

POTRILLO

Potrillo Volcanic Field

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**REPORT FOR THE ACTIVE SEISMIC DATA ACQUIRED
IN THE 2003 POTRILLO VOLCANIC FIELD (PVF)
SEISMIC INVESTIGATION, SOUTHERN NEW MEXICO
AND EL PASO, TEXAS REGION**

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Abstract

This report describes the acquisition, processing, and quality of the wide-angle reflection and refraction seismic data obtained in the Potrillo Volcanic Field (PVF) seismic investigation of the Southern Rio Grande Rift performed in May of 2003. This experiment recorded an approximately 205 km long, east-west trending, single channel, wide-angle reflection and refraction seismic profile in southern New Mexico and far west Texas. Data was acquired using 793 seismographs and 9 shot points utilizing approximately one ton charges. Station spacings along the profile were designed to acquire wide-angle reflection data across the Potrillo Volcanic Field located in the central portion of the profile as well as to determine basin geometry within Ft. Bliss military base on the eastern end of the profile. Therefore 509 seismographs were deployed at nominal 100 meter spacing across the volcanic field, 58 seismographs were deployed at nominal 200 meter spacing within Ft. Bliss on the eastern end of the profile and the remaining 226 instruments were deployed at nominal 600 meter spacing. Shot points were located at each end of the profile, at each end of the central wide-angle deployment with one in the middle, on the western end of the military base used for reversal of the east end shot point and bisecting the west end deployment.

The broad goal of the entire profile is to investigate the structural and seismic velocity characteristics of the Southern Rio Grande Rift (SRGR) and the associated Potrillo Volcanic Field. The wide-angle deployment across the volcanic field was designed to observe the structural layering underlying this region of the SRGR and will be used in unison with current xenolith studies from local maars. In this report, we provide information as to the design of the experiment, the data acquisition, processing and merging of the data, and the preliminary quality of the acquired profiles. We also describe the format and content of the archival tapes containing the SEG-Y formatted, common shot gathers. Preliminary data observations show pronounced reflections underlying the Potrillo Volcanic Field region with exceptional signal coverage along the entire length of the profile for all, but one shot (shotpoint 9).

INTRODUCTION

In May of 2003 the PVF (Potrillo Volcanic Field) seismic survey was performed to investigate the crustal structure across the southern Rio Grande Rift and the PVF in Southern New Mexico and Far West Texas. This experiment utilized approximately 800 seismic recording instruments, called Texans, provided by the University of Texas at El Paso and the PASSCAL instrument center in Socorro New Mexico as well as volunteers from 6 universities within the US and the United Kingdom. The purpose of PVF was to obtain two-dimensional structural control across the Potrillo Volcanic Field and a portion of the southern Rio Grande Rift in order to better understand crustal evolution through magmatism due to extension.

In this report we describe the data collected in the May 2003 PVF experiment. We will provide information pertaining to the data acquisition and formatting for this experiment, which included 9 shots along a 205 km long profile using 793 instruments.

DATA ACQUISITION

Experiment Design

The Potrillo Volcanic Field (PVF) seismic investigation was designed to acquire wide-angle reflection as well as refraction coverage along an east-west profile across the Southern Rio Grande Rift (SRGR) in southern New Mexico and far west Texas. The location and length of this 205 km long profile was determined by factors including: 1) Desired geologic targets such as the PVF and the SRGR; 2) Available seismic instruments; 3) Deployment logistics across southern New Mexico, the city of El Paso and Ft. Bliss Military base. Utilization of New Mexico highway 9 (Columbus Hwy) across southern New Mexico provided the truest East-West profile and easiest deployment logistics for this study. The hwy was used to deploy portions of the profile west of Columbus, NM and from approximately 15 miles east of Columbus, NM to the eastern edge of the West Mesa near Santa Teresa, NM. The western most section of the profile involved the usage of private farmland roads, Bureau of Land Management 4WD access roads and one 9 mile hiking section. Deployment across the city of El Paso and into Ft. Bliss Military base required permissions from private residences, placement on public properties and special permissions from Ft. Bliss. The profile was broken into four sections with a change in station spacing for each section. Closer station spacing was used to acquire wide-angle reflection data across the PVF and within Ft. Bliss military base at the eastern end of the line.

Station and shotpoint numbers increase from west to east along the profile (Figure 1). Station 1001 and shotpoints 1 and 2 are located approximately 30 miles S. of Hacita, NM in the valley west of hwy. Stations 1002-1153 are located at 600 m eastward relative offset from the west end to the east end of Columbus valley approximately 20 miles east

of Columbus, NM. Station 1154 begins 100 m station spacing from the eastern edge of the Columbus valley and continues eastward to station 1663 approximately 50 km east along the highway. Within this 100m section there are two sections of 200 m spacing from stations 1256 to 1271 and 1519 to 1534 used to maximize the use of the available instruments. Stations 1664 through 1693 are located at 600 m spacing along the highway eastward to the edge of the mesa. Stations from the mesa across El Paso, the Franklin Mountains and down into Ft. Bliss (1694-1737) are at 600 m spacing. Starting at station 1737 approximately 1.5 km west of loop 375 inside Ft. Bliss, stations 1737 through the east end at station 1795 and shotpoints 8 and 9 are located at 200 m spacings.

Seismographs

Instrumentation used for this experiment solely consisted of “Texans” provided by UTEP and PASSCAL. The Texans are single-component digital seismographs that record the signal from a single Mark Products® 1-10B vertical-component 4.5-Hz. Geophone. Using these instruments we enjoyed an approximate 99% data recovery.

Seismograph Deployment

Of the 793 Texan seismographs deployed, 72 were deployed on May 9th while the remaining 721 instruments were deployed on May 10th. All the instruments were picked up on May 11th. One instrument was missing upon retrieval, but was located on the 12th.

Shotpoints

Shot holes were drilled and loaded between the dates of April 22 and May 17. The shots were detonated on the morning of May 18 between 12:00 AM and 4:00 AM Mountains standard time.

A total of 9 shots were recorded from 9 shotpoints numbered from west to east 1 through 9 (Figure 1). Two shots were recorded at both the west (1 and 2) and east (8 and 9) ends of the profile to allow stacking. Shot 3 was located approximately 100 m North of the Mexico border, 15 km West of Columbus, NM, just East of the Carzalia Onion farm property. Shots 4 and 6 were located on the West and East side of the 100 m wide-angle deployment on the eastern edge of the Columbus valley and 100m North of highway just west of mile marker 140. Shot 5 was centrally located within the wide-angle deployment approximately 100 m North of the Mexico border, 1 km South and 1 km East of mile marker 117. Shot 7 was located within Biggs approximately 1 km West of loop 375 and will be used for reversal of shots 8 and 9. Shots 1,4,6,7,8 were loaded with 2000 lbs (909.1kg) of Slurran 406, shots 2 and 9 were loaded with 2500 lbs (1136.4 kg) of emulsion, shot 3 was loaded with 1200 lbs (545.5 kg) of Slurran 406 and shot 5 was loaded with 2800 lbs (1272.7 kg). The main charge for each shot was detonated using 1 lb boosters ignited by Primacord® detonating cord. The detonating cord was ignited by an electrical blasting cap using a UTEP designed “seismic initiator” linked to a Reftek 111A GPS clock. Table 1 provides shotpoint location information from west to east. Shot point latitude and longitudes are given in NAD 27 datum for UTM zone 12 and 13 northings and eastings.

