GEOLOGICAL SURVEY OF CANADA

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# 1 Introduction

The 1996 LITHOPROBE Western Superior seismic refraction survey was conducted in July 1996 in Western Ontario from field camps in Thunder Bay and Sioux Lookout.

Seismographs were deployed along two long-range refraction profiles in E-W and N-S directions crossing the major Archean subprovinces of the Western Superior Province, see Figure 1.

Along the E-W profile, 12 shots were fired in boreholes between 30-50 km apart and were recorded on about 450 seismographs along the profile and 60 broad-side to it along the N-S profile.

Along the N-S profile, 11 shots were fired in boreholes between 30-50 km apart and were recorded on about 470 seismographs along the profile and 40 broad-side to it along the E-W profile.

Along each profile, about 175 sites in the middle of the profile were deployed with three-component seismographs to obtain anisotropy information.

The seismographs were provided by the GSC (170 PRS1 and 35 PRS4), the USGS (170 SGR) and the IRIS/PASSCAL (140 Ref-Tek).

This report summarizes the field acquisition and processing of the refraction data into the standard SEGY format that are available at the LITHOPROBE Seismic Processing Facility at the University of Calgary.

# 2 Geological Setting

The Western Superior Transect is located within the western part of the Superior Province which is the largest and best exposed Archean crustal block in the world, and forms the nucleus of the North American continent. The ages that characterize the Superior Province (mostly 3.0-2.7 Ga) suggest that it is part of a widespread orogeny (ca. 2.7 Ga) that is manifest in Archean cratons worldwide. The internal structure of the Superior Province records a history of the processes that formed the earliest lithospheric elements of the Earth into cratons, thus providing an ideal laboratory for investigating early crustal evolution. The Western Superior region is bounded on the southeast by the Keweenawan rift, on the east by the Kapuskasing Structural Zone, and on the northwest by the Trans-Hudson Orogen.

The Western Superior Province is characterized by a regional pattern of alternating, 100-200 km wide granite-greenstone and metasedimentary belts. The observed geologic relationships between and within these subprovinces have been explained in terms of a modern tectonic model of terrane accretion (cf. Devaney and Williams, 1989; Percival and Williams, 1989; Williams 1990). Oceanic crust, island arcs, sedimentary prisms and continental fragments were accreted successively from north to south against the southern margin of a cratonic nucleus which grew steadily in size with the arrival of new terranes through geologic time. This model suggests that the tectonic processes operating today have been active without major variation for 3 billion years.

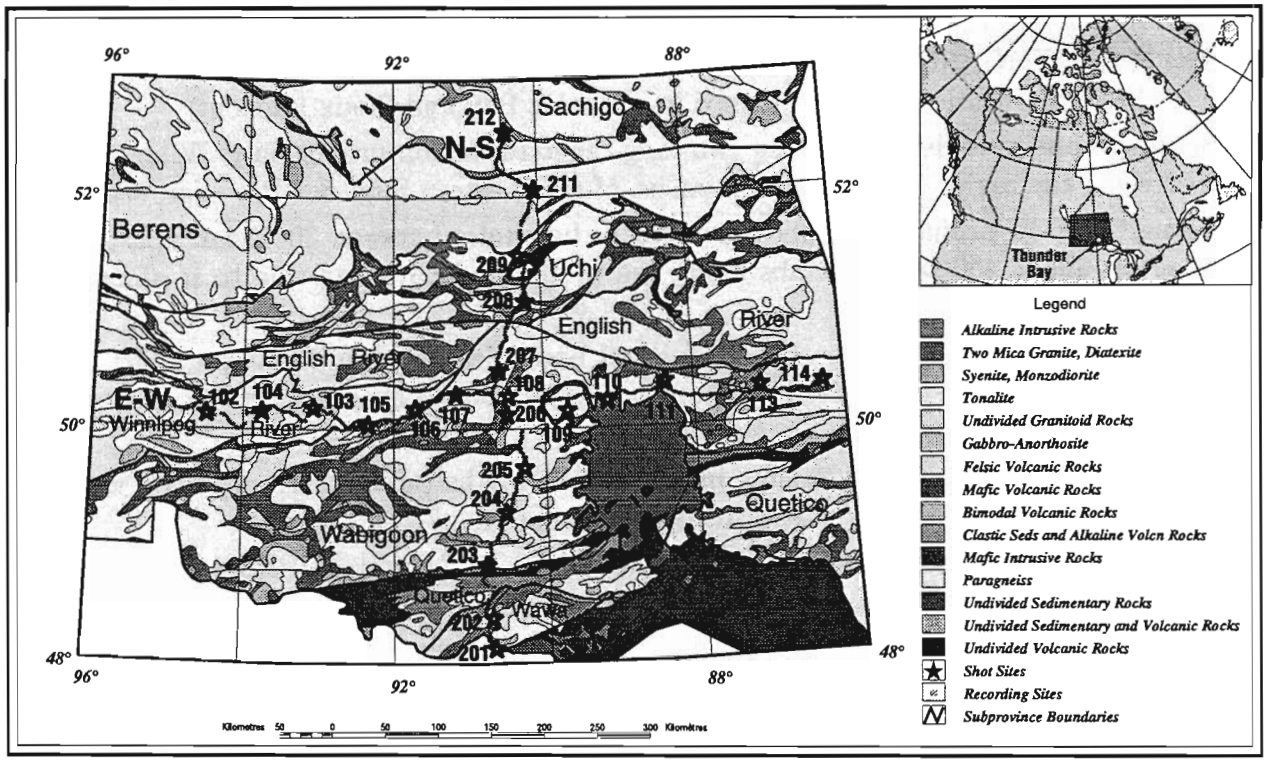



Figure 1: Location of shot and recording sites and the subprovinces of the Western Superior are shown on the Ontario Geological Survey map. The E-W and N-S profiles were recorded in two separate deployments. Shot sites shown by stars connect recording sites along the profiles.

# 3 Field Procedures

## 3.1 Site Selection

### 3.1.1 Shot Locations

The survey was designed to have shots spaced at 50 km intervals along each of the two profiles. Limited road access and rugged terrain in some areas (along the eastern part of the E-W line in particular) made this objective difficult to achieve. Shot holes (approximately 20 cm in diameter) were drilled to 50 m depth through thin glacial till and into the underlying bedrock. Individual shot holes were loaded with a maximum of 1000 kg of explosives in pelletized form, leaving room for a minimum of 20 m of tamping at the top of the hole. Three primers were placed within the column of explosives in each whole. Total shot sizes ranged from 750 kg (single hole) to 3000 kg (3 holes).

The drilling program began in early June 1996, as soon as the heavy load restriction after spring thaw had been lifted by the Ministry of Transport of Ontario, and continued until the start of the recording program. Drilling was contracted to SDS Drilling of Calgary, and the drilling operation was monitored with field personnel from Lithoprobe (Peter Carroll) and the

GSC (David Forsyth).

Appendix A on page 32 shows the details of a typical shot hole configuration.

### 3.1.2 Seismograph Locations

The seismograph locations were pre-selected and surveyed during a two week period using two crews of two people. The sites were selected based on the nominal station spacing for the lines, which was dictated by the number of available recorders, and suitable ground conditions for either digging in a seismometer or placing one on bedrock. The chosen locations were marked with flagging and a wooden stake with each being marked with a specific station number. A description of the site detailing it's location, distance from the previous site and other landmarks, and type of ground condition was entered into a logbook as the sites were selected.This information formed the basis for the deployers notes that are used during the experiment itself.

### 3.1.3 Environmental Permitting

At the time of applying for environmental permitting, the activities of the planned seismic refraction survey fell into the exclusion category under the Canadian Environment Act. Thus, a formal Environmental Assessment Report was not required. However, an Enviromental Assessment Report was completed as this is the historical approach for such surveys where the GSC is involved and a request that we do so was made by Ron Green of DIAND in Thunder Bay.

Land use permits were requested from the Ontario Ministry of Natural Resources(MNR). Upon submission of a detailed description of the refraction survey, this process was orchestrated by the Kenora MNR office. We were informed that a formal application was not required, but rather that we inform each of the district offices (Kenora, Dryden, Thunder Bay, Geraldton, Red Lake, Fort Frances, Sioux Lookout and Nipigon) of our plans. Conferral with the district offices identified proposed shot sites that required relocation due to wildlife sensitivity, and acceptable shot site relocations were found.

In addition to the MNR Offices, several of the roads which were to be used for deployment of the seismographs fell within First Nations reserves or traditional lands. The Grassy Narrows, Saugeen, Wabaseemong and Mishkeegogamang Band Councils were notified of our plans prior to the survey.

### 3.1.4 Field Operation

The GSC seismographs were deployed from the Thunder Bay field camp, USGS and Ref-Tek from the Sioux Lookout.

The GSC's PRS1 and PRS4 seismographs are managed by LithoSEIS, a software package developed by the GSC (Asudeh et al. 1993).

# 4 Field Geometry

The location of shot and recorder sites are shown in Figure 1. Simple index maps are created to show these locations for quick reference. The survey shots are identified in two ways. The

shooters know them by shot site or shot point name, which is a location name. Since more that one shot can be fired at the same location, a second identifier must be used for shots. This is normally a sequential shot name based on the chronological time each shot is fired. Both identifiers appear in this report, mostly together, when referring to shots of the survey. The index map in Figure 2 shows the survey geometry with shots identified as their site names. A second index map in Figure 3 shows the shots of the survey identified as their shot names. Detailed location information for the shots of the survey are given in Table 1.

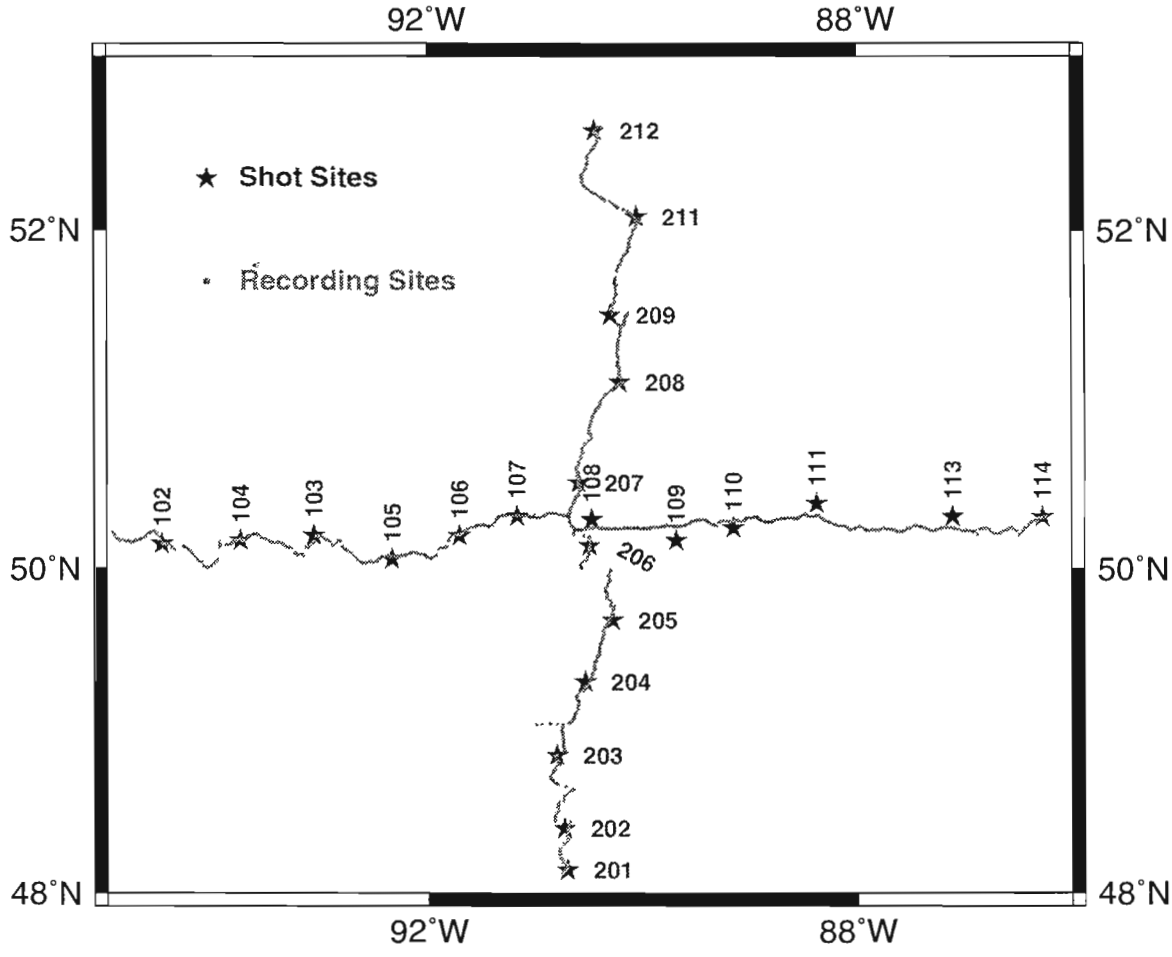



Figure 2: Location index map showing shot and recording sites. Refer to Table 1 on page 12 for location coordinates of the shot sites or Appendix D on page 36 for the location coordinates of both shot and recorder sites. Note that shot 104 is out of sequence and there is no shot 112 or 210.

The shot sequence shown in Figure 3 is given in Table 2 with other critical shot information. Note that all shots are fired on the minute-mark but due to drifts or other problems with

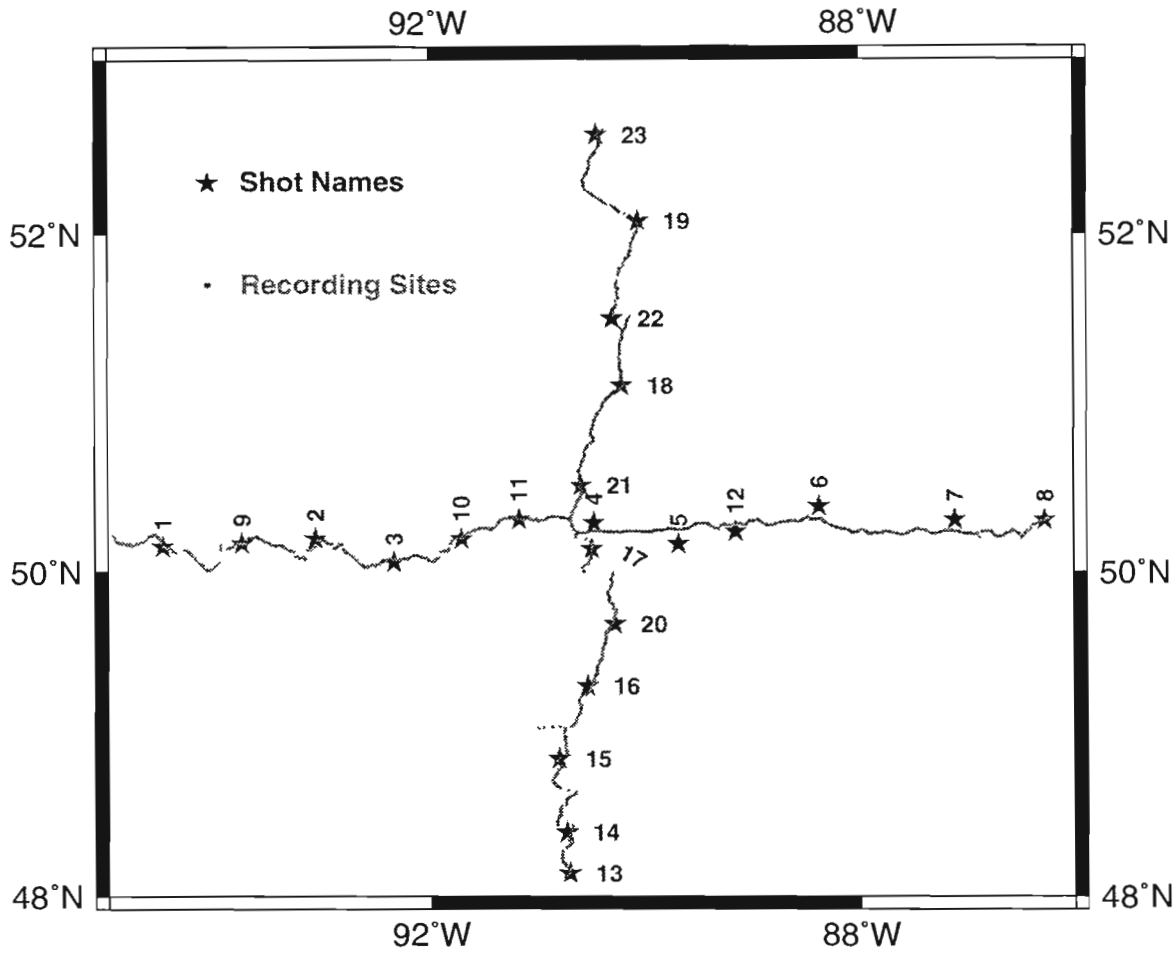



Figure 3: Location index map with shot names and recording sites. Refer to Table 2 on page 13 for shot time information.

the shooter boxes, certain time corrections need to be applied to each shot onset time. These corrections are discussed in more details in a later section.

