67.303	4	130	4.131	0.266	23.187
4	186	11.618	0.552	66.397	4	129	3.984	0.261	22.334
4	184	11.358	0.562	64.776	4	128	3.851	0.242	21.657
4	182	11.172	0.557	63.691	4	127	3.689	0.224	20.786
4	183	11.075	0.517	63.347	4	125	3.366	0.183	19.100
4	180	10.967	0.530	62.621	4	124	3.257	0.192	18.387
4	179	10.775	0.537	61.425	4	123	3.112	0.197	17.486
4	178	10.700	0.525	61.053	4	122	3.037	0.197	17.039
4	177	10.549	0.520	60.176	4	121	2.930	0.192	16.424
4	176	10.421	0.525	59.380	4	120	2.749	0.185	15.383
4	175	10.241	0.505	58.414	4	119	2.706	0.214	14.947
4	174	10.159	0.542	57.700	4	222	2.529	0.197	13.989
4	173	9.955	0.512	56.653	4	116	2.217	0.183	12.210
4	172	9.844	0.520	55.944	4	115	2.082	0.173	11.455
4	171	9.733	0.525	55.250	4	114	1.994	0.222	10.632
4	170	9.600	0.525	54.450	4	113	1.799	0.158	9.846
4	169	9.502	0.535	53.801	4	112	1.637	0.138	8.995
4	168	9.298	0.537	52.564	4	111	1.505	0.133	8.230
4	167	9.168	0.530	51.827	4	110	1.411	0.133	7.668
4	166	9.055	0.525	51.182	4	109	1.303	0.121	7.094
4	165	8.875	0.530	50.073	4	108	1.113	0.106	6.042
4	164	8.843	0.518	49.951	4	107	0.916	0.077	5.039
4	163	8.658	0.510	48.884	4	106	0.757	0.086	4.024
4	162	8.419	0.498	47.528	4	105	0.617	0.069	3.286
4	161	8.391	0.510	47.287	4	104	0.407	0.013	2.368
4	160	8.184	0.491	46.162	4	103	0.330	0.034	1.781
4	159	8.052	0.486	45.400	4	221	0.223	0.019	1.224
4	158	7.964	0.518	44.676	4	101	0.018	0.013	-0.032
4	157	7.810	0.483	43.963	4	302	0.150	0.031	-0.712
4	156	7.685	0.478	43.239	4	303	0.333	0.055	-1.668
4	155	7.574	0.483	42.544	4	304	0.549	0.069	-2.878
4	154	7.431	0.483	41.687	4	306	0.905	0.123	-4.691
4	153	7.302	0.478	40.945	4	307	1.147	0.168	-5.873
4	152	7.147	0.466	40.088	4	308	1.379	0.166	-7.283
4	151	7.028	0.446	39.489	4	309	1.580	0.184	-8.372
4	150	6.858	0.458	38.397	4	310	1.682	0.180	-9.014
4	149	6.716	0.449	37.606	4	311	1.899	0.210	-10.132
4	148	6.639	0.441	37.189	4	312	2.075	0.196	-11.276

