

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

**DATA REPORT FOR THE 1986 SAN LUIS OBISPO, CALIFORNIA,
SEISMIC REFRACTION SURVEY**



OPEN-FILE REPORT 88-35

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

1988

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Data report for the 1986 San Luis Obispo, California, seismic refraction survey

Susan W. Sharpless¹ and Allan W. Walter¹

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¹ Menlo Park, California 94025

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INTRODUCTION

In November 1986, the U.S.G.S. recorded seismic refraction data utilizing shots that were fired as part of a regional seismic refraction/reflection survey being conducted within and offshore of San Luis Obispo County, California, by the Digicon Corporation (Houston, Texas) for the Pacific Gas and Electric Company (San Francisco). The U.S.G.S. deployed 120 portable seismic recorders along a 98-km-long northwest-southeast profile that extended from about 13 km east of San Simeon to about 10 km east of Santa Maria, California (Figure 1). This profile crosses a previously reported U.S.G.S. seismic refraction profile (Murphy and Walter, 1982) which strikes northeast from Morro Bay to the Diablo Range east of the San Andreas Fault; interpretations of this earlier data are presented in Walter and Mooney (1987).

Presented herein are data of ten shots: shot number refers to the time sequence of the shot, whereas the shotpoint refers to the shot location. Three of these shots were at shotpoints in-line with the deployed profile (shots 3, 6, and 7), three were at shotpoints east of the profile (shots 1, 4, and 5, shot 2 misfired), and the remaining four were at marine shotpoints west of the profile (shots 8-11). The seismic source at the land shotpoints was provided by the detonation of ammonium nitrate based explosives loaded into a borehole. The seismic source at the marine shotpoints was provided by a 7000 in³ airgun array.

DATA ACQUISITION

Instrumentation

The U.S.G.S. analog-tape-recording 2-Hz-vertical component seismographs are described in detail in Healy and others (1978). The seismic signal from the geophone is split to three parallel amplifiers whose attenuations are set in the field. These three seismic channels, a reference frequency, and a clock time code (IRIG E) are FM-multiplexed and the resulting FM-signal is recorded on a tape cassette. The recorders can be programmed to record up to 10 separate time intervals. The total recording time is circumscribed by the length of the tape cassette. Each programmed interval includes an 87 second leader which records the geophone and amplifier calibration signals. The frequency response curve for the system (Figure 8) peaks at about 20 Hz.

Locations

Marine shotpoint locations and water depths were provided by the geophysical contractor (Digicon). All land shotpoints and the U.S.G.S recorder sites were located on 1:24000 scale topographic maps; these locations have uncertainties of ± 20 m along mapped roads and ± 30 m in roadless areas. Elevations were estimated from the topographic contours and have an uncertainty of ± 10 m. The shot origin times, locations, and elevations are all listed in Table 1. The locations and elevations of the recording sites are listed in Table 2.

Timing

The shots were fired over a period a several days and the instruments were deployed and retrieved along the profile twice. Shots 1, 3, 8, and 9 were recorded during the first deployment and shots 4, 5, 6, 7, 10, and 11 during the second deployment. All land shots were fired automatically using an

electrical clock-triggered system with an absolute timing accuracy of ± 2 ms; the uncertainty of the marine shots (8-11) is unknown.

Ideally, prior to deployment, the recorder clocks are synchronized to a master reference clock, and after retrieval, they are compared to the reference clock to determine the recorder clock drift. However, a misunderstanding by new field personnel on the first deployment resulted in 60 of the units not having their clocks initially synchronized to the master clock. Since these clocks were correctly synchronized for the second deployment, their drift corrections for first deployment were recovered from the absolute time difference measured after the first retrieval by our assuming that the clocks drifted at the same rate as that calculated for the second deployment. Because the recorders were deployed at the same sites under similar weather conditions, this assumption results in timing errors that are probably less than 10 ms. A few of the recorders on both deployments did not have recoverable drifts, so their drift corrections were estimated from the time difference observed between the first shot arrivals at these recorders and the immediately adjacent recorders; these corrections have a timing error of ± 0.1 s.

Data Processing

After the drift corrections were determined for each recorder clock, the analog shot recordings were computer digitized for 20 seconds at a 5 ms sampling interval. For a given shot record, the start time of the digitization is: shot time + (shot-recorder distance (km))/6 - 2 + (drift correction interpolated at shot time).

Normalized reduced-time record sections of the digitized shot records are presented in Figures 2-6. On these record sections, each seismic trace is centered at its calculated shotpoint-recorder distance (X) and time-shifted X/6 seconds (i.e. traveltime is reduced). Trace labels refer to the field location numbers listed in Table 2. Some shot records are missing from the record sections due to recorder malfunctions, others were deleted after digitizing because background noise obliterated the shot signal. The details of each individual recorder's performance are listed in Table 3. The digitized data are also available on magnetic tape in the SEG-Y format described in Table 4. For a copy of a SEG-Y format 9-track data tape contact:

National Geophysical Data Center
NOAA/EGCI
325 Broadway
Boulder, CO 80303
(303) 497-6123

REFERENCES

- Barry, K.M., D.A. Cravers, and C.W. Kneale, 1975, Recommended standards for digital tape formats, *Geophysics* 40, 344-352.
- Healy, J.H., W.D. Mooney, H.R. Blank, M.E. Gettings, W.M. Kohler, R.G. Lamson, and L.E. Leone, 1983, Saudi Arabian Seismic Deep-Refraction Profile: Final Report, U.S. Geological Survey Open-file Report 83-390, 429pp.

ACKNOWLEDGEMENTS

The U. S. Geological Survey (USGS) thanks the Digicon Corp. and PG&E for providing the shot times and locations in advance so as to make the data acquisition possible. Funding for the data acquisition was provided to the USGS by the Nuclear Regulatory Commission. The USGS thanks the following land owners for giving our personnel access to their property: M. Armstrong, E. Biaggini, R. Blanchard, R. Brown, E. Bryant, California Polytechnical Institute at San Luis Obispo, California Mens Colony, W. Coy, J. Dunn, H. Filipponi, A. Fitzhugh, W. Hancock, R. King, W. Lamb, P. Madonna, H. Middleton, R. Machado, G. Negano, C. Negranti, Newhall Farms, W. Nicholson, S. Nott, L. O'Reilly, E. Raminha, W. Rhoades, D. Roger, San Luis Obispo Regional Park District, V. Soto, R. Stonebrook, Talley Farms, W. Tartaglia, M. Twitchell, E. Volmer, E. Walter, F. Warren, J. Warren, M. Warren, W. Warren, G. Williams and M. Wolfe. The authors of this report express their appreciation to the following people for their assistance in collecting and processing the field data: T. Brocher, E. Criley, E. Geist, E. Goodwin, L. Green, S. Holbrook, R. Kaderabek, W. Mooney, J. Murphy, D. Whitman and J. Wilson. Gratitude is also extended to Jeff Wilson for reviewing this data report.

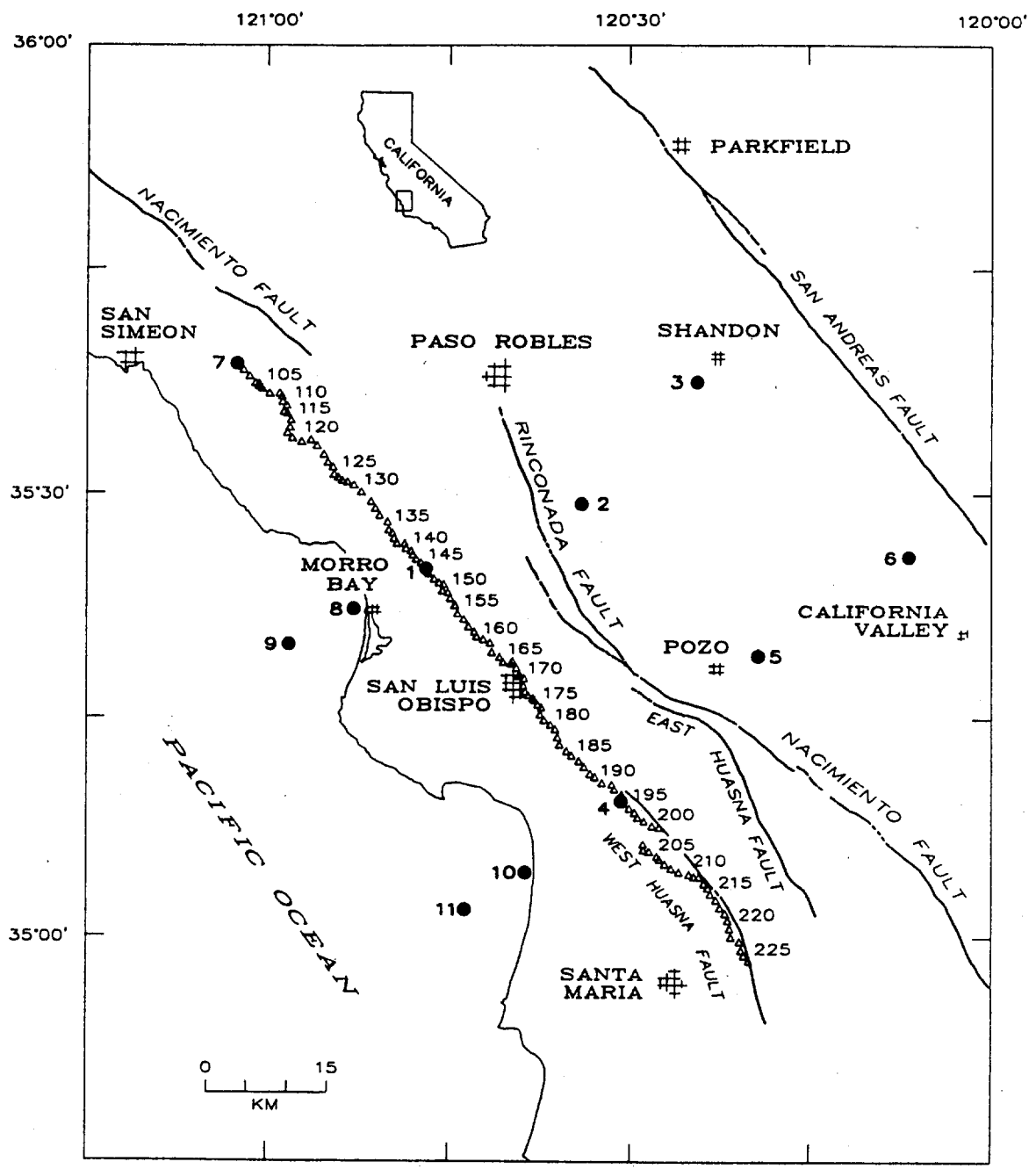
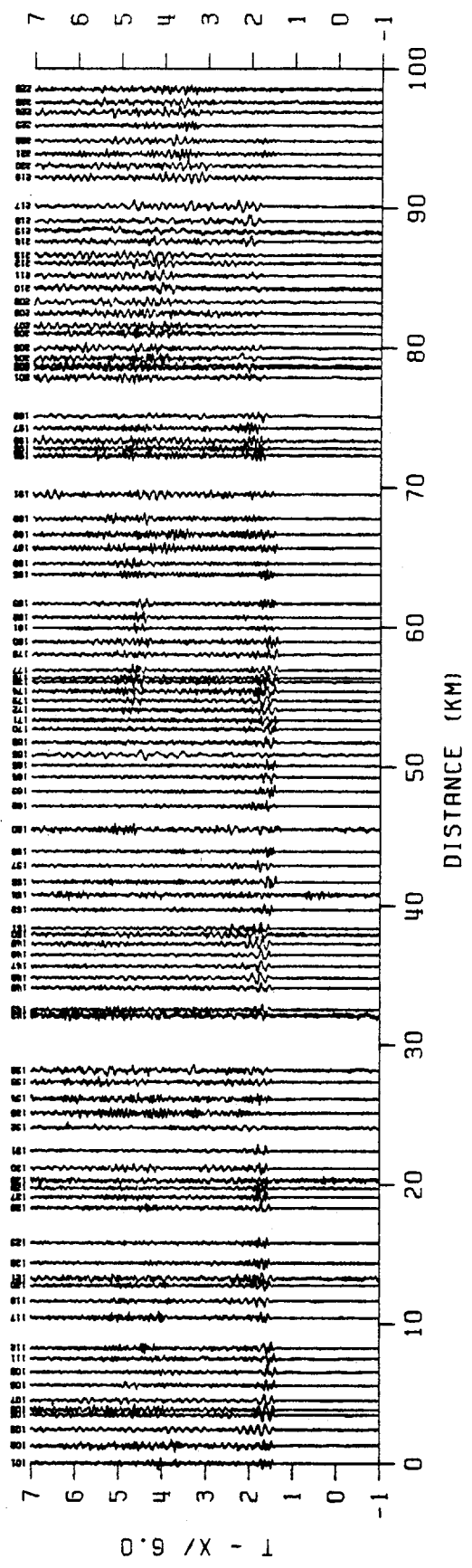
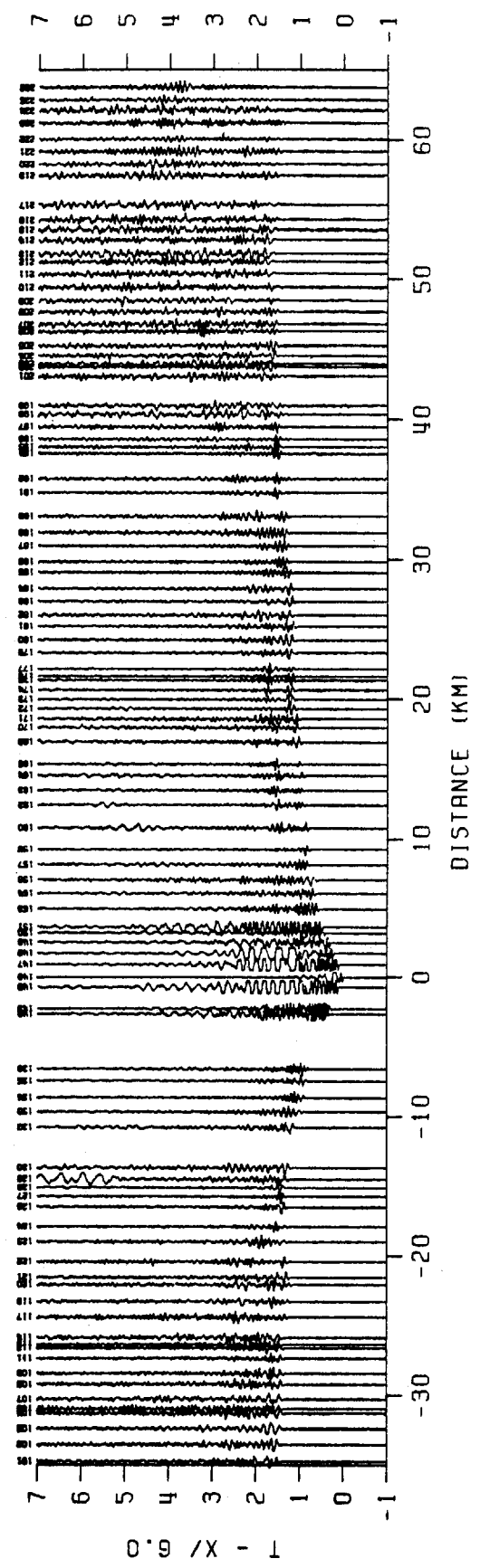


FIGURE 1. Geographic map with shotpoint and seismic recorder locations.