The recording sites were given names between 1000 and 1999 for the E-W profile and 2000-5000 for the N-S. Due to navigational difficulties, site names are not continuous from one end of each profile to the other end. Different instruments were deployed at segments of each profile as detailed in Table 3. To show some of the irregularities in the site names, an index map in Figure 4 shows certain key sites. For example, note the location of site 1378 on the east half of the E-W profile. Site to the west of this site decrease in number to site 1329. The site immediately to the east of 1378 (not shown in Figure 4) is site 1437 from where site numbers decrease to 1379 to the east.

Table 1: Shot location information for all shots of the survey. Shots on the E-W profile are given site numbers generally increasing from west to east, and the N-S profile from south to north. **Note that shot site 104 is out of sequence, i.e. it is located to the west of shot site 103**. This table is extracted from the listing generated by LithoSEIS (Appendix D on page 36).

| Shot | | Profile | Lat. | Long. | Elev. | UTM | | |
|---|---|---|---|---|---|---|---|---|
| Name | Site | Name | | | m | Northing | Easting | Zone |
| 1 | 102 | E-W | 050:08:47.92N | 094:29:10.86W | 328.0 | 5555774 | 393801 | 15 |
| 9 | 104 | E-W | 050:10:08.21N | 093:45:13.93W | 327.0 | 5557468 | 446160 | 15 |
| 2 | 103 | E-W | 050:11:57.64N | 093:04:11.88W | 350.0 | 5560579 | 495006 | 15 |
| 3 | 105 | E-W | 050:03:20.97N | 092:20:16.10W | 367.0 | 5544829 | 547404 | 15 |
| 10 | 106 | E-W | 050:11:40.87N | 091:42:41.16W | 342.0 | 5560853 | 591976 | 15 |
| 11 | 107 | E-W | 050:18:53.09N | 091:10:22.57W | 350.0 | 5575004 | 630084 | 15 |
| 4 | 108 | E-W | 050:17:40.61N | 090:28:20.16W | 350.0 | 5574226 | 680041 | 15 |
| 5 | 109 | E-W | 050:09:57.81N | 089:41:13.52W | 347.0 | 5560332 | 308095 | 16 |
| 12 | 110 | E-W | 050:14:36.96N | 089:09:11.26W | 337.0 | 5567715 | 346474 | 16 |
| 6 | 111 | E-W | 050:23:35.78N | 088:22:32.86W | 284.0 | 5583044 | 402206 | 16 |
| 7 | 113 | E-W | 050:18:49.32N | 087:06:28.33W | 247.0 | 5573297 | 492319 | 16 |
| 8 | 114 | E-W | 050:18:43.61N | 086:16:27.09W | 169.0 | 5573367 | 551680 | 16 |
| 13 | 201 | N-S | 048:08:34.88N | 090:42:32.45W | 439.0 | 5334516 | 670425 | 15 |
| 14 | 202 | N-S | 048:23:58.19N | 090:44:05.44W | 508.0 | 5362964 | 667662 | 15 |
| 15 | 203 | N-S | 048:51:18.06N | 090:48:15.56W | 426.0 | 5413444 | 661063 | 15 |
| 16 | 204 | N-S | 049:18:14.78N | 090:32:10.33W | 485.0 | 5463964 | 679106 | 15 |
| 20 | 205 | N-S | 049:41:04.61N | 090:16:50.37W | 418.0 | 5506897 | 696154 | 15 |
| 17 | 206 | N-S | 050:08:10.82N | 090:29:41.23W | 400.0 | 5556576 | 679029 | 15 |
| 21 | 207 | N-S | 050:30:59.65N | 090:35:51.81W | 446.0 | 5598605 | 670308 | 15 |
| 18 | 208 | N-S | 051:06:38.30N | 090:12:56.66W | 430.0 | 5665597 | 694896 | 15 |
| 22 | 209 | N-S | 051:30:23.78N | 090:17:47.10W | 341.0 | 5709411 | 687627 | 15 |
| 19 | 211 | N-S | 052:04:32.83N | 090:03:08.52W | 300.0 | 5773350 | 702000 | 15 |
| 23 | 212 | N-S | 052:34:21.80N | 090:26:27.17W | 300.0 | 5827600 | 673425 | 15 |

Table 2: Shot time and other information for all shots of the survey. Shot depths are not known precisely but are given a nominal value of 50 m. Shot corrections are due to shooter box clock drifts and are obtained from either shooter logs or seismograms at the shot points. **The corrections are already applied to the shot onsets in the SEGY files and are given here for information only.** Shots are given names 1 to 23 according to their chronological times. This table is extracted from the listing generated by LithoSEIS, see Appendix C on page 35.

| Profile | Shot Information - July 1996 | | | | | | Shoter |
|---|---|---|---|---|---|---|---|
| | Name | Site | Depth m | Weight kg | GMT | Corrections s | Box |
| E-W | 1 | 102 | 50 | 2800 | 197:02:00:00 | 0.014 | BEAM |
| E-W | 2 | 103 | 50 | 3000 | 197:02:05:00 | 0.983 | BOX2 |
| E-W | 3 | 105 | 50 | 1000 | 197:02:10:00 | -0.031 | SNAP |
| E-W | 4 | 108 | 50 | 1600 | 197:02:15:00 | 0.011 | FRED |
| E-W | 5 | 109 | 50 | 1000 | 197:02:20:00 | -0.016 | BOX2 |
| E-W | 6 | 111 | 50 | 1000 | 197:02:25:00 | 0.596 | BOX4 |
| E-W | 7 | 113 | 50 | 3000 | 197:02:30:00 | 0.000 | GLOW |
| E-W | 8 | 114 | 50 | 3000 | 197:02:35:00 | 0.004 | BOX1 |
| E-W | 9 | 104 | 50 | 2400 | 197:05:05:00 | 0.983 | BOX2 |
| E-W | 10 | 106 | 50 | 1000 | 197:05:10:00 | -0.031 | SNAP |
| E-W | 11 | 107 | 50 | 1000 | 197:05:15:00 | 0.011 | FRED |
| E-W | 12 | 110 | 50 | 1000 | 197:06:25:00 | 0.010 | BOX3 |
| N-S | 13 | 201 | 50 | 3000 | 201:04:00:00 | 0.003 | GLOW |
| N-S | 14 | 202 | 50 | 2250 | 201:04:05:00 | 0.015 | BOX3 |
| N-S | 15 | 203 | 50 | 2400 | 201:04:10:00 | 3.245 | BOX1 |
| N-S | 16 | 204 | 50 | 1000 | 201:04:15:00 | -0.036 | BOX2 |
| N-S | 17 | 206 | 50 | 1600 | 201:04:20:00 | 0.023 | BOX2 |
| N-S | 18 | 208 | 50 | 1000 | 201:04:25:00 | -0.046 | SNAP |
| N-S | 19 | 211 | 50 | 3000 | 201:04:30:00 | 0.015 | FRED |
| N-S | 20 | 205 | 50 | 1000 | 201:07:15:00 | -0.036 | BOX2 |
| N-S | 21 | 207 | 50 | 1800 | 201:07:20:00 | 0.023 | BOX2 |
| N-S | 22 | 209 | 50 | 1000 | 201:07:25:00 | -0.046 | SNAP |
| N-S | 23 | 212 | 50 | 3000 | 201:07:30:00 | 0.015 | FRED |

Table 3: Instrument types used for the survey. Note that both a PRS1 and a Ref-Tek seismograph were deployed at site **2361** for the N-S profile. This is the only co-located site for the survey and the PRS1 and Ref-Tek data for this site can be used to compare the amplitudes.

| Profile | Instrument Type | | | | | | |
|---|---|---|---|---|---|---|---|
| | SGR | PRS4 | Ref-Tek | PRS1 | PRS1 | SGR | PRS1 |
| | In-Line Sites | | | | Broad-Side Sites | | |
| E-W | 1001-1134 | 1135-1169 | 1170-1319 | 1320-1624 | 2021-2073 | 2076-2243 | 3006 |
| N-S | 2076-2141<br>2442-2499 | 2177-2211 | 2212-**2361** | 2001-2075<br>2142-2176<br>**2361**-2376<br>3001-3009<br>4000-4049 | | 1095-1230 | |

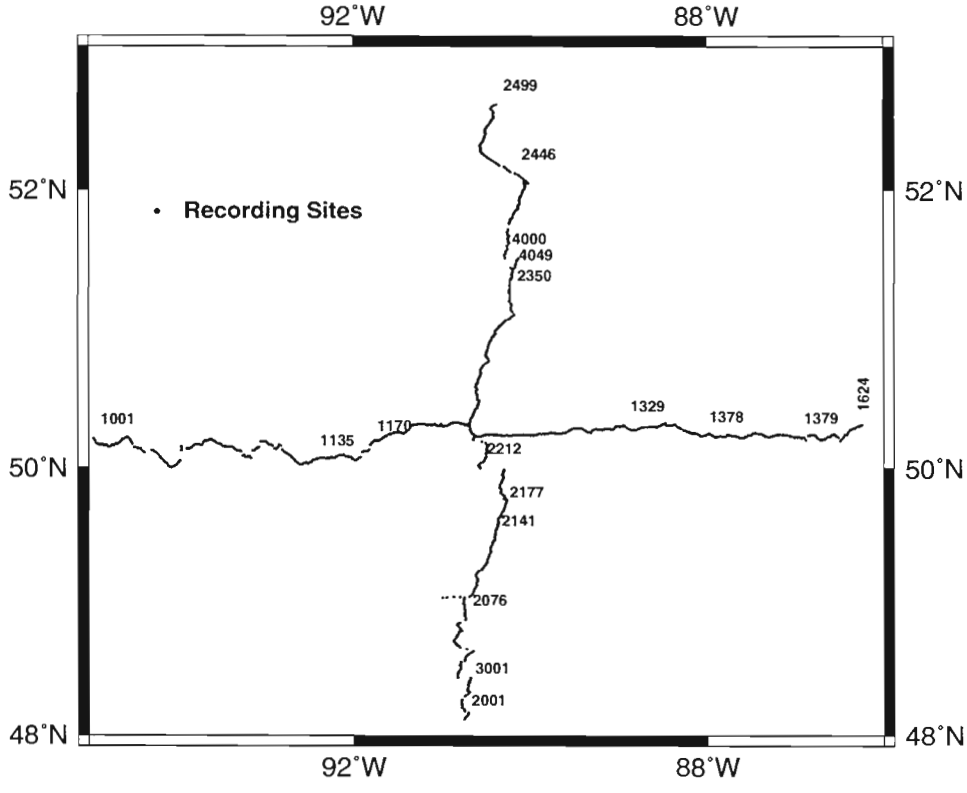



Figure 4: Location of key Recording Sites; see Table 3, above, and section 4 on page 9 for details.

## 4.1 Instrument distribution

The instrument distribution shown in Table 3 is shown on index maps in Figures 5 and 6 for the E-W and N-S profiles. The three-component Ref-Tek and PRS4 seismographs were deployed in the middle of each profile, the single component SGR and PRS1 seismographs were deployed elsewhere.

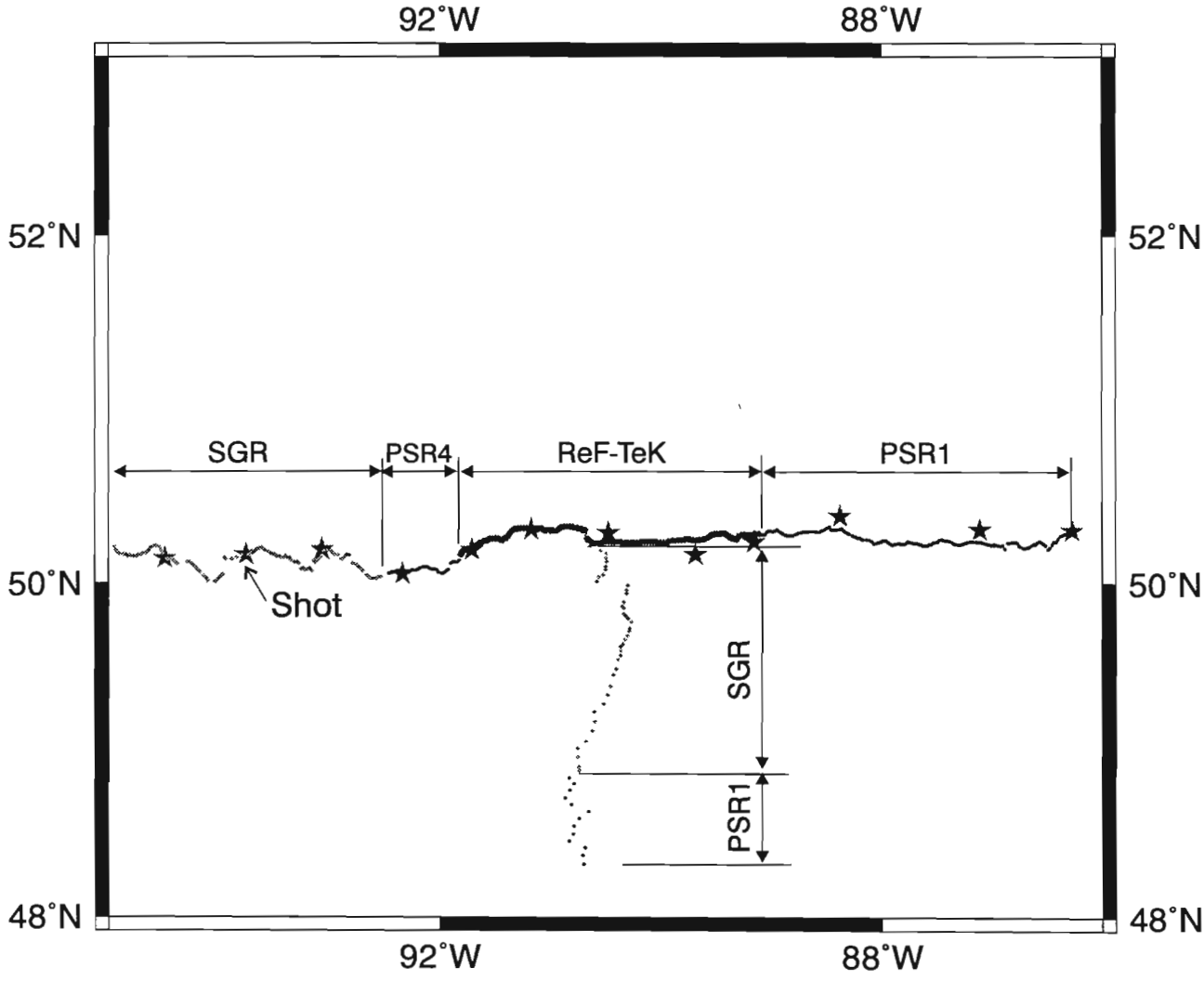



Figure 5: Instrument types for the E-W profile. The PRS4 and Ref-Tek instruments recorded three-component data, PRS1 and SGR single-component data.