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
4	313	2.266	0.234	-12.193	4	370	11.564	0.283	-67.682
4	314	2.517	0.220	-13.784	4	371	11.685	0.222	-68.776
4	315	2.661	0.227	-14.604	4	372	11.794	0.181	-69.681
4	316	2.851	0.234	-15.703	4	373	11.956	0.176	-70.682
4	317	3.043	0.238	-16.826	4	374	12.119	0.206	-71.477
4	318	3.273	0.257	-18.097	4	376	12.523	0.283	-73.437
4	319	3.385	0.269	-18.697	4	377	12.614	0.196	-74.505
4	320	3.557	0.269	-19.725	4	378	12.715	0.196	-75.115
4	417	3.585	0.241	-20.063	4	380	12.894	0.356	-75.227
4	321	3.711	0.271	-20.638	4	379	12.776	0.196	-75.482
4	322	3.881	0.290	-21.543	4	382	13.092	0.237	-77.130
4	323	4.060	0.271	-22.735	4	383	13.193	0.176	-78.103
4	324	4.227	0.295	-23.591	4	384	13.370	0.217	-78.923
4	325	4.422	0.300	-24.732	4	386	13.688	0.268	-80.523
4	326	4.604	0.314	-25.743	4	387	13.977	0.307	-82.023
4	327	4.728	0.333	-26.374	4	388	14.040	0.227	-82.882
4	329	5.028	0.325	-28.218	4	389	14.225	0.276	-83.691
4	331	5.349	0.318	-30.185	4	390	14.301	0.250	-84.306
4	332	5.507	0.290	-31.301	4	391	14.471	0.245	-85.354
4	333	5.705	0.288	-32.502	4	392	14.633	0.241	-86.351
4	334	5.810	0.290	-33.116	4	393	14.767	0.234	-87.203
4	335	5.948	0.300	-33.890	4	394	14.981	0.227	-88.526
4	336	6.109	0.314	-34.771	4	395	15.083	0.215	-89.208
4	337	6.362	0.320	-36.255	4	396	15.231	0.222	-90.051
4	338	6.465	0.317	-36.884	4	397	15.446	0.222	-91.347
4	339	6.675	0.317	-38.144	4	398	15.596	0.227	-92.216
4	341	6.938	0.310	-39.764	4	399	15.760	0.229	-93.183
4	342	7.074	0.317	-40.538	4	400	15.918	0.210	-94.249
4	343	7.259	0.310	-41.694	4	401	16.038	0.203	-95.012
4	344	7.509	0.320	-43.136	4	402	16.194	0.215	-95.877
4	345	7.639	0.313	-43.959	4	403	16.363	0.210	-96.917
4	346	7.814	0.329	-44.907	4	405	16.691	0.220	-98.826
4	416	7.844	0.329	-45.091	4	406	16.853	0.241	-99.673
4	347	7.957	0.306	-45.909	4	408	17.106	0.227	-101.277
4	348	8.086	0.282	-46.822	4	421	17.245	0.220	-102.155
4	349	8.246	0.233	-48.083	4	422	17.276	0.177	-102.594
4	350	8.405	0.228	-49.065	4	423	17.326	0.140	-103.115
4	351	8.498	0.202	-49.778	4	415	17.416	0.149	-103.603
4	352	8.658	0.197	-50.766	4	415	17.416	0.149	-103.603
4	353	8.779	0.195	-51.501	4	424	17.675	0.166	-105.060
4	354	8.918	0.190	-52.366	4	413	17.836	0.154	-106.095
4	355	9.041	0.183	-53.149	4	412	18.024	0.203	-106.926
4	356	9.166	0.172	-53.965	4	614	18.278	0.172	-108.637
4	357	9.336	0.160	-55.060	4	613	18.408	0.184	-109.348
4	358	9.498	0.164	-56.002	4	612	18.551	0.180	-110.226
4	359	9.667	0.176	-56.949	4	609	18.833	0.129	-112.227
4	360	9.905	0.232	-58.035	4	608	18.924	0.113	-112.868
4	361	10.115	0.256	-59.153	4	606	19.219	0.160	-114.353
4	362	10.276	0.270	-60.035	4	605	19.323	0.133	-115.139
4	363	10.461	0.289	-61.034	4	604	19.423	0.129	-115.764
4	366	11.011	0.329	-64.090	4	603	19.504	0.097	-116.437
4	367	11.131	0.276	-65.132	4	602	19.573	0.101	-116.829
4	368	11.232	0.268	-65.784	4	601	19.660	0.078	-117.494
4	369	11.435	0.278	-66.939	4	600	19.833	0.097	-118.412
						597	20.161	0.097	-120.382