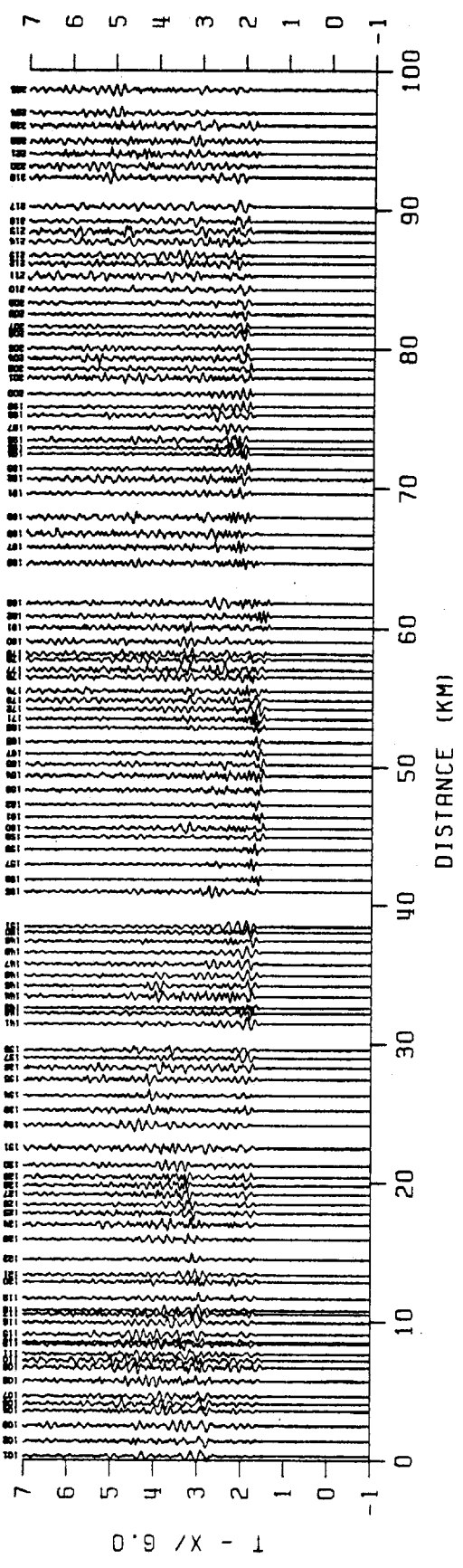


Shot 1, Shotpoint 3 (Fan Shot)

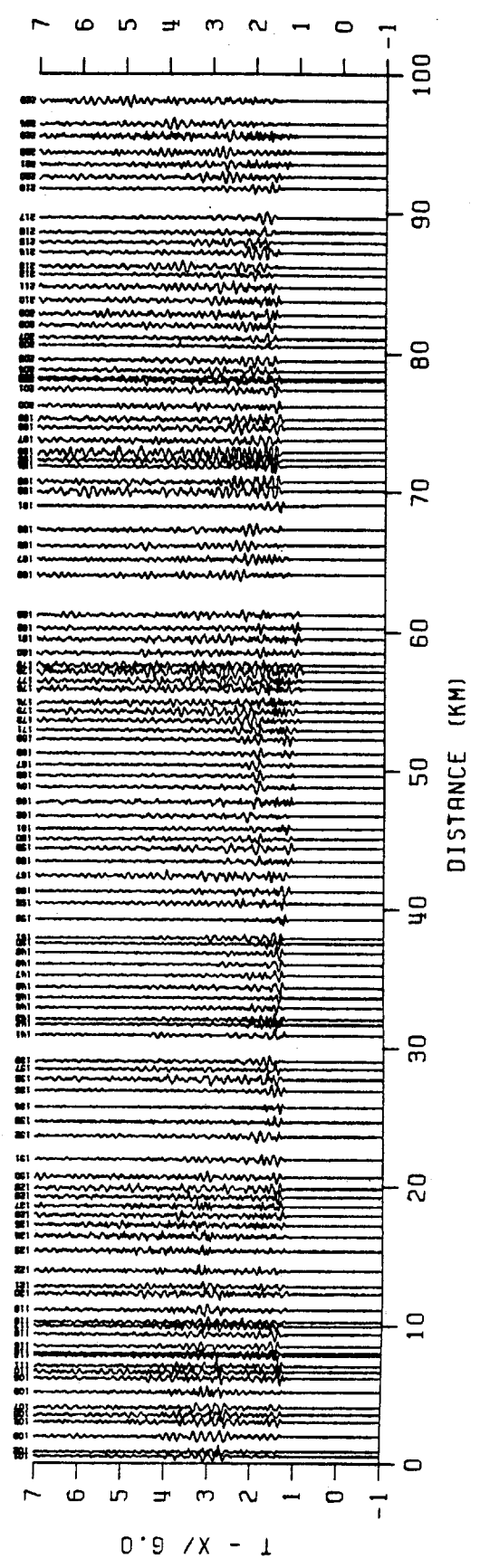


Shot 3, Shotpoint 1

FIGURE 2: Record Sections

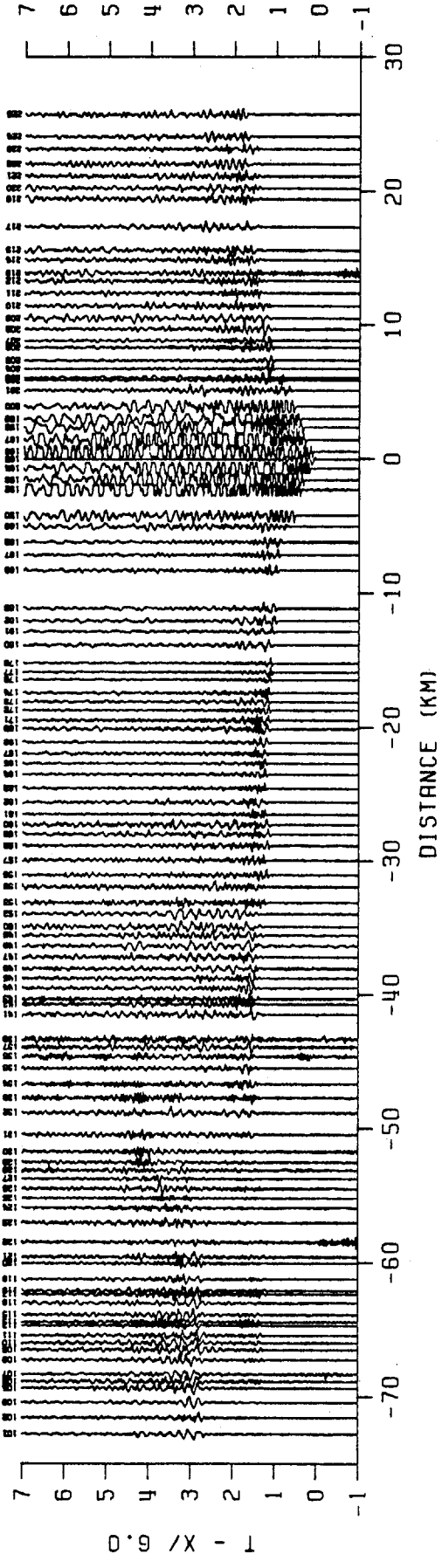


Shot 4, Shotpoint 6 (Fan Shot)

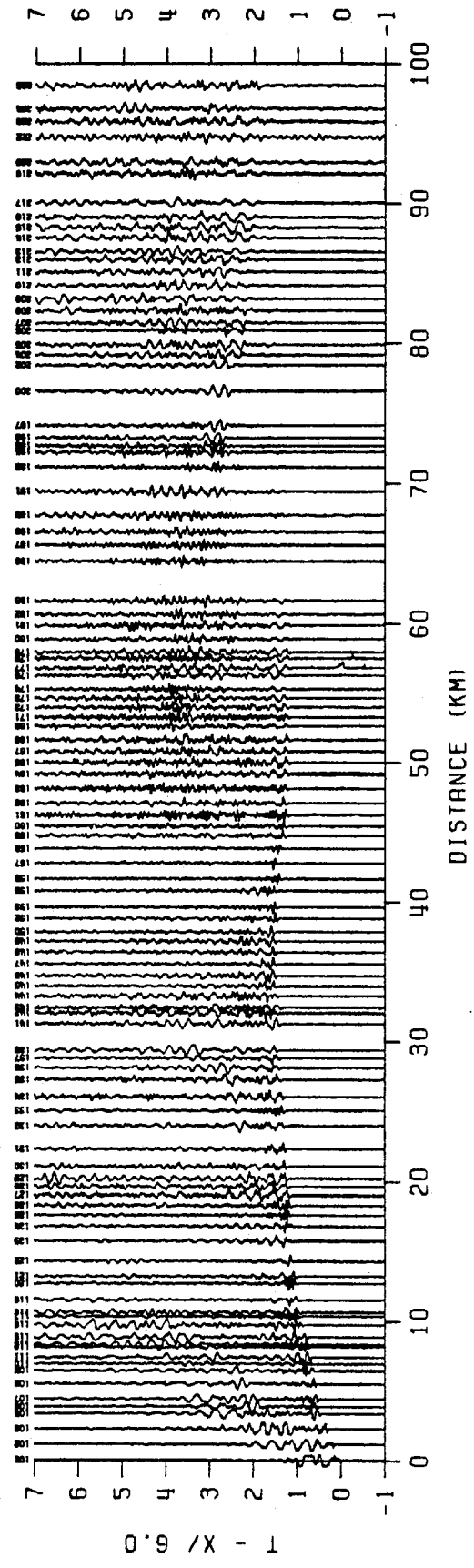


Shot 5, Shotpoint 5 (Fan Shot)

FIGURE 3: Record Sections

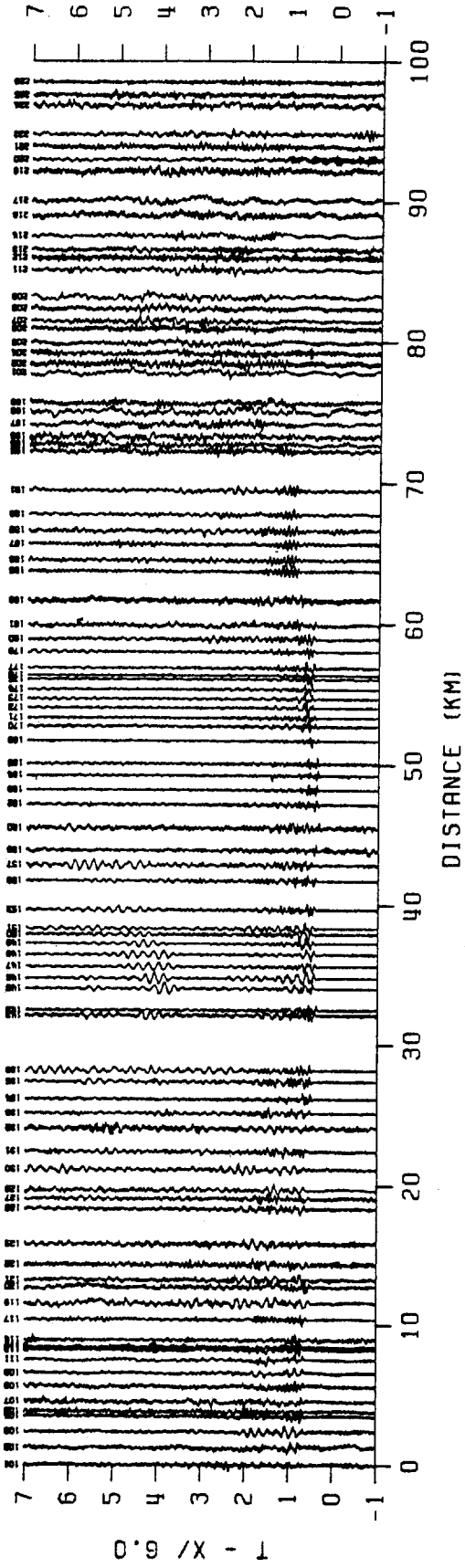


Shot 6, Shotpoint 4

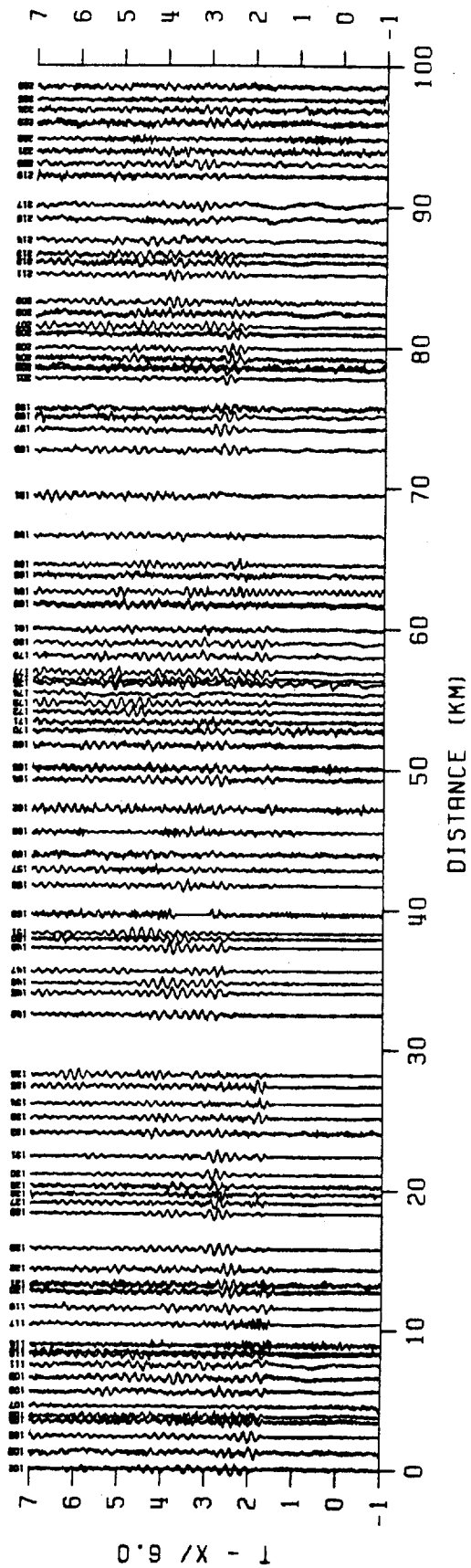


Shot 7, Shotpoint 7

FIGURE 4: Record Sections

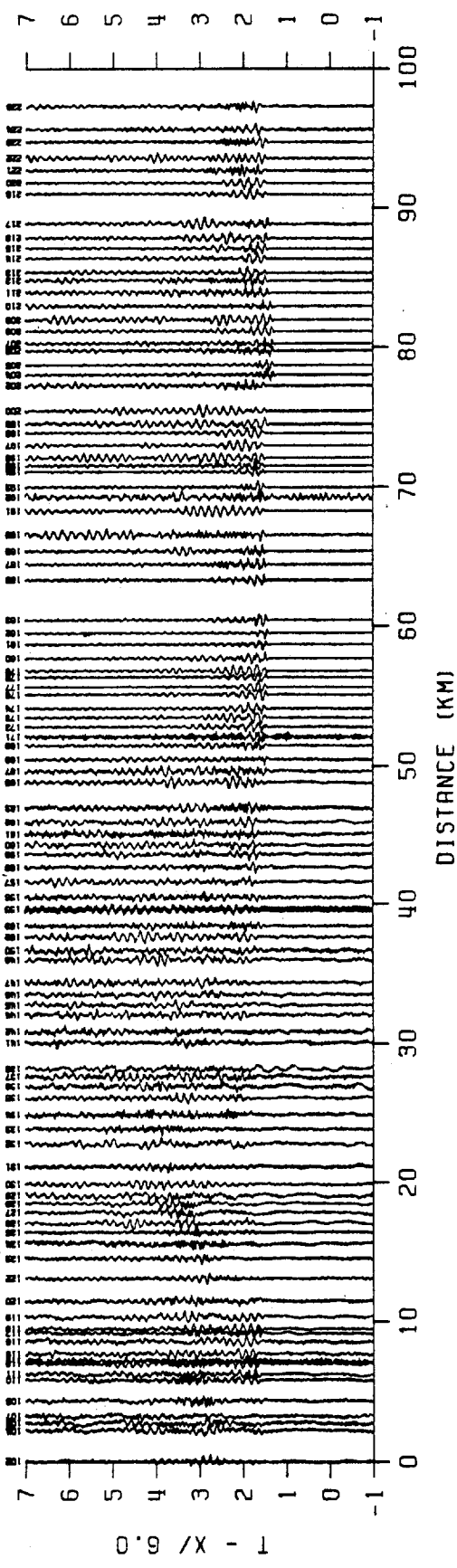


Shot 8, Shotpoint 8 (Offshore Fan Shot)