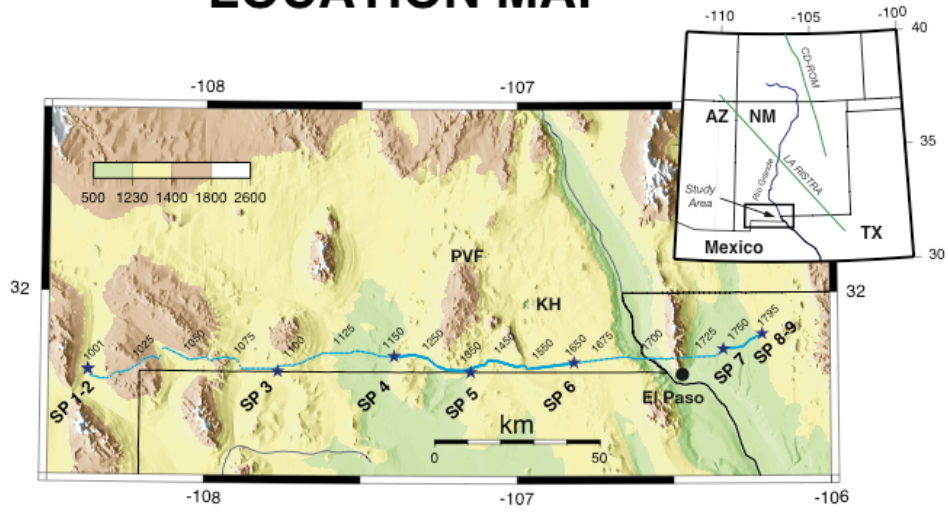
Data Downloading

Data recorded by the Texans were downloaded on the day of retrieval.

Station and Shotpoint Locations

Shotpoint and seismograph locations and elevations are provided in Tables 1 and 2 and are based on differential GPS measurements, using the North American 1927 Datum (NAD 27) and are presented in UTM zone 12 and 13 eastings and northings. The GPS receiver occupied each station location for no less than 15 seconds, yielding a nominal horizontal spatial accuracy of about 0.5 m and a vertical accuracy of approximately 1 m.

LOCATION MAP



EXPERIMENT PARAMETERS

Profile Length: 205 km

Receivers: 793 Texans laid out at variable spacings (100, 200, and 600 m)

Sources: 9 shot holes loaded with 1000-2000 lbs of explosives

Figure 1. Location map for the Potrillo Volcanic Field (PVF) experiment.

SEGY DATA MERGING

Station numbers

Receiver stations were numbered 1001 to 1795 from West to East. Stations 1156 and 1722 were omitted due to no deployment at that station location.

UTM coordinates

Station 1001-1057 and shotpoints 1-2 are located in UTM zone 12, while stations 1058-1795 and shotpoints 3-9 are located in UTM zone 13 and is indicated as such in tables 1 and 2.

Texan data processing

Clock drift correction: previously made during preprocessing of Texan data.
Debias by subtracting the mean trace amplitude from every sample
Put UTM geometry into SEG Y headers

SEGY Trace Format

SEGY trace header formats are described in Table 3 and are modified from described format of Barry et al. (1975). The data trace values are written as 32 bit, IBM floating-point numbers (SEGY standard) as output from PROMAX. All nine shot gathers were merged into one SEG Y file. There are 793 total traces per shot gather each with fifty seconds of saved data.

References:

TABLE 1: SHOTPOINT DATA TABLE

<u>Shotpoint</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Arcsecond Latitude</u>	<u>Arcsecond Longitude</u>	<u>UTM Easting*</u>	<u>UTM Northing*</u>	<u>Elevation</u>
SP1	31.78686	-108.373	114432.6969	-390143.592	748730	3519629	1328.906
SP2	31.7865	-108.373	114431.399	-390143.6287	748730	3519589	1328.909
SP3	31.78436	-107.767	114423.7026	-387960.4397	238001	3519681	1301.146
SP4	31.8265	-107.394	114575.4147	-386617.5958	273436	3523515	1203.079
SP5	31.78376	-107.148	114421.5372	-385733.9218	296580	3518290	1234.701
SP6	31.81021	-106.819	114516.7736	-384548.8244	327805	3520654	1248.372
SP7	31.84681	-106.341	114648.5198	-382828.9838	373081	3524053	1205.529
SP8	31.88744	-106.217	114794.7991	-382379.8046	384938	3528418	1233.645
SP9	31.88771	-106.217	114795.7696	-382380.1981	384928	3528448	1234.706

· **Shotpoints 1 - 2 UTM zone 12**

· **Shotpoints 3 - 9 UTM zone 13**

TABLE 2: RECEIVER DATA TABLE 1

<u>Station number</u>	<u>Latitude</u>	<u>Longitude</u>	<u>UTM Easting*</u>	<u>UTM Northing*</u>	<u>Elevation (m)</u>								
1001	31.78666	-108.373	748725	3519607	1330.658	1028	31.81438	-108.194	765666	3523106	1442.964		
1002	31.77754	-108.37	749076	3518604	1332.578	1029	31.81737	-108.187	766298	3523454	1434.906		
1003	31.76925	-108.365	749547	3517695	1339.329	1030	31.81917	-108.18	766930	3523670	1427.162		
1004	31.76758	-108.358	750191	3517526	1344.967	1031	31.82234	-108.173	767578	3524039	1420.182		
1005	31.76628	-108.353	750715	3517394	1349.85	1032	31.82295	-108.167	768169	3524122	1420.997		
1006	31.76524	-108.347	751289	3517292	1354.519	1033	31.82082	-108.161	768756	3523901	1413.817		
1007	31.76366	-108.341	751883	3517131	1358.534	1034	31.81845	-108.154	769371	3523654	1402.872		
1008	31.76179	-108.335	752464	3516938	1365.277	1035	31.81649	-108.149	769929	3523451	1394.818		
1009	31.76072	-108.328	753040	3516833	1370.661	1036	31.82411	-108.141	770609	3524315	1389.95		
1010	31.76213	-108.322	753617	3517004	1376.388	1037	31.84435	-108.134	771189	3526576	1386.252		
1011	31.76144	-108.316	754221	3516943	1379.907	1038	31.84644	-108.126	771979	3526829	1393.227		
1012	31.76341	-108.308	754936	3517179	1388.736	1039	31.84419	-108.12	772501	3526593	1391.64		
1013	31.76639	-108.301	755668	3517527	1396.711	1040	31.84125	-108.113	773187	3526285	1393.61		
1014	31.77319	-108.292	756416	3518301	1405.2	1041	31.83899	-108.108	773709	3526049	1395.375		
1015	31.77734	-108.284	757175	3518780	1415.018	1042	31.83653	-108.102	774305	3525791	1395.987		
1016	31.77881	-108.278	757794	3518959	1419.494	1043	31.83382	-108.095	774898	3525506	1392.967		
1017	31.77931	-108.271	758405	3519030	1422.516	1044	31.83163	-108.09	775461	3525278	1395.381		
1018	31.77952	-108.265	759029	3519069	1426.397	1045	31.82889	-108.083	776098	3524991	1395.956		
1019	31.78063	-108.258	759665	3519208	1430.856	1046	31.82648	-108.077	776670	3524739	1394.351		
1020	31.78224	-108.251	760283	3519402	1435.088	1047	31.82409	-108.071	777231	3524490	1391.136		
1021	31.78424	-108.244	760937	3519640	1440.713	1048	31.82181	-108.066	777761	3524250	1387.526		
1022	31.78681	-108.237	761592	3519942	1447.298	1049	31.81883	-108.058	778471	3523938	1385.373		
1023	31.79133	-108.23	762294	3520461	1456.527	1050	31.8166	-108.053	778984	3523705	1389.183		
1024	31.79522	-108.223	762971	3520911	1465.624	1051	31.81516	-108.046	779624	3523562	1392.635		
1025	31.79864	-108.216	763631	3521307	1481.476	1052	31.81557	-108.04	780174	3523623	1396.609		
1026	31.80241	-108.208	764293	3521742	1478.176	1053	31.81641	-108.033	780834	3523735	1399.125		
1027	31.80917	-108.201	764987	3522510	1458.522	1054	31.81726	-108.027	781431	3523845	1394.926		
						1055	31.81806	-108.021	781999	3523950	1396.189		