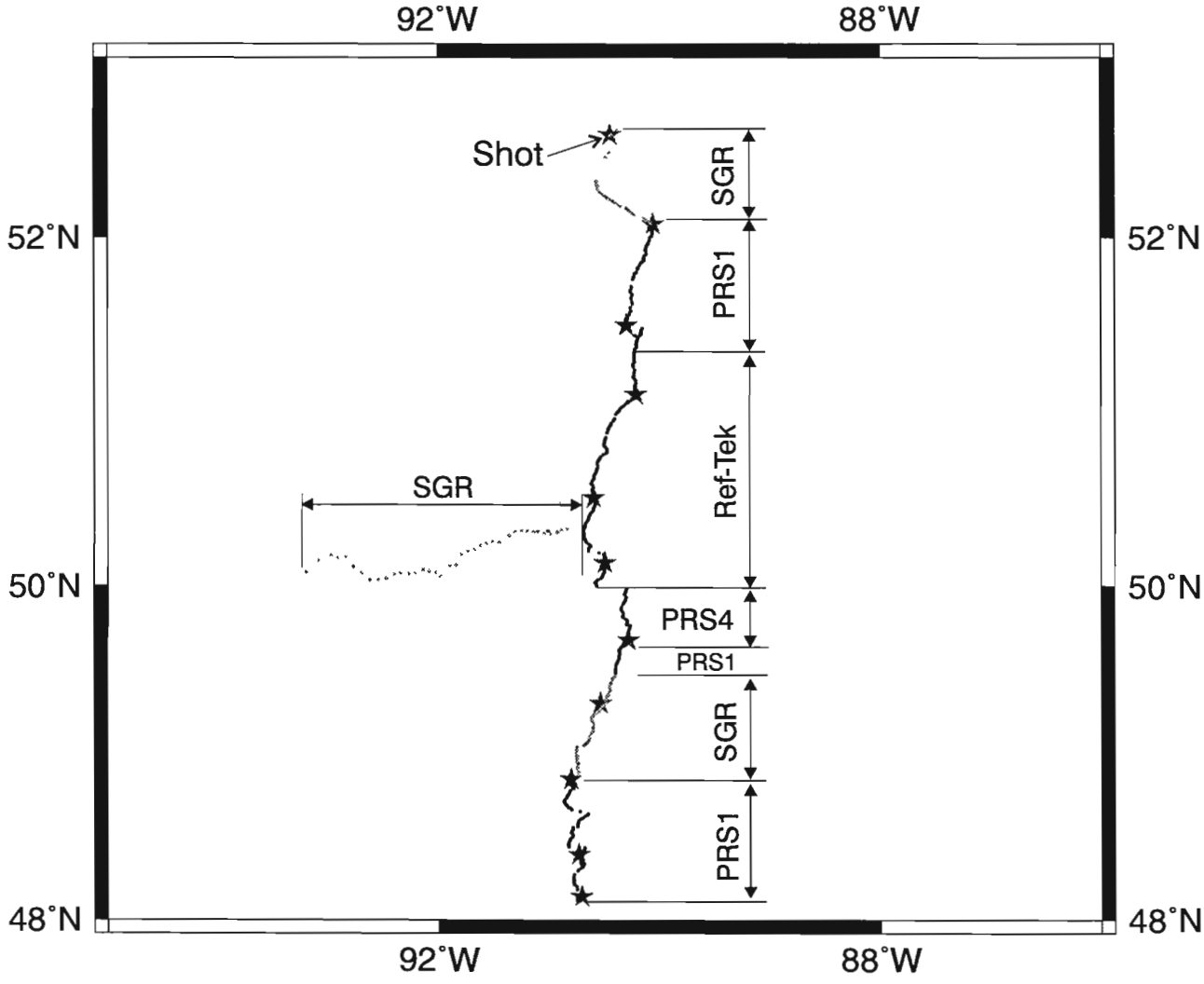



Figure 6: Instrument types for the N-S profile. The PRS4 and Ref-Tek instruments recorded three-component data, PRS1 and SGR single-component data.

# 5 Data Processing

## 5.1 Geometry Data

### 5.1.1 GPS Site Surveying

As with all large scale refraction experiments, accurate positioning of shot and receiver sites is both critical and problematic. Problems arise from the large area covered by the experiments, the typical remoteness of the area, and the large number (more than 1000) of stations to survey. With the introduction of selective availability (SA), the accuracy for single point positioning is 100m horizontally and 156m vertically. To improve on these results it is necessary to either perform differential positioning or collect precise orbit and clock information while doing single point positioning. A base station is required to perform the differential corrections post-mission, and to achieve accuracies in the 1-10m range the base station should not be separated by more than 200 km from the roving GPS receiver.
The disadvantages of using differential GPS for large refraction experiments are:

- The large distances involved require that multiple base stations be used, making the surveying task very complex and time consuming.
- The fact that you need to record data from the same satellites on both the roving unit and the base station can limit the number of working hours in the day.
- Renting or buying GPS equipment for base stations is expensive.

A preferable method for this application is using relatively cheap single frequency GPS units which have the capability of collecting precise orbit and clock information, and using data collected at permanent, high resolution tracking stations and made available by the Canadian Active Control System (CACS) of the Geodetic Survey of Canada to correct the positions. Using this technique you can also achieve 1-10m accuracy. For the Western Superior refraction experiment we used Trimble GeoExplorer GPS units and collected 3 minutes of data from at least 4 satellites at each site. This took 2 weeks with two survey teams working concurrently. The data were then converted to RINEX format using a module from Trimble's Pfinder software. The final corrections are done using the program GPSPACE from the Geodetic Survey of Canada. GPSPACE takes the data from a specific station in RINEX format and uses the appropriate clock and ephemerides files from the CACS to calculate the correct position. These corrections were all done on a PC and required 4-5 days in the lab. Further points were easily added during the survey as new stations were identified or existing stations were moved. The final database for shot and receiver positions was available approximately 2 weeks after the completion of the experiment.

## 5.2 Waveform Data

The waveform data files created by the USGS and IRIS/PASSCAL were reduced using a windowing program called Window1 (see Appendix F on page 82). The GSC data were resampled using a program listed in Appendix G on page 88. All data were then ready to merge

into standard SEGY-IASPEI (a super-set of the standard SEGY developed by GSC, USGS and the IRIS/PASSCAL. Refer to Appendix H on page 92 for a details).

### 5.2.1 GSC Data

The GSC data are processed using the LithoSEIS. Field geometry and recording parameters are saved in LithoSEIS databases that are used to store corrections to parameters such as shot or recorder locations before the final taping of field waveform data. The field data are stored in internal LithoSEIS format in single trace-based files at a fixed sample rate of 120 samples per second. Using the MAKESEGY program of LithoSEIS, they are converted to standard SEGY-IASPEI format first. Data are reduced at 8.0 km/s and stored in shot-gathers from 5 seconds before the shot time to 55 seconds after it.

The resample program (Appendix G on page 88) is then used to convert GSC data to 125 samples per second, to be ready for merging with the USGS and IRIS/PASSCAL data.

### 5.2.2 USGS data

The USGS data are initially stored in non-reduced SEGY files with maximum record length of 90 seconds at a sample rate of 125 samples per second. Due to storage limitations, the data are recorded with different time offsets from the shot time. A program was developed to reduce the data at 8.0 km/s and store in shot-gathers from 5 seconds before the shot time to 55 seconds after it (see Appendix F on page 82).

As no geometry is stored in the USGS SEGY headers, a geometry file is exported from LithoSEIS databases and is used in the Window1 program for reducing the data. The same geometry file is used to reduce the IRIS/PASSCAL data.

The reduced data are then converted to standard SEGY-IASPEI format using the LithoSEIS ReadSegy option. After this stage, any further correction to the SEGY headers are handled by internal LithoSEIS database engine.

### 5.2.3 The IRIS/PASSCAL data

The IRIS/PASSCAL data are initially stored in non-reduced SEGY files with maximum record length of 180 seconds at a sample rate of 125 samples per second. The Window1 program (see Appendix F on page 82 and the above section) is used to reduce the data at 8.0 km/s and store in shot-gathers from 5 seconds before the shot time to 55 seconds after it.

The reduced data are then converted to standard SEGY-IASPEI format using the LithoSEIS ReadSegy option. After this stage, any further correction to the SEGY headers are handled by internal LithoSEIS database engine.

## 5.3 Merging the data

The preceding sections detailed how all three datasets are converted to standard SEGY-IASPEI format. A simple merge option in LithoSEIS creates final SEGY-IASPEI files in IBM tape format. The files are created in shot-gather format. A vertical component file is created

from the vertical component of all records. A three-component set is then created for each shot. Each component is stored in a separate file. Finally, a single file is created for each shot, for the broad-side recording.

| Field Data | Initial Format | First Stage | Second Stage | Merge Stage |
|---|---|---|---|---|
| GSC | LithoSEIS 120 sps | LithoSEIS: SEGY-IASPEI | Resample to 125 sps | LithoSEIS SEGY-IASPEI |
| USGS IRIS/PASSCAL | Long SEGY 125 sps | Window1: Reduced Segy | LithoSEIS: SEGY-IASPEI | IBM Format, 8.0 km/s 125 sps |

Figure 7: Processing seqeunce: Using LithoSEIS, the GSC data are first reduced at 8 km/s and converted to SEGY-IASPEI, then resampled to 125 sps before merge stage. Using Window1 program, the USGS and IRIS/PASSCAL data are first reduced to 8 km/s, then using LithoSEIS, converted to SEGY-IASPEI before the merge stage. All data are then merged in LithoSEIS to create standard SEGY-IASPEI data in IBM floating format at 8 km/s and 125 sps. A 60 second window of the data is taped, starting 5 seconds before the shot time, ending 55 seconds after.

## 5.4 Data Scaling

Digital seismographs used in this survey all store data in digital format, in digital counts. In principle, the ground motion can be obtained from the digital counts if the response of the seismographs are known. In practice and particularly in refraction surveys, the response of the instruments are not recorded with the data.

In order to obtain a reasonable amplitude scale for the shot gathers, a scaling factor is used for each instrument type of each instrument group. The scaling factors are normalized to the response of the GSC's PRS1 instrument and are shown in Figure 8.

### 5.4.1 The factor of two scale in PRS1 and PRS4

The digital response of the GSC's PRS1 and PRS4 seismographs were designed to be identical. In practice, a 'factor of two' difference exists between the two instruments. To demonstrate this, two single seismograms are plotted in Figures 9 and 10 using the Glimpse program from LithoSEIS and Vista (a commertical software package). In Glimpse, data are read in the internal LithoSEIS format and are scaled correctly while in Vista package, the data are read in the standard SEGY format with no correction for the scaling problem.

In other words, the 'factor of two' problem of PRS data is carried into the SEGY files. To normalize data from the two instruments, the PRS4 data must be scaled by a factor of 1/2.

| Instrument Group | Instrument | In General | | Western Superior | |
|---|---|---|---|---|---|
| | | Seismometer | Scaling Factor | Seismometer | Scaling Factor |
| GSC | PRS1 | L4-A; 2 Hz | 1 | L4-A; 2 Hz | 1 |
| | PRS4 | L4-A; 2 Hz | 2 | L4-A; 2 Hz | 2 |
| USGS | SGR | L4-C; 4 Hz | 2.5 * 10E6 | | |
| | | String; 8 Hz | 5.4 * 10E6 | | |
| | | Unknown | 2.5 * 10E6 | Unknown | 2.5 * 10E6 |
| IRIS/PASSCAL | Ref-Tek | Unknown | 0.44739250E+07 | Unknown | 0.44739250E+07 |
| Any | Unknown | Unknown | From data | N/A | N/A |

Figure 8: Scaling performed in LithoSEIS. In general, and if the seismometer types are known, certain scaling factors recommended by the instrument groups are used. For the Western Superior survey, the seismometer types used by the SGR or Ref-Tek were not logged and the default scalings are used. Note that the PRS4 data are scaled by a factor of 2 (see the following section and Figures 9 and 10 for more details.)

## 5.5 Time Corrections

### 5.5.1 Seismograph Clock Drifts

The instrument clock drifts are normally in the order of a few milliseconds per day. For the PRS and SGR instruments, the clocks are synchronized to a GPS source at the start of each deployment and are compared to a GPS source at the end to obtain the total clock drifts. Drift for each trace is calculated based on the offset of the trace start time from the start of the deployment. **The clock drifts for the PRS and SGR instruments are stored in bytes 217-218 of the SEGY-IASPEI header words and must be applied to the data at the processing stage.**

The Ref-Tek instruments are either synchronized and pulsed with a GPS clock, or they have on-board GPS. In either case, the clock drifts for each trace are obtained and applied to the raw data. **A clock drift of zero is stored in bytes 217-218 of the SEGY-IASPEI header words to indicate that the Ref-Tek data are already corrected for instrument clock drifts.**

### 5.5.2 Shooter Box Clock Drifts

The GSC shooter boxes used for the survey were synchronized to a GPS source before they were taken to the shot points. They were compared to the same GPS source after the shooting to obtain the clock drifts for each shots.

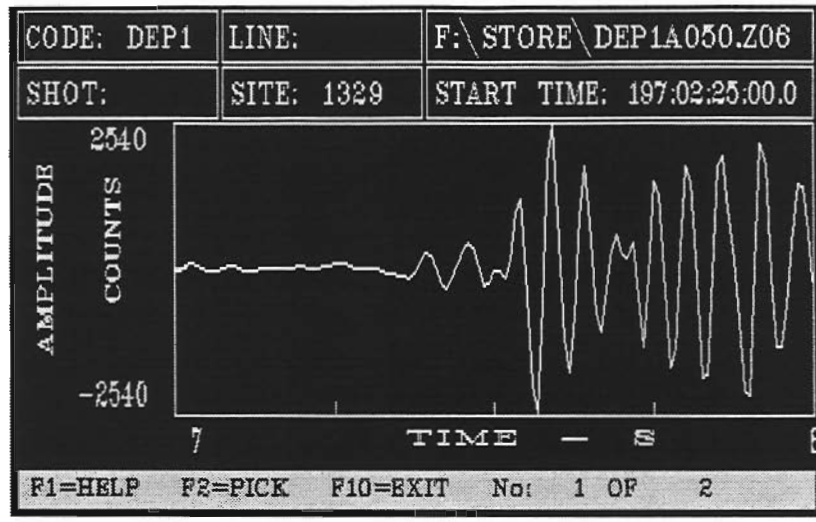
The shooter box clock drifts were normally in the order of a few milliseconds. In two cases, however, the clocks had 'jumped' a few seconds. The PRS1 seismographs deployed at some shot points provided a secondary time check for the shot times, particularly for the 'jumped' clocks.

The shot clock corrections obtained from the shooter logs and the PRS1 records are shown in Table 2.

The shot time corrections obtained from GPS pulsing of the shooter box are in good agreement with those obtained from the PRS1 records deployed at the shot point. Small differences exist between the two measurements that could be due to the fact that the PRS1 instruments must be deployed at some safe distance from the shot hole.

The PRS1 records for shot sites 110, 111, 201, 203, 204 and 205 are shown in Glimpse plots in Figures 11 through 16. In each of these plots, the first break of the P wave is very impulsive and can be measured with a precision of one sample interval of 8.3 milliseconds. The exact shot time is then calculated after considering the clock drift of the PRS box and the offset of the shot start time from the start time of the PRS clock.

A typical Glimpse plot in Figure 11 shows the impulsive first arrival at shot site 110 to be at 7451 samples, or 62.092 seconds after the start time of the current record which is *197:06:23:58.00*. This means that the shot time was at *197:06:25:00.092* if the PRS did not have any clock drift and was deployed at the shot hole. The shooter log indicates a clock correction of only 10.5 milliseconds for this shot which is 82 milliseconds less than the measurement on the plot. To be consistent, the clock drift as reported by the shooter, that is 10 millisecond, is allocated to this shot. The drifts obtained from the PRS recording are only used for shots at sites 111 and 203 in which the shooter box clocks 'jumped' or were not pulsed.