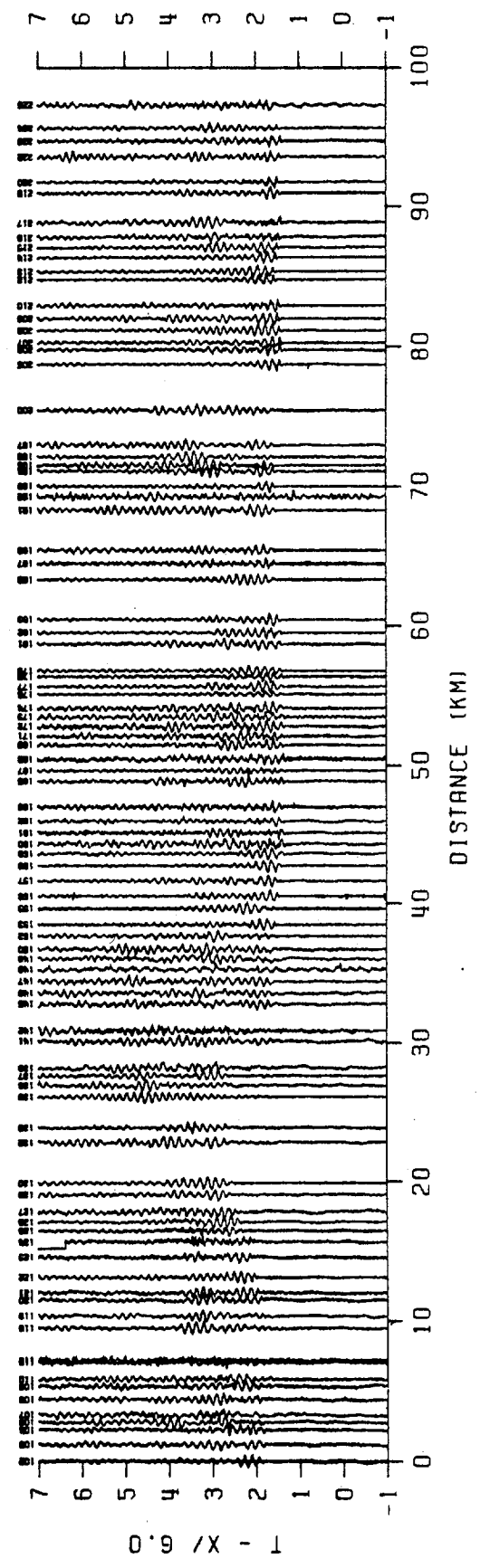


Shot 9, Shotpoint 9 (Offshore Fan Shot)

FIGURE 5: Record Sections



Shot 10, Shotpoint 10 (Offshore Fan Shot)



Shot 11, Shotpoint 11 (Offshore Fan Shot)

FIGURE 6: Record Sections

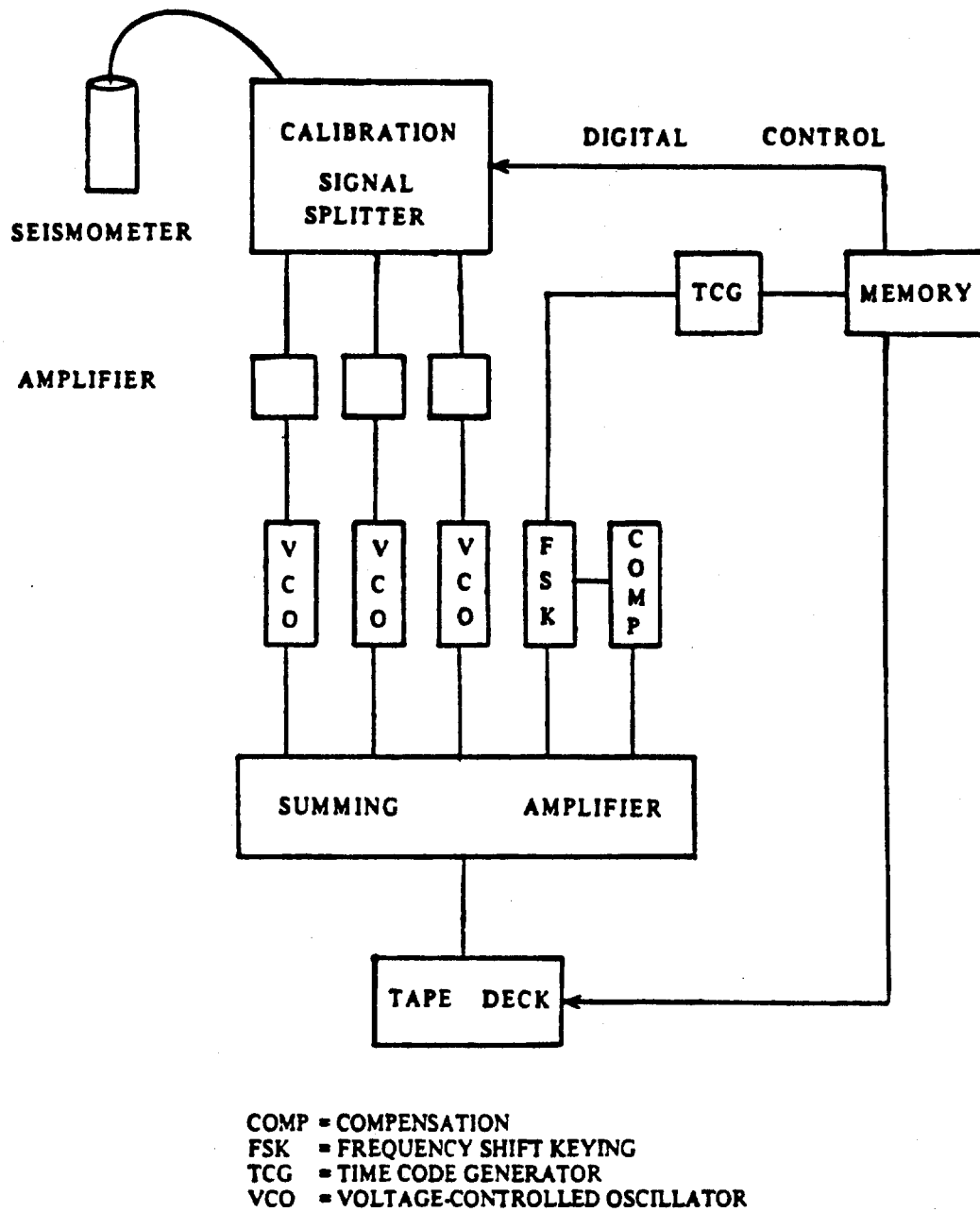


Figure 7. Schematic Diagram of Seismic Recorder.

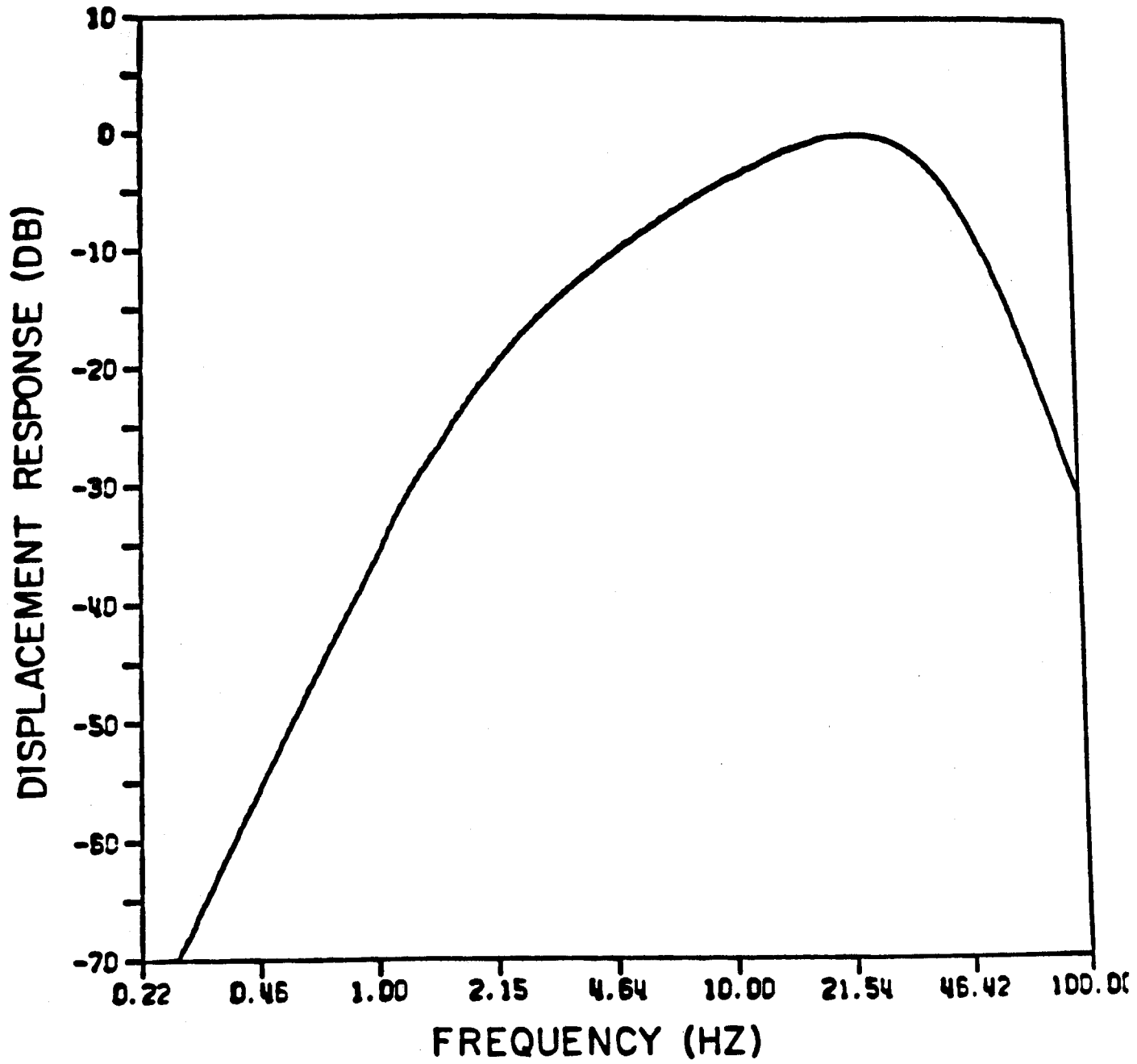


Figure 8. System response curve for cassette recording units with 2 Hz seismometers

Master Shot List

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot Number	Shot Point	Date Shot Time	Latitude Longitude	Elev (ft)	Depth (ft)	Size (lbs)
1	3	NOV 1, 1986 305 8 0 0.010	35 37.6245 120 24.3983	1150		
3	1	NOV 1, 1986 305 11 0 0.010	35 25.1733 120 46.8657	395		
4	6	NOV 5, 1986 309 8 0 0.010	35 25.9750 120 6.6750	2095		
5	5	NOV 5, 1986 309 10 0 0.010	35 19.2000 120 19.4750	1800		
6	4	NOV 5, 1986 309 12 0 0.010	35 9.3955 120 30.7617	490		
7	7	NOV 6, 1986 310 9 0 0.010	35 38.8450 121 2.6128	1220		
8	8	NOV 1, 1986 305 8 2 0.000	35 22.1833 120 52.9833			
9	9	NOV 1, 1986 305 9 2 0.000	35 19.7483 120 58.3750			
10	10	NOV 6, 1986 310 8 2 0.000	35 4.2367 120 38.6183			
11	11	NOV 6, 1986 310 9 2 0.000	35 1.7300 120 43.6617			

* Depths of land shots are measured from the surface elevation to the center of the shot. Depths of offshore shots are measured from the airgun array to the sea floor.

U.S.G.S. SEISMIC RECORDER LOCATIONS

LOCATION NUMBER	LATITUDE (DEG,MIN)	LONGITUDE (DEG,MIN)	ELEV
101	35 38.863	121 2.625	1240
102	35 38.392	121 2.071	1500
103	35 37.917	121 1.584	1140
104	35 37.506	121 1.081	1020
105	35 37.490	121 0.787	1380
106	35 37.352	121 0.794	1500
107	35 37.165	121 0.517	1700
108	35 36.872	120 59.862	1380
109	35 36.898	120 59.047	1360
110	35 36.690	120 58.827	1480
111	35 36.309	120 58.802	1470
112	35 35.997	120 58.480	1560
113	35 35.660	120 58.703	2030
114	35 35.509	120 58.414	1850
115	35 35.492	120 58.408	1845
116	35 35.097	120 58.087	1310
117	35 34.571	120 58.183	660
118	35 34.240	120 58.384	490
119	35 33.898	120 57.981	470
120	35 33.590	120 57.222	520
121	35 33.779	120 56.487	610
122	35 33.373	120 55.936	780
123	35 32.729	120 55.387	1330
124	35 32.222	120 55.018	710
125	35 31.925	120 54.637	850
126	35 31.514	120 54.518	750
127	35 31.232	120 54.197	950
128	35 31.055	120 53.794	1150
129	35 30.938	120 53.363	1140
130	35 30.743	120 52.827	740
131	35 30.284	120 52.211	570
132	35 29.679	120 51.396	960
133	35 29.158	120 51.040	480
134	35 28.721	120 50.604	350
135	35 28.265	120 50.042	1250
136	35 27.752	120 49.904	1040
137	35 27.508	120 49.543	870
138	35 27.145	120 49.456	960
139	35 26.813	120 49.194	355
140	35 26.782	120 48.564	435
141	35 26.506	120 48.471	600
142	35 26.282	120 48.014	920
143	35 26.067	120 47.928	640
144	35 25.726	120 47.581	900
145	35 25.510	120 47.154	450
146	35 25.205	120 46.847	395
147	35 24.765	120 46.587	510
148	35 24.513	120 46.117	650
149	35 24.231	120 45.714	620
150	35 24.068	120 45.284	840

U.S.G.S. SEISMIC RECORDER LOCATIONS

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LOCATION NUMBER	LATITUDE (DEG,MIN)	LONGITUDE (DEG,MIN)	ELEV
151	35 23.652	120 45.439	660
152	35 23.580	120 45.000	810
153	35 23.153	120 44.776	780
154	35 22.675	120 44.332	1180
155	35 22.640	120 44.311	1170
156	35 22.124	120 44.150	460
157	35 21.653	120 43.693	1310
158	35 21.194	120 43.265	520
159	35 20.850	120 42.831	510
160	35 20.508	120 42.626	620
161	35 20.358	120 42.049	460
162	35 20.093	120 41.517	540
163	35 19.503	120 41.306	500
164	35 19.125	120 40.781	400
165	35 18.809	120 40.410	410
166	35 18.841	120 39.623	590
167	35 18.740	120 39.739	480
168	35 18.434	120 39.327	400
169	35 17.922	120 39.038	490
170	35 17.864	120 39.078	430
171	35 17.711	120 38.691	480
172	35 17.150	120 38.750	340
173	35 16.768	120 38.625	480
174	35 16.487	120 38.354	570
175	35 16.298	120 37.916	660
176	35 16.157	120 37.832	580
177	35 15.930	120 37.601	515
178	35 15.659	120 37.272	440
179	35 15.241	120 37.422	320
180	35 14.850	120 37.055	340
181	35 14.516	120 36.513	280
182	35 14.224	120 36.126	380
183	35 13.678	120 35.938	340
184	35 13.172	120 35.730	310
185	35 12.701	120 35.227	350
186	35 12.444	120 34.804	350
187	35 12.042	120 34.223	320
188	35 11.673	120 33.777	320
189	35 11.164	120 33.321	330
190	35 10.956	120 32.841	350
191	35 10.643	120 32.349	355
192	35 10.482	120 31.539	300
193	35 10.123	120 31.335	450
194	35 9.792	120 30.713	650
195	35 9.410	120 30.767	540
196	35 9.178	120 30.554	375
197	35 8.831	120 30.161	610
198	35 8.543	120 29.669	445
199	35 8.272	120 29.417	380
200	35 7.986	120 28.882	370