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
4	596	20.331	0.113	-121.310	4	532	27.621	0.070	-165.305
4	594	20.554	0.129	-122.554	4	531	27.778	0.073	-166.227
4	592	20.821	0.148	-124.037	4	530	27.882	0.042	-167.036
4	591	20.969	0.164	-124.827	4	529	28.038	0.070	-167.807
4	590	21.156	0.172	-125.904	4	528	28.091	0.019	-168.433
4	589	21.291	0.180	-126.665	4	527	28.191	-0.035	-169.355
4	588	21.412	0.191	-127.326	4	526	28.435	0.006	-170.569
4	587	21.542	0.215	-127.961	4	525	28.591	-0.008	-171.596
4	586	21.698	0.223	-128.848	4	524	28.676	-0.060	-172.419
4	584	21.929	0.215	-130.286	4	523	28.699	-0.065	-172.584
4	583	22.001	0.211	-130.738	4	520	28.816	-0.014	-172.983
4	582	22.172	0.243	-131.579	4	519	29.163	-0.101	-175.588
4	580	22.489	0.266	-133.338	4	517	29.258	-0.071	-175.977
4	579	22.625	0.286	-134.037	4	516	29.372	-0.081	-176.718
4	577	22.856	0.274	-135.496	4	515	29.482	-0.081	-177.378
4	576	22.956	0.304	-135.913	4	514	29.560	-0.154	-178.283
4	575	23.200	0.350	-137.098	4	513	29.726	-0.142	-179.208
4	574	23.377	0.355	-138.132	4	512	29.785	-0.189	-179.840
4	573	23.433	0.317	-138.695	4	511	29.937	-0.114	-180.307
4	572	23.553	0.313	-139.438	4	510	30.092	-0.075	-181.000
4	571	23.635	0.293	-140.052	4	507	30.433	-0.197	-183.777
4	570	23.772	0.286	-140.917	4	506	30.644	-0.255	-185.393
4	569	23.882	0.274	-141.652	4	505	30.810	-0.338	-186.888
4	568	23.943	0.235	-142.251	4	503	31.039	-0.224	-187.577
4	567	24.115	0.286	-142.977	4	504	31.070	-0.204	-187.645
4	566	24.202	0.250	-143.707	4	502	31.077	-0.216	-187.757
4	565	24.338	0.254	-144.502	4	501	31.095	-0.224	-187.911
4	564	24.396	0.211	-145.112	5	220	13.669	0.454	79.293
4	563	24.563	0.211	-146.111	5	218	13.215	0.466	76.495
4	562	24.682	0.203	-146.875	5	216	12.925	0.483	74.650
4	561	24.798	0.211	-147.519	5	215	12.736	0.486	73.505
4	559	25.127	0.289	-149.033	5	214	11.653	0.493	66.958
4	558	25.159	0.203	-149.736	5	213	10.990	0.498	62.951
4	557	25.185	0.199	-149.917	5	212	9.508	0.409	54.596
4	540	25.412	0.203	-151.252	5	211	9.422	0.407	54.089
4	539	25.555	0.201	-152.123	5	210	9.317	0.421	53.375
4	538	25.729	0.211	-153.109	5	209	9.199	0.426	52.639
4	554	25.835	0.215	-153.719	5	208	9.107	0.417	52.144
4	553	25.874	0.203	-154.022	5	207	8.483	0.381	48.615
4	551	26.016	0.223	-154.756	5	206	8.399	0.386	48.080
4	550	26.168	0.231	-155.621	5	205	8.153	0.376	46.661
4	549	26.278	0.232	-156.277	5	204	8.050	0.384	45.992
4	548	26.369	0.223	-156.875	5	203	7.953	0.402	45.307
4	547	26.489	0.231	-157.550	5	202	7.825	0.397	44.567
4	546	26.637	0.231	-158.436	5	201	7.726	0.407	43.915
4	545	26.743	0.203	-159.237	5	199	7.499	0.414	42.511
4	544	26.815	0.172	-159.859	5	197	7.215	0.434	40.687
4	543	26.877	0.152	-160.347	5	196	7.102	0.426	40.052
4	542	26.954	0.148	-160.834	5	195	6.933	0.414	39.114
4	541	27.014	0.133	-161.290	5	194	6.827	0.417	38.461
4	536	27.286	0.097	-163.130	5	193	6.709	0.414	37.767
4	535	27.366	0.097	-163.613	5	192	6.633	0.426	37.238
4	534	27.435	0.090	-164.071	5	191	6.498	0.426	36.427
4	533	27.526	0.070	-164.735					