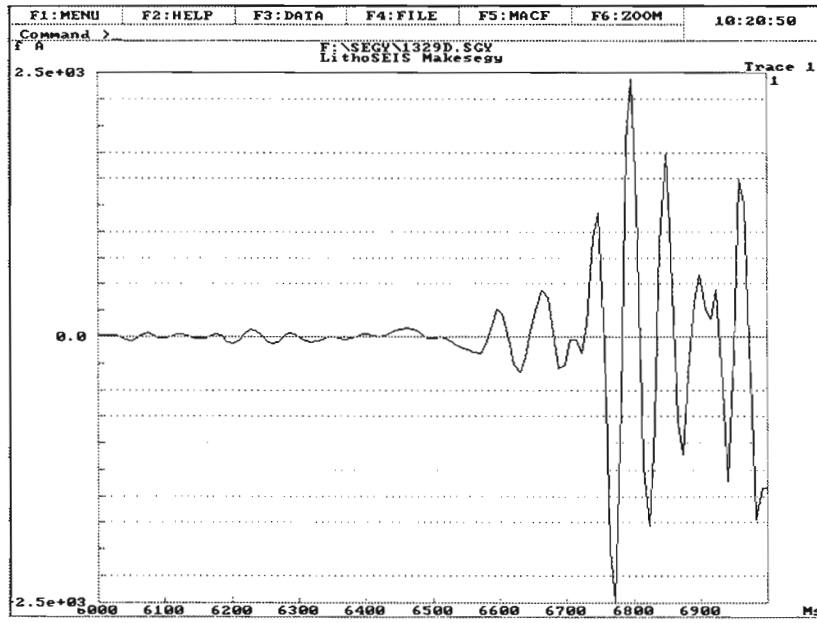




Figure 9: A PRS1 data segment plotted using Glimpse (top) shows maximum digital counts of 2540. The same data converted to SEGY and plotted using Vista (bottom) indicate a similar scale. The same is not true for a PRS4 data segment shown in Figure 10, below.

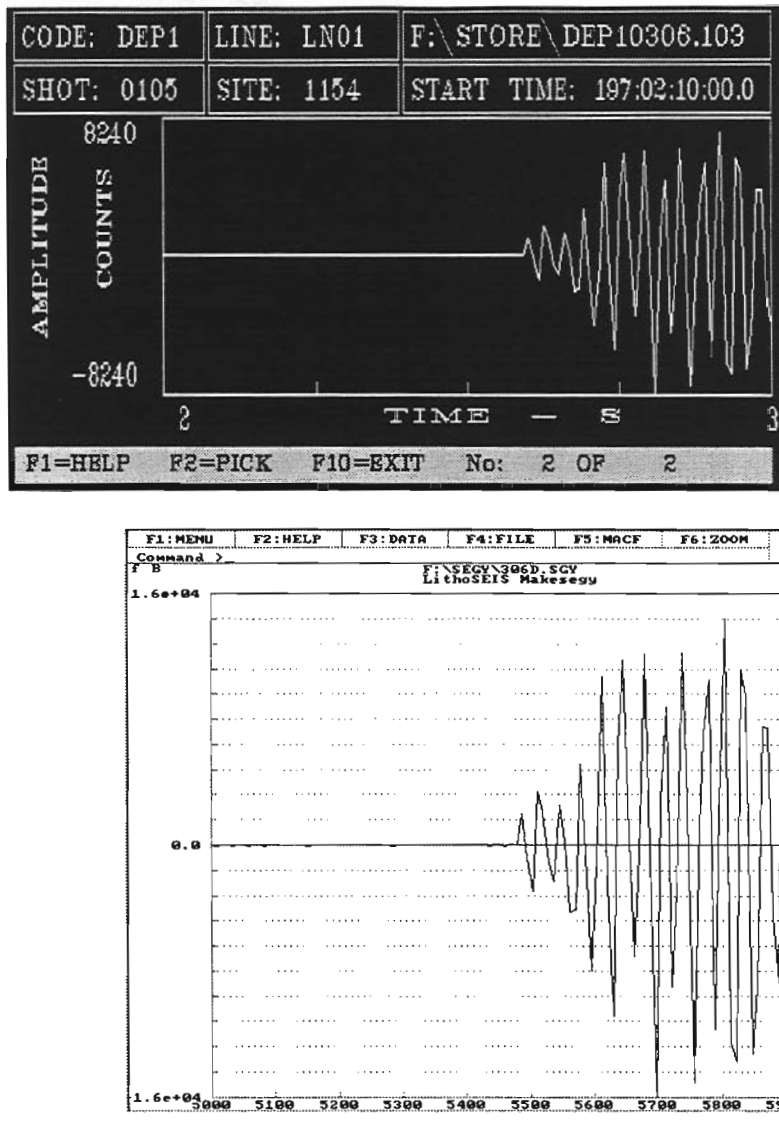



Figure 10: A PRS4 data segment plotted from raw data using Glimpse (top) shows maximum digital counts of 8240. The same data converted to SEGY and plotted using Vista (bottom) indicate a maximum scale of 16000. Dumping the data samples show that the maximum in the SEGY file is exactly twice the maximum in the raw data file. The PRS4 data is therefore scaled by a factor of two before conversion to SEGY. This 'factor of two' is reflected in Figure 8.

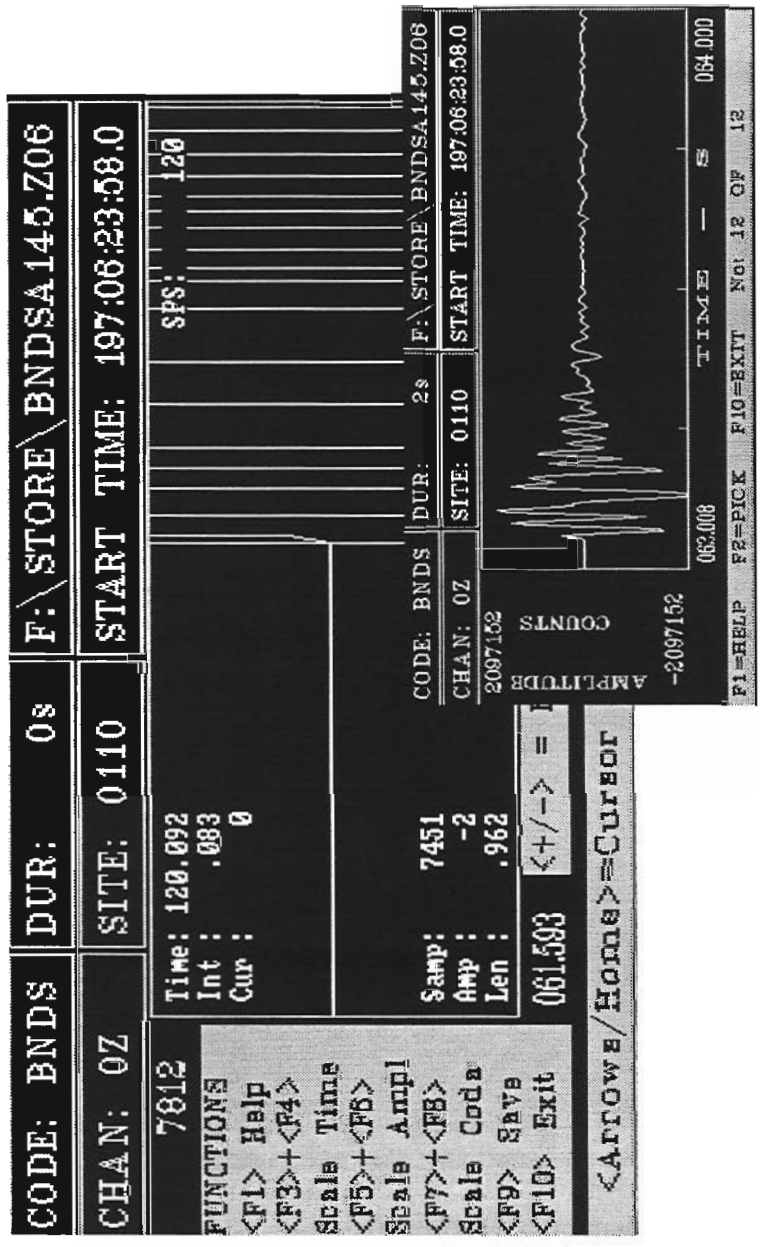



Figure 11: LithoSEIS Glimpse plots showing how the shot time onset is obtained from a PRS1 seismograph deployed at the shot site. Impulsive waveform with very large signal to noise ratio in the inset is further magnified to measure the first break. The vertical cursor is placed on the first break (to within a sample interval of 0.0083 s). The sample count (Samp: on the plot) from the START TIME: 197:06:23:58.0 is 7451, leading to a shot time of 197:06:25:00.092 and suggesting a time correction of 92 milliseconds. See text in section 5.5.2 on page 20 for further details.

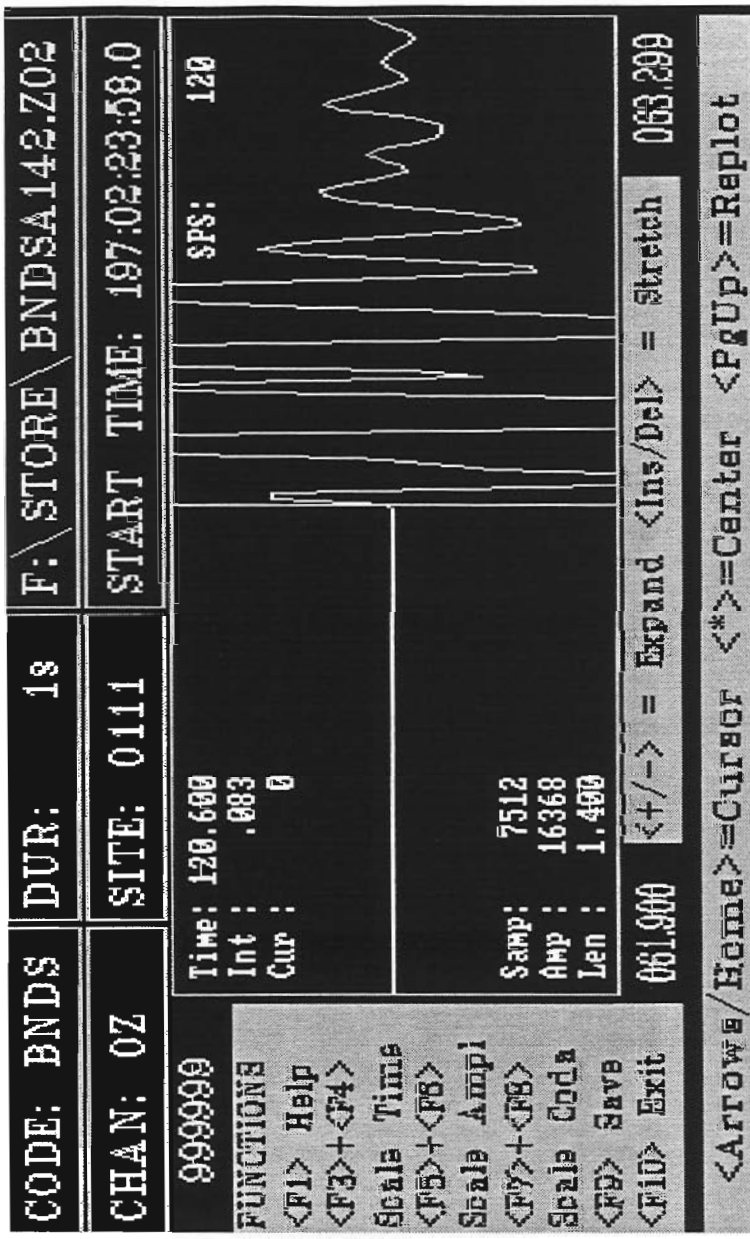



Figure 12: LithoSEIS Glimpse plot showing shot time correction of 600 milliseconds for shot site 111. For this shot, no shooter log was available and the clock correction of 596 milliseconds (see Table 2) was calculated from this observation after considering the PRS1 clock drift. See caption of Figure 11 for further details.

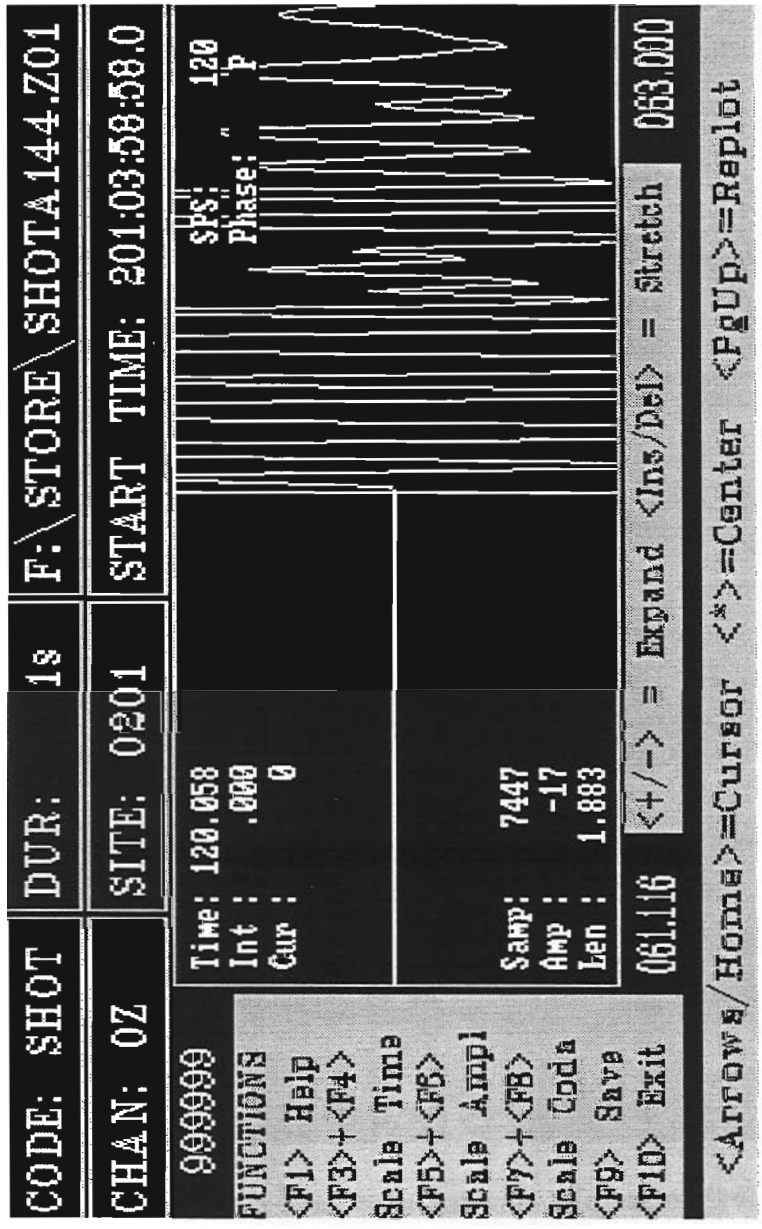



Figure 13: LithoSEIS Glimpse plot showing shot time correction of 58 milliseconds for shot site 201. See caption of Figure 11 for further details.