1056	31.81893	-108.014	782628	3524064	1393.21	1086	31.79184	-107.824	232583	3520650	1290.477
1057	31.82017	-108.008	783214	3524218	1394.899	1087	31.79189	-107.818	233165	3520641	1292.821
1058	31.82182	-108.001	783920	3524420	1400.97	1088	31.79182	-107.812	233753	3520618	1296.78
1059	31.82256	-107.993	216660	3524486	1395.192	1089	31.79202	-107.805	234390	3520623	1300.368
1060	31.81608	-107.988	217137	3523754	1387.333	1090	31.79205	-107.799	234972	3520612	1304.981
1061	31.81373	-107.981	217769	3523475	1395.534	1091	31.7917	-107.793	235576	3520557	1305.382
1062	31.81393	-107.975	218382	3523481	1405.439	1092	31.79204	-107.786	236179	3520580	1306.881
1063	31.81734	-107.968	219003	3523843	1413.712	1093	31.79204	-107.78	236780	3520564	1307.165
1064	31.8181	-107.962	219633	3523909	1394.762	1094	31.79291	-107.773	237412	3520645	1310.275
1065	31.8177	-107.956	220224	3523849	1384.339	1095	31.79575	-107.767	238686	3521289	1315.326
1066	31.81893	-107.949	220829	3523969	1377.375	1096	31.79901	-107.76	239286	3521376	1320.662
1067	31.82257	-107.943	221448	3524356	1363.886	1097	31.79993	-107.754	239925	3521351	1323.227
1068	31.82187	-107.936	222082	3524261	1355.715	1098	31.79985	-107.747	240512	3521482	1323.954
1069	31.82171	-107.93	222670	3524228	1349.134	1099	31.80116	-107.741	241110	3521438	1327.803
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1075	31.81019	-107.893	226141	3522856	1300.168	1105	31.80483	-107.703	244752	3521988	1287.961
1076	31.79916	-107.887	226678	3521618	1287	1106	31.80669	-107.696	245374	3522163	1283.314
1077	31.79182	-107.882	227114	3520791	1280.398	1107	31.8084	-107.69	246046	3522401	1277.765
1078	31.79164	-107.875	227725	3520756	1277.51	1108	31.81069	-107.683	246598	3522729	1272.559
1079	31.79168	-107.869	228354	3520743	1275.477	1109	31.81377	-107.677	247313	3523162	1266.885
1080	31.79177	-107.863	228905	3520738	1273.69	1110	31.81783	-107.669	247978	3523408	1260.053
1081	31.79182	-107.856	229531	3520728	1275.519	1111	31.82019	-107.662	248511	3523604	1254.638
1082	31.79213	-107.851	230070	3520748	1280.948	1112	31.82208	-107.657	249163	3523837	1251.068
1083	31.79215	-107.844	230679	3520734	1284.252	1113	31.82432	-107.65	249729	3524015	1244.566
1084	31.79209	-107.838	231324	3520711	1287.136	1114	31.82605	-107.644	250379	3524314	1240.791
1085	31.7921	-107.83	232013	3520694	1287.733	1115	31.8289	-107.637	250973	3524582	1236.046

1116	31.83144	-107.631	251656	3525030	1230.28	1146	31.82746	-107.441	269575	3523700	1209.342
1117	31.83563	-107.624	252235	3525018	1226.836	1147	31.82739	-107.435	270148	3523679	1209.704
1118	31.83564	-107.618	252827	3524996	1224.81	1148	31.82732	-107.429	270738	3523621	1209.751
1119	31.83557	-107.612	253395	3524995	1222.294	1149	31.82692	-107.422	271387	3523586	1208.846
1120	31.83569	-107.606	254014	3524980	1221.514	1150	31.82674	-107.415	271973	3523589	1208.739
1121	31.83568	-107.599	254605	3524942	1220.76	1151	31.82688	-107.409	272556	3523567	1207.723
1122	31.83546	-107.593	255235	3524942	1221.19	1152	31.82679	-107.403	273170	3523534	1208.944
1123	31.83561	-107.586	255851	3524919	1221.29	1153	31.82663	-107.397	273771	3523521	1208.747
1124	31.83553	-107.58	256436	3524923	1221.327	1154	31.82663	-107.39	273871	3523525	1231.923
1125	31.83569	-107.574	257034	3524908	1219.979	1155	31.82668	-107.389	273974	3523520	1239.758
1126	31.83568	-107.567	257613	3524878	1220.135	1157	31.82653	-107.387	274077	3523504	1245.473
1127	31.83554	-107.561	258214	3524882	1220.473	1158	31.82651	-107.386	274177	3523500	1248.341
1128	31.8357	-107.555	258825	3524869	1219.658	1159	31.82637	-107.385	274278	3523481	1248.711
1129	31.83571	-107.548	259448	3524835	1219.643	1160	31.82641	-107.384	274380	3523484	1247.814
1130	31.83554	-107.542	260047	3524869	1213.535	1161	31.82646	-107.383	274482	3523487	1245.764
1131	31.83597	-107.535	260620	3525003	1218.765	1162	31.82652	-107.382	274582	3523491	1243.629
1132	31.8373	-107.529	261191	3525328	1219.049	1163	31.82658	-107.381	274683	3523496	1242.506
1133	31.84034	-107.523	261883	3525439	1218.625	1164	31.82671	-107.38	274783	3523508	1241.147
1134	31.84149	-107.516	262426	3525441	1217.883	1165	31.82673	-107.378	274884	3523508	1241.115
1135	31.84162	-107.51	262981	3525330	1216.843	1166	31.82678	-107.377	274984	3523512	1241.845
1136	31.84074	-107.505	263646	3525210	1215.69	1167	31.82689	-107.376	275085	3523522	1243.096
1137	31.8398	-107.498	264259	3525110	1214.715	1168	31.82702	-107.375	275184	3523534	1245.023
1138	31.83902	-107.491	264840	3524978	1214.523	1169	31.82729	-107.374	275281	3523562	1245.254
1139	31.83795	-107.485	265432	3524869	1214.106	1170	31.82761	-107.373	275374	3523596	1246.956
1140	31.83709	-107.479	266001	3524757	1212.798	1171	31.82784	-107.372	275473	3523618	1246.037
1141	31.8362	-107.473	266623	3524646	1211.918	1172	31.82796	-107.371	275573	3523629	1244.559
1142	31.83532	-107.466	267221	3524525	1211.493	1173	31.82804	-107.37	275675	3523636	1244.036
1143	31.83436	-107.46	267799	3524322	1211.036	1174	31.82811	-107.369	275775	3523642	1244.597
1144	31.83264	-107.453	268424	3524000	1209.92	1175	31.82818	-107.368	275873	3523647	1244.856
1145	31.82987	-107.447	268974	3523720	1209.49	1176	31.82825	-107.367	275974	3523653	1245.506