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
5	190	6.351	0.421	35.579	5	132	1.848	0.222	-9.756
5	188	6.061	0.446	33.691	5	131	1.919	0.234	-10.111
5	187	5.918	0.421	32.981	5	130	2.116	0.254	-11.173
5	186	5.755	0.407	32.091	5	129	2.258	0.254	-12.025
5	184	5.446	0.375	30.429	5	128	2.397	0.279	-12.710
5	182	5.255	0.365	29.344	5	127	2.577	0.311	-13.599
5	181	5.219	0.338	29.286	5	125	2.884	0.325	-15.350
5	183	5.198	0.362	29.015	5	124	3.002	0.333	-16.015
5	180	5.086	0.375	28.269	5	123	3.151	0.338	-16.879
5	179	4.864	0.352	27.070	5	122	3.239	0.352	-17.320
5	178	4.809	0.357	26.707	5	121	3.354	0.365	-17.937
5	177	4.664	0.357	25.842	5	120	3.528	0.350	-19.069
5	176	4.542	0.365	25.062	5	119	3.622	0.357	-19.586
5	175	4.357	0.343	24.085	5	222	3.811	0.357	-20.721
5	174	4.239	0.345	23.361	5	116	4.071	0.362	-22.250
5	173	4.046	0.325	22.326	5	115	4.205	0.365	-23.041
5	172	3.922	0.320	21.611	5	114	4.375	0.377	-23.985
5	171	3.802	0.318	20.904	5	113	4.480	0.384	-24.575
5	170	3.656	0.306	20.104	5	112	4.643	0.407	-25.418
5	169	3.548	0.306	19.455	5	111	4.763	0.402	-26.169
5	168	3.325	0.288	18.219	5	110	4.872	0.407	-26.790
5	167	3.186	0.274	17.475	5	109	4.972	0.384	-27.527
5	166	3.066	0.261	16.826	5	108	5.140	0.389	-28.506
5	165	2.882	0.261	15.723	5	107	5.353	0.394	-29.751
5	164	2.859	0.256	15.618	5	106	5.512	0.409	-30.619
5	163	2.673	0.242	14.589	5	105	5.710	0.429	-31.690
5	162	2.431	0.222	13.253	5	104	5.827	0.397	-32.578
5	161	2.377	0.217	12.958	5	103	5.864	0.409	-32.727
5	160	2.174	0.205	11.814	5	221	5.975	0.389	-33.512
5	159	2.044	0.197	11.083	5	101	6.140	0.407	-34.400
5	158	1.955	0.224	10.385					
5	157	1.788	0.178	9.662	6	220	9.927	0.295	57.794
5	156	1.679	0.183	8.978	6	218	9.455	0.295	54.962
5	155	1.562	0.173	8.337	6	216	9.175	0.328	53.081
5	154	1.413	0.165	7.484	6	215	8.966	0.311	51.930
5	153	1.279	0.146	6.800	6	214	7.888	0.325	45.381
5	152	1.144	0.126	6.110	6	213	7.246	0.351	41.368
5	151	1.080	0.101	5.870	6	212	5.712	0.210	33.014
5	150	0.897	0.104	4.757	6	211	5.624	0.206	32.505
5	149	0.718	0.104	3.688	6	210	5.508	0.210	31.789
5	148	0.580	0.078	3.012	6	209	5.375	0.200	31.052
5	146	0.271	0.035	1.415	6	208	5.299	0.206	30.558
5	145	0.165	0.031	0.802	6	207	4.687	0.180	27.042
5	144	0.006	0.005	0.009	6	206	4.609	0.190	26.512
5	143	0.107	0.019	-0.529	6	205	4.374	0.193	25.084
5	142	0.298	0.023	-1.651	6	204	4.272	0.200	24.435
5	141	0.462	0.063	-2.392	6	203	4.165	0.210	23.732
5	140	0.596	0.067	-3.173	6	202	4.056	0.226	22.982
5	139	0.765	0.094	-4.023	6	201	3.957	0.236	22.326
5	137	1.061	0.121	-5.641	6	199	3.720	0.233	20.921
5	136	1.216	0.126	-6.540	6	197	3.451	0.265	19.111
5	135	1.355	0.146	-7.254	6	196	3.335	0.252	18.493
5	134	1.639	0.183	-8.737	6	195	3.176	0.249	17.560
5	133	1.698	0.183	-9.091	6	194	3.057	0.243	16.886

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
6	193	2.932	0.236	16.178	6	136	5.074	0.413	-27.962
6	192	2.851	0.243	15.652	6	135	5.205	0.430	-28.650
6	191	2.723	0.249	14.844	6	134	5.464	0.456	-30.047
6	190	2.558	0.226	13.990	6	133	5.543	0.456	-30.523
6	188	2.270	0.252	12.104	6	132	5.713	0.495	-31.304
6	187	2.115	0.216	11.391	6	131	5.788	0.505	-31.695
6	186	1.945	0.193	10.510	6	130	5.975	0.515	-32.757
6	184	1.641	0.164	8.861	6	129	6.121	0.522	-33.595
6	181	1.446	0.121	7.949	6	127	6.421	0.564	-35.138
6	182	1.437	0.141	7.778	6	125	6.709	0.568	-36.849
6	183	1.368	0.131	7.425	6	124	6.832	0.574	-37.544
6	180	1.301	0.131	7.022	6	123	6.990	0.584	-38.438
6	179	1.082	0.114	5.807	6	122	7.075	0.594	-38.886
6	178	0.978	0.121	5.143	6	121	7.180	0.594	-39.516
6	177	0.823	0.114	4.253	6	120	7.351	0.574	-40.660
6	176	0.695	0.114	3.485	6	119	7.453	0.591	-41.173
6	175	0.504	0.088	2.494	6	222	7.630	0.581	-42.296
6	174	0.385	0.088	1.782	6	116	7.888	0.581	-43.841
6	173	0.160	0.036	0.746	6	115	8.013	0.574	-44.632
6	172	0.024	0.019	0.032	6	114	8.192	0.596	-45.574
6	171	0.176	0.045	-0.786	6	113	8.270	0.576	-46.163
6	170	0.309	0.052	-1.543	6	112	8.418	0.584	-47.005
6	169	0.424	0.062	-2.173	6	111	8.523	0.564	-47.753
6	168	0.663	0.098	-3.388	6	110	8.631	0.568	-48.379
6	167	0.799	0.105	-4.165	6	109	8.742	0.555	-49.118
6	166	0.927	0.121	-4.834	6	108	8.892	0.543	-50.096
6	165	1.144	0.164	-5.884	6	107	9.112	0.555	-51.342
6	164	1.159	0.164	-5.974	6	106	9.277	0.576	-52.208
6	163	1.349	0.174	-7.055	6	105	9.477	0.596	-53.281
6	162	1.594	0.190	-8.422	6	104	9.563	0.535	-54.168
6	161	1.633	0.193	-8.637	6	103	9.598	0.547	-54.307
6	160	1.839	0.210	-9.779	6	221	9.717	0.535	-55.095
6	159	1.970	0.216	-10.524					
6	158	2.151	0.275	-11.252	7	220	5.692	0.224	32.805
6	157	2.220	0.226	-11.962	7	218	5.217	0.229	29.926
6	156	2.358	0.243	-12.694	7	215	4.698	0.222	26.857
6	155	2.487	0.252	-13.408	7	214	3.602	0.217	20.308
6	154	2.652	0.275	-14.259	7	213	2.946	0.229	16.300
6	153	2.788	0.285	-15.014	7	212	1.398	0.074	7.945
6	152	2.938	0.285	-15.915	7	211	1.317	0.077	7.443
6	151	3.056	0.285	-16.628	7	210	1.210	0.086	6.740
6	150	3.227	0.285	-17.653	7	209	1.088	0.086	6.008
6	149	3.344	0.285	-18.353	7	208	0.975	0.057	5.509
6	148	3.405	0.282	-18.736	7	207	0.350	0.030	1.979
6	146	3.664	0.302	-20.176	7	206	0.279	0.030	1.495
6	145	3.789	0.325	-20.789	7	205	0.025	0.017	0.046
6	144	3.910	0.311	-21.590	7	420	0.013	0.013	-0.002
6	143	4.011	0.334	-22.062	7	204	0.222	0.057	-0.989
6	142	4.176	0.334	-23.052	7	203	0.277	0.052	-1.350
6	141	4.334	0.351	-23.897	7	202	0.386	0.032	-2.122
6	140	4.488	0.361	-24.763	7	201	0.516	0.045	-2.831
6	139	4.643	0.377	-25.593	7	199	0.745	0.042	-4.216
6	138	4.765	0.377	-26.325	7	197	1.056	0.062	-5.964
6	137	4.910	0.410	-27.000	7	196	1.168	0.064	-6.620