U.S.G.S. SEISMIC RECORDER LOCATIONS

LOCATION NUMBER	LATITUDE (DEG,MIN)	LONGITUDE (DEG,MIN)	ELEV
201	35 7.664	120 28.167	410
202	35 7.584	120 27.612	450
203	35 6.494	120 28.984	980
204	35 6.099	120 28.949	430
205	35 5.943	120 28.440	480
206	35 5.617	120 27.870	500
207	35 5.419	120 27.605	550
208	35 5.078	120 27.189	580
209	35 4.836	120 26.719	640
210	35 4.621	120 26.043	680
211	35 4.472	120 25.285	1200
212	35 4.227	120 24.748	1400
213	35 4.175	120 24.250	1500
214	35 3.769	120 23.821	1040
215	35 3.475	120 23.499	875
216	35 3.091	120 23.300	860
217	35 2.664	120 22.847	780
218	35 2.163	120 22.477	700
219	35 1.705	120 22.084	640
220	35 1.280	120 21.862	605
221	35 0.750	120 21.697	585
222	35 0.211	120 21.564	580
223	34 59.850	120 20.912	1080
224	34 59.325	120 20.747	1200
225	34 58.964	120 20.508	1160
226	34 58.588	120 20.110	1300

TABLE 3

Seismic Recorder Data Parameters

The following data comprise information related to the field performance of the seismic recorder. The data is stored and referenced by team and shot number, each team consisting of twenty recorders. Each field data table designates the experiment name, shot and shotpoint numbers, team number, and shot time given in Julian day, hour, minute, and second. The column headings are described as follows:

LOC	Field location number of the recorder.
DIST(km)	Distance in kilometers from the shotpoint to the recorder
AZIM	Azimuth from the shotpoint to the recorder, clockwise from north.
UNIT	Identification number of the recorder
CHRON	Drift in milliseconds of the recorder chronometer at shot time calculated from total drift assuming a linear drift rate.
C1,C2,C3	Amplifier attenuation in dB of the three recording channels.
TAPE GRADE	Number code indicating data quality and/or the instrument performance. Grade description:
	0 Shot record digitized
	1 No record: recorder malfunction
	2 No or low seismic signal: geophone or amplifier malfunction
	3 Bad time code: unable to digitize record
	4 Shot record time skipped: programmable memory error
	5 Recorder not deployed for this shot
	6 Shot signal clipped on the digitized channel
	7 High background noise obscures shot signal
	8 Drift correction is estimated: chronometer malfunction
	9 Partial record: recording ends before end of digitizing window

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 1 Shot point 3 Team 1

Shot time: 305: 8: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	124	47.321	258.0	1	9	2	30	12	48	0/ 7
2	126	46.864	256.2	2	-14	2	30	12	48	0
3	127	46.546	255.4	3	7	2	30	12	48	0
4	128	46.043	254.8	4	6	1	30	12	48	0
5	129	45.475	254.4	5	10	2	30	12	48	0
6	130	44.797	253.6	6	2	1	30	12	48	0
7	132	43.359	250.3	7	-6	1	30	12	48	0
8	135	42.444	246.1	8	-23	2	30	12	48	0
9	136	42.653	244.8	9	2018	2	30	12	48	8
10	137	42.359	243.9	10	0		30	12	48	1
11	138	42.542	243.0	11	-36		30	12	48	1
12	142	41.403	239.7	12	1	2	30	12	48	0
13	143	41.496	239.1	13	-6	2	30	12	48	0
14	144	41.379	238.0	14	0		30	12	48	1
15	145	41.051	237.0	15	2	1	30	12	48	0
16	197	53.954	189.3	16	4	2	30	12	48	0
17	223	70.050	175.7	17	6	2	30	12	48	0
18	224	71.036	175.5	18	-8	2	30	12	48	0
19	225	71.732	175.3	19	-34	2	30	12	48	0
20	226	72.475	174.8	20	-24	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 1 Shot point 3 Team 2

Shot time: 305: 8: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	196	53.421	190.1	21	48	1	30	12	48	0
2	195	53.057	190.5	22	1275	2	30	12	48	0
3	198	54.367	188.5	23	271	2	30	12	48	0
4	199	54.806	188.0	24	-24	1	30	12	48	0
5	200	55.226	187.1	25	786	2	30	12	48	0
6	201	55.696	185.9	26	-3264	2	30	12	48	0
7	202	55.762	185.0	27	-22	2	30	12	48	0
8	193	51.928	191.7	28	0		30	12	48	1
9	194	52.348	190.6	29	271	2	30	12	48	0
10	192	51.342	192.2	30	223	1	30	12	48	0
11	191	51.325	193.6	31	-836	2	30	12	48	8
12	190	50.944	194.6	32	273		30	12	48	1
13	189	50.761	195.5	33	617	2	30	12	48	8
14	188	50.044	196.5	34	112	2	30	12	48	0
15	187	49.588	197.5	35	-1296	1	30	12	48	8
16	186	49.156	198.7	36	47	1	30	12	48	0
17	185	48.916	199.6	37	105	1	30	12	48	0
18	184	48.362	200.8	38	56		30	12	48	4
19	183	47.602	201.6	39	31	2	30	12	48	0
20	182	46.771	202.4	40	204	1	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 1 Shot point 3 Team 3

Shot time: 305: 8: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	222	69.316	176.4	41	15	1	30	12	48	0
2	221	68.308	176.6	42	11	2	30	12	48	0
3	220	67.314	176.7	43	-4	2	30	12	48	0
4	219	66.514	177.0	44	18	2	30	12	48	0
5	218	65.638	177.4	45	-48		30	12	48	1
6	217	64.690	177.9	46	14	2	30	12	48	0
7	216	63.879	178.5	47	24	2	30	12	48	0
8	215	63.162	178.8	48	-105	2	30	12	48	0/ 7
9	214	62.610	179.2	49	7	2	30	12	48	0
10	213	61.853	179.8	50	11	2	30	12	48	0
11	212	61.760	180.5	51	12	2	30	12	48	0
12	211	61.319	181.3	52	-3	2	30	12	48	0
13	204	58.702	186.8	53	6	2	30	12	48	0
14	207	59.751	184.7	54	7	2	30	12	48	0
15	210	61.079	182.3	55	2	2	30	12	48	0/ 7
16	209	60.734	183.3	56	7	2	30	12	48	0
17	208	60.332	184.0	57	6	2	30	12	48	0
18	206	59.419	185.1	58	10	2	30	12	48	0
19	205	58.904	186.0	59	0	2	30	12	48	0
20	203	57.982	186.9	60	-3	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 1 Shot point 3 Team 4

Shot time: 305: 8: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	151	40.984	231.0	61	12	1	30	12	48	0
2	150	40.320	231.7	62	9	1	30	12	48	0
3	149	40.645	232.6	63	10	2	30	12	48	0
4	148	40.818	233.7	64	4	1	30	12	48	0
5	147	41.119	234.8	65	4	1	30	12	48	0
6	146	40.979	236.0	66	5	1	30	12	48	0
7	140	41.668	241.4	67	2		30	12	48	1
8	139	42.476	242.0	68	0		30	12	48	2
9	134	42.887	247.6	69	5	2	30	12	48	0
10	131	44.163	252.2	70	20	1	30	12	48	0
11	133	43.196	248.9	71	-3	2	30	12	48	0
12	123	47.676	259.2	72	14	1	30	12	48	0
13	120	50.135	261.6	73	2	2	30	12	48	0
14	121	48.985	261.8	74	3	2	30	12	48	0
15	122	48.281	260.8	75	11	1	30	12	48	0
16	119	51.189	262.4	76	28	1	30	12	48	0
17	117	51.335	263.8	77	12	2	30	12	48	0
18	116	51.090	264.9	78	7		30	12	48	1
19	114	51.516	265.8	79	9	1	30	12	48	0/ 7
20	113	51.931	266.2	80	4	1	30	12	48	0/ 7

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 1 Shot point 3 Team 5

Shot time: 305: 8: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	181	46.499	203.3	81	950	2	30	12	48	0
2	180	46.265	204.5	82	-200	2	30	12	48	0
3	168	42.064	212.5	83	1219	2	30	12	48	0
4	176	44.598	207.2	84	1963	2	30	12	48	0
5	170	42.760	211.4	85	-417	2	30	12	48	8
6	166	41.677	213.6	86	-51	1	30	12	48	0
7	160	41.974	221.1	87	2255	2	30	12	48	0
8	164	42.242	216.0	88	288	1	30	12	48	0
9	161	41.620	220.0	89	1967		30	12	48	3
10	178	45.048	205.7	90	-43		30	12	48	3
11	158	41.681	223.3	91	2048	1	30	12	48	0
12	159	41.706	222.0	92	-87	2	30	12	48	0/7
13	171	42.703	210.5	93	-1102	1	30	12	48	0
14	172	43.645	209.9	94	235	2	30	12	48	0
15	179	45.845	205.5	95	-9	2	30	12	48	0
16	165	42.395	214.9	96	-263	1	30	12	48	0
17	162	41.491	218.7	97	1133	1	30	12	48	0
18	177	44.816	206.5	98	754	2	30	12	48	0
19	163	42.154	217.4	99	2127	1	30	12	48	0
20	175	44.425	207.5	100	2033	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 1 Shot point 3 Team 6

Shot time:, 305: 8: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	173	44.168	209.2	101	187	1	30	12	48	0
2	174	44.426	208.4	102	84	2	30	12	48	0
3				103	85		30	12	48	5
4				104	-173		30	12	48	5
5				105	111		30	12	48	5
6				106	76		30	12	48	5
7	153	40.810	229.1	107	260	1	30	12	48	0
8	154	40.899	227.6	108	134	1	30	12	48	0
9	156	41.398	226.3	109	30	1	30	12	48	0
10	157	41.519	224.7	110	108	1	30	12	48	0
11	107	54.541	269.3	111	404	1	30	12	48	0
12	105	54.940	269.9	112	18	2	30	12	48	0
13	104	55.384	270.0	113	91	2	30	12	68	0
14	103	56.144	270.7	114	-16	2	30	12	68	0
15	102	56.891	271.6	115	75	1	30	12	88	0
16	101	57.752	272.5	116	-20	2	30	12	88	0
17	112	51.553	266.6	117	181	2	30	12	48	0
18	111	52.007	267.5	118	94	2	30	12	48	0
19	109	52.333	268.7	119	63	2	30	12	48	0
20	108	53.564	268.7	120	-6	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 3 Shot point 1 Team 1

Shot time: 305:11: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	124	17.943	316.6	1	11	3	30	12	48	0
2	126	16.476	315.4	2	-17	3	30	12	48	0
3	127	15.764	315.3	3	9		30	12	48	3
4	128	15.104	316.1	4	7	3	30	12	48	0
5	129	14.500	317.4	5	12	1	30	12	48	6
6	130	13.689	318.8	6	2	3	30	12	48	0
7	132	10.789	320.6	7	-7	3	30	12	48	0
8	135	7.470	320.0	8	-27	3	30	12	48	6
9	136	6.623	316.1	9	2021	3	30	12	48	6
10	137	5.920	316.8	10	--		30	12	48	1
11	138	5.353	312.9	11	-43		30	12	48	1
12	142	2.688	319.7	12	1	3	30	12	48	6
13	143	2.306	315.8	13	-7	3	30	12	48	6
14	144	1.488	313.3	14	--		30	12	48	1
15	145	0.760	324.9	15	2	3	30	12	48	6
16	197	39.429	140.0	16	5	1	30	12	48	0
17	223	61.187	139.8	17	7	2	30	12	48	0
18	224	62.094	140.2	18	-9	2	30	12	48	0
19	225	62.841	140.3	19	-41	1	30	12	48	0
20	226	63.762	140.3	20	-29	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 3 Shot point 1 Team 2

Shot time: 305:11: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	196	38.553	140.0	21	48	1	30	12	48	0
2	195	38.017	140.0	22	1276	1	30	12	48	0
3	198	40.318	139.6	23	272	2	30	12	48	0
4	199	40.946	139.7	24	-25	2	30	12	48	0
5	200	41.877	139.3	25	788	2	30	12	48	0/7
6	201	43.038	138.7	26	-3288	2	30	12	48	0
7	202	43.706	138.0	27	-22	1	30	12	48	0
8	193	36.451	139.7	28	0		30	12	48	1
9	194	37.531	139.2	29	272	1	30	12	48	0
10	192	35.746	139.4	30	224	1	30	12	48	0
11	191	34.730	140.6	31	-165	1	30	12	48	8
12	190	33.809	141.0	32	276		30	12	48	1
13	189	33.054	141.5	33	617	1	30	12	48	8
14	188	31.886	141.5	34	113	1	30	12	48	0
15	187	30.931	141.7	35	-1300	3	30	12	48	8
16	186	29.804	142.1	36	48	3	30	12	48	0
17	185	29.035	142.5	37	107	3	30	12	48	0
18	184	27.880	142.7	38	57	1	30	12	48	0
19	183	26.946	142.0	39	31	1	30	12	48	0
20	182	25.977	141.2	40	204	1	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 3 Shot point 1 Team 3

Shot time: 305:11: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	222	60.040	140.1	41	18	1	30	12	48	0
2	221	59.144	139.7	42	13	1	30	12	48	0
3	220	58.234	139.2	43	-5	2	30	12	48	0
4	219	57.420	139.0	44	21	2	30	12	48	0
5	218	56.368	138.9	45	-57		30	12	48	1
6	217	55.319	138.7	46	16	2	30	12	48	0
7	216	54.271	138.7	47	29	2	30	12	48	0
8	215	53.538	138.4	48	-124	2	30	12	48	0
9	214	52.807	138.4	49	8	2	30	12	48	0
10	213	51.812	138.4	50	13	2	30	12	48	0
11	212	51.243	139.0	51	14	1	30	12	48	0
12	211	50.368	139.4	52	-3	1	30	12	48	0
13	204	44.524	142.3	53	8	1	30	12	48	0
14	207	46.773	141.3	54	8	1	30	12	48	0
15	210	49.415	140.2	55	3	2	30	12	48	0
16	209	48.457	140.8	56	9	2	30	12	48	0
17	208	47.659	141.1	57	8	1	30	12	48	0
18	206	46.235	141.4	58	11	1	30	12	48	0
19	205	45.226	141.7	59	0	1	30	12	48	0
20	203	43.913	141.8	60	-4	1	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 3 Shot point 1 Team 4

Shot time: 305:11: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	151	3.546	142.5	61	13	3	30	12	48	6
2	150	3.148	130.5	62	10	3	30	12	48	6
3	149	2.465	135.0	63	11	3	30	12	48	6
4	148	1.666	137.2	64	5	3	30	12	48	6
5	147	0.864	150.9	65	5	3	30	12	48	6
6	146	0.063	25.6	66	5	3	30	12	48	6
7	140	3.932	319.2	67	2		30	12	48	1
8	139	4.649	310.7	68	-2		30	12	48	2
9	134	8.662	319.3	69	5	3	30	12	48	0
10	131	12.438	319.5	70	23	2	30	12	48	0
11	133	9.704	319.4	71	-3	3	30	12	48	0
12	123	19.007	317.4	72	15	3	30	12	48	0
13	120	22.079	314.9	73	2	1	30	12	48	0
14	121	21.562	317.6	74	4	1	30	12	48	0
15	122	20.447	317.9	75	12	1	30	12	48	0
16	119	23.299	313.9	76	32	1	30	12	48	0
17	117	24.390	315.5	77	13	1	30	12	48	0
18	116	24.992	317.3	78	7		30	12	48	1
19	114	25.887	317.6	79	11	1	30	12	48	0
20	113	26.389	317.3	80	4	1	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 3 Shot point 1 Team 5

Shot time: 305:11: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	181	25.189	141.4	81	950	1	30	12	48	0
2	180	24.195	142.0	82	-201	1	30	12	48	0
3	168	16.903	137.5	83	1222	1	30	12	48	0
4	176	21.570	140.6	84	1962	1	30	12	48	0
5	170	17.939	138.8	85	-419	1	30	12	48	8
6	166	16.046	136.8	86	-51		30	12	48	4
7	160	10.754	143.3	87	2269	3	30	12	48	0
8	164	14.491	140.5	88	291	1	30	12	48	0
9	161	11.510	140.7	89	1967		30	12	48	3
10	178	22.821	140.4	90	-43		30	12	48	3
11	158	9.158	143.4	91	2048	3	30	12	48	0
12	159	10.062	142.6	92	-87		30	12	48	2
13	171	18.541	138.1	93	-1102	1	30	12	48	0
14	172	19.268	140.3	94	238	3	30	12	48	0
15	179	23.282	142.0	95	-8	3	30	12	48	0
16	165	15.301	140.3	96	-264	3	30	12	48	0
17	162	12.406	139.2	97	1134	3	30	12	48	0
18	177	22.118	140.6	98	750	1	30	12	48	0
19	163	13.447	141.2	99	2129	3	30	12	48	0
20	175	21.288	140.4	100	2034	3	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 3 Shot point 1 Team 6