1177	31.82833	-107.366	276074	3523659	1245.961	1207	31.83051	-107.334	279077	3523837	1253.74
1178	31.8284	-107.365	276175	3523665	1247.082	1208	31.83054	-107.333	279177	3523837	1253.702
1179	31.82847	-107.364	276275	3523671	1247.282	1209	31.83066	-107.332	279276	3523849	1254.235
1180	31.82854	-107.363	276375	3523677	1248.305	1210	31.83073	-107.331	279376	3523855	1254.913
1181	31.82862	-107.362	276475	3523683	1247.156	1211	31.83078	-107.33	279476	3523858	1256.143
1182	31.82869	-107.361	276575	3523689	1244.977	1212	31.83074	-107.329	279576	3523852	1257.772
1183	31.82877	-107.36	276675	3523695	1243.753	1213	31.8306	-107.328	279675	3523834	1260.556
1184	31.82884	-107.359	276776	3523701	1243.44	1214	31.83036	-107.327	279789	3523805	1258.676
1185	31.82891	-107.358	276876	3523707	1242.981	1215	31.83016	-107.326	279881	3523781	1258.701
1186	31.82899	-107.356	276976	3523713	1242.123	1216	31.82994	-107.325	279985	3523754	1259.99
1187	31.82906	-107.355	277076	3523719	1242.443	1217	31.82972	-107.324	280090	3523727	1260.843
1188	31.82913	-107.354	277176	3523725	1243.848	1218	31.8295	-107.323	280189	3523701	1260.707
1189	31.82921	-107.353	277276	3523731	1243.861	1219	31.82928	-107.321	280291	3523674	1261.885
1190	31.82928	-107.352	277376	3523737	1243.516	1220	31.82907	-107.32	280392	3523649	1261.993
1191	31.82935	-107.351	277476	3523743	1242.858	1221	31.82885	-107.319	280490	3523623	1261.536
1192	31.82942	-107.35	277576	3523749	1243.244	1222	31.82865	-107.318	280588	3523597	1262.927
1193	31.8295	-107.349	277676	3523755	1243.617	1223	31.82843	-107.317	280686	3523572	1262.927
1194	31.82957	-107.348	277776	3523760	1246.531	1224	31.82823	-107.316	280784	3523547	1264.567
1195	31.82964	-107.347	277876	3523766	1247.095	1225	31.82801	-107.315	280885	3523521	1267.652
1196	31.82971	-107.346	277977	3523772	1248.955	1226	31.8278	-107.314	280984	3523495	1267.611
1197	31.82978	-107.345	278077	3523778	1249.864	1227	31.82758	-107.313	281083	3523469	1268.985
1198	31.82986	-107.344	278177	3523783	1252.093	1228	31.82737	-107.312	281182	3523444	1267.406
1199	31.82993	-107.343	278277	3523789	1252.872	1229	31.82716	-107.311	281279	3523418	1266.727
1200	31.83	-107.342	278377	3523795	1252.657	1230	31.82695	-107.31	281378	3523393	1267.671
1201	31.83007	-107.341	278477	3523801	1252.481	1231	31.82674	-107.309	281475	3523368	1268.12
1202	31.83015	-107.34	278576	3523807	1251.723	1232	31.82654	-107.308	281573	3523342	1268.569
1203	31.83022	-107.339	278677	3523813	1252.65	1233	31.82633	-107.307	281671	3523317	1269.387
1204	31.83029	-107.337	278777	3523819	1253.514	1234	31.82612	-107.306	281768	3523292	1269.1
1205	31.83037	-107.336	278877	3523825	1253.657	1235	31.82591	-107.305	281866	3523267	1269.621
1206	31.83044	-107.335	278977	3523831	1252.989	1236	31.8257	-107.304	281963	3523242	1269.9

1237	31.82549	-107.303	282061	3523216	1269.806	1267	31.80226	-107.259	286092	3520554	1256.181
1238	31.82528	-107.302	282158	3523191	1266.566	1268	31.80135	-107.258	286279	3520450	1259.094
1239	31.82507	-107.301	282255	3523165	1263.272	1269	31.80069	-107.255	286469	3520372	1257.724
1240	31.82486	-107.3	282353	3523140	1262.32	1270	31.80001	-107.253	286666	3520293	1259.877
1241	31.82465	-107.298	282452	3523115	1264.901	1271	31.79933	-107.251	286862	3520214	1258.06
1242	31.82444	-107.297	282551	3523089	1263.712	1272	31.799	-107.25	286957	3520175	1257.583
1243	31.82423	-107.296	282648	3523064	1264.032	1273	31.79866	-107.249	287053	3520136	1254.472
1244	31.82401	-107.295	282746	3523038	1262.53	1274	31.79834	-107.248	287147	3520097	1255.199
1245	31.82381	-107.294	282844	3523013	1263.648	1275	31.79798	-107.247	287248	3520056	1255.124
1246	31.8236	-107.293	282941	3522988	1261.148	1276	31.79765	-107.246	287346	3520017	1255.582
1247	31.82339	-107.292	283039	3522963	1262.119	1277	31.79731	-107.245	287443	3519978	1256.091
1248	31.82318	-107.291	283136	3522937	1262.42	1278	31.79698	-107.244	287540	3519938	1255.466
1249	31.82297	-107.29	283234	3522912	1262.117	1279	31.79664	-107.243	287639	3519899	1255.799
1250	31.82276	-107.289	283332	3522887	1262.417	1280	31.7963	-107.242	287734	3519860	1254.919
1251	31.82251	-107.288	283428	3522856	1260.786	1281	31.79597	-107.241	287830	3519821	1256.073
1252	31.82202	-107.287	283534	3522800	1263.156	1282	31.79563	-107.24	287929	3519782	1255.68
1253	31.82133	-107.286	283634	3522721	1263.198	1283	31.7953	-107.239	288024	3519743	1255.706
1254	31.82056	-107.285	283730	3522634	1261.455	1284	31.79496	-107.238	288123	3519703	1254.991
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1256	31.81836	-107.282	284014	3522384	1259.322	1286	31.79427	-107.236	288321	3519622	1253.968
1257	31.8169	-107.28	284201	3522218	1257.076	1287	31.79395	-107.235	288415	3519585	1253.814
1258	31.81542	-107.278	284392	3522050	1255.483	1288	31.79361	-107.234	288511	3519545	1252.404
1259	31.81394	-107.276	284582	3521882	1257.533	1289	31.79327	-107.233	288609	3519506	1251.497
1260	31.81247	-107.274	284770	3521715	1254.849	1290	31.79262	-107.231	288802	3519429	1252.773
1261	31.81099	-107.272	284959	3521546	1256.638	1291	31.79293	-107.232	288708	3519466	1257.108
1262	31.80953	-107.27	285147	3521381	1254.524	1292	31.79228	-107.23	288900	3519389	1255.917
1263	31.80805	-107.268	285336	3521213	1252.403	1293	31.79194	-107.229	288997	3519350	1253.151
1264	31.80659	-107.266	285525	3521046	1255.824	1294	31.7916	-107.228	289094	3519311	1250.882
1265	31.80512	-107.264	285714	3520879	1253.012	1295	31.79126	-107.227	289192	3519271	1249.919
1266	31.80366	-107.262	285900	3520714	1253.909	1296	31.79094	-107.225	289290	3519233	1250.457