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
7	195	1.337	0.077	-7.560	7	137	9.161	0.483	-52.070
7	194	1.451	0.086	-8.189	7	135	9.431	0.478	-53.720
7	193	1.574	0.089	-8.909	7	134	9.688	0.503	-55.109
7	192	1.664	0.094	-9.423	7	132	9.933	0.537	-56.375
7	191	1.806	0.101	-10.229	7	131	9.997	0.537	-56.760
7	190	1.965	0.106	-11.155	7	130	10.187	0.550	-57.823
7	188	2.320	0.158	-12.972	7	129	10.315	0.537	-58.665
7	187	2.437	0.150	-13.716	7	128	10.439	0.550	-59.339
7	186	2.593	0.150	-14.654	7	127	10.641	0.606	-60.211
7	184	2.864	0.160	-16.222	7	125	10.899	0.579	-61.921
7	182	3.045	0.160	-17.307	7	124	11.025	0.589	-62.617
7	181	3.074	0.160	-17.479	7	123	11.186	0.601	-63.510
7	183	3.107	0.165	-17.651	7	122	11.258	0.599	-63.957
7	180	3.272	0.185	-18.522	7	121	11.395	0.631	-64.584
7	179	3.452	0.173	-19.676	7	119	11.635	0.599	-66.218
7	178	3.497	0.173	-19.944	7	222	11.815	0.594	-67.325
7	177	3.653	0.183	-20.820	7	116	12.052	0.569	-68.897
7	176	3.797	0.192	-20.820	7	115	12.181	0.567	-69.687
7	175	3.954	0.190	-22.584	7	114	12.344	0.574	-70.620
7	174	4.068	0.185	-23.295	7	113	12.423	0.552	-71.226
7	173	4.255	0.197	-24.346	7	112	12.568	0.557	-72.070
7	172	4.390	0.214	-25.051	7	111	12.698	0.562	-72.820
7	171	4.516	0.224	-25.747	7	110	12.802	0.562	-73.441
7	170	4.642	0.217	-26.547	7	109	12.892	0.530	-74.172
7	169	4.755	0.222	-27.197	7	108	13.068	0.542	-75.156
7	168	4.980	0.242	-28.433	7	107	13.252	0.520	-76.395
7	167	5.099	0.237	-29.177	7	106	13.407	0.529	-77.269
7	166	5.220	0.249	-29.829	7	105	13.578	0.522	-78.336
7	165	5.423	0.269	-30.928	7	104	13.715	0.510	-79.228
7	164	5.440	0.266	-31.044	7	103	13.762	0.532	-79.376
7	163	5.652	0.298	-32.120	7	221	13.872	0.532	-80.036
7	162	5.879	0.298	-33.481	7	101	13.974	0.489	-80.911
7	161	5.911	0.293	-33.708	7	302	14.072	0.484	-81.523
7	160	6.100	0.293	-34.837	7	303	14.274	0.515	-82.551
7	159	6.231	0.298	-35.596	7	304	14.490	0.540	-83.702
7	158	6.416	0.362	-36.323	7	306	14.721	0.458	-85.574
7	157	6.485	0.313	-37.034	7	307	14.916	0.458	-86.748
7	156	6.614	0.320	-37.764	7	308	15.219	0.531	-88.126
7	155	6.745	0.333	-38.470	7	309	15.395	0.524	-89.224
7	154	6.904	0.350	-39.325	7	310	15.471	0.496	-89.852
7	153	7.032	0.352	-40.075	7	311	15.650	0.484	-90.995
7	152	7.189	0.362	-40.960	7	312	15.813	0.458	-92.127
7	151	7.301	0.362	-41.630	7	313	16.001	0.508	-92.960
7	150	7.459	0.345	-42.683	7	314	16.218	0.463	-94.530
7	149	7.593	0.357	-43.416	7	315	16.368	0.473	-95.371
7	148	7.654	0.352	-43.808	7	316	16.536	0.454	-96.492
7	146	7.941	0.402	-45.237	7	317	16.715	0.442	-97.635
7	145	8.056	0.414	-45.849	7	318	16.938	0.454	-98.906
7	144	8.192	0.417	-46.650	7	319	17.041	0.468	-99.439
7	143	8.281	0.426	-47.127	7	320	17.229	0.478	-100.505
7	142	8.447	0.426	-48.124	7	417	17.266	0.478	-100.728
7	141	8.607	0.446	-48.967	7	322	17.527	0.478	-102.294
7	140	8.745	0.441	-49.820	7	323	17.698	0.447	-103.501
7	139	8.877	0.434	-50.660	7	324	17.858	0.463	-104.369