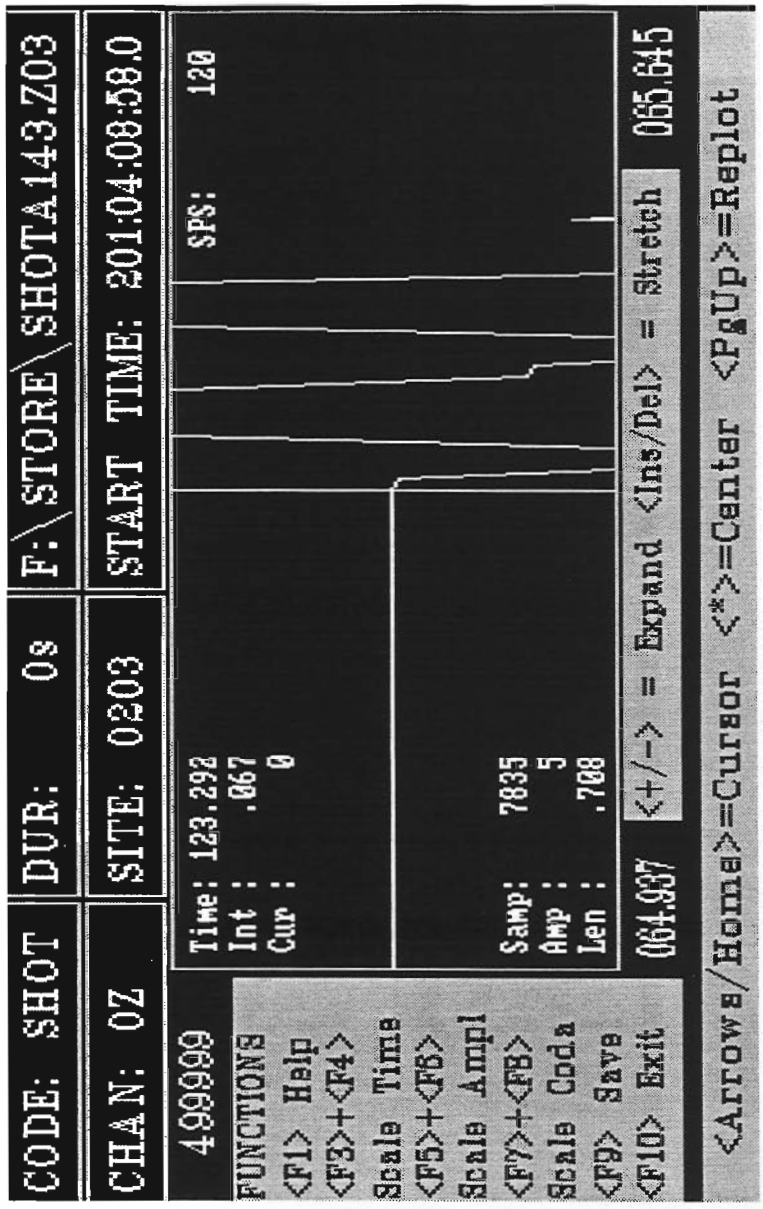



Figure 14: LithoSEIS Glimpse plot showing shot time correction of 3.292 seconds for shot site 203. For this shot, no shooter log was available and the clock correction of 3245 milliseconds (see Table 2) was calculated from this observation after considering the PRS1 clock drift. See caption of Figure 11 for further details.

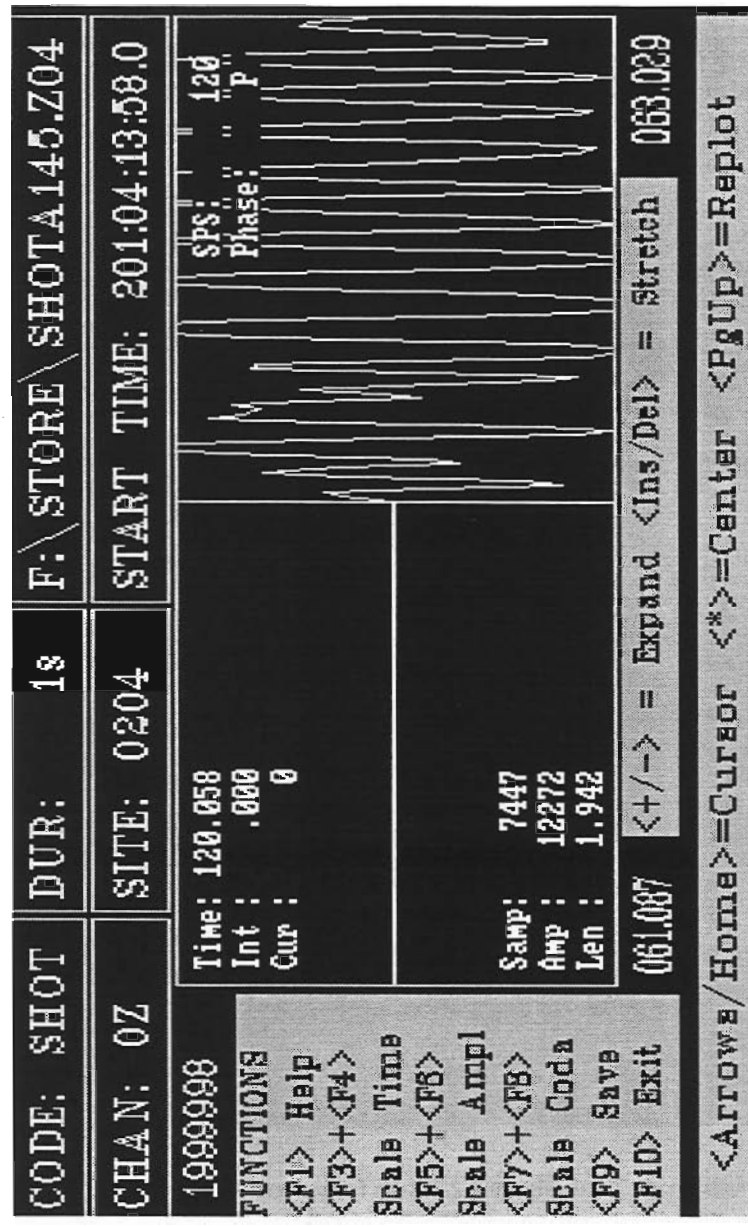



Figure 15: LithoSEIS Glimpse plot showing shot time correction of 58 milliseconds for shot site 204. See caption of Figure 11 for further details.

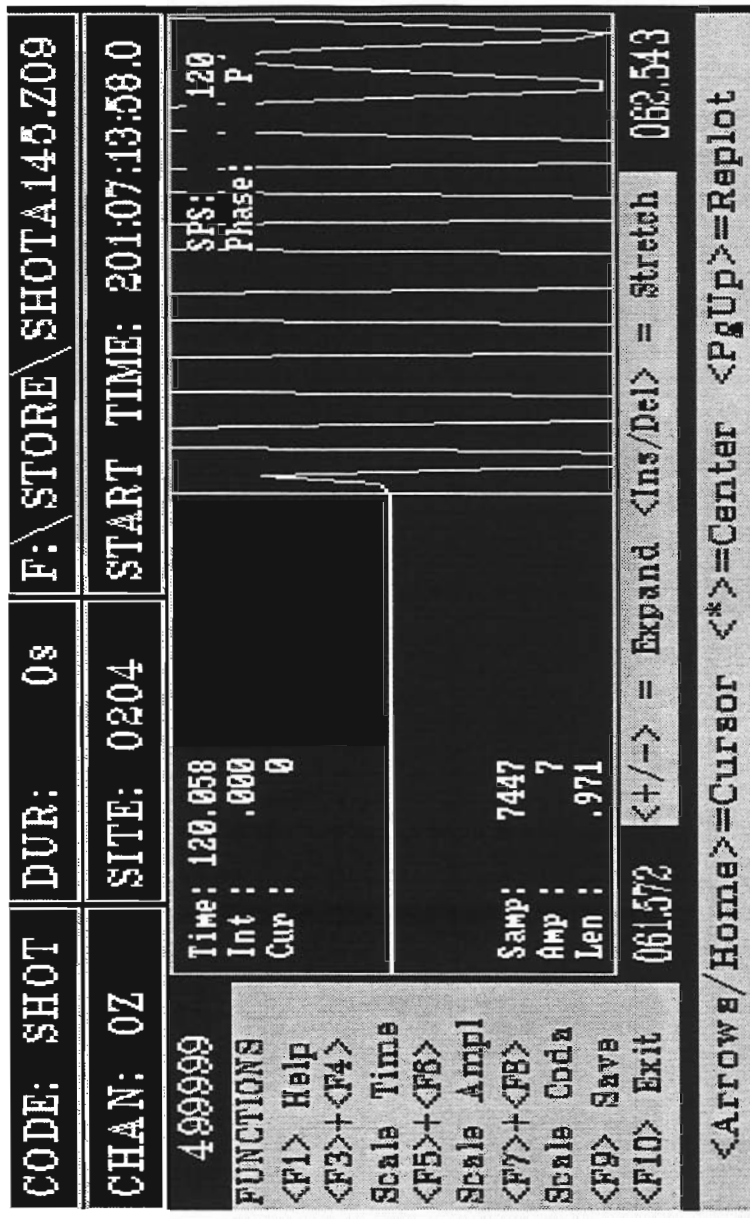



Figure 16: LithoSEIS Glimpse plot showing shot time correction of 58 milliseconds for shot site 205. Note that the plot shows incorrect site of 204 but correct shot time for shot 205. See caption of Figure 11 for further details.

# 6 Notable problems with the data

Some defects in the raw data persist after all the screening during the processing sequence. Table 4 shows these.

Table 4: File name, Shot Name, Site Name and Start Sample for those shots that the starting sample is not sample one. These records have unresolved errors in them and should be discarded.

| File | Shot Name | Site Name | Start Sample |
|---|---|---|---|
| 14v | 14 | 2471 | -6247 |
| 17f | 17 | 1214 | 4 |
| 21e | 21 | 2245 | 254 |
| 21e | 21 | 2291 | 254 |
| 21n | 21 | 2245 | 254 |
| 21n | 21 | 2291 | 254 |
| 21v | 21 | 2245 | 254 |
| 21v | 21 | 2291 | 254 |
| 21z | 21 | 2245 | 254 |
| 21z | 21 | 2291 | 254 |
| 22e | 22 | 2354 | 245 |
| 22n | 22 | 2354 | 245 |
| 22v | 22 | 2354 | 245 |
| 22z | 22 | 2354 | 245 |
| 4v | 4 | 1110 | 21597891 |
| 6v | 6 | 1132 | 895967 |
| 7v | 7 | 1130 | 22494529 |
| 9v | 9 | 1089 | 124 |
| 9v | 9 | 1112 | 21599648 |

# 7 References

Devaney, J.R. and Williams, H.R. 1989. Evolution of an Archean subprovince boundary: a sedimentological and structural study of part of the Wabigoon-Quetico boundary in northern Ontario, Canadian Journal of Earth Sciences, 26, 1013-1026.

Percival, J. A. and Williams, H.R. 1989. Late Archean Quetico accretionary complex, Superior province, Canada, Geology, 17, 23-25.

Williams, H.R. 1990. Subprovince accretion tectonics in the south-central Superior Province, Canadian Journal of Earth Sciences, 27, 570-581.

Asudeh, I., Wetmiller, R., and Spencer, C., 1993. The LithoSEIS User Manual. Geological Survey of Canada Open File No. 2679.

# 8 Appendices

A typical shot hole configuration follows in Appendix A, followed by a list of participants in Appendix B, then by lists that are either generated by LithoSEIS report commands or source code listings of program segments used in this report.

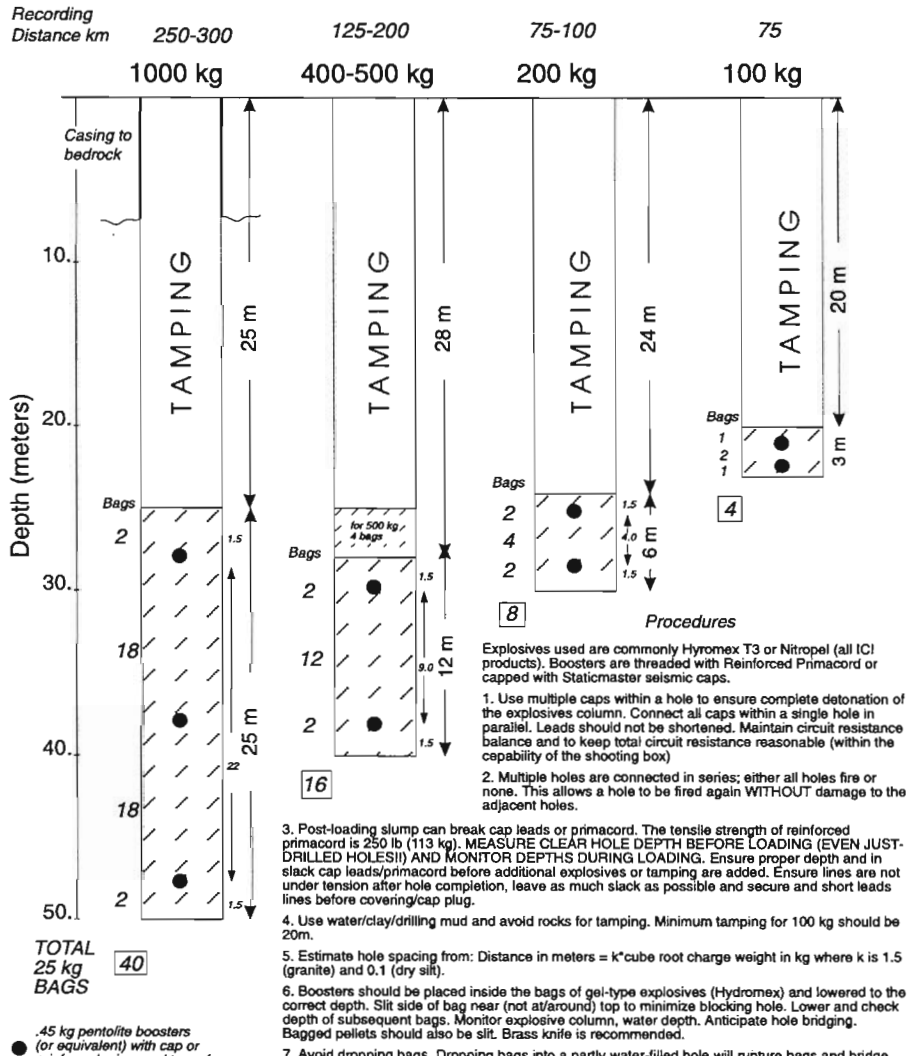
Following the listings, waveform data plot-sections for each of the 23 shots of the survey are shown. Four plots are created for each shot. The plots are labeled according to the shot information in Table 5, below.

Table 5: Shot name, site, distance from end of the profile and the number of traces for vertical of single component (v), vertical (z), north-south (n) and easth-west (e) of the three component, and the fan recording (f). Distances (in km) are calculated along a best-fit line to all shot points of each profile from a location close to the first recording site each profile. For further details about shot location, time and charge weight, refer to Tables 1 and 2 on pages 12 and 13.

| Deployment | Profile | Shot Name | Shot Site | Distance (km) | v | z | n | e | f |
|---|---|---|---|---|---|---|---|---|---|
| DEP1 | E-W | 1 | 102 | 32.631 | 446 | 171 | 171 | 171 | 58 |
| DEP1 | E-W | 9 | 104 | 85.040 | 444 | 171 | 171 | 171 | 57 |
| DEP1 | E-W | 2 | 103 | 134.020 | 447 | 170 | 170 | 170 | 58 |
| DEP1 | E-W | 3 | 105 | 185.288 | 447 | 170 | 170 | 170 | 57 |
| DEP1 | E-W | 10 | 106 | 230.829 | 443 | 170 | 170 | 170 | 57 |
| DEP1 | E-W | 11 | 107 | 269.786 | 441 | 169 | 169 | 169 | 57 |
| DEP1 | E-W | 4 | 108 | 319.571 | 446 | 170 | 170 | 170 | 57 |
| DEP1 | E-W | 5 | 109 | 375.170 | 448 | 171 | 171 | 171 | 58 |
| DEP1 | E-W | 12 | 110 | 413.426 | 439 | 169 | 169 | 169 | 41 |
| DEP1 | E-W | 6 | 111 | 468.924 | 447 | 170 | 170 | 170 | 57 |
| DEP1 | E-W | 7 | 113 | 559.195 | 446 | 170 | 170 | 170 | 57 |
| DEP1 | E-W | 8 | 114 | 618.589 | 446 | 170 | 170 | 170 | 57 |
| DEP2 | N-S | 13 | 201 | 2.410 | 467 | 179 | 179 | 179 | 39 |
| DEP2 | N-S | 14 | 202 | 30.729 | 463 | 174 | 174 | 174 | 39 |
| DEP2 | N-S | 15 | 203 | 80.921 | 461 | 174 | 174 | 174 | 40 |
| DEP2 | N-S | 16 | 204 | 132.043 | 455 | 174 | 174 | 174 | 40 |
| DEP2 | N-S | 20 | 205 | 175.541 | 438 | 175 | 175 | 175 | 39 |
| DEP2 | N-S | 17 | 206 | 224.558 | 455 | 174 | 174 | 174 | 40 |
| DEP2 | N-S | 21 | 207 | 266.238 | 437 | 173 | 173 | 173 | 39 |
| DEP2 | N-S | 18 | 208 | 334.024 | 452 | 173 | 173 | 173 | 40 |
| DEP2 | N-S | 22 | 209 | 377.539 | 437 | 173 | 173 | 173 | 39 |
| DEP2 | N-S | 19 | 211 | 441.906 | 450 | 173 | 173 | 173 | 40 |
| DEP2 | N-S | 23 | 212 | 495.124 | 436 | 173 | 173 | 173 | 39 |

# A A Typical Shot Hole Configuration

Configuration of charge (25 kg hydromex T3) weights, boosters and tamping in a 20 cm (8 inch) diameter borehole.