1297	31.79068	-107.224	289388	3519202	1249.875	1327	31.78949	-107.193	292379	3519010	1253.819
1298	31.79047	-107.223	289486	3519177	1251.644	1328	31.78947	-107.192	292478	3519005	1252.82
1299	31.79032	-107.222	289584	3519159	1252.26	1329	31.78944	-107.191	292579	3519000	1252.485
1300	31.79022	-107.221	289685	3519146	1248.86	1330	31.78941	-107.19	292679	3518995	1253.18
1301	31.79018	-107.22	289785	3519138	1251.058	1331	31.78938	-107.189	292779	3518990	1252.972
1302	31.79015	-107.219	289885	3519133	1251.03	1332	31.78936	-107.188	292878	3518985	1253.445
1303	31.79012	-107.218	289986	3519128	1251.138	1333	31.78933	-107.186	292978	3518980	1252.827
1304	31.7901	-107.217	290086	3519123	1250.393	1334	31.78931	-107.185	293078	3518975	1252.417
1305	31.79007	-107.216	290185	3519119	1250.905	1335	31.78927	-107.184	293182	3518969	1252.405
1306	31.79005	-107.215	290284	3519114	1251.568	1336	31.78925	-107.183	293281	3518965	1253.805
1307	31.79002	-107.214	290386	3519109	1251.168	1337	31.78923	-107.182	293380	3518960	1254.767
1308	31.78999	-107.213	290486	3519104	1252.182	1338	31.7892	-107.181	293479	3518955	1253.843
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1310	31.78995	-107.211	290687	3519094	1254.152	1340	31.78915	-107.179	293678	3518945	1256.073
1311	31.78992	-107.21	290787	3519089	1253.363	1341	31.78912	-107.178	293777	3518941	1256.892
1312	31.78989	-107.209	290887	3519084	1253.009	1342	31.7891	-107.177	293876	3518936	1258.813
1313	31.78986	-107.208	290988	3519079	1253.852	1343	31.78907	-107.176	293977	3518931	1257.6
1314	31.78984	-107.206	291088	3519074	1253.683	1344	31.78904	-107.175	294077	3518926	1257.474
1315	31.78981	-107.205	291189	3519068	1252.431	1345	31.78902	-107.174	294177	3518921	1258.897
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1317	31.78975	-107.203	291389	3519058	1252.503	1347	31.78896	-107.172	294378	3518911	1260.485
1318	31.78972	-107.202	291489	3519053	1254.262	1348	31.78894	-107.171	294477	3518906	1260.371
1319	31.78969	-107.201	291588	3519048	1254.544	1349	31.78891	-107.17	294577	3518901	1256.653
1320	31.78967	-107.2	291686	3519043	1254.819	1350	31.78888	-107.169	294677	3518896	1254.883
1321	31.78964	-107.199	291785	3519039	1253.292	1351	31.78889	-107.167	294778	3518896	1255.281
1322	31.78962	-107.198	291884	3519034	1253.904	1352	31.7889	-107.166	294878	3518905	1257.283
1323	31.78959	-107.197	291980	3519029	1253.967	1353	31.78917	-107.165	294977	3518922	1258.273
1324	31.78956	-107.196	292080	3519024	1254.164	1354	31.78945	-107.164	295083	3518951	1256.914
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1326	31.78952	-107.194	292279	3519014	1254.382	1356	31.79025	-107.162	295293	3519035	1255.425

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1373	31.79609	-107.144	297047	3519648	1245.404	1403	31.80249	-107.112	300106	3520298	1242.573
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1375	31.79666	-107.142	297249	3519707	1244.521	1405	31.80222	-107.109	300304	3520264	1243.563
1376	31.79695	-107.14	297354	3519738	1244.683	1406	31.80232	-107.108	300402	3520273	1246.196
1377	31.79724	-107.139	297457	3519767	1246.391	1407	31.80274	-107.107	300499	3520318	1239.845
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1381	31.79838	-107.135	297866	3519886	1244.614	1411	31.80578	-107.103	300920	3520647	1235.381
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1386	31.79981	-107.13	298378	3520034	1248.08	1416	31.81195	-107.097	301478	3521320	1242.115
1387	31.8001	-107.129	298482	3520065	1249.703	1417	31.81321	-107.096	301588	3521458	1243.387

1418	31.81446	-107.095	301697	3521595	1247.066	1448	31.81424	-107.063	304702	3521513	1252.082
1419	31.81567	-107.094	301808	3521727	1247.86	1449	31.81411	-107.062	304802	3521497	1252.646
1420	31.8166	-107.093	301916	3521828	1249.565	1450	31.81396	-107.061	304900	3521479	1252.732
1421	31.81707	-107.092	302017	3521879	1256.827	1451	31.81378	-107.06	304999	3521456	1255.468
1422	31.81735	-107.091	302120	3521908	1254.038	1452	31.81353	-107.059	305099	3521427	1256.806
1423	31.81744	-107.09	302221	3521915	1252.984	1453	31.81326	-107.058	305195	3521396	1257.827
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1425	31.81722	-107.087	302423	3521887	1252.829	1455	31.81273	-107.056	305391	3521333	1260.129
1426	31.81693	-107.086	302521	3521853	1252.882	1456	31.81247	-107.055	305488	3521302	1261.002
1427	31.81687	-107.085	302621	3521844	1252.454	1457	31.8122	-107.054	305588	3521270	1262.933
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1429	31.81669	-107.083	302821	3521821	1253.187	1459	31.81167	-107.052	305783	3521207	1266.024
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1432	31.81631	-107.08	303116	3521773	1251.954	1462	31.81087	-107.049	306080	3521113	1269.196
1433	31.81618	-107.079	303214	3521757	1252.252	1463	31.8106	-107.048	306178	3521081	1268.1
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1437	31.81566	-107.075	303613	3521692	1252.39	1467	31.80953	-107.043	306571	3520956	1264.046
1438	31.81553	-107.074	303711	3521676	1252.212	1468	31.80926	-107.042	306669	3520924	1264.276
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1442	31.81502	-107.07	304108	3521610	1252.239	1472	31.8082	-107.038	307062	3520798	1266.271
1443	31.81488	-107.068	304207	3521594	1252.92	1473	31.80793	-107.037	307160	3520767	1267.03
1444	31.81475	-107.067	304307	3521577	1253.727	1474	31.80767	-107.036	307258	3520736	1267.146
1445	31.81462	-107.066	304405	3521561	1253.893	1475	31.80739	-107.035	307356	3520704	1267.841
1446	31.81449	-107.065	304505	3521545	1253.247	1476	31.80713	-107.034	307454	3520673	1267.691
1447	31.81437	-107.064	304603	3521529	1252.853	1477	31.80687	-107.033	307552	3520642	1268.333