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
7	325	18.060	0.477	-105.499	7	389	27.165	-0.219	-164.304
7	326	18.235	0.494	-106.445	7	390	27.110	-0.379	-164.933
7	327	18.343	0.489	-107.124	7	391	27.262	-0.399	-165.966
7	328	18.458	0.477	-107.882	7	392	27.562	-0.265	-166.964
7	329	18.597	0.435	-108.971	7	393	27.534	-0.430	-167.784
7	331	18.880	0.393	-110.926	7	394	27.709	-0.473	-169.094
7	332	19.046	0.367	-112.075	7	395	27.807	-0.489	-169.775
7	333	19.229	0.348	-113.287	7	396	27.925	-0.512	-170.623
7	334	19.327	0.343	-113.904	7	397	28.129	-0.524	-171.919
7	335	19.452	0.336	-114.692	7	398	28.279	-0.520	-172.794
7	336	19.637	0.371	-115.591	7	399	28.509	-0.450	-173.752
7	337	19.873	0.360	-117.077	7	401	28.845	-0.419	-175.584
7	338	19.970	0.355	-117.690	7	402	28.909	-0.501	-176.464
7	339	20.123	0.299	-118.947	7	403	28.953	-0.629	-177.497
7	341	20.429	0.351	-120.468	7	405	29.449	-0.455	-179.427
7	342	20.547	0.349	-121.190	7	406	29.513	-0.534	-180.283
7	343	20.723	0.342	-122.284	7	407	29.634	-0.572	-181.232
7	344	20.937	0.325	-123.672	7	408	29.724	-0.595	-181.917
7	345	21.051	0.307	-124.505	7	421	29.969	-0.491	-182.762
7	346	21.210	0.300	-125.422	7	422	30.074	-0.455	-183.175
7	416	21.239	0.300	-125.634	7	423	30.078	-0.532	-183.661
7	347	21.344	0.288	-126.337	7	424	30.034	-0.651	-184.115
7	348	21.497	0.295	-127.211	7	425	30.361	-0.581	-185.652
7	349	21.674	0.269	-128.428	7	413	30.440	-0.675	-186.690
7	350	21.820	0.257	-129.376	7	412	30.583	-0.675	-187.547
7	351	21.928	0.245	-130.095	7	614	30.802	-0.747	-189.296
7	352	22.219	0.365	-131.124	7	615	30.794	-0.763	-189.343
7	353	22.149	0.155	-131.965	7	612	31.027	-0.789	-190.893
7	354	22.429	0.273	-132.938	7	611	31.075	-0.845	-191.516
7	355	22.477	0.176	-133.808	7	610	31.108	-0.900	-192.047
7	356	22.692	0.242	-134.698	7	609	31.226	-0.909	-192.808
7	359	23.399	0.452	-137.677	7	608	31.414	-0.829	-193.456
7	360	23.567	0.441	-138.757	7	607	31.487	-0.909	-194.375
7	361	23.828	0.516	-139.873	7	606	31.568	-0.923	-194.946
7	362	23.867	0.406	-140.765	7	605	31.646	-0.975	-195.725
7	363	24.081	0.452	-141.769	7	604	31.524	-1.199	-196.334
7	365	24.229	0.276	-143.717	7	602	31.675	-1.238	-197.479
7	366	24.380	0.241	-144.833	7	601	31.738	-1.281	-198.113
7	367	24.601	0.290	-145.863	7	600	31.916	-1.252	-199.010
7	368	24.717	0.299	-146.509	7	597	32.084	-1.403	-200.920
7	369	24.862	0.252	-147.660	7	596	32.114	-1.535	-201.889
7	371	25.164	0.257	-149.442	7	595	32.165	-1.558	-202.337
7	372	25.323	0.269	-150.323	7	594	32.263	-1.582	-203.067
7	373	25.387	0.170	-151.302	7	592	32.486	-1.605	-204.546
7	374	25.490	0.150	-152.041	7	590	32.764	-1.641	-206.429
7	377	25.892	0.058	-155.007	7	589	32.852	-1.678	-207.182
7	378	26.002	0.058	-155.665	7	588	32.802	-1.838	-207.843
7	379	26.116	0.100	-156.100	7	587	32.902	-1.848	-208.501
7	382	26.285	0.020	-157.592	7	584	33.389	-1.740	-210.772
7	383	26.535	0.104	-158.582	7	583	33.448	-1.754	-211.212
7	384	26.671	0.099	-159.432	7	582	33.554	-1.787	-212.044
7	386	26.779	-0.081	-161.160	7	581	33.703	-1.824	-213.164
7	387	26.958	-0.156	-162.679	7	580	33.790	-1.848	-213.829
7	388	27.034	-0.218	-163.511	7	579	33.914	-1.838	-214.514