Shot time: 305:11: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	173	19.935	141.2	101	189	3	30	12	48	0
2	174	20.597	141.2	102	85	3	30	12	48	0
3				103	85		30	12	48	5
4				104	-173		30	12	48	5
5				105	112		30	12	48	5
6				106	76		30	12	48	5
7	153	4.895	139.7	107	264	3	30	12	48	6
8	154	6.006	140.3	108	136	3	30	12	48	6
9	156	6.979	143.9	109	31	3	30	12	48	0
10	157	8.090	143.6	110	110	3	30	12	48	0
11	107	30.293	317.1	111	408	1	30	12	48	0
12	105	31.010	317.3	112	18	1	30	12	48	0
13	104	31.335	316.8	113	92	1	30	12	68	0
14	103	32.409	316.7	114	-16	1	30	12	68	0
15	102	33.552	316.8	115	76	1	30	12	88	0
16	101	34.761	316.8	116	-20	1	30	12	88	0
17	112	26.626	318.8	117	183	1	30	12	48	0
18	111	27.380	318.8	118	95	1	30	12	48	0
19	109	28.446	319.7	119	64	1	30	12	48	0
20	108	29.223	317.8	120	-6	1	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 4 Shot point 6 Team 1

Shot time: 309: 8: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	124	74.021	279.2	1	22	2	30	12	48	0
2	126	73.085	278.3	2	-16	1	30	12	48	0
3	127	72.535	277.9	3	14	1	30	12	48	0
4	128	71.889	277.7	4	10	1	30	12	48	0
5	129	71.216	277.6	5	19	1	30	12	48	0
6	130	70.366	277.4	6	4	1	30	12	48	0
7	132	68.000	276.0	7	0	1	30	12	48	0
8	135	65.753	273.9	8	-37	1	30	12	48	0
9	136	65.493	273.1	9	42	1	30	12	48	0
10	137	64.928	272.7	10	56	1	30	12	48	0
11	138	64.772	272.1	11	-50	1	30	12	48	0
12	142	62.563	270.7	12	4	1	30	12	48	0
13	143	62.433	270.4	13	-2	1	30	12	48	0
14	144	61.910	269.8	14	35	1	30	12	48	0
15	145	61.270	269.4	15	6	1	30	12	48	0
16	197	47.673	226.4	16	7	1	30	12	88	0
17	223	52.918	204.2	17	13	2	30	12	48	0
18	224	53.706	203.5	18	-17	1	30	12	48	0
19	225	54.178	202.9	19	-86		30	12	48	3
20	226	54.592	202.0	20	-30	1	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 4 Shot point 6 Team 2

Shot time: 309: 8: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	196	47.699	229.5	21	-2	1	30	12	88	6
2	195	47.667	230.1	22	9	1	30	12	88	6
3	198	47.480	227.4	23	15	1	30	12	88	0
4	199	47.544	226.6	24	-10	1	30	12	88	0
5	200	47.331	225.5	25	21	1	30	12	68	0
6	201	46.994	224.0	26	-250	1	30	12	48	8
7	202	46.521	223.1	27	6	1	30	12	48	0
8	193	47.504	232.0	28	-11	1	30	12	88	0
9	194	47.152	230.7	29	14	1	30	12	88	0
10	192	47.341	232.9	30	10	1	30	12	88	0
11	191	48.148	234.1	31	-2400	1	30	12	68	8
12	190	48.418	235.1	32	34		30	12	68	4
13	189	48.798	236.0	33	65	1	30	12	48	0
14	188	48.854	237.4	34	16	1	30	12	48	0
15	187	49.059	238.5	35	-34	1	30	12	48	0
16	186	49.430	239.7	36	7	1	30	12	48	0
17	185	49.746	240.6	37	20		30	12	48	1
18	184	49.992	241.9	38	12		30	12	48	2
19	183	49.633	243.0	39	1	2	30	12	48	0
20	182	49.634	244.2	40	10	1	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 4 Shot point 6 Team 3

Shot time: 309: 8: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	222	52.726	205.4	41	23	1	30	12	48	0
2	221	51.914	206.1	42	22	1	30	12	48	0
3	220	51.147	206.8	43	8	1	30	12	48	0
4	219	50.603	207.6	44	39	1	30	12	48	0
5	218	50.134	208.6	45	11		30	12	48	1
6	217	49.597	209.7	46	46	1	30	12	48	0
7	216	49.261	210.9	47	42	1	30	12	48	0
8	215	48.807	211.6	48	4	1	30	12	48	0
9	214	48.605	212.4	49	13	1	30	12	48	0
10	213	48.328	213.6	50	20	1	30	12	48	0
11	212	48.669	214.4	51	24	1	30	12	48	0
12	211	48.762	215.5	52	-6	1	30	12	48	0
13	204	49.918	222.7	53	14	1	30	12	48	0
14	207	49.522	220.0	54	14	1	30	12	48	0
15	210	49.214	216.7	55	6	1	30	12	48	0
16	209	49.519	218.0	56	17	1	30	12	48	0
17	208	49.610	218.9	57	22	1	30	12	48	0
18	206	49.500	220.6	58	18	1	30	12	48	0
19	205	49.615	221.8	59	0	1	30	12	48	0
20	203	49.418	223.3	60	-6		30	12	48	4

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 4 Shot point 6 Team 4

Shot time: 309: 8: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	151	58.837	266.0	61	14	3	30	12	48	0
2	150	58.549	266.7	62	8	1	30	12	48	0
3	149	59.180	267.1	63	11	1	30	12	48	0
4	148	59.762	267.6	64	5	1	30	12	48	0
5	147	60.453	268.1	65	11	1	30	12	48	0
6	146	60.818	268.9	66	7	1	30	12	48	0
7	140	63.408	271.6	67	11		30	12	48	1
8	139	64.360	271.6	68	-11		30	12	48	2
9	134	66.657	274.6	69	6	1	30	12	48	0
10	131	69.344	276.8	70	27	1	30	12	48	0
11	133	67.377	275.2	71	5	1	30	12	48	0
12	123	74.719	279.9	72	17	1	30	12	48	0
13	120	77.723	280.7	73	1	1	30	12	48	0
14	121	76.694	281.1	74	4	1	30	12	48	0
15	122	75.741	280.6	75	13	1	30	12	48	0
16	119	78.954	280.9	76	23	1	30	12	48	0
17	117	79.488	281.8	77	13	1	30	12	48	0
18	116	79.542	282.5	78	11	1	30	12	48	0
19	115	80.171	282.9	79	12	1	30	12	48	0
20	113	80.674	283.1	80	4	1	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 4 Shot point 6 Team 5

Shot time: 309: 8: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	181	49.929	245.0	81	3	2	30	12	48	0
2	180	50.417	246.1	82	-8	2	30	12	48	0
3	168	51.382	254.4	83	27	1	30	12	48	0
4	176	50.571	249.1	84	-10	2	30	12	48	0
5	169	51.231	253.3	85	-24	1	30	12	48	0
6	167	51.832	255.2	86	0	1	30	12	48	0
7	160	55.369	259.7	87	138	1	30	12	48	0
8	164	53.183	256.4	88	28	1	30	12	48	0
9	161	54.564	259.2	89	1	1	30	12	48	0
10	178	50.126	247.8	90	5	2	30	12	48	0
11	158	56.103	261.1	91	6	1	30	12	48	0
12	159	55.561	260.4	92	3	1	30	12	48	0
13	171	50.844	252.7	93	2	1	30	12	48	0
14	172	51.253	251.6	94	29	2	30	12	48	0
15	179	50.637	247.1	95	9	2	30	12	48	0
16	165	52.783	255.6	96	-6	1	30	12	48	0
17	162	53.871	258.5	97	6	1	30	12	48	0
18	177	50.398	248.5	98	-35	2	30	12	48	0
19	163	53.793	257.3	99	27	1	30	12	48	0
20	175	50.597	249.4	100	15		30	12	48	1

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 4 Shot point 6 Team 6

Shot time:, 309: 8: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	173	51.306	250.8	101	22	2	30	12	48	0
2	174	51.097	250.1	102	16	2	30	12	48	0
3	125	73.371	278.9	103	3	1	30	12	48	0
4	141	63.258	271.1	104	-4	1	30	12	48	0
5	110	81.291	284.4	105	18	2	30	12	48	0
6	118	79.669	281.3	106	10	1	30	12	48	0
7	153	57.913	265.0	107	45		30	12	48	2
8	155	57.309	264.0	108	17	3	30	12	48	0
9	156	57.182	263.0	109	13	3	30	12	48	0
10	157	56.616	262.1	110	15	3	30	12	48	0
11	107	83.979	284.5	111	41	1	30	12	48	0
12	106	84.469	284.7	112	8	2	30	12	48	0
13	104	84.959	284.8	113	10	1	30	12	68	0
14	103	85.884	285.2	114	1	1	30	12	68	0
15	102	86.820	285.6	115	8	1	30	12	88	0
16	101	87.857	286.0	116	9	1	30	12	88	0
17	112	80.483	283.6	117	28	2	30	12	48	0
18	111	81.089	283.9	118	19	1	30	12	48	0
19	109	81.706	284.6	119	10	2	30	12	48	0
20	108	82.888	284.3	120	2	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 5 Shot point 5 Team 1

Shot time: 309:10: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	124	58.936	294.3	1	23	1	30	12	48	0
2	126	57.721	293.4	2	-18	1	30	12	48	0
3	127	57.071	293.1	3	15	1	30	12	48	0
4	128	56.383	293.0	4	10	1	30	12	48	0
5	129	55.699	293.1	5	21	1	30	12	48	0
6	130	54.811	293.1	6	4	1	30	12	48	0
7	132	52.064	292.0	7	0	1	30	12	48	0
8	135	49.224	290.1	8	-39	1	30	12	48	0
9	136	48.712	289.1	9	45	1	30	12	48	0
10	137	48.051	288.8	10	62	1	30	12	48	0
11	138	47.716	288.1	11	-53	1	30	12	48	0
12	142	45.160	287.0	12	4	3	30	12	48	0
13	143	44.923	286.6	13	-2	1	30	12	48	0
14	144	44.243	286.0	14	37	3	30	12	48	0
15	145	43.514	285.7	15	8	3	30	12	48	0
16	197	25.108	220.3	16	8	1	30	12	88	0
17	223	35.846	183.5	17	14	1	30	12	48	0
18	224	36.801	183.0	18	-18	1	30	12	48	0
19	225	37.451	182.4	19	-91	1	30	12	48	3
20	226	38.125	181.5	20	-32	1	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 5 Shot point 5 Team 2

Shot time: 309:10: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	196	25.018	222.3	21	-2	1	30	12	88	6
2	195	24.923	223.5	22	9	1	30	12	88	6
3	198	25.051	218.2	23	16	1	30	12	88	0
4	199	25.216	216.8	24	-10	1	30	12	88	0
5	200	25.174	214.6	25	23	1	30	12	68	0
6	201	25.080	211.8	26	-250	3	30	12	48	8
7	202	24.774	209.9	27	7	3	30	12	48	0
8	193	24.605	227.0	28	-12	1	30	12	88	6
9	194	24.357	224.5	29	15	1	30	12	88	6
10	192	24.387	228.7	30	11	1	30	12	88	6
11	191	25.133	231.0	31	-2480	3	30	12	68	8
12	190	25.366	233.1	32	37		30	12	68	2/ 6
13	189	25.727	234.8	33	69	3	30	12	48	0
14	188	25.773	237.4	34	17	3	30	12	48	0
15	187	25.989	239.5	35	-36	3	30	12	48	0
16	186	26.391	241.8	36	7	3	30	12	48	0
17	185	26.740	243.4	37	22		30	12	48	1
18	184	27.054	245.7	38	13		30	12	48	7/ 2
19	183	26.972	247.8	39	2	1	30	12	48	0
20	182	26.872	250.1	40	11	1	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 5 Shot point 5 Team 3

Shot time: 309:10: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	222	35.255	185.2	41	24	3	30	12	48	0
2	221	34.281	185.7	42	24	1	30	12	48	0
3	220	33.332	186.3	43	9	1	30	12	48	0
4	219	32.593	187.0	44	41	3	30	12	48	0
5	218	31.831	188.2	45	12		30	12	48	1
6	217	31.002	189.5	46	50	3	30	12	48	0
7	216	30.348	191.0	47	44	3	30	12	48	0
8	215	29.711	191.9	48	4	3	30	12	48	0
9	214	29.286	193.0	49	14	1	30	12	48	0
10	213	28.712	194.6	50	22	3	30	12	48	0
11	212	28.821	196.1	51	26	3	30	12	48	0
12	211	28.626	198.0	52	-6	3	30	12	48	0
13	204	28.171	210.7	53	15	1	30	12	48	0
14	207	28.313	205.9	54	15	3	30	12	48	0
15	210	28.742	200.3	55	7	1	30	12	48	0
16	209	28.747	202.5	56	19	1	30	12	48	0
17	208	28.618	204.2	57	24	3	30	12	48	0
18	206	28.162	206.9	58	19	3	30	12	48	0
19	205	28.037	209.1	59	0	1	30	12	48	0
20	203	27.572	211.6	60	-6	3	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 5 Shot point 5 Team 4

Shot time: 309:10: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	151	40.183	281.9	61	15	3	30	12	48	0
2	150	40.117	283.1	62	8	3	30	12	48	0
3	149	40.819	283.3	63	12	3	30	12	48	0
4	148	41.533	283.8	64	6	3	30	12	48	0
5	147	42.335	284.2	65	12	3	30	12	48	0
6	146	42.918	285.1	66	8	1	30	12	48	0
7	140	46.228	287.8	67	11		30	12	48	1
8	139	47.153	287.5	68	-12		30	12	48	2
9	134	50.311	290.6	69	6	3	30	12	48	0
10	131	53.627	292.6	70	29	1	30	12	48	0
11	133	51.212	291.2	71	6	1	30	12	48	0
12	123	59.823	294.9	72	18	1	30	12	48	0
13	120	63.014	295.2	73	1	2	30	12	48	0
14	121	62.158	295.9	74	5	1	30	12	48	0
15	122	61.084	295.6	75	14	1	30	12	48	0
16	119	64.295	295.2	76	24	1	30	12	48	0
17	117	65.101	296.1	77	14	1	30	12	48	0
18	116	65.399	296.9	78	12	1	30	12	48	0
19	115	66.161	297.3	79	12	1	30	12	48	0
20	113	66.699	297.3	80	4	1	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 5 Shot point 5 Team 5

Shot time: 309:10: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	181	27.247	251.5	81	3	1	30	12	48	0
2	180	27.841	253.3	82	-9	1	30	12	48	0
3	168	30.121	267.4	83	29	1	30	12	48	0
4	176	28.391	258.7	84	-11	1	30	12	48	0
5	169	29.746	265.5	85	-26	1	30	12	48	0
6	167	30.723	268.5	86	0	3	30	12	48	0
7	160	35.163	274.1	87	147	1	30	12	48	0
8	164	32.290	269.9	88	29	1	30	12	48	0
9	161	34.274	273.7	89	1	1	30	12	48	0
10	178	27.764	256.4	90	5	2	30	12	48	0
11	158	36.234	276.0	91	9	1	30	12	48	0
12	159	35.520	275.0	92	3	1	30	12	48	0
13	171	29.255	264.7	93	2	1	30	12	48	0
14	172	29.461	262.7	94	31	1	30	12	48	0
15	179	28.178	255.0	95	10	1	30	12	48	0
16	165	31.737	268.8	96	-9	1	30	12	48	0
17	162	33.442	272.9	97	9	1	30	12	48	0
18	177	28.136	257.7	98	-37	1	30	12	48	0
19	163	33.089	271.1	99	29	1	30	12	48	0
20	175	28.466	259.2	100	16		30	12	48	1