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1481	31.80581	-107.029	307944	3520518	1271.908	1511	31.80124	-106.997	310910	3519956	1293.071
1482	31.80555	-107.028	308042	3520486	1273.306	1512	31.80125	-106.996	311009	3519955	1291.936
1483	31.80528	-107.027	308140	3520455	1272.218	1513	31.80125	-106.995	311111	3519953	1292.949
1484	31.80502	-107.026	308236	3520424	1270.161	1514	31.80126	-106.994	311210	3519952	1293.61
1485	31.80475	-107.025	308335	3520392	1270.198	1515	31.80128	-106.993	311311	3519952	1294.152
1486	31.80449	-107.024	308433	3520361	1270.425	1516	31.80133	-106.992	311412	3519956	1296.49
1487	31.80422	-107.023	308530	3520330	1272.385	1517	31.8014	-106.991	311512	3519963	1295.826
1488	31.80396	-107.022	308628	3520299	1273.81	1518	31.80149	-106.99	311612	3519970	1295.022
1489	31.80369	-107.02	308727	3520267	1273.401	1519	31.80168	-106.988	311814	3519988	1294.346
1490	31.80343	-107.019	308824	3520237	1273.148	1520	31.80187	-106.986	312016	3520005	1293.96
1491	31.80316	-107.018	308922	3520205	1273.912	1521	31.80205	-106.984	312219	3520022	1291.769
1492	31.80289	-107.017	309020	3520174	1273.794	1522	31.80223	-106.981	312420	3520038	1290.141
1493	31.80262	-107.016	309119	3520142	1274.506	1523	31.80242	-106.979	312622	3520055	1288.073
1494	31.80226	-107.015	309215	3520099	1276.564	1524	31.80254	-106.977	312824	3520065	1287.59
1495	31.80199	-107.014	309316	3520068	1280.316	1525	31.80186	-106.975	313018	3519986	1283.975
1496	31.80183	-107.013	309414	3520048	1279.999	1526	31.79955	-106.973	313201	3519726	1280.885
1497	31.80155	-107.012	309513	3520016	1282.33	1527	31.79682	-106.971	313379	3519420	1278.739
1498	31.80133	-107.011	309611	3519989	1282.462	1528	31.79448	-106.969	313560	3519157	1276.709
1499	31.80121	-107.01	309710	3519974	1283.196	1529	31.79356	-106.967	313758	3519052	1273.435
1500	31.80118	-107.009	309810	3519970	1282.298	1530	31.79352	-106.965	313957	3519044	1271.707
1501	31.80119	-107.008	309910	3519969	1283.631	1531	31.79375	-106.963	314156	3519066	1269.771
1502	31.8012	-107.007	310010	3519967	1285.092	1532	31.79398	-106.961	314356	3519088	1269.172
1503	31.8012	-107.006	310109	3519966	1285.062	1533	31.79422	-106.959	314558	3519110	1269.464
1504	31.80121	-107.005	310210	3519965	1289.563	1534	31.79445	-106.957	314762	3519132	1269.412
1505	31.80121	-107.004	310309	3519963	1287.724	1535	31.79457	-106.955	314863	3519143	1269.594
1506	31.80122	-107.003	310410	3519963	1291.569	1536	31.79468	-106.954	314964	3519154	1268.98
1507	31.80122	-107.002	310509	3519961	1291.349	1537	31.79479	-106.953	315065	3519165	1268.551

1538	31.79491	-106.952	315166	3519176	1268.161	1568	31.79836	-106.92	318195	3519505	1260.591
1539	31.79502	-106.951	315268	3519187	1267.829	1569	31.79848	-106.919	318298	3519516	1260.886
1540	31.79514	-106.95	315369	3519198	1267.841	1570	31.7986	-106.918	318399	3519527	1260.792
1541	31.79525	-106.949	315470	3519209	1267.318	1571	31.79871	-106.917	318500	3519538	1260.107
1542	31.79537	-106.948	315571	3519220	1266.748	1572	31.79882	-106.916	318600	3519549	1259.158
1543	31.79548	-106.947	315671	3519231	1266.321	1573	31.79894	-106.915	318701	3519560	1260.365
1544	31.7956	-106.946	315772	3519242	1266.058	1574	31.79905	-106.914	318801	3519571	1260.379
1545	31.79572	-106.945	315873	3519253	1265.794	1575	31.79917	-106.913	318903	3519582	1259.722
1546	31.79583	-106.944	315974	3519264	1265.206	1576	31.79928	-106.912	319004	3519593	1259.435
1547	31.79595	-106.943	316075	3519275	1264.602	1577	31.7994	-106.911	319106	3519604	1259.48
1548	31.79606	-106.942	316176	3519286	1264.757	1578	31.79951	-106.91	319207	3519615	1258.677
1549	31.79618	-106.941	316277	3519297	1264.171	1579	31.79963	-106.909	319308	3519626	1258.618
1550	31.79629	-106.94	316378	3519308	1264.59	1580	31.79974	-106.908	319409	3519637	1258.169
1551	31.79641	-106.938	316478	3519319	1264.906	1581	31.79986	-106.907	319510	3519647	1256.444
1552	31.79653	-106.937	316579	3519330	1265.087	1582	31.79997	-106.905	319611	3519659	1255.077
1553	31.79664	-106.936	316680	3519341	1265.029	1583	31.80009	-106.904	319713	3519670	1256.671
1554	31.79676	-106.935	316781	3519352	1265.399	1584	31.8002	-106.903	319813	3519681	1256.845
1555	31.79687	-106.934	316882	3519363	1264.955	1585	31.80032	-106.902	319914	3519692	1255.539
1556	31.79699	-106.933	316983	3519374	1264.542	1586	31.80043	-106.901	320015	3519703	1254.084
1557	31.7971	-106.932	317084	3519385	1263.049	1587	31.80055	-106.9	320116	3519713	1254.058
1558	31.79722	-106.931	317186	3519396	1263.012	1588	31.80066	-106.899	320217	3519725	1254.701
1559	31.79733	-106.93	317287	3519407	1262.546	1589	31.80078	-106.898	320317	3519736	1255.366
1560	31.79745	-106.929	317388	3519418	1262.577	1590	31.80089	-106.897	320418	3519747	1255.488
1561	31.79756	-106.928	317489	3519429	1260.925	1591	31.80101	-106.896	320520	3519757	1257.419
1562	31.79767	-106.927	317590	3519439	1258.352	1592	31.80112	-106.895	320621	3519768	1258.867
1563	31.79778	-106.926	317689	3519450	1255.422	1593	31.80124	-106.894	320721	3519779	1259.407
1564	31.7979	-106.925	317791	3519461	1258.36	1594	31.80135	-106.893	320823	3519790	1259.628
1565	31.79802	-106.924	317893	3519472	1258.755	1595	31.80147	-106.892	320924	3519801	1260.126
1566	31.79813	-106.923	317993	3519483	1261.227	1596	31.80158	-106.891	321024	3519812	1257.94
1567	31.79825	-106.921	318094	3519494	1260.828	1597	31.80169	-106.89	321125	3519823	1258.3