APPENDIX D

Archive Tape Data Format

Archive data tapes are written in SEG Y standard format (Barry et al, 1975). Recording density is 1600 bpi, phase encoded (PE). In order to accommodate seismic refraction data, some minor changes have been made to the tape header fields. A complete list of header fields is provided in the card image portion of the reel identification header, shown below:

C 1		REEL IDENTIFICATION HEADER BYTES :
C 2	3217 - 3218	SAMPLING INTERVAL (MICROSECS).
C 3	3221 - 3222	NUMBER OF SAMPLES PER TRACE.
C 4	3225 - 3226	DATA SAMPLE FORMAT CODE.
C 5	3255 - 3256	MEASUREMENT SYSTEM (1 = METERS; 2 = FEET)
C 6		
C 7		
C 8		TRACE IDENTIFICATION HEADER BYTES :
C 9	1 - 4	TRACE SEQUENCE NUMBER WITHIN REEL.
C10	5 - 8	TRACE SEQUENCE NUMBER WITHIN REEL.
C11	9 - 12	STATION LOCATION NUMBER.
C12	29 - 30	TRACE ID CODE (1 = SEISMIC DATA).
C13	37 - 40	SHOTPOINT-RECEIVER DISTANCE (M).
C14	41 - 44	STATION ELEVATION (M).
C15	45 - 48	SHOTPOINT ELEVATION (M).
C16	49 - 52	SOURCE DEPTH (M).
C17	69 - 70	SCALAR TO BE APPLIED TO ALL ELEVATIONS.
C18	71 - 72	SCALAR TO BE APPLIED TO ALL COORDINATES.
C19	73 - 76	SHOTPOINT COORDINATE - X.
C20	77 - 80	SHOTPOINT COORDINATE - Y.
C21	81 - 84	RECEIVER COORDINATE - X.
C22	85 - 88	RECEIVER COORDINATE - Y.
C23	89 - 90	COORDINATE UNITS (1 = METERS; 2 = SECONDS OF ARC).
C24	115 - 116	NUMBER OF SAMPLES IN THIS TRACE.
C25	117 - 118	SAMPLE INTERVAL IN MICROSECONDS FOR THIS TRACE.
C26	121 - 122	INSTRUMENT ATTENUATION IN DB.
C27	157 - 158	SHOT TIME - YEAR.
C28	159 - 160	SHOT TIME - DAY OF YEAR.
C29	161 - 162	SHOT TIME - HOUR OF DAY (24 HOUR CLOCK).
C30	163 - 164	SHOT TIME - MINUTE OF HOUR.
C31	165 - 166	SHOT TIME - SECOND OF MINUTE.
C32	167 - 168	TIME BASIS CODE (2 = GMT).
C33	181 - 182	SHOT TIME - MILLISECONDS.
C34	183 - 184	SHOTPOINT LOCATION NUMBER.
C35	185 - 186	RECORDING INSTRUMENT UNIT NUMBER.
C36	191 - 192	DISTANCE WEIGHTING EXPONENT (HUNDREDTHS).
C37	193 - 194	SHOT SEQUENCE NUMBER (SHOT NUMBER).
C38	195 - 196	SHOT SIZE (KG).
C39	197 - 200	SHOTPOINT - STATION AZIMUTH (SEC OF ARC).
C40	201 - 204	TIME OF FIRST POINT MINUS SHOT TIME (MSEC)

SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE	SHOT POINT	RECORDER LOCATION	TRAVEL TIME (REAL)	TRAVEL TIME (T-X/6)	DISTANCE
7	578	33.972	-1.881	-215.119	7	511	39.357	-3.994	-260.102
7	577	34.079	-1.909	-215.930	7	510	39.473	-3.994	-260.801
7	576	34.131	-1.917	-216.287	7	507	39.777	-4.158	-263.606
7	575	34.181	-2.055	-217.413	7	506	39.537	-4.670	-265.247
7	574	34.278	-2.130	-218.451	7	505	40.134	-4.327	-266.765
7	573	34.345	-2.158	-219.016	7	502	39.933	-4.650	-267.498
7	572	34.458	-2.168	-219.755					
7	571	34.494	-2.238	-220.391					
7	570	34.588	-2.290	-221.267					
7	569	34.640	-2.361	-222.002					
7	568	34.679	-2.422	-222.603					
7	567	34.746	-2.476	-223.332					
7	566	34.884	-2.460	-224.085					
7	565	34.909	-2.568	-224.861					
7	564	35.032	-2.547	-225.472					
7	563	35.175	-2.570	-226.472					
7	562	35.252	-2.619	-227.228					
7	561	35.312	-2.665	-227.865					
7	557	35.626	-2.737	-230.180					
7	556	35.659	-2.801	-230.757					
7	540	35.884	-2.717	-231.606					
7	539	35.861	-2.886	-232.480					
7	554	36.089	-2.917	-234.035					
7	553	36.113	-2.932	-234.270					
7	551	36.099	-3.045	-234.868					
7	550	36.230	-3.055	-235.707					
7	549	36.346	-3.045	-236.349					
7	548	36.391	-3.097	-236.926					
7	547	36.451	-3.142	-237.559					
7	546	36.562	-3.177	-238.432					
7	544	36.721	-3.255	-239.859					
7	543	36.782	-3.270	-240.312					
7	542	36.765	-3.361	-240.755					
7	541	36.815	-3.379	-241.169					
7	536	37.025	-3.532	-243.345					
7	534	37.127	-3.573	-244.198					
7	533	37.256	-3.547	-244.820					
7	532	37.303	-3.594	-245.382					
7	531	37.451	-3.603	-246.324					
7	530	37.524	-3.665	-247.137					
7	529	37.602	-3.716	-247.910					
7	528	37.625	-3.799	-248.540					
7	527	37.805	-3.773	-249.466					
7	526	37.772	-4.009	-250.685					
7	525	38.030	-3.922	-251.712					
7	524	38.237	-3.848	-252.509					
7	522	38.326	-3.794	-252.720					
7	521	38.356	-3.829	-253.112					
7	519	38.617	-3.973	-255.539					
7	517	38.638	-3.999	-255.820					
7	516	38.716	-4.036	-256.511					
7	515	38.900	-3.953	-257.116					
7	514	38.989	-4.014	-258.017					
7	512	39.207	-4.060	-259.603					

The data point format is "32 bit floating point", and the appropriate bytes (3225-3226) of the binary reel id header contain a value of 1. The trace amplitudes have not been adjusted for instrument gain, but the gain correction factor can be estimated from the instrument attenuation value (att) specified in bytes 121-122. To correct for gain, the data should be demeaned and then multiplied by

$$\frac{(att/20)}{10}$$

The measurement system (bytes 3255-3256 of the binary reel header) is set to 1, meters.

Shotpoint and receiver coordinates are in seconds of arc (byte field 89-90). The coordinate scalar multiplier (bytes 71-72) is set to -100, so the coordinates (bytes 73-88) are in hundredths of a second of arc.

Bytes 157-166 and bytes 181-182 refer to the shot detonation time. The time of the first data sample is found by adding the shot detonation time to the time specified in bytes 201-204.

Since there is no weighting of amplitudes with distance for archive tapes, the distance weighting exponent (bytes 191-192) is not used.

Shot sequence number (bytes 193-194) refers to the order in which shots were fired during the field campaign.

REFERENCE

Barry, K.M., D.A. Cavers, and C.W. Kneale (1975). Recommended Standards for Digital Tape Formats, *Geophysics* 40, 344-352.