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 5 Shot point 5 Team 6

Shot time: 309:10: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	173	29.375	261.3	101	23	1	30	12	48	0
2	174	29.056	260.1	102	17	1	30	12	48	0
3	125	58.188	294.0	103	4	1	30	12	48	0
4	141	45.942	287.2	104	-5	1	30	12	48	0
5	110	67.748	298.7	105	19	1	30	12	48	0
6	118	65.113	295.5	106	10	1	30	12	48	0
7	153	39.018	280.9	107	48	3	30	12	48	0
8	155	38.158	279.7	108	18	3	30	12	48	0
9	156	37.773	278.3	109	14	1	30	12	48	0
10	157	36.973	277.2	110	16	1	30	12	48	0
11	107	70.413	298.3	111	43	1	30	12	48	0
12	106	70.945	298.4	112	8	1	30	12	48	0
13	104	71.461	298.5	113	11	1	30	12	68	0
14	103	72.489	298.7	114	1	1	30	12	68	0
15	102	73.555	299.1	115	8	1	30	12	88	0
16	101	74.708	299.3	116	10	1	30	12	88	0
17	112	66.685	297.9	117	29	1	30	12	48	0
18	111	67.384	298.2	118	20	1	30	12	48	0
19	109	68.223	298.9	119	11	1	30	12	48	0
20	108	69.285	298.3	120	2	1	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 6 Shot point 4 Team 1

Shot time: 309:12: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	124	55.965	319.1	1	25	2	30	12	48	0
2	126	54.483	318.8	2	-19	2	30	12	48	0
3	127	53.770	318.8	3	16	2	30	12	48	0
4	128	53.123	319.0	4	11	2	30	12	48	0
5	129	52.533	319.4	5	22	2	30	12	48	0
6	130	51.731	319.8	6	5	1	30	12	48	0
7	132	48.633	320.3	7	0	2	30	12	48	0
8	135	45.514	320.1	8	-42	2	30	12	48	0
9	136	44.653	319.6	9	48	2	30	12	48	0
10	137	43.956	319.7	10	66	2	30	12	48	0
11	138	43.361	319.3	11	-56	2	30	12	48	0
12	142	40.731	320.1	12	5	2	30	12	48	0
13	143	40.344	319.9	13	-2	2	30	12	48	0
14	144	39.523	319.9	14	40	2	30	12	48	0
15	145	38.801	320.2	15	9	2	30	12	48	0
16	197	1.385	138.8	16	6	1	30	12	88	6
17	223	23.144	139.6	17	15	2	30	12	48	0
18	224	24.050	140.7	18	-19	1	30	12	48	0
19	225	24.799	141.0	19	-97		30	12	48	3
20	226	25.720	140.9	20	-34	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 6 Shot point 4 Team 2

Shot time: 309:12: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	196	0.510	141.8	21	-2	1	30	12	88	6
2	195	0.028	342.2	22	10	3	30	12	88	6
3	196	2.289	133.5	23	17	1	30	12	88	6
4	199	2.911	135.5	24	-11	1	30	12	88	6
5	200	3.865	132.4	25	24	1	30	12	68	6
6	201	5.077	129.1	26	-280	3	30	12	48	6
7	202	5.840	125.0	27	7	3	30	12	48	0
8	193	1.604	327.1	28	-12	1	30	12	88	6
9	194	0.737	5.7	29	16	1	30	12	88	6
10	192	2.332	329.6	30	12	1	30	12	88	6
11	191	3.337	313.8	31	-2620	3	30	12	68	6
12	190	4.278	312.4	32	39	1	30	12	68	6
13	189	5.079	310.1	33	74	3	30	12	48	0
14	188	6.222	312.6	34	18	3	30	12	48	0
15	187	7.182	313.0	35	-38	3	30	12	48	0
16	186	8.332	312.6	36	7	3	30	12	48	0
17	185	9.128	312.1	37	23		30	12	48	1
18	184	10.279	312.8	38	14		30	12	48	2
19	183	11.156	315.2	39	2	1	30	12	48	0
20	182	12.084	317.7	40	12	1	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 6 Shot/point 4 Team 3

Shot time: 309:12: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	222	21.996	140.5	41	26	1	30	12	48	0
2	221	21.102	139.2	42	25	1	30	12	48	0
3	220	20.200	137.9	43	9	1	30	12	48	0
4	219	19.394	137.1	44	44	1	30	12	48	0
5	218	18.367	136.7	45	12		30	12	48	1
6	217	17.307	135.9	46	53	1	30	12	48	0
7	216	16.261	135.8	47	47		30	12	48	2
8	215	15.544	134.7	48	4	1	30	12	48	0
9	214	14.813	134.6	49	15	1	30	12	48	6
10	213	13.822	134.3	50	23	1	30	12	48	0
11	212	13.222	136.3	51	27	1	30	12	48	0
12	211	12.334	137.5	52	-6	3	30	12	48	0
13	204	6.689	155.7	53	16	3	30	12	48	0
14	207	8.778	146.9	54	16	3	30	12	48	0
15	210	11.372	140.9	55	7	1	30	12	48	0
16	209	10.431	143.9	56	20	1	30	12	48	0
17	208	9.653	145.8	57	25	1	30	12	48	0
18	206	8.252	147.8	58	21	3	30	12	48	0
19	205	7.293	151.1	59	0	3	30	12	48	0
20	203	6.005	153.3	60	-7	3	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 6 Shot point 4 Team 4

Shot time: 309:12: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	151	34.502	319.9	61	16	1	30	12	48	0
2	150	34.943	321.0	62	9	2	30	12	48	0
3	149	35.589	320.5	63	13	2	30	12	48	0
4	148	36.380	320.3	64	6	2	30	12	48	0
5	147	37.196	319.9	65	13	2	30	12	48	0
6	146	38.070	320.2	66	8	2	30	12	48	0
7	140	41.975	320.1	67	12		30	12	48	1
8	139	42.638	319.1	68	-13		30	12	48	2
9	134	46.706	320.0	69	7	2	30	12	48	0
10	131	50.481	320.0	70	31	2	30	12	48	0
11	133	47.748	320.0	71	6	2	30	12	48	0
12	129	57.038	319.3	72	19	2	30	12	48	0
13	120	60.067	318.3	73	1	2	30	12	48	0
14	121	59.594	319.3	74	5	2	30	12	48	0
15	122	58.482	319.4	75	15	1	30	12	48	0
16	119	61.260	317.8	76	25	2	30	12	48	0
17	117	62.387	318.4	77	15	2	30	12	48	0
18	116	63.019	319.1	78	12	2	30	12	48	0
19	115	63.888	319.2	79	13	2	30	12	48	0
20	113	64.416	319.1	80	4	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 6 Shot point 4 Team 5

Shot time: 309:12: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	181	12.878	317.4	81	4	1	30	12	48	0
2	180	13.891	316.6	82	-9	1	30	12	48	0
3	168	21.170	322.2	83	31	1	30	12	48	0
4	176	16.476	319.4	84	-11	1	30	12	48	0
5	169	20.156	321.5	85	-27	1	30	12	48	0
6	167	22.002	321.8	86	0	1	30	12	48	0
7	160	27.315	318.8	87	156	2	30	12	48	0
8	164	23.554	319.9	88	31	1	30	12	48	0
9	161	26.535	319.9	89	1	1	30	12	48	0
10	178	15.223	319.6	90	6	1	30	12	48	0
11	158	28.907	319.1	91	9	2	30	12	48	0
12	159	27.996	319.2	92	4	2	30	12	48	0
13	171	19.523	322.0	93	2	1	30	12	48	0
14	172	18.777	319.8	94	33	1	30	12	48	0
15	179	14.800	316.9	95	10		30	12	48	2
16	165	22.743	320.0	96	-9	1	30	12	48	0
17	162	25.640	320.5	97	9	1	30	12	48	0
18	177	15.929	319.4	98	-40	1	30	12	48	0
19	163	24.601	319.5	99	30	1	30	12	48	0
20	175	16.757	319.7	100	17		30	12	48	1

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 6 Shot point 4 Team 6

Shot time: 309:12: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	173	18.118	318.8	101	25	1	30	12	48	0
2	174	17.457	318.7	102	18	1	30	12	48	0
3	125	55.173	319.1	103	4	1	30	12	48	0
4	141	41.494	319.8	104	-5	2	30	12	48	0
5	110	65.981	320.0	105	21	2	30	12	48	0
6	118	62.138	317.8	106	11	2	30	12	48	0
7	153	33.149	320.2	107	51	2	30	12	48	0
8	155	31.968	320.1	108	19	1	30	12	48	0
9	156	31.085	319.3	109	15	2	30	12	48	0
10	157	29.974	319.2	110	17	1	30	12	48	0
11	107	68.315	318.9	111	46	1	30	12	48	0
12	106	68.851	318.8	112	9	2	30	12	48	0
13	104	69.352	318.7	113	11	2	30	12	68	6
14	103	70.424	318.6	114	1	2	30	12	68	0
15	102	71.569	318.7	115	9	1	30	12	88	0
16	101	72.777	318.6	116	10	2	30	12	88	0
17	112	64.666	319.7	117	31	2	30	12	48	0
18	111	65.421	319.7	118	21	2	30	12	48	0
19	109	66.489	320.0	119	11	2	30	12	48	0
20	108	67.255	319.2	120	2	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 7 Shot point 7 Team 1

Shot time: 310: 9: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	124	16.782	136.8	1	40	1	30	12	48	0
2	126	18.257	137.9	2	-30	1	30	12	48	0
3	127	18.970	137.9	3	26	1	30	12	48	0
4	128	19.622	137.2	4	18	1	30	12	48	0
5	129	20.225	136.3	5	36	1	30	12	48	0
6	130	21.049	135.3	6	7	1	30	12	48	0
7	132	23.969	134.9	7	0	1	30	12	48	0
8	135	27.269	135.8	8	-67	1	30	12	48	0
9	136	28.102	136.8	9	77	1	30	12	48	0
10	137	28.804	136.6	10	106	1	30	12	48	0
11	138	29.385	137.4	11	-91	1	30	12	48	0
12	142	32.040	136.4	12	8	1	30	12	48	0
13	143	32.418	136.7	13	-4	2	30	12	48	0
14	144	33.238	136.8	14	64	1	30	12	48	0
15	145	33.972	136.5	15	15	1	30	12	48	0
16	197	74.125	138.3	16	13	1	30	12	68	0
17	223	95.881	138.6	17	24	2	30	12	48	0
18	224	96.778	138.6	18	-31	2	30	12	48	0
19	225	97.523	138.9	19	-156		30	12	48	2
20	226	98.444	138.9	20	-54	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 7 Shot point 7 Team 2

Shot time: 310: 9: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	196	73.248	138.3	21	-3	1	30	12	68	0
2	195	72.713	138.3	22	15	1	30	12	68	0
3	198	75.020	138.2	23	28		30	12	68	3
4	199	75.647	138.2	24	-18	3	30	12	68	0
5	200	76.583	138.0	25	39	1	30	12	68	0
6	201	77.751	137.7	26	--		30	12	48	3
7	202	78.426	137.3	27	11	1	30	12	48	0
8	193	71.153	138.1	28	-20	1	30	12	68	0
9	194	72.240	137.9	29	26	2	30	12	68	0
10	192	70.452	138.0	30	19	1	30	12	68	0
11	191	69.415	138.6	31	-4245	2	30	12	68	8
12	190	68.488	138.7	32	63		30	12	68	3
13	189	67.720	139.0	33	119	2	30	12	48	0
14	188	66.555	138.9	34	29	1	30	12	48	0
15	187	65.596	138.9	35	-62	1	30	12	48	0
16	186	64.459	139.1	36	12	1	30	12	48	0
17	185	63.680	139.3	37	38		30	12	48	1
18	184	62.522	139.3	38	24		30	12	48	2
19	183	61.607	138.9	39	3	2	30	12	48	0
20	182	60.658	138.5	40	19	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 7 Shot point 7 Team 3

Shot time: 310: 9: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	222	94.727	138.8	41	42	2	30	12	48	0
2	221	93.841	138.4	42	40	1	30	12	48	0
3	220	92.939	138.2	43	15	2	30	12	48	0
4	219	92.128	138.0	44	70	2	30	12	48	0
5	218	91.098	137.9	45	20		30	12	48	1
6	217	90.032	137.8	46	85	2	30	12	48	0
7	216	88.984	137.8	47	76	2	30	12	48	0
8	215	88.254	137.6	48	7	2	30	12	48	0
9	214	87.522	137.6	49	24	2	30	12	48	0
10	213	86.527	137.6	50	37	2	30	12	48	0
11	212	85.952	138.0	51	44	2	30	12	48	0
12	211	85.072	138.2	52	-10	1	30	12	48	0
13	204	79.158	139.7	53	25	2	30	12	48	0
14	207	81.437	139.2	54	26	2	30	12	48	0
15	210	84.104	138.6	55	12	2	30	12	48	0
16	209	83.131	139.0	56	32	2	30	12	48	0
17	208	82.326	139.2	57	40	2	30	12	48	0
18	206	80.896	139.3	58	33	2	30	12	48	0
19	205	79.877	139.4	59	0	2	30	12	48	0
20	203	78.564	139.4	60	-11		30	12	48	2

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 7 Shot point 7 Team 4

Shot time: 310: 9: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	151	38.254	137.2	61	26	3	30	12	48	0
2	150	37.855	136.1	62	14	1	30	12	48	0
3	149	37.187	136.5	63	20	1	30	12	48	0
4	148	36.390	136.7	64	10	1	30	12	48	0
5	147	35.563	137.0	65	21	1	30	12	48	0
6	146	34.701	136.6	66	13	1	30	12	48	0
7	140	30.796	136.3	67	19		30	12	48	1
8	139	30.106	137.6	68	-21		30	12	48	2
9	134	26.072	135.8	69	10	1	30	12	48	0
10	131	22.307	135.2	70	49	1	30	12	48	0
11	133	25.034	135.6	71	10	1	30	12	48	0
12	123	15.719	136.0	72	31	3	30	12	48	0
13	120	12.679	140.0	73	2	3	30	12	48	0
14	121	13.167	135.3	74	6	1	30	12	48	6
15	122	14.286	135.1	75	23	3	30	12	48	0
16	119	11.517	142.6	76	41	3	30	12	48	0
17	117	10.356	139.7	77	24	3	30	12	48	0
18	116	9.735	135.4	78	20	3	30	12	48	0
19	115	8.876	134.3	79	21	1	30	12	48	0
20	113	8.340	134.9	80	7	3	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 7 Shot point 7 Team 5

Shot time: 310: 9: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	181	59.865	138.6	81	6	2	30	12	48	0
2	180	58.860	138.8	82	-15	2	30	12	48	0
3	168	51.626	136.9	83	50	2	30	12	48	0
4	176	56.266	138.1	84	-18	3	30	12	48	0
5	169	52.619	137.2	85	-44	2	30	12	48	0
6	167	50.786	136.9	86	0	2	30	12	48	0
7	160	45.425	138.2	87	252	1	30	12	48	0
8	164	49.194	137.7	88	50	2	30	12	48	0
9	161	46.215	137.6	89	2	2	30	12	48	0
10	178	57.519	138.1	90	9	2	30	12	48	0
11	158	43.834	136.0	91	15	1	30	12	48	0
12	159	44.746	137.9	92	6	2	30	12	48	0
13	171	53.263	137.1	93	4	2	30	12	48	0
14	172	53.969	137.9	94	53	2	30	12	48	0
15	179	57.948	138.7	95	17	2	30	12	48	0
16	165	50.006	137.7	96	-15	2	30	12	48	0
17	162	47.122	137.3	97	15	2	30	12	48	0
18	177	56.812	138.1	98	-64	2	30	12	48	0
19	163	48.143	137.9	99	49	2	30	12	48	0
20	175	55.986	138.0	100	28		30	12	48	1