1598	31.8018	-106.888	321224	3519834	1259.295	1628	31.80525	-106.857	324255	3520163	1255.509
1599	31.80192	-106.887	321327	3519845	1258.813	1629	31.80536	-106.855	324355	3520174	1255.862
1600	31.802	-106.886	321428	3519852	1257.992	1630	31.80548	-106.854	324456	3520185	1256.805
1601	31.80215	-106.885	321530	3519867	1258.974	1631	31.80559	-106.853	324557	3520196	1257.882
1602	31.80227	-106.884	321632	3519878	1258.233	1632	31.80571	-106.852	324658	3520207	1258.858
1603	31.80239	-106.883	321732	3519889	1258.399	1633	31.80582	-106.851	324759	3520218	1259.908
1604	31.8025	-106.882	321833	3519900	1257.361	1634	31.80593	-106.85	324859	3520229	1260.052
1605	31.80262	-106.881	321933	3519911	1256.616	1635	31.80605	-106.849	324959	3520240	1259.717
1606	31.80273	-106.88	322035	3519922	1257.472	1636	31.80616	-106.848	325060	3520251	1260.638
1607	31.80284	-106.879	322134	3519933	1256.103	1637	31.80628	-106.847	325161	3520262	1260.7
1608	31.80296	-106.878	322235	3519944	1255.751	1638	31.8064	-106.846	325263	3520273	1259.921
1609	31.80308	-106.877	322337	3519955	1255.496	1639	31.80651	-106.845	325363	3520284	1259.418
1610	31.80319	-106.876	322436	3519966	1256.577	1640	31.80663	-106.844	325463	3520296	1257.617
1611	31.8033	-106.875	322537	3519977	1257.191	1641	31.80674	-106.843	325564	3520306	1257.409
1612	31.80342	-106.874	322638	3519988	1257.545	1642	31.80685	-106.842	325664	3520317	1257.017
1613	31.80354	-106.872	322739	3519999	1258.036	1643	31.80697	-106.841	325764	3520328	1257.458
1614	31.80364	-106.871	322840	3520010	1257.362	1644	31.80708	-106.84	325866	3520339	1256.967
1615	31.80376	-106.87	322941	3520021	1257.741	1645	31.80719	-106.838	325967	3520350	1256.551
1616	31.80382	-106.869	323043	3520026	1257.379	1646	31.80731	-106.837	326069	3520361	1256.414
1617	31.80399	-106.868	323144	3520043	1256.876	1647	31.80742	-106.836	326170	3520372	1256.64
1618	31.8041	-106.867	323245	3520054	1256.853	1648	31.80754	-106.835	326271	3520383	1256.642
1619	31.80422	-106.866	323347	3520065	1256.385	1649	31.80765	-106.834	326372	3520394	1256.496
1620	31.80434	-106.865	323448	3520076	1257.095	1650	31.80777	-106.833	326473	3520405	1257.817
1621	31.80445	-106.864	323549	3520087	1257.255	1651	31.80788	-106.832	326575	3520416	1257.045
1622	31.80456	-106.863	323650	3520098	1257.894	1652	31.808	-106.831	326675	3520427	1257.501
1623	31.80468	-106.862	323753	3520109	1258.241	1653	31.80811	-106.83	326775	3520438	1258.063
1624	31.80479	-106.861	323852	3520120	1257.9	1654	31.80822	-106.829	326877	3520449	1258.136
1625	31.80491	-106.86	323953	3520131	1257.746	1655	31.80834	-106.828	326978	3520460	1258.86
1626	31.80502	-106.859	324053	3520142	1257.888	1656	31.80845	-106.827	327079	3520471	1259.497
1627	31.80513	-106.858	324155	3520152	1256.39	1657	31.80857	-106.826	327179	3520482	1258.266

1658	31.80868	-106.825	327277	3520492	1258.327	1688	31.82521	-106.665	342399	3522083	1247.756
1659	31.80878	-106.824	327371	3520503	1258.197	1689	31.82595	-106.659	343010	3522156	1251.68
1660	31.80889	-106.823	327466	3520513	1255.364	1690	31.82631	-106.653	343597	3522186	1253.094
1661	31.80895	-106.822	327566	3520518	1255.409	1691	31.82524	-106.646	344185	3522059	1251.647
1662	31.80908	-106.821	327663	3520531	1255.917	1692	31.82382	-106.64	344786	3521892	1245.512
1663	31.80924	-106.819	327779	3520547	1255.231	1693	31.82206	-106.633	345417	3521688	1236.483
1664	31.80931	-106.818	327889	3520552	1254.339	1694	31.82137	-106.627	345985	3521603	1209.233
1665	31.80999	-106.812	328491	3520617	1256.339	1695	31.82112	-106.621	346590	3521566	1198.406
1666	31.81065	-106.805	329100	3520680	1255.47	1696	31.82097	-106.615	347176	3521541	1188.268
1667	31.81137	-106.799	329692	3520751	1258.361	1697	31.82084	-106.608	347781	3521517	1170.594
1668	31.81208	-106.793	330284	3520820	1255.548	1698	31.82082	-106.602	348376	3521506	1158.463
1669	31.81274	-106.786	330908	3520883	1254.172	1699	31.82141	-106.595	348995	3521563	1142.294
1670	31.81344	-106.78	331516	3520951	1251.923	1700	31.82226	-106.589	349592	3521648	1141.416
1671	31.81412	-106.774	332124	3521015	1250.139	1701	31.82237	-106.583	350202	3521652	1141.341
1672	31.81474	-106.767	332755	3521075	1250.226	1702	31.82243	-106.577	350790	3521650	1141.247
1673	31.81551	-106.761	333332	3521150	1250.808	1703	31.8216	-106.57	351384	3521548	1140.691
1674	31.81605	-106.755	333930	3521201	1248.919	1704	31.82153	-106.564	351990	3521532	1141.668
1675	31.81674	-106.748	334540	3521267	1247.521	1705	31.82101	-106.558	352588	3521465	1151.278
1676	31.81751	-106.742	335145	3521343	1246.015	1706	31.82095	-106.551	353174	3521450	1168.902
1677	31.81814	-106.735	335740	3521403	1245.891	1707	31.82168	-106.545	353792	3521523	1189.757
1678	31.81882	-106.729	336348	3521468	1243.73	1708	31.82149	-106.538	354390	3521493	1196.46
1679	31.81954	-106.723	336933	3521539	1244.862	1709	31.82052	-106.533	354947	3521352	1219.536
1680	31.82026	-106.716	337562	3521610	1246.662	1710	31.8202	-106.526	355586	3521334	1238.987
1681	31.82091	-106.71	338156	3521672	1250.203	1711	31.82005	-106.52	356170	3521308	1243.147
1682	31.82155	-106.704	338754	3521734	1251.626	1712	31.82091	-106.513	356766	3521396	1314.698
1683	31.82219	-106.698	339330	3521795	1252.556	1713	31.82224	-106.507	357384	3521535	1323.13
1684	31.82292	-106.691	339956	3521866	1251.678	1714	31.82182	-106.5	357991	3521479	1412.397
1685	31.8232	-106.684	340654	3521887	1251.95	1715	31.82314	-106.481	359800	3521601	1453.202
1686	31.82399	-106.678	341193	3521965	1252.089	1716	31.82255	-106.475	360400	3521528	1373.603
1687	31.82461	-106.672	341798	3522026	1247.702	1717	31.82261	-106.469	361002	3521526	1310.468