*Procedures*

Explosives used are commonly Hyromex T3 or Nitropel (all ICI products). Boosters are threaded with Reinforced Primacord or capped with Staticmaster seismic caps.

1. Use multiple caps within a hole to ensure complete detonation of the explosives column. Connect all caps within a single hole in parallel. Leads should not be shortened. Maintain circuit resistance balance and to keep total circuit resistance reasonable (within the capability of the shooting box)

2. Multiple holes are connected in series; either all holes fire or none. This allows a hole to be fired again WITHOUT damage to the adjacent holes.

3. Post-loading slump can break cap leads or primacord. The tensile strength of reinforced primacord is 250 lb (113 kg). MEASURE CLEAR HOLE DEPTH BEFORE LOADING (EVEN JUST-DRILLED HOLES!!) AND MONITOR DEPTHS DURING LOADING. Ensure proper depth and in slack cap leads/primacord before additional explosives or tamping are added. Ensure lines are not under tension after hole completion, leave as much slack as possible and secure and short leads lines before covering/cap plug.

4. Use water/clay/drilling mud and avoid rocks for tamping. Minimum tamping for 100 kg should be 20m.

5. Estimate hole spacing from: Distance in meters = k*cube root charge weight in kg where k is 1.5 (granite) and 0.1 (dry silt).

6. Boosters should be placed inside the bags of gel-type explosives (Hydromex) and lowered to the correct depth. Slit side of bag near (not at/around) top to minimize blocking hole. Lower and check depth of subsequent bags. Monitor explosive column, water depth. Anticipate hole bridging. Bagged pellets should also be slit. Brass knife is recommended.

7. Avoid dropping bags. Dropping bags into a partly water-filled hole will rupture bags and bridge the hole. Use disposable twine to lower bags and cut the twine.

8. Load wet holes immediately after drilling.

9.Minimum safe firing distance is 300m, never downwind of hole. Fire from inside vehicle or other safe cover if possible. Keep leads dry, suspended above ground.

# B List of Participants

## Geological Survey of Canada

Don White
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Balasz Nemeth[2]
Alex Bezdan[2]
Darren Schmidt[2]
Bashkar Pandit

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Kamil Tansel Erguden

## Queenś University

Rob Harrap
Mike Johnson
John McKenzie
Chris Fulton
Jenn McLaughlin

## Durham University, UK

Joel Geddes

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[2]Shooter

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Timothy Flatman
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Rashmin Gunasekera
Matthew Home

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Nathalie Lefebure
Haitau Yang
Claudine Lee
Ka Wei Lau

## Iris/Passcal Consortium

Bill Koperwhats
Russ Sell
Arturo Soria

## U.S. Geological Survey

Don Farrell
Gemma Musacchio

## Ontario Geological Survey

Phil Thurston

# C Survey Shots

The following is a list generated from LithoSEIS databases. A slightly improved version of this list is shown in Table 2 on page 13.

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98.02.09

List of LithoSEIS Survey Shots
With Shot Parameters & Window Time

| Dep Code | Shot ID | Shot Site | Shot Depth | Shot Weight kg | Shot Time jjj:hh:mm:ss | Shot Corr. s | Shot Clock Id |
|---|---|---|---|---|---|---|---|
| ** FSU Code: LAKE | | | | | | | |
| DEP1 | 0001 | 0102 | 50 | 2800.0 | 197:02:00:00 | 0.014 | BEAM |
| DEP1 | 0002 | 0103 | 50 | 3000.0 | 197:02:05:00 | 0.983 | BOX2 |
| DEP1 | 0003 | 0105 | 50 | 1000.0 | 197:02:10:00 | -0.031 | SNAP |
| DEP1 | 0004 | 0108 | 50 | 1600.0 | 197:02:15:00 | 0.011 | FRED |
| DEP1 | 0005 | 0109 | 50 | 1000.0 | 197:02:20:00 | -0.016 | BOX2 |
| DEP1 | 0006 | 0111 | 50 | 1000.0 | 197:02:25:00 | 0.596 | BOX4 |
| DEP1 | 0007 | 0113 | 50 | 3000.0 | 197:02:30:00 | 0.000 | GLOW |
| DEP1 | 0008 | 0114 | 50 | 3000.0 | 197:02:35:00 | 0.004 | BOX1 |
| DEP1 | 0009 | 0104 | 50 | 2400.0 | 197:05:05:00 | 0.983 | BOX2 |
| DEP1 | 0010 | 0106 | 50 | 1000.0 | 197:05:10:00 | -0.031 | SNAP |
| DEP1 | 0011 | 0107 | 50 | 1000.0 | 197:05:15:00 | 0.011 | FRED |
| DEP1 | 0012 | 0110 | 50 | 1000.0 | 197:06:25:00 | 0.010 | BOX3 |
| DEP2 | 0013 | 0201 | 50 | 3000.0 | 201:04:00:00 | 0.003 | GLOW |
| DEP2 | 0014 | 0202 | 50 | 2250.0 | 201:04:05:00 | 0.015 | BOX3 |
| DEP2 | 0015 | 0203 | 50 | 2400.0 | 201:04:10:00 | 3.245 | BOX1 |
| DEP2 | 0016 | 0204 | 50 | 1000.0 | 201:04:15:00 | -0.036 | BOX2 |
| DEP2 | 0017 | 0206 | 50 | 1600.0 | 201:04:20:00 | 0.023 | BOX2 |
| DEP2 | 0018 | 0208 | 50 | 1000.0 | 201:04:25:00 | -0.046 | SNAP |
| DEP2 | 0019 | 0211 | 50 | 3000.0 | 201:04:30:00 | 0.015 | FRED |
| DEP2 | 0020 | 0205 | 50 | 1000.0 | 201:07:15:00 | -0.036 | BOX2 |
| DEP2 | 0021 | 0207 | 50 | 1800.0 | 201:07:20:00 | 0.023 | BOX2 |
| DEP2 | 0022 | 0209 | 50 | 1000.0 | 201:07:25:00 | -0.046 | SNAP |
| DEP2 | 0023 | 0212 | 50 | 3000.0 | 201:07:30:00 | 0.015 | FRED |

# D Survey Sites

The following is a list generated from LithoSEIS databases. FSU Code indicates the name of the field service unit computer, such as 'LAKE', or a key such as 'FE12' to mark that the following site location was modified on Feb. 12, 1997.

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98.02.09

List of LithoSEIS Survey Sites
Standard Report Form

| Site ID | Line ID | Lat. | Long. | Site Elev. m | Northing | Easting | UTM Zone |
|---|---|---|---|---|---|---|---|
| ** FSU Code: LAKE | | | | | | | |
| 0102 | LN01 | 050:08:47.92N | 094:29:10.86W | 328.0 | 5555774 | 393801 | 15 |
| ** FSU Code: FE12 | | | | | | | |
| 0103 | LN01 | 050:11:57.64N | 093:04:11.88W | 350.0 | 5560579 | 495006 | 15 |
| 0104 | LN01 | 050:10:08.21N | 093:45:13.93W | 327.0 | 5557468 | 446160 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 0105 | LN01 | 050:03:20.97N | 092:20:16.10W | 367.0 | 5544829 | 547404 | 15 |
| 0106 | LN01 | 050:11:40.87N | 091:42:41.16W | 342.0 | 5560853 | 591976 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 0107 | LN01 | 050:18:53.09N | 091:10:22.57W | 350.0 | 5575004 | 630084 | 15 |
| 0108 | LN01 | 050:17:40.61N | 090:28:20.16W | 350.0 | 5574226 | 680041 | 15 |
| 0109 | LN01 | 050:09:57.81N | 089:41:13.52W | 347.0 | 5560332 | 308095 | 16 |
| 0110 | LN01 | 050:14:36.96N | 089:09:11.26W | 337.0 | 5567715 | 346474 | 16 |
| 0111 | LN01 | 050:23:35.78N | 088:22:32.86W | 284.0 | 5583044 | 402206 | 16 |
| 0113 | LN01 | 050:18:49.32N | 087:06:28.33W | 247.0 | 5573297 | 492319 | 16 |
| ** FSU Code: LAKE | | | | | | | |
| 0114 | LN01 | 050:18:43.61N | 086:16:27.09W | 169.0 | 5573367 | 551680 | 16 |
| ** FSU Code: JU31 | | | | | | | |
| 0201 | LN02 | 048:08:34.88N | 090:42:32.45W | 439.0 | 5334516 | 670425 | 15 |
| 0202 | LN02 | 048:23:58.19N | 090:44:05.44W | 508.0 | 5362964 | 667662 | 15 |
| 0203 | LN02 | 048:51:18.06N | 090:48:15.56W | 426.0 | 5413444 | 661063 | 15 |
| 0204 | LN02 | 049:18:14.78N | 090:32:10.33W | 485.0 | 5463964 | 679106 | 15 |
| 0205 | LN02 | 049:41:04.61N | 090:16:50.37W | 418.0 | 5506897 | 696154 | 15 |
| 0206 | LN02 | 050:08:10.82N | 090:29:41.23W | 400.0 | 5556576 | 679029 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 0207 | LN02 | 050:30:59.65N | 090:35:51.81W | 446.0 | 5598605 | 670308 | 15 |
| 0208 | LN02 | 051:06:38.30N | 090:12:56.66W | 430.0 | 5665597 | 694896 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 0209 | LN02 | 051:30:23.78N | 090:17:47.10W | 341.0 | 5709411 | 687627 | 15 |
| 0211 | LN02 | 052:04:32.83N | 090:03:08.52W | 300.0 | 5773350 | 702000 | 15 |
| 0212 | LN02 | 052:34:21.80N | 090:26:27.17W | 300.0 | 5827600 | 673425 | 15 |
| 1001 | LN01 | 050:12:52.02N | 094:56:57.35W | 300.0 | 5564074 | 360925 | 15 |
| 1002 | LN01 | 050:11:48.43N | 094:55:46.67W | 300.0 | 5562074 | 362274 | 15 |
| 1003 | LN01 | 050:10:38.66N | 094:54:58.86W | 300.0 | 5559895 | 363167 | 15 |
| 1004 | LN01 | 050:10:22.28N | 094:53:53.37W | 300.0 | 5559356 | 364453 | 15 |
| 1005 | LN01 | 050:10:09.46N | 094:52:48.31W | 300.0 | 5558927 | 365733 | 15 |
| 1006 | LN01 | 050:10:15.79N | 094:51:40.73W | 300.0 | 5559089 | 367079 | 15 |

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98.02.09

List of LithoSEIS Survey Sites
Standard Report Form

| Site ID | Line ID | Lat. | Long. | Site Elev. m | Northing | Easting | UTM Zone |
|---|---|---|---|---|---|---|---|
| ** FSU Code: LAKE | | | | | | | |
| 1007 | LN01 | 050:10:09.32N | 094:50:28.76W | 304.0 | 5558854 | 368501 | 15 |
| 1008 | LN01 | 050:09:43.59N | 094:49:26.13W | 325.0 | 5558028 | 369724 | 15 |
| 1009 | LN01 | 050:09:58.63N | 094:48:20.31W | 319.0 | 5558461 | 371041 | 15 |
| 1010 | LN01 | 050:09:32.38N | 094:47:17.94W | 326.0 | 5557621 | 372259 | 15 |
| 1011 | LN01 | 050:09:13.35N | 094:46:14.67W | 334.0 | 5557003 | 373501 | 15 |
| 1012 | LN01 | 050:09:24.84N | 094:45:07.63W | 323.0 | 5557326 | 374839 | 15 |
| 1013 | LN01 | 050:09:57.59N | 094:43:55.19W | 369.0 | 5558304 | 376300 | 15 |
| 1014 | LN01 | 050:09:51.87N | 094:43:02.47W | 331.0 | 5558103 | 377342 | 15 |
| 1015 | LN01 | 050:10:23.63N | 094:41:46.82W | 347.0 | 5559050 | 378865 | 15 |
| 1016 | LN01 | 050:10:26.39N | 094:40:44.39W | 369.0 | 5559107 | 380105 | 15 |
| 1017 | LN01 | 050:10:47.99N | 094:39:35.99W | 369.0 | 5559744 | 381477 | 15 |
| 1018 | LN01 | 050:11:34.79N | 094:38:23.99W | 369.0 | 5561158 | 382936 | 15 |
| 1019 | LN01 | 050:12:32.39N | 094:37:15.59W | 369.0 | 5562907 | 384331 | 15 |
| 1020 | LN01 | 050:12:46.79N | 094:35:52.79W | 369.0 | 5563316 | 385982 | 15 |
| 1021 | LN01 | 050:13:19.19N | 094:34:33.59W | 369.0 | 5564283 | 387573 | 15 |
| 1022 | LN01 | 050:13:15.83N | 094:33:29.43W | 327.0 | 5564153 | 388842 | 15 |
| 1023 | LN01 | 050:12:37.38N | 094:32:21.83W | 305.0 | 5562938 | 390157 | 15 |
| 1024 | LN01 | 050:11:35.07N | 094:31:24.07W | 306.0 | 5560990 | 391262 | 15 |
| 1025 | LN01 | 050:10:34.15N | 094:30:09.92W | 340.0 | 5559078 | 392695 | 15 |
| 1026 | LN01 | 050:09:03.38N | 094:29:08.75W | 321.0 | 5556251 | 393852 | 15 |
| 1027 | LN01 | 050:08:46.39N | 094:27:54.25W | 330.0 | 5555697 | 395320 | 15 |
| 1028 | LN01 | 050:08:41.16N | 094:26:55.62W | 344.0 | 5555513 | 396481 | 15 |
| 1029 | LN01 | 050:08:29.64N | 094:25:46.49W | 317.0 | 5555130 | 397846 | 15 |
| 1030 | LN01 | 050:08:20.39N | 094:24:43.19W | 369.0 | 5554821 | 399097 | 15 |
| 1031 | LN01 | 050:07:22.79N | 094:23:38.39W | 369.0 | 5553018 | 400350 | 15 |
| 1032 | LN01 | 050:06:46.79N | 094:22:22.79W | 369.0 | 5551878 | 401831 | 15 |
| 1037 | LN01 | 050:07:44.39N | 094:17:05.99W | 369.0 | 5553545 | 408153 | 15 |
| 1038 | LN01 | 050:07:40.79N | 094:16:04.79W | 369.0 | 5553413 | 409366 | 15 |
| 1039 | LN01 | 050:06:53.99N | 094:14:56.39W | 369.0 | 5551945 | 410700 | 15 |
| 1040 | LN01 | 050:06:26.28N | 094:13:45.90W | 297.0 | 5551066 | 412086 | 15 |
| 1041 | LN01 | 050:05:49.90N | 094:12:40.70W | 337.0 | 5549921 | 413363 | 15 |
| 1042 | LN01 | 050:04:44.39N | 094:11:34.79W | 369.0 | 5547877 | 414640 | 15 |
| 1043 | LN01 | 050:03:50.91N | 094:10:30.74W | 341.0 | 5546205 | 415887 | 15 |
| 1044 | LN01 | 050:03:06.16N | 094:09:19.79W | 357.0 | 5544801 | 417276 | 15 |
| 1045 | LN01 | 050:02:32.72N | 094:08:06.72W | 348.0 | 5543746 | 418713 | 15 |
| 1046 | LN01 | 050:01:59.08N | 094:06:59.51W | 370.0 | 5542687 | 420035 | 15 |
| 1047 | LN01 | 050:00:51.60N | 094:05:53.14W | 395.0 | 5540583 | 421324 | 15 |
| 1048 | LN01 | 050:00:29.35N | 094:04:47.74W | 389.0 | 5539877 | 422616 | 15 |
| 1049 | LN01 | 050:00:06.39N | 094:03:45.11W | 410.0 | 5539150 | 423853 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 1050 | LN01 | 050:00:38.98N | 094:02:36.48W | 300.0 | 5540137 | 425233 | 15 |