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 7 Shot point 7 Team 6

Shot time: 310: 9: 0: 0.010

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	173	54.622	138.2	101	40	2	30	12	48	0
2	174	55.263	138.3	102	29	2	30	12	48	0
3	125	17.576	136.7	103	6	3	30	12	48	0
4	141	31.264	136.8	104	-8	2	30	12	48	0
5	110	6.969	124.9	105	33	3	30	12	48	0
6	118	10.646	143.1	106	18	3	30	12	48	0
7	153	39.614	137.0	107	62	1	30	12	48	0
8	155	40.790	137.2	108	31	1	30	12	48	0
9	156	41.658	137.6	109	24	1	30	12	48	0
10	157	42.769	137.9	110	27	1	30	12	48	0
11	107	4.435	134.5	111	74	3	30	12	48	6
12	106	3.895	135.1	112	14	3	30	12	48	6
13	104	3.389	136.9	113	18	3	30	12	48	0
14	103	2.316	137.9	114	2	3	30	12	48	6
15	102	1.172	135.7	115	14	3	30	12	48	0
16	101	0.038	333.1	116	16	3	30	12	48	6
17	112	8.167	130.1	117	50	3	30	12	48	0
18	111	7.424	129.2	118	34	3	30	12	48	0
19	109	6.478	123.8	119	18	3	30	12	48	0
20	108	5.530	131.3	120	4	3	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 8 Shot point 8 Team 1

Shot time: 305: 8: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	124	16.817	350.6	1	9	2	30	12	48	0
2	126	17.410	352.3	2	-14	2	30	12	48	0
3	127	16.832	353.7	3	7	2	30	12	48	0
4	128	16.451	355.7	4	6	2	30	12	48	0
5	129	16.200	358.0	5	10		30	12	48	2
6	130	15.830	0.9	6	2	2	30	12	48	0
7	132	14.069	9.8	7	-6	2	30	12	48	0
8	135	12.095	21.6	8	-23	2	30	12	48	0
9	136	11.302	24.3	9	2018	2	30	12	48	0
10	137	11.138	27.9	10	0		30	12	48	1
11	138	10.616	30.2	11	-36		30	12	48	1
12	142	10.679	44.8	12	1	1	30	12	48	0
13	143	10.494	46.8	13	-6	1	30	12	48	0
14	144	10.479	51.3	14	0		30	12	48	1
15	145	10.758	55.1	15	2	1	30	12	48	0
16	197	42.517	125.4	16	4	2	30	12	48	0
17	223	63.841	130.2	17	6		30	12	48	2
18	224	64.663	130.7	18	-8	2	30	12	48	0
19	225	65.377	130.9	19	-34	2	30	12	48	0
20	226	66.290	131.0	20	-24	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 8 Shot point 8 Team 2

Shot time: 305: 8: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	196	41.657	125.1	21	48	2	30	12	48	0
2	195	41.146	124.9	22	1275	2	30	12	48	0
3	198	43.435	125.4	23	271	2	30	12	48	0
4	199	44.037	125.6	24	-24	2	30	12	48	0
5	200	45.006	125.6	25	786	2	30	12	48	0
6	201	46.236	125.4	26	-3264	2	30	12	48	0
7	202	47.009	124.9	27	-22	2	30	12	48	0
8	193	39.685	124.1	28	0		30	12	48	1
9	194	40.812	124.0	29	271	2	30	12	48	0
10	192	39.058	123.5	30	223		30	12	48	7/ 2
11	191	37.673	124.2	31	-836	2	30	12	48	8
12	190	36.929	124.1	32	273		30	12	48	1
13	189	36.111	124.3	33	617	2	30	12	48	0
14	188	35.009	123.6	34	112	2	30	12	48	0
15	187	34.068	123.3	35	-1296	2	30	12	48	0
16	186	32.924	123.1	36	47	2	30	12	48	0
17	185	32.126	123.0	37	105	2	30	12	48	0
18	184	31.011	122.4	38	56		30	12	48	4
19	183	30.249	121.2	39	31	2	30	12	48	0
20	182	29.488	119.9	40	204		30	12	48	2

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 8 Shot point 6 Team 3

Shot time: 305: 8: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	222	62.654	130.3	41	15	2	30	12	48	0
2	221	61.853	129.7	42	11	2	30	12	48	0
3	220	61.034	129.1	43	-4	2	30	12	48	0
4	219	60.277	128.8	44	18	2	30	12	48	0
5	218	59.279	128.5	45	-48		30	12	48	1
6	217	58.261	128.1	46	14	2	30	12	48	0
7	216	57.231	127.9	47	24	2	30	12	48	0
8	215	56.555	127.6	48	-105		30	12	48	2
9	214	55.835	127.4	49	7	2	30	12	48	0
10	213	54.860	127.2	50	11	2	30	12	48	0
11	212	54.203	127.6	51	12	2	30	12	48	0
12	211	53.282	127.8	52	-3	2	30	12	48	0
13	204	47.053	129.1	53	6	2	30	12	48	0
14	207	49.431	128.7	54	7	2	30	12	48	0
15	210	52.206	128.3	55	2		30	12	48	2
16	209	51.156	128.7	56	7	2	30	12	48	0
17	208	50.318	128.8	57	6	2	30	12	48	0
18	206	48.887	128.7	58	10	2	30	12	48	0
19	205	47.836	128.8	59	0	2	30	12	48	0
20	203	46.552	128.4	60	-3		30	12	48	4

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 8 Shot point 8 Team 4

Shot time: 305: 8: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	151	11.743	76.6	61	12	1	30	12	48	0
2	150	12.168	73.3	62	9	1	30	12	48	0
3	149	11.641	71.0	63	10	1	30	12	48	0
4	148	11.254	67.5	64	4	1	30	12	48	0
5	147	10.797	63.7	65	4	1	30	12	48	0
6	146	10.840	59.0	66	5	1	30	12	48	0
7	140	10.819	38.2	67	2		30	12	48	1
8	139	10.307	33.8	68	0		30	12	48	2
9	134	12.615	16.6	69	5	1	30	12	48	0
10	131	15.024	4.5	70	20	2	30	12	48	0
11	133	13.228	12.8	71	-3	2	30	12	48	0
12	123	19.836	349.5	72	14	2	30	12	48	0
13	120	22.045	343.1	73	2	2	30	12	48	0
14	121	22.087	346.1	74	3	2	30	12	48	0
15	122	21.168	347.8	75	11	2	30	12	48	0
16	119	22.943	340.6	76	28	2	30	12	48	0
17	117	24.219	341.1	77	12	2	30	12	48	0
18	116	25.095	342.1	78	7		30	12	48	1
19	114	25.973	341.6	79	9	2	30	12	48	0
20	113	26.379	340.9	80	4	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 8 Shot point 8 Team 5

Shot time: 305: 8: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	181	28.711	119.5	81	950	2	30	12	48	0
2	180	27.691	119.2	82	-200	2	30	12	48	0
3	168	21.823	106.5	83	1219	2	30	12	48	0
4	176	25.523	115.8	84	1963	2	30	12	48	0
5	170	22.532	110.7	85	-417	2	30	12	48	0
6	166	21.166	106.9	86	-51	2	30	12	48	2
7	160	15.993	101.1	87	2255	2	30	12	48	8
8	164	19.332	106.9	88	288	2	30	12	48	0
9	161	16.904	101.5	89	1967		30	12	48	3
10	178	26.694	116.8	90	-43		30	12	48	3
11	158	14.834	97.0	91	2048	1	30	12	48	0
12	159	15.576	99.1	92	-87		30	12	48	2
13	171	23.183	110.8	93	-1102	2	30	12	48	0
14	172	23.491	113.3	94	235	2	30	12	48	0
15	179	26.852	118.5	95	-9	2	30	12	48	0
16	165	20.046	108.1	96	-263	2	30	12	48	0
17	162	17.796	102.5	97	1133	2	30	12	48	0
18	177	26.023	116.3	98	754	2	30	12	48	0
19	163	18.372	105.6	99	2127	1	30	12	48	0
20	175	25.295	115.4	100	2033	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 8 Shot point 8 Team 6

Shot time: 305: 8: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	173	23.952	114.6	101	187	2	30	12	48	0
2	174	24.544	115.3	102	84	2	30	12	48	0
3				103	85		30	12	48	5
4				104	-173		30	12	48	5
5				105	111		30	12	48	5
6				106	76		30	12	48	5
7	153	12.559	81.7	107	260	1	30	12	48	0
8	154	13.135	86.0	108	134		30	12	48	2/7
9	156	13.379	90.4	109	30	2	30	12	48	0
10	157	14.105	93.9	110	108	1	30	12	48	0
11	107	29.955	337.7	111	404	2	30	12	48	0
12	105	30.666	337.4	112	18	2	30	12	48	0
13	104	30.867	336.7	113	91	2	30	12	48	0
14	103	31.868	336.0	114	-16	2	30	12	48	0
15	102	32.972	335.4	115	75	2	30	12	48	0
16	101	34.117	334.7	116	-20	2	30	12	48	0
17	112	26.862	342.0	117	181	2	30	12	48	0
18	111	27.562	341.4	118	94	2	30	12	48	0
19	109	28.713	341.4	119	63	2	30	12	48	0
20	108	29.086	339.1	120	-6	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 9 Shot point 9 Team 1

Shot time: 305: 9: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	124	23.619	12.4	1	10	2	30	12	48	0
2	126	22.526	15.0	2	-15	1	30	12	48	0
3	127	22.155	16.6	3	8	2	30	12	48	0
4	128	22.028	18.3	4	6	2	30	12	48	0
5	129	22.038	20.1	5	11	2	30	12	48	0
6	130	21.996	22.4	6	2	1	30	12	48	0
7	132	21.187	29.9	7	-7	1	30	12	48	0
8	135	20.178	38.7	8	-24	2	30	12	48	0
9	136	19.583	40.9	9	2020	2	30	12	48	0
10	137	19.613	42.9	10	0		30	12	48	1
11	138	19.222	44.6	11	-38		30	12	48	1
12	142	19.802	52.4	12	1		30	12	48	7
13	143	19.666	53.5	13	-6	2	30	12	48	0
14	144	19.732	55.9	14	0		30	12	48	1
15	145	20.057	57.9	15	2	2	30	12	48	0
16	197	47.323	115.1	16	5	2	30	12	48	0
17	223	67.747	122.7	17	6	2	30	12	48	0
18	224	68.489	123.3	18	-8	2	30	12	48	0
19	225	69.164	123.6	19	-36	2	30	12	48	0
20	226	70.054	123.8	20	-26	2	30	12	48	9

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 9 Shot point 9 Team 2

Shot time: 305: 9: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	196	46.509	114.7	21	48	2	30	12	48	0
2	195	46.036	114.4	22	1275	2	30	12	48	0
3	198	48.227	115.3	23	271	2	30	12	48	0
4	199	48.788	115.6	24	-24	2	30	12	48	0
5	200	49.752	115.8	25	787		30	12	48	2
6	201	50.989	115.8	26	-3272	2	30	12	48	0
7	202	51.812	115.6	27	-22	2	30	12	48	0
8	193	44.708	113.3	28	0		30	12	48	1
9	194	45.821	113.6	29	271		30	12	48	7
10	192	44.162	112.7	30	223		30	12	48	2/ 7
11	191	42.915	113.0	31	-832	2	30	12	48	0
12	190	42.000	112.7	32	274		30	12	48	1
13	189	41.180	112.6	33	-333	2	30	12	48	0
14	188	40.181	111.7	34	112	2	30	12	48	0
15	187	39.301	111.1	35	703		30	12	48	7
16	186	38.212	110.6	36	48	2	30	12	48	0
17	185	37.443	110.3	37	106	2	30	12	48	0
18	184	36.426	109.4	38	56	2	30	12	48	0
19	183	35.824	108.2	39	31	2	30	12	48	0
20	182	35.246	106.7	40	204	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 9 Shot point 9 Team 3

Shot time: 305: 9: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	222	66.552	122.7	41	16	2	30	12	48	0
2	221	65.841	122.1	42	12	2	30	12	48	0
3	220	65.108	121.5	43	-4	2	30	12	48	0
4	219	64.409	121.0	44	19	2	30	12	48	0
5	218	63.460	120.7	45	-51		30	12	48	1
6	217	62.502	120.2	46	15	2	30	12	48	0
7	216	61.508	119.9	47	26	2	30	12	48	0
8	215	60.891	119.4	48	-111		30	12	48	2
9	214	60.197	119.2	49	7	2	30	12	48	0
10	213	59.259	118.9	50	12	2	30	12	48	0
11	212	58.554	119.2	51	13	2	30	12	48	0
12	211	57.620	119.2	52	-3	2	30	12	48	0
13	204	51.292	119.3	53	7	2	30	12	48	0
14	207	53.689	119.4	54	7	2	30	12	48	0
15	210	56.482	119.5	55	2		30	12	48	2
16	209	55.394	119.7	56	8	2	30	12	48	0
17	208	54.550	119.7	57	7	2	30	12	48	0
18	206	53.157	119.3	58	10	2	30	12	48	0
19	205	52.107	119.2	59	0	2	30	12	48	0
20	203	50.887	118.6	60	-3	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 9 Shot point 9 Team 4

Shot time:, 305: 9: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	151	20.881	69.7	61	12	1	30	12	48	0
2	150	21.375	68.0	62	10	1	30	12	48	0
3	149	20.891	66.6	63	10	2	30	12	48	0
4	148	20.550	64.6	64	5		30	12	48	7/ 2
5	147	20.119	62.5	65	5	2	30	12	48	0
6	146	20.163	59.9	66	5	2	30	12	48	0
7	140	19.744	48.7	67	2		30	12	48	1
8	139	19.078	46.7	68	0		30	12	48	2
9	134	20.340	35.3	69	5	2	30	12	48	0
10	131	21.599	25.6	70	21	2	30	12	48	0
11	133	20.640	32.5	71	-3	2	30	12	48	0
12	123	24.425	10.7	72	14	2	30	12	48	0
13	120	25.653	3.9	73	2	2	30	12	48	0
14	121	26.101	6.3	74	4	2	30	12	48	0
15	122	25.463	8.3	75	12	2	30	12	48	0
16	119	26.171	1.3	76	29	2	30	12	48	0
17	117	27.410	0.6	77	12	2	30	12	48	0
18	116	28.384	0.9	78	7		30	12	48	1
19	114	29.143	359.9	79	10	1	30	12	48	0
20	113	29.426	359.0	80	4	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 9 Shot point 9 Team 5

Shot time: 305: 9: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	181	34.529	106.2	81	950	2	30	12	48	0
2	180	33.569	105.6	82	-200	2	30	12	48	0
3	168	28.971	94.7	83	1220	2	30	12	48	0
4	176	31.841	101.9	84	1963	2	30	12	48	0
5	170	29.453	96.7	85	1512	2	30	12	48	0
6	166	28.468	93.3	86	-51		30	12	48	4
7	160	23.905	86.6	87	2259	2	30	12	48	0
8	164	26.686	92.4	88	289	2	30	12	48	0
9	161	24.763	87.3	89	1967		30	12	48	3
10	178	32.873	103.2	90	-43		30	12	48	3
11	158	23.049	83.3	91	2048	2	30	12	48	0
12	159	23.640	85.0	92	-87		30	12	48	2
13	171	30.071	97.1	93	-1102	2	30	12	48	0
14	172	30.132	99.1	94	236	2	30	12	48	0
15	179	32.840	104.6	95	-9	2	30	12	48	0
16	165	27.281	93.6	96	-264	2	30	12	48	0
17	162	25.553	88.5	97	1134	2	30	12	48	0
18	177	32.274	102.5	98	753	2	30	12	48	0
19	163	25.870	90.9	99	2128		30	12	48	2/ 7
20	175	31.662	101.5	100	2033	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 9 Shot point 9 Team 6

Shot time: 305: 9: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	173	30.440	100.3	101	188	2	30	12	48	0
2	174	30.941	101.1	102	84	2	30	12	48	0
3				103	85		30	12	48	5
4				104	-173		30	12	48	5
5				105	111		30	12	48	5
6				106	76		30	12	48	5
7	153	21.541	72.9	107	262	1	30	12	48	0
8	154	21.952	75.7	108	135	1	30	12	48	0
9	156	21.993	78.4	109	30	2	30	12	48	0
10	157	22.520	80.9	110	109	1	30	12	48	0
11	107	32.369	354.3	111	405	1	30	12	48	0
12	105	33.009	353.7	112	18	2	30	12	48	0
13	104	33.090	352.9	113	92	2	30	12	48	0
14	103	33.944	351.8	114	-16	2	30	12	48	0
15	102	34.925	350.8	115	75	2	30	12	48	0
16	101	35.927	349.7	116	-20	2	30	12	48	0
17	112	30.046	359.7	117	182	2	30	12	48	0
18	111	30.628	358.8	118	94	2	30	12	48	0
19	109	31.727	358.2	119	64	2	30	12	48	0
20	108	31.744	355.9	120	-6	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 10 Shot point 10 Team 1