1718	31.82415	-106.462	361661	3521688	1275.008	1749	31.85011	-106.316	375521	3524389	1218.898
1719	31.82431	-106.456	362212	3521698	1252.789	1750	31.84993	-106.314	375721	3524366	1220.193
1720	31.82497	-106.45	362800	3521763	1221.612	1751	31.84998	-106.311	375921	3524369	1220.018
1721	31.82533	-106.443	363416	3521795	1200.038	1752	31.84994	-106.309	376125	3524363	1218.758
1723	31.82565	-106.43	364632	3521815	1180.278	1753	31.84994	-106.307	376327	3524361	1217.197
1724	31.82591	-106.424	365205	3521836	1181.175	1754	31.85014	-106.305	376522	3524380	1217.104
1725	31.82592	-106.417	365874	3521828	1182.158	1755	31.85012	-106.303	376721	3524376	1218.642
1726	31.82589	-106.412	366415	3521818	1185.844	1756	31.85029	-106.301	376925	3524391	1218.968
1727	31.82553	-106.405	367010	3521770	1189.466	1757	31.85061	-106.299	377125	3524425	1218.429
1728	31.82626	-106.399	367605	3521844	1192.867	1758	31.85087	-106.297	377328	3524451	1213.303
1729	31.82639	-106.393	368212	3521850	1193.807	1759	31.85123	-106.294	377530	3524489	1212.917
1730	31.82649	-106.386	368828	3521853	1194.734	1760	31.85151	-106.292	377732	3524518	1214.642
1731	31.82661	-106.38	369418	3521859	1197.989	1761	31.85181	-106.29	377930	3524548	1219.164
1732	31.82717	-106.373	370019	3521914	1201.46	1762	31.85199	-106.288	378136	3524566	1220.754
1733	31.82714	-106.368	370577	3521903	1203.58	1763	31.85245	-106.286	378330	3524614	1222.802
1734	31.8323	-106.36	371255	3522467	1201.611	1764	31.85288	-106.284	378535	3524660	1226.688
1735	31.8369	-106.354	371862	3522970	1198.087	1765	31.85286	-106.282	378732	3524655	1221.638
1736	31.84159	-106.348	372443	3523482	1198.879	1766	31.85279	-106.28	378931	3524645	1219.682
1737	31.84633	-106.341	373096	3523999	1206.557	1767	31.85393	-106.277	379143	3524769	1219.042
1738	31.84709	-106.339	373312	3524081	1206.684	1768	31.8557	-106.275	379347	3524963	1221.443
1739	31.84797	-106.337	373509	3524176	1208.227	1769	31.8574	-106.273	379549	3525149	1222.626
1740	31.84886	-106.335	373707	3524272	1209.372	1770	31.85918	-106.271	379759	3525343	1225.381
1741	31.84986	-106.333	373902	3524380	1210.575	1771	31.86091	-106.269	379966	3525533	1226.382
1742	31.85082	-106.331	374102	3524485	1211.677	1772	31.86277	-106.267	380169	3525737	1225.379
1743	31.84861	-106.328	374323	3524477	1210.098	1773	31.86429	-106.265	380371	3525903	1227.283
1744	31.8488	-106.326	374514	3524418	1211.024	1774	31.8662	-106.262	380579	3526112	1228.611
1745	31.84914	-106.324	374715	3524387	1213.564	1775	31.86797	-106.26	380780	3526306	1227.683
1746	31.84956	-106.322	374919	3524386	1215.323	1776	31.8698	-106.258	380990	3526507	1224.358
1747	31.85004	-106.32	375123	3524386	1215.28	1777	31.87121	-106.256	381191	3526660	1218.678
1748	31.85043	-106.318	375324	3524427	1217.751	1778	31.87227	-106.254	381395	3526776	1220.211

1779	31.87312	-106.252	381598	3526868	1222.362
1780	31.874	-106.25	381801	3526963	1221.735
1781	31.87479	-106.247	382003	3527048	1224.175
1782	31.87562	-106.245	382204	3527138	1225.393
1783	31.87644	-106.243	382404	3527226	1227.543
1784	31.8773	-106.241	382611	3527319	1226.418
1785	31.87814	-106.239	382810	3527410	1227.845
1786	31.87902	-106.237	383011	3527506	1229.823
1787	31.87985	-106.235	383214	3527596	1231.008
1788	31.8806	-106.233	383409	3527676	1229.566
1789	31.88158	-106.23	383618	3527783	1231.341
1790	31.88243	-106.228	383819	3527875	1233.164
1791	31.88318	-106.226	384020	3527956	1233.898
1792	31.88407	-106.224	384222	3528052	1234.389
1793	31.88491	-106.222	384425	3528143	1236.483
1794	31.88581	-106.22	384626	3528241	1235.415
1795	31.88664	-106.218	384827	3528330	1235.589

* Stations 1001 - 1058 UTM zone 12

* Stations 1059 - 1795 UTM zone 13

TABLE 3: SEG Y TRACE HEADER VALUES USED FOR PVF SEG Y TAPES

<u>Bytes</u>	<u>Format</u>	<u>SEG Y name</u>	<u>PVF Header</u>
1-4	integer	TRACENO	Trace number (1-7137)
9-12	integer	FFID	Shot sequence number (1-9)
13-16	integer	CHAN	Channel # (1-793)
17-20	integer	SOURCE	Shot station number
37-40	integer	OFFSET	Source-receiver distance (m)
41-44	integer	REC_ELEV	Receiver elevation (m)
45-48	integer	SOU_ELEV	Source elevation (m)
73-76	integer	SOU_X	X coordinate for source (arcsec longitude)
77-80	integer	SOU_Y	Y coordinate for source (arcsec latitude)
81-84	integer	REC_X	X coordinate for receiver (arcsec longitude)
85-88	integer	REC_Y	Y coordinate for receiver (arcsec latitude)
103-104	int*2	stat_corr	Clock drift correction
115-116	int*4	strace	Samples per trace
117-118	int*5	sint	Sample rate
157-158	int*6	year	year
159-160	int*7	day	day
161-162	int*8	hour	hour
163-164	int*9	minute	minute
165-166	int*10	second	second
167-168	int*11	tbasis	time basis (2=GMT)
173-174	int*12	instrno	Instrument number
181-184	float	SOU_UTMN	Source location (UTM meters Northing)
185-188	float	SOU_UTME	Source location (UTM meters Easting)
189-192	float	REC_UTMN	Receiver location (UTM meters Northing)
193-196	float	REC_UTME	Receiver location (UTM meters Easting)
197-200	float	STATION	Station number in field (1001-1795)
201-204	float	box_no	Box number