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| ** FSU Code: LAKE | | | | | | | |
| 1051 | LN01 | 050:00:43.07N | 094:01:23.05W | 412.0 | 5540243 | 426696 | 15 |
| 1052 | LN01 | 050:01:33.34N | 094:00:15.31W | 417.0 | 5541778 | 428065 | 15 |
| 1053 | LN01 | 050:02:32.27N | 093:59:04.91W | 376.0 | 5543579 | 429490 | 15 |
| 1054 | LN01 | 050:03:05.86N | 093:57:58.07W | 404.0 | 5544599 | 430833 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 1055 | LN01 | 050:07:35.11N | 093:56:59.66W | 300.0 | 5552900 | 432100 | 15 |
| 1056 | LN01 | 050:08:25.43N | 093:56:43.02W | 300.0 | 5554450 | 432450 | 15 |
| 1057 | LN01 | 050:09:21.86N | 093:57:11.85W | 300.0 | 5556200 | 431900 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 1058 | LN01 | 050:08:30.24N | 093:53:16.42W | 322.0 | 5554548 | 436553 | 15 |
| 1059 | LN01 | 050:08:30.95N | 093:52:09.27W | 341.0 | 5554554 | 437886 | 15 |
| 1060 | LN01 | 050:08:39.50N | 093:51:02.55W | 314.0 | 5554803 | 439213 | 15 |
| 1061 | LN01 | 050:09:07.69N | 093:49:54.45W | 329.0 | 5555658 | 440575 | 15 |
| 1062 | LN01 | 050:09:57.43N | 093:48:49.46W | 316.0 | 5557180 | 441881 | 15 |
| 1063 | LN01 | 050:10:06.91N | 093:47:43.02W | 311.0 | 5557459 | 443202 | 15 |
| 1064 | LN01 | 050:10:13.49N | 093:46:35.10W | 324.0 | 5557648 | 444552 | 15 |
| 1065 | LN01 | 050:10:11.20N | 093:45:19.59W | 411.0 | 5557562 | 446049 | 15 |
| 1066 | LN01 | 050:10:07.67N | 093:44:23.70W | 325.0 | 5557442 | 447157 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 1067 | LN01 | 050:10:05.28N | 093:43:06.66W | 300.0 | 5557353 | 448684 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 1068 | LN01 | 050:11:18.02N | 093:42:10.89W | 217.0 | 5559589 | 449812 | 15 |
| 1069 | LN01 | 050:11:58.03N | 093:41:07.49W | 424.0 | 5560813 | 451081 | 15 |
| 1070 | LN01 | 050:11:56.66N | 093:39:58.14W | 439.0 | 5560758 | 452455 | 15 |
| 1071 | LN01 | 050:12:12.63N | 093:38:50.46W | 193.0 | 5561240 | 453801 | 15 |
| 1072 | LN01 | 050:12:17.82N | 093:37:49.12W | 192.0 | 5561390 | 455018 | 15 |
| 1073 | LN01 | 050:12:28.22N | 093:36:37.21W | 192.0 | 5561699 | 456447 | 15 |
| 1074 | LN01 | 050:11:55.69N | 093:35:28.56W | 188.0 | 5560683 | 457799 | 15 |
| 1075 | LN01 | 050:11:36.67N | 093:34:17.69W | 332.0 | 5560085 | 459200 | 15 |
| 1076 | LN01 | 050:11:04.37N | 093:33:20.73W | 329.0 | 5559079 | 460322 | 15 |
| 1077 | LN01 | 050:10:34.95N | 093:32:12.13W | 328.0 | 5558160 | 461676 | 15 |
| 1078 | LN01 | 050:10:24.31N | 093:30:55.85W | 314.0 | 5557821 | 463187 | 15 |
| 1079 | LN01 | 050:10:21.10N | 093:29:48.65W | 325.0 | 5557713 | 464519 | 15 |
| 1080 | LN01 | 050:09:28.03N | 093:28:38.29W | 335.0 | 5556064 | 465904 | 15 |
| 1081 | LN01 | 050:09:32.01N | 093:27:34.16W | 353.0 | 5556179 | 467177 | 15 |
| 1082 | LN01 | 050:09:19.74N | 093:26:16.70W | 330.0 | 5555791 | 468712 | 15 |
| 1083 | LN01 | 050:09:09.20N | 093:25:08.17W | 340.0 | 5555458 | 470070 | 15 |
| 1084 | LN01 | 050:09:29.63N | 093:23:58.02W | 316.0 | 5556081 | 471466 | 15 |
| 1085 | LN01 | 050:09:13.18N | 093:22:54.61W | 338.0 | 5555567 | 472721 | 15 |

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| ** FSU Code: JU31 | | | | | | | |
| 1086 | LN01 | 050:08:50.90N | 093:21:46.17W | 300.0 | 5554872 | 474076 | 15 |
| 1087 | LN01 | 050:08:21.20N | 093:20:51.00W | 300.0 | 5553949 | 475167 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 1088 | LN01 | 050:07:46.09N | 093:19:47.84W | 331.0 | 5552859 | 476416 | 15 |
| 1089 | LN01 | 050:07:26.88N | 093:18:36.37W | 397.0 | 5552260 | 477832 | 15 |
| 1090 | LN01 | 050:07:31.00N | 093:17:32.68W | 522.0 | 5552382 | 479098 | 15 |
| 1091 | LN01 | 050:07:15.67N | 093:16:30.59W | 363.0 | 5551904 | 480329 | 15 |
| 1092 | LN01 | 050:05:15.51N | 093:15:19.34W | 455.0 | 5548187 | 481731 | 15 |
| 1093 | LN01 | 050:05:36.32N | 093:14:11.87W | 320.0 | 5548826 | 483074 | 15 |
| 1094 | LN01 | 050:04:42.03N | 093:13:11.91W | 548.0 | 5547145 | 484260 | 15 |
| 1095 | LN01 | 050:04:59.87N | 093:12:00.26W | 420.0 | 5547692 | 485686 | 15 |
| 1096 | LN01 | 050:05:07.85N | 093:10:52.79W | 222.0 | 5547935 | 487027 | 15 |
| 1097 | LN01 | 050:04:24.62N | 093:09:46.51W | 374.0 | 5546597 | 488341 | 15 |
| 1098 | LN01 | 050:07:34.01N | 093:08:39.09W | 373.0 | 5552444 | 489693 | 15 |
| 1099 | LN01 | 050:07:31.06N | 093:07:28.19W | 347.0 | 5552350 | 491101 | 15 |
| 1100 | LN01 | 050:08:15.85N | 093:06:28.37W | 358.0 | 5553732 | 492290 | 15 |
| 1101 | LN01 | 050:08:46.71N | 093:05:21.14W | 348.0 | 5554683 | 493626 | 15 |
| 1102 | LN01 | 050:09:02.47N | 093:04:13.37W | 527.0 | 5555168 | 494972 | 15 |
| 1103 | LN01 | 050:11:26.50N | 093:02:59.27W | 399.0 | 5559616 | 496445 | 15 |
| 1104 | LN01 | 050:11:28.90N | 093:01:52.54W | 349.0 | 5559689 | 497768 | 15 |
| 1105 | LN01 | 050:11:25.00N | 093:00:43.96W | 236.0 | 5559568 | 499128 | 15 |
| 1106 | LN01 | 050:11:31.68N | 092:59:39.07W | 0.0 | 5559774 | 500415 | 15 |
| 1107 | LN01 | 050:10:57.95N | 092:58:35.37W | 379.0 | 5558733 | 501678 | 15 |
| 1108 | LN01 | 050:10:13.34N | 092:57:23.28W | 366.0 | 5557356 | 503109 | 15 |
| 1109 | LN01 | 050:10:02.71N | 092:56:10.54W | 364.0 | 5557028 | 504552 | 15 |
| 1110 | LN01 | 050:09:50.86N | 092:55:02.47W | 385.0 | 5556664 | 505903 | 15 |
| 1111 | LN01 | 050:08:22.99N | 092:53:50.15W | 401.0 | 5553952 | 507342 | 15 |
| 1112 | LN01 | 050:08:24.37N | 092:52:47.42W | 403.0 | 5553996 | 508587 | 15 |
| 1113 | LN01 | 050:09:08.23N | 092:51:36.51W | 424.0 | 5555353 | 509992 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 1114 | LN01 | 050:10:03.00N | 092:50:37.35W | 300.0 | 5557047 | 511162 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 1115 | LN01 | 050:09:48.80N | 092:49:29.94W | 375.0 | 5556612 | 512501 | 15 |
| 1116 | LN01 | 050:08:05.95N | 092:48:26.93W | 366.0 | 5553438 | 513759 | 15 |
| 1117 | LN01 | 050:07:13.92N | 092:47:21.21W | 371.0 | 5551835 | 515068 | 15 |
| 1118 | LN01 | 050:06:48.19N | 092:46:22.34W | 280.0 | 5551043 | 516240 | 15 |
| 1119 | LN01 | 050:06:25.20N | 092:45:17.24W | 454.0 | 5550337 | 517535 | 15 |
| 1120 | LN01 | 050:06:01.63N | 092:44:08.25W | 611.0 | 5549614 | 518908 | 15 |
| 1121 | LN01 | 050:05:23.53N | 092:43:00.59W | 504.0 | 5548442 | 520257 | 15 |
| 1122 | LN01 | 050:04:33.02N | 092:41:55.86W | 414.0 | 5546887 | 521549 | 15 |

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| 1123 | LN01 | 050:03:48.91N | 092:40:51.07W | 404.0 | 5545530 | 522843 | 15 |
| 1124 | LN01 | 050:03:01.37N | 092:39:44.90W | 404.0 | 5544068 | 524165 | 15 |
| 1125 | LN01 | 050:02:23.79N | 092:38:38.27W | 466.0 | 5542913 | 525496 | 15 |
| 1126 | LN01 | 050:01:57.28N | 092:37:32.03W | 365.0 | 5542101 | 526817 | 15 |
| 1127 | LN01 | 050:01:41.58N | 092:36:25.69W | 379.0 | 5541623 | 528140 | 15 |
| 1128 | LN01 | 050:01:44.37N | 092:35:19.90W | 395.0 | 5541716 | 529448 | 15 |
| 1129 | LN01 | 050:01:44.75N | 092:34:14.21W | 387.0 | 5541735 | 530755 | 15 |
| 1130 | LN01 | 050:02:19.46N | 092:33:08.44W | 325.0 | 5542815 | 532057 | 15 |
| 1131 | LN01 | 050:02:28.50N | 092:31:59.18W | 426.0 | 5543103 | 533433 | 15 |
| 1132 | LN01 | 050:01:55.39N | 092:30:53.36W | 333.0 | 5542088 | 534749 | 15 |
| 1133 | LN01 | 050:02:25.81N | 092:29:46.44W | 444.0 | 5543037 | 536074 | 15 |
| 1134 | LN01 | 050:02:39.12N | 092:28:36.73W | 165.0 | 5543457 | 537458 | 15 |
| 1135 | LN01 | 050:03:31.96N | 092:27:29.35W | 394.0 | 5545099 | 538786 | 15 |
| 1136 | LN01 | 050:03:47.78N | 092:26:19.16W | 406.0 | 5545598 | 540178 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 1137 | LN01 | 050:03:48.86N | 092:25:15.23W | 300.0 | 5545641 | 541449 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 1138 | LN01 | 050:04:00.49N | 092:24:09.74W | 413.0 | 5546010 | 542748 | 15 |
| 1139 | LN01 | 050:04:32.50N | 092:22:58.42W | 441.0 | 5547010 | 544158 | 15 |
| 1140 | LN01 | 050:04:20.37N | 092:21:56.49W | 381.0 | 5546646 | 545392 | 15 |
| 1141 | LN01 | 050:04:25.58N | 092:20:46.46W | 399.0 | 5546819 | 546783 | 15 |
| 1142 | LN01 | 050:04:16.34N | 092:19:40.33W | 379.0 | 5546545 | 548100 | 15 |
| 1143 | LN01 | 050:04:16.18N | 092:18:24.83W | 285.0 | 5546554 | 549601 | 15 |
| 1144 | LN01 | 050:04:14.21N | 092:17:23.64W | 385.0 | 5546505 | 550818 | 15 |
| 1145 | LN01 | 050:04:19.41N | 092:16:16.62W | 376.0 | 5546678 | 552148 | 15 |
| 1146 | LN01 | 050:04:42.98N | 092:15:09.65W | 361.0 | 5547419 | 553472 | 15 |
| 1147 | LN01 | 050:04:31.30N | 092:13:55.74W | 352.0 | 5547073 | 554945 | 15 |
| 1148 | LN01 | 050:04:32.74N | 092:12:52.11W | 347.0 | 5547131 | 556209 | 15 |
| 1149 | LN01 | 050:04:50.11N | 092:11:36.41W | 405.0 | 5547683 | 557708 | 15 |
| 1150 | LN01 | 050:05:18.41N | 092:10:37.03W | 352.0 | 5548570 | 558879 | 15 |
| 1151 | LN01 | 050:05:44.36N | 092:09:13.69W | 330.0 | 5549390 | 560526 | 15 |
| 1152 | LN01 | 050:05:44.38N | 092:08:21.27W | 334.0 | 5549403 | 561567 | 15 |
| 1153 | LN01 | 050:05:42.72N | 092:07:14.77W | 340.0 | 5549367 | 562889 | 15 |
| 1154 | LN01 | 050:05:33.30N | 092:06:20.44W | 351.0 | 5549089 | 563972 | 15 |
| 1155 | LN01 | 050:05:05.66N | 092:05:07.95W | 342.0 | 5548253 | 565423 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 1156 | LN01 | 050:04:59.34N | 092:04:00.57W | 300.0 | 5548074 | 566764 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 1157 | LN01 | 050:05:01.76N | 092:02:53.28W | 356.0 | 5548165 | 568101 | 15 |
| ** FSU Code: JU31 | | | | | | | |