Shot time: 310: 8: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	124	57.409	334.4	1	40	2	30	12	48	0
2	126	55.901	334.5	2	-30	2	30	12	48	0
3	127	55.221	334.8	3	26	2	30	12	48	0
4	128	54.667	335.2	4	18	2	30	12	48	0
5	129	54.196	335.7	5	36	2	30	12	48	0
6	130	53.537	336.3	6	7	2	30	12	48	0
7	132	50.879	337.7	7	0	2	30	12	48	0
8	135	47.689	338.8	8	-67	2	30	12	48	0
9	136	46.728	338.6	9	77	2	30	12	48	0
10	137	46.109	339.0	10	106	2	30	12	48	0
11	138	45.436	338.8	11	-91	2	30	12	48	0
12	142	43.183	340.8	12	8	2	30	12	48	0
13	143	42.765	340.8	13	-4	2	30	12	48	0
14	144	41.996	341.2	14	64	2	30	12	48	0
15	145	41.412	341.8	15	15	2	30	12	48	0
16	197	15.405	56.5	16	13	2	30	12	48	0
17	223	28.123	106.7	17	24	2	30	12	48	0
18	224	28.657	108.4	18	-31	2	30	12	48	0
19	225	29.220	109.4	19	-156	2	30	12	48	3
20	226	30.026	110.3	20	-54	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 10 Shot point 10 Team 2

Shot time:, 310: 8: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	196	15.285	53.2	21	-3	1	30	12	48	0
2	195	15.290	51.2	22	15	1	30	12	48	0
3	198	15.758	59.6	23	28	1	30	12	48	0
4	199	15.848	61.9	24	-18	2	30	12	48	0
5	200	16.338	64.9	25	39	2	30	12	48	0
6	201	17.099	68.2	26	0	2	30	12	48	3
7	202	17.835	69.6	27	11	2	30	12	48	0
8	193	15.521	45.4	28	-20	1	30	12	48	0
9	194	15.804	49.4	29	26	1	30	12	48	0
10	192	15.781	42.9	30	19	1	30	12	48	0
11	191	15.200	38.8	31	-3170	1	30	12	48	8
12	190	15.211	35.2	32	63	2	30	12	48	3
13	189	15.127	32.1	33	119	2	30	12	48	0
14	188	15.593	28.1	34	29	1	30	12	48	0
15	187	15.903	24.8	35	-62	1	30	12	48	0
16	186	16.243	20.9	36	12	1	30	12	48	0
17	185	16.477	18.2	37	38	2	30	12	48	1
18	184	17.093	14.9	38	24	2	30	12	48	2
19	183	17.925	13.1	39	3	2	30	12	48	0
20	182	18.851	11.6	40	19	1	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 10 Shot point 10 Team 3

Shot time: 310: 8: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	222	26.984	105.9	41	42	2	30	12	48	0
2	221	26.527	104.0	42	40	2	30	12	48	0
3	220	26.060	102.0	43	15	1	30	12	48	0
4	219	25.573	100.5	44	70	1	30	12	48	0
5	218	24.841	98.8	45	20		30	12	48	1
6	217	24.154	96.8	46	85	2	30	12	48	0
7	216	23.385	95.1	47	76	2	30	12	48	0
8	215	23.029	93.4	48	7	2	30	12	48	0
9	214	22.512	92.1	49	24	2	30	12	48	0
10	213	21.842	90.2	50	37	2	30	12	48	0
11	212	21.085	90.0	51	44	2	30	12	48	0
12	211	20.273	88.7	52	-10	2	30	12	48	0
13	204	15.094	76.8	53	25	1	30	12	48	0
14	207	16.882	82.5	54	26	2	30	12	48	0
15	210	19.129	87.8	55	12	2	30	12	48	0
16	209	18.122	86.4	56	32	2	30	12	48	0
17	208	17.442	84.8	57	40	2	30	12	48	0
18	206	16.535	81.1	58	33	2	30	12	48	0
19	205	15.788	78.4	59	0	1	30	12	48	0
20	203	15.225	74.0	60	-11		30	12	48	3

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 10 Shot point 10 Team 4

Shot time: 310: 8: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	152	37.054	344.9	61	26	2	30	12	48	0
2	150	38.037	344.6	62	14	2	30	12	48	0
3	149	38.507	343.8	63	20	2	30	12	48	0
4	148	39.180	343.2	64	10		30	12	48	7/ 2
5	147	39.838	342.4	65	21	2	30	12	48	0
6	146	40.731	342.2	66	13	2	30	12	48	0
7	140	44.334	340.2	67	19		30	12	48	1
8	139	44.721	339.0	68	-21		30	12	48	2
9	134	48.786	338.2	69	10	2	30	12	48	0
10	131	52.387	336.9	70	49	2	30	12	48	0
11	133	49.782	337.8	71	10	2	30	12	48	0
12	123	58.495	334.3	72	31	2	30	12	48	0
13	120	61.163	332.6	73	2	2	30	12	48	0
14	121	60.971	333.7	74	8		30	12	48	2
15	122	59.929	334.1	75	23	2	30	12	48	0
16	119	62.203	331.9	76	41	2	30	12	48	0
17	117	63.444	332.2	77	24	2	30	12	48	0
18	116	64.238	332.8	78	20	2	30	12	48	0
19	115	65.110	332.7	79	21	2	30	12	48	0
20	113	65.592	332.5	80	7	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 10 Shot point 10 Team 5

Shot time: 310: 8: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	181	19.274	9.5	81	6	2	30	12	48	0
2	180	19.767	6.9	82	-15	2	30	12	48	0
3	168	26.273	357.7	83	50	2	30	12	48	0
4	176	22.074	3.1	84	-18	2	30	12	48	0
5	169	25.312	358.6	85	-44	2	30	12	48	0
6	167	26.871	356.4	86	0	2	30	12	48	0
7	160	30.696	348.6	87	252	2	30	12	48	0
8	164	27.725	353.2	88	50	2	30	12	48	0
9	161	30.261	350.1	89	2	2	30	12	48	0
10	178	21.219	5.5	90	9	2	30	12	48	0
11	158	32.138	347.3	91	15	2	30	12	48	0
12	159	31.377	348.3	92	6	2	30	12	48	0
13	171	24.914	359.7	93	4	2	30	12	48	0
14	172	23.879	359.5	94	53	2	30	12	48	0
15	179	20.427	5.1	95	17	2	30	12	48	0
16	165	27.082	354.2	96	-15	2	30	12	48	0
17	162	29.646	351.5	97	15	2	30	12	48	0
18	177	21.677	4.1	98	-64	2	30	12	48	0
19	163	28.522	351.8	99	49	2	30	12	48	0
20	175	22.326	2.7	100	28		30	12	48	1

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 10 Shot point 10 Team 6

Shot time:, 310: 8: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	173	23.172	360.0	101	40	2	30	12	48	0
2	174	22.656	1.0	102	29	2	30	12	48	0
3	125	56.665	334.7	103	6	2	30	12	48	0
4	141	43.806	340.1	104	-8	2	30	12	48	0
5	110	67.369	333.1	105	33	2	30	12	48	0
6	118	63.049	331.7	106	18	2	30	12	48	0
7	153	36.204	345.1	107	82	2	30	12	48	0
8	155	35.108	345.8	108	31	2	30	12	48	0
9	156	34.124	345.8	109	24	2	30	12	48	0
10	157	33.112	346.6	110	27	2	30	12	48	0
11	107	69.341	331.5	111	74	2	30	12	48	0
12	106	69.845	331.4	112	14	2	30	12	48	0
13	104	70.303	331.2	113	18	2	30	12	48	0
14	103	71.337	330.9	114	2		30	12	48	2
15	102	72.463	330.8	115	14	2	30	12	48	0
16	101	73.635	330.5	116	16		30	12	48	2
17	112	65.990	333.0	117	50	2	30	12	48	0
18	111	66.725	332.8	118	34	2	30	12	48	0
19	109	67.863	333.0	119	18		30	12	48	2
20	108	68.393	332.0	120	4	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 11 Shot point 11 Team 1

Shot time: 310: 9: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	124	58.954	343.1	1	40	2	30	12	48	9
2	126	57.481	343.4	2	-30	2	30	12	48	0
3	127	56.843	343.7	3	26	2	30	12	48	0
4	128	56.360	344.2	4	16		30	12	48	2
5	129	55.977	344.8	5	36	2	30	12	48	0
6	130	55.419	345.5	6	7	2	30	12	48	0
7	132	52.996	347.3	7	0	2	30	12	48	0
8	135	50.011	348.9	8	-67	2	30	12	48	0
9	136	49.039	348.9	9	77	2	30	12	48	0
10	137	48.493	349.4	10	106	2	30	12	48	0
11	138	47.809	349.4	11	-91	2	30	12	48	0
12	142	45.877	351.7	12	8	2	30	12	48	9
13	143	45.464	351.8	13	-4	2	30	12	48	0
14	144	44.767	352.4	14	64		30	12	48	4
15	145	44.289	353.1	15	15	2	30	12	48	0
16	197	24.361	57.3	16	13	2	30	12	48	0
17	223	34.781	95.6	17	24	2	30	12	48	0
18	224	35.142	97.2	18	-31	2	30	12	48	0
19	225	35.594	98.2	19	-156		30	12	48	3
20	226	36.299	99.1	20	-54	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 11 Shot point 11 Team 2

Shot time: 310: 9: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	196	24.218	55.3	21	-3	1	30	12	48	0
2	195	24.201	54.0	22	15	2	30	12	48	0
3	198	24.718	59.3	23	28		30	12	48	3
4	199	24.801	60.7	24	-18		30	12	48	3
5	200	25.267	62.7	25	39	2	30	12	48	0
6	201	25.981	64.9	26	0		30	12	48	3
7	202	26.690	66.0	27	11		30	12	48	4
8	193	24.325	50.3	28	-20	2	30	12	48	0
9	194	24.686	52.8	29	26	2	30	12	48	0
10	192	24.520	46.6	30	19		30	12	48	7
11	191	23.814	46.2	31	-3170	2	30	12	48	0
12	190	23.692	43.9	32	63		30	12	48	3
13	189	23.477	42.0	33	119		30	12	48	4
14	188	23.740	39.2	34	29	2	30	12	48	0
15	187	23.859	36.9	35	-62	2	30	12	48	0/7
16	186	23.949	34.1	36	12	1	30	12	48	0
17	185	23.995	32.2	37	38		30	12	48	1
18	184	24.346	29.6	38	24		30	12	48	2
19	183	25.014	27.9	39	3	2	30	12	48	0
20	182	25.783	26.3	40	19	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 11 Shot point 11 Team 3

Shot time: 310: 9: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	222	33.732	94.7	41	42	2	30	12	48	0
2	221	33.459	93.0	42	40		30	12	48	4
3	220	33.168	91.3	43	15	2	30	12	48	0
4	219	32.818	90.0	44	70	2	30	12	48	0
5	218	32.229	88.5	45	20		30	12	48	1
6	217	31.701	86.8	46	85	2	30	12	48	0
7	216	31.066	85.3	47	76	2	30	12	48	0
8	215	30.830	83.9	48	7	2	30	12	48	0
9	214	30.405	82.8	49	24	2	30	12	48	0
10	213	29.860	81.2	50	37	2	30	12	48	0
11	212	29.127	80.8	51	44	1	30	12	48	0
12	211	28.398	79.6	52	-10		30	12	48	4
13	204	23.780	70.1	53	25		30	12	48	4
14	207	25.347	74.3	54	26	2	30	12	48	0
15	210	27.317	78.6	55	12	2	30	12	48	0
16	209	26.392	77.4	56	32	2	30	12	48	0
17	208	25.798	76.0	57	40	2	30	12	48	0
18	206	25.062	73.3	58	33	2	30	12	48	0
19	205	24.416	71.3	59	0	2	30	12	48	0
20	203	23.988	68.4	60	-11		30	12	48	3

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 11 Shot point 11 Team 4

Shot time: 310: 9: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	152	40.453	357.1	61	26	2	30	12	48	0
2	150	41.377	356.6	62	14	2	30	12	48	0
3	149	41.723	355.7	63	20	2	30	12	48	0
4	148	42.292	355.0	64	10	2	30	12	48	0
5	147	42.825	354.1	65	21	2	30	12	48	0
6	146	43.674	353.7	66	13	2	30	12	48	0
7	140	46.917	350.9	67	19		30	12	48	1
8	139	47.135	349.8	68	-21		30	12	48	2
9	134	51.008	348.1	69	10		30	12	48	4
10	131	54.367	346.2	70	49		30	12	48	4
11	133	51.936	347.6	71	10	2	30	12	48	0
12	123	60.013	342.8	72	31	2	30	12	48	0
13	120	62.395	340.8	73	2	2	30	12	48	0
14	121	62.369	341.9	74	8	2	30	12	48	0
15	122	61.399	342.4	75	23	2	30	12	48	0
16	119	63.319	340.0	76	41	2	30	12	48	0
17	117	64.592	340.1	77	24		30	12	48	4
18	116	65.458	340.6	78	20		30	12	48	4
19	115	66.309	340.4	79	21		30	12	48	4
20	113	66.753	340.1	80	7	2	30	12	48	0

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 11 Shot point 11 Team 5

Shot time: 310: 9: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	181	26.016	24.6	81	6	2	30	12	48	0
2	180	26.253	22.4	82	-15		30	12	48	4
3	168	31.580	12.0	83	50	2	30	12	48	0
4	176	28.108	18.3	84	-18	2	30	12	48	0
5	169	30.752	13.2	85	-44	2	30	12	48	0
6	167	32.012	10.7	86	0	2	30	12	48	0
7	160	34.758	2.6	87	252	2	30	12	48	0
8	164	32.461	7.7	88	50		30	12	48	7/ 2
9	161	34.531	4.1	89	2	2	30	12	48	0
10	178	27.523	20.6	90	9	2	30	12	48	0
11	158	35.996	1.0	91	15	2	30	12	48	0
12	159	35.377	2.0	92	6	2	30	12	48	0
13	171	30.498	14.3	93	4	2	30	12	48	0
14	172	29.473	14.6	94	53	2	30	12	48	0
15	179	26.719	20.7	95	17	2	30	12	48	0
16	165	31.963	8.9	96	-15	2	30	12	48	0
17	162	34.109	5.5	97	15	2	30	12	48	0
18	177	27.824	19.3	98	-64	2	30	12	48	0
19	163	33.058	6.2	99	49	2	30	12	48	0
20	175	28.316	17.9	100	28		30	12	48	1

FIELD DATA TABLE

SAN LUIS OBISPO PGE SHOTS NOV 1986

Shot number 11 Shot point 11 Team 6

Shot time: 310: 9: 2: 0.000

	Loc	Dist(km)	Azim	Unit	Chron	Chan	C1	C2	C3	Tape grade
1	173	28.840	15.4	101	40	2	30	12	48	0
2	174	28.453	16.4	102	29	2	30	12	48	0
3	125	58.261	343.5	103	6	2	30	12	48	0
4	141	46.391	351.0	104	-8	2	30	12	48	0
5	110	68.608	340.5	105	33	2	30	12	48	0
6	118	64.123	339.7	106	18	2	30	12	48	0
7	153	39.649	357.6	107	82	2	30	12	48	0
8	155	38.677	358.5	108	31	1	30	12	48	0
9	156	37.717	358.9	109	24	2	30	12	48	0
10	157	36.839	359.9	110	27	2	30	12	48	0
11	107	70.326	338.8	111	74	2	30	12	48	0
12	106	70.801	338.6	112	14	2	30	12	48	0
13	104	71.226	338.3	113	18	2	30	12	48	0
14	103	72.214	338.0	114	2	2	30	12	48	0
15	102	73.307	337.7	115	14	2	30	12	48	0
16	101	74.434	337.4	116	16		30	12	48	7/ 2
17	112	67.225	340.6	117	50	2	30	12	48	0
18	111	67.932	340.3	118	34		30	12	48	4
19	109	69.082	340.3	119	18	2	30	12	48	0
20	108	69.465	339.4	120	4	2	30	12	48	0

TABLE 4

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 applies 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 shot point - station azimuth (second of arc).
 C40 201 - 204 time of first point minus shot time (msec).

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.

Shot point 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.