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| 1158 | LN01 | 050:04:43.42N | 092:01:51.63W | 300.0 | 5547615 | 569333 | 15 |
| ** FSU Code: LAKE | | | | | | | |
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| 1160 | LN01 | 050:03:35.32N | 091:59:20.29W | 329.0 | 5545551 | 572369 | 15 |
| 1161 | LN01 | 050:03:27.44N | 091:58:21.34W | 336.0 | 5545324 | 573545 | 15 |
| 1162 | LN01 | 050:03:52.14N | 091:57:24.89W | 363.0 | 5546102 | 574657 | 15 |
| 1163 | LN01 | 050:04:25.49N | 091:56:17.19W | 330.0 | 5547151 | 575988 | 15 |
| 1164 | LN01 | 050:04:41.51N | 091:55:14.50W | 341.0 | 5547664 | 577227 | 15 |
| 1165 | LN01 | 050:06:54.60N | 091:54:01.39W | 350.0 | 5551796 | 578619 | 15 |
| 1166 | LN01 | 050:07:21.45N | 091:52:52.35W | 447.0 | 5552645 | 579978 | 15 |
| 1167 | LN01 | 050:07:28.55N | 091:51:47.24W | 393.0 | 5552884 | 581268 | 15 |
| 1168 | LN01 | 050:07:22.54N | 091:50:41.11W | 218.0 | 5552719 | 582584 | 15 |
| 1169 | LN01 | 050:08:05.35N | 091:49:40.09W | 331.0 | 5554060 | 583775 | 15 |
| 1170 | LN01 | 050:09:59.74N | 091:48:30.24W | 338.0 | 5557614 | 585105 | 15 |
| 1171 | LN01 | 050:11:08.92N | 091:47:34.17W | 333.0 | 5559769 | 586182 | 15 |
| 1172 | LN01 | 050:11:39.03N | 091:46:29.26W | 343.0 | 5560720 | 587454 | 15 |
| 1173 | LN01 | 050:12:03.74N | 091:45:21.91W | 348.0 | 5561505 | 588777 | 15 |
| 1174 | LN01 | 050:12:10.91N | 091:44:11.22W | 351.0 | 5561750 | 590175 | 15 |
| 1175 | LN01 | 050:12:00.96N | 091:42:55.68W | 346.0 | 5561468 | 591677 | 15 |
| 1176 | LN01 | 050:12:16.71N | 091:41:51.69W | 356.0 | 5561977 | 592937 | 15 |
| 1177 | LN01 | 050:12:51.48N | 091:40:44.68W | 351.0 | 5563074 | 594247 | 15 |
| 1178 | LN01 | 050:13:25.69N | 091:39:38.39W | 338.0 | 5564154 | 595542 | 15 |
| 1179 | LN01 | 050:13:54.42N | 091:38:29.21W | 347.0 | 5565066 | 596896 | 15 |
| 1180 | LN01 | 050:14:14.17N | 091:37:23.53W | 348.0 | 5565700 | 598186 | 15 |
| 1181 | LN01 | 050:14:44.25N | 091:36:19.57W | 351.0 | 5566653 | 599436 | 15 |
| 1182 | LN01 | 050:14:44.42N | 091:35:11.65W | 354.0 | 5566683 | 600781 | 15 |
| 1183 | LN01 | 050:14:58.28N | 091:34:08.09W | 356.0 | 5567135 | 602031 | 15 |
| 1184 | LN01 | 050:15:22.57N | 091:33:03.29W | 379.0 | 5567910 | 603300 | 15 |
| 1185 | LN01 | 050:15:30.44N | 091:31:56.51W | 368.0 | 5568179 | 604618 | 15 |
| 1186 | LN01 | 050:15:41.56N | 091:30:45.48W | 368.0 | 5568550 | 606017 | 15 |
| 1187 | LN01 | 050:15:51.81N | 091:29:37.38W | 368.0 | 5568894 | 607359 | 15 |
| 1188 | LN01 | 050:15:32.62N | 091:28:24.22W | 346.0 | 5568331 | 608820 | 15 |
| 1189 | LN01 | 050:15:18.42N | 091:27:20.03W | 367.0 | 5567919 | 610100 | 15 |
| 1190 | LN01 | 050:15:02.28N | 091:26:08.94W | 296.0 | 5567449 | 611518 | 15 |
| 1191 | LN01 | 050:15:29.94N | 091:25:04.79W | 300.0 | 5568331 | 612770 | 15 |
| 1192 | LN01 | 050:15:48.00N | 091:23:56.09W | 357.0 | 5568917 | 614118 | 15 |
| 1193 | LN01 | 050:16:35.78N | 091:22:51.23W | 351.0 | 5570421 | 615370 | 15 |
| 1194 | LN01 | 050:17:40.36N | 091:21:57.55W | 358.0 | 5572438 | 616389 | 15 |
| 1195 | LN01 | 050:18:25.04N | 091:20:50.12W | 323.0 | 5573848 | 617692 | 15 |
| 1196 | LN01 | 050:18:57.98N | 091:19:41.60W | 2.0 | 5574895 | 619025 | 15 |
| 1197 | LN01 | 050:19:04.07N | 091:18:35.72W | 438.0 | 5575113 | 620323 | 15 |
| 1198 | LN01 | 050:19:10.63N | 091:17:29.97W | 348.0 | 5575345 | 621619 | 15 |
| 1199 | LN01 | 050:19:22.32N | 091:16:24.91W | 380.0 | 5575736 | 622897 | 15 |
| 1200 | LN01 | 050:19:19.48N | 091:15:16.28W | 363.0 | 5575680 | 624256 | 15 |

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| Site ID | Line ID | Lat. | Long. | Site Elev. m | Northing | Easting | UTM Zone |
|---|---|---|---|---|---|---|---|
| 1201 | LN01 | 050:19:11.70N | 091:14:06.10W | 362.0 | 5575472 | 625650 | 15 |
| 1202 | LN01 | 050:19:11.97N | 091:12:59.04W | 386.0 | 5575512 | 626975 | 15 |
| 1203 | LN01 | 050:19:11.64N | 091:11:47.26W | 376.0 | 5575536 | 628395 | 15 |
| 1204 | LN01 | 050:19:01.82N | 091:10:41.82W | 407.0 | 5575264 | 629696 | 15 |
| 1205 | LN01 | 050:18:51.07N | 091:09:33.55W | 399.0 | 5574966 | 631055 | 15 |
| 1206 | LN01 | 050:19:05.16N | 091:08:27.91W | 389.0 | 5575433 | 632342 | 15 |
| 1207 | LN01 | 050:18:55.73N | 091:07:16.27W | 389.0 | 5575177 | 633766 | 15 |
| 1208 | LN01 | 050:19:09.16N | 091:06:02.77W | 382.0 | 5575629 | 635209 | 15 |
| 1209 | LN01 | 050:19:18.65N | 091:04:56.00W | 290.0 | 5575956 | 636522 | 15 |
| 1210 | LN01 | 050:18:50.17N | 091:03:47.85W | 276.0 | 5575111 | 637892 | 15 |
| 1211 | LN01 | 050:18:31.20N | 091:02:43.39W | 170.0 | 5574559 | 639182 | 15 |
| 1212 | LN01 | 050:18:41.30N | 091:01:32.09W | 369.0 | 5574908 | 640584 | 15 |
| 1213 | LN01 | 050:18:37.13N | 091:00:22.00W | 358.0 | 5574816 | 641974 | 15 |
| 1214 | LN01 | 050:18:15.45N | 090:59:12.40W | 375.0 | 5574184 | 643368 | 15 |
| 1215 | LN01 | 050:18:28.31N | 090:58:02.85W | 386.0 | 5574618 | 644733 | 15 |
| 1216 | LN01 | 050:18:28.42N | 090:56:52.92W | 398.0 | 5574660 | 646116 | 15 |
| 1217 | LN01 | 050:18:52.99N | 090:55:45.98W | 389.0 | 5575455 | 647419 | 15 |
| 1218 | LN01 | 050:19:21.51N | 090:54:34.12W | 378.0 | 5576376 | 648815 | 15 |
| 1219 | LN01 | 050:19:37.88N | 090:53:29.36W | 369.0 | 5576917 | 650082 | 15 |
| 1220 | LN01 | 050:19:51.84N | 090:52:21.52W | 368.0 | 5577387 | 651410 | 15 |
| 1221 | LN01 | 050:19:55.91N | 090:51:05.95W | 377.0 | 5577555 | 652901 | 15 |
| 1222 | LN01 | 050:19:51.42N | 090:50:02.92W | 372.0 | 5577453 | 654151 | 15 |
| 1223 | LN01 | 050:19:51.85N | 090:48:53.26W | 384.0 | 5577506 | 655527 | 15 |
| 1224 | LN01 | 050:19:39.54N | 090:47:42.32W | 398.0 | 5577167 | 656941 | 15 |
| 1225 | LN01 | 050:19:28.95N | 090:46:35.86W | 398.0 | 5576879 | 658265 | 15 |
| 1226 | LN01 | 050:19:24.74N | 090:45:30.63W | 402.0 | 5576788 | 659558 | 15 |
| 1227 | LN01 | 050:19:09.04N | 090:44:20.42W | 415.0 | 5576345 | 660961 | 15 |
| 1228 | LN01 | 050:19:02.05N | 090:43:14.29W | 416.0 | 5576169 | 662275 | 15 |
| 1229 | LN01 | 050:18:38.86N | 090:42:07.71W | 418.0 | 5575494 | 663614 | 15 |
| ** FSU Code: OC22 | | | | | | | |
| 1230 | LN02 | 050:18:34.66N | 090:41:06.61W | 562.0 | 5575401 | 664826 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 1231 | LN01 | 050:15:39.68N | 090:40:04.05W | 411.0 | 5570036 | 666233 | 15 |
| 1232 | LN01 | 050:15:00.03N | 090:38:58.72W | 408.0 | 5568853 | 667565 | 15 |
| 1233 | LN01 | 050:14:16.82N | 090:37:42.30W | 419.0 | 5567566 | 669121 | 15 |
| 1234 | LN01 | 050:14:00.52N | 090:36:32.97W | 407.0 | 5567107 | 670510 | 15 |
| 1235 | LN01 | 050:13:53.00N | 090:35:33.15W | 408.0 | 5566913 | 671703 | 15 |
| 1236 | LN01 | 050:14:02.40N | 090:34:37.88W | 232.0 | 5567238 | 672788 | 15 |
| 1237 | LN01 | 050:13:55.07N | 090:33:30.68W | 396.0 | 5567056 | 674126 | 15 |
| 1238 | LN01 | 050:14:08.90N | 090:32:27.81W | 290.0 | 5567524 | 675358 | 15 |
| 1239 | LN01 | 050:14:17.37N | 090:31:24.24W | 335.0 | 5567827 | 676608 | 15 |
| 1240 | LN01 | 050:14:34.48N | 090:30:20.70W | 378.0 | 5568397 | 677849 | 15 |
| 1241 | LN01 | 050:14:41.39N | 090:29:20.36W | 379.0 | 5568651 | 679037 | 15 |

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|---|---|---|---|---|---|---|---|
| 1242 | LN01 | 050:14:31.78N | 090:28:17.36W | 378.0 | 5568396 | 680295 | 15 |
| 1243 | LN01 | 050:14:33.55N | 090:27:09.82W | 342.0 | 5568496 | 681630 | 15 |
| 1244 | LN01 | 050:14:42.68N | 090:26:08.21W | 403.0 | 5568820 | 682841 | 15 |
| 1245 | LN01 | 050:14:30.70N | 090:25:08.20W | 266.0 | 5568491 | 684042 | 15 |
| 1246 | LN01 | 050:14:32.04N | 090:24:03.64W | 385.0 | 5568577 | 685319 | 15 |
| 1247 | LN01 | 050:14:25.91N | 090:22:59.79W | 387.0 | 5568432 | 686590 | 15 |
| 1248 | LN01 | 050:14:33.27N | 090:21:56.78W | 386.0 | 5568703 | 687830 | 15 |
| 1249 | LN01 | 050:14:24.25N | 090:20:52.48W | 391.0 | 5568470 | 689113 | 15 |
| 1250 | LN01 | 050:14:13.14N | 090:19:49.88W | 381.0 | 5568171 | 690365 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 1251 | LN01 | 050:14:19.77N | 090:18:45.66W | 300.0 | 5568422 | 691630 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 1252 | LN01 | 050:14:10.94N | 090:17:40.29W | 310.0 | 5568196 | 692935 | 15 |
| 1253 | LN01 | 050:14:16.50N | 090:16:22.97W | 12.0 | 5568424 | 694460 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 1254 | LN01 | 050:14:18.68N | 090:15:30.83W | 300.0 | 5568529 | 695490 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 1255 | LN01 | 050:14:13.68N | 090:14:26.73W | 389.0 | 5568421 | 696765 | 15 |
| 1256 | LN01 | 050:14:14.12N | 090:13:22.77W | 388.0 | 5568482 | 698031 | 15 |
| 1257 | LN01 | 050:14:19.61N | 090:12:17.28W | 378.0 | 5568700 | 699322 | 15 |
| 1258 | LN01 | 050:14:21.94N | 090:11:14.42W | 484.0 | 5568819 | 700564 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 1259 | LN01 | 050:14:32.78N | 090:10:10.13W | 300.0 | 5569202 | 701825 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 1260 | LN01 | 050:14:33.96N | 090:09:07.38W | 512.0 | 5569286 | 703066 | 15 |
| 1261 | LN01 | 050:14:30.58N | 090:08:03.71W | 410.0 | 5569230 | 704331 | 15 |
| 1262 | LN01 | 050:14:38.65N | 090:07:01.17W | 321.0 | 5569527 | 705560 | 15 |
| 1263 | LN01 | 050:14:30.23N | 090:05:53.07W | 398.0 | 5569319 | 706919 | 15 |
| 1264 | LN01 | 050:14:30.55N | 090:04:48.92W | 385.0 | 5569378 | 708189 | 15 |
| 1265 | LN01 | 050:14:31.30N | 090:03:44.29W | 405.0 | 5569452 | 709468 | 15 |
| 1266 | LN01 | 050:14:32.65N | 090:02:39.36W | 388.0 | 5569545 | 710752 | 15 |
| 1267 | LN01 | 050:14:22.56N | 090:01:37.79W | 390.0 | 5569282 | 711984 | 15 |
| 1268 | LN01 | 050:14:25.71N | 090:00:34.24W | 390.0 | 5569429 | 713238 | 15 |
| 1269 | LN01 | 050:14:18.04N | 089:59:29.77W | 415.0 | 5569196 | 286673 | 16 |
| 1270 | LN01 | 050:14:18.31N | 089:58:31.03W | 383.0 | 5569157 | 287837 | 16 |
| 1271 | LN01 | 050:14:23.38N | 089:57:21.59W | 386.0 | 5569259 | 289218 | 16 |
| 1272 | LN01 | 050:14:24.15N | 089:56:15.70W | 503.0 | 5569231 | 290524 | 16 |
| 1273 | LN01 | 050:14:42.73N | 089:55:17.68W | 339.0 | 5569760 | 291695 | 16 |
| 1274 | LN01 | 050:14:53.75N | 089:54:19.99W | 401.0 | 5570055 | 292851 | 16 |

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|---|---|---|---|---|---|---|---|
| 1275 | LN01 | 050:14:54.14N | 089:53:13.88W | 335.0 | 5570016 | 294161 | 16 |
| 1276 | LN01 | 050:14:56.03N | 089:52:08.83W | 382.0 | 5570025 | 295451 | 16 |
| 1277 | LN01 | 050:14:57.34N | 089:51:03.56W | 372.0 | 5570016 | 296745 | 16 |
| 1278 | LN01 | 050:14:58.66N | 089:50:00.06W | 381.0 | 5570009 | 298004 | 16 |
| ** FSU Code: JU31 | | | | | | | |
| 1279 | LN01 | 050:15:06.50N | 089:48:52.52W | 300.0 | 5570200 | 299350 | 16 |
| ** FSU Code: LAKE | | | | | | | |
| 1280 | LN01 | 050:15:14.99N | 089:47:53.64W | 267.0 | 5570418 | 300526 | 16 |
| 1281 | LN01 | 050:15:34.59N | 089:46:42.83W | 484.0 | 5570971 | 301950 | 16 |
| 1282 | LN01 | 050:15:35.68N | 089:45:35.49W | 378.0 | 5570955 | 303285 | 16 |
| 1283 | LN01 | 050:15:29.13N | 089:44:33.12W | 369.0 | 5570707 | 304512 | 16 |
| 1284 | LN01 | 050:15:22.62N | 089:43:30.59W | 368.0 | 5570461 | 305743 | 16 |
| 1285 | LN01 | 050:15:13.85N | 089:42:28.78W | 382.0 | 5570145 | 306956 | 16 |
| 1286 | LN01 | 050:15:11.62N | 089:41:21.62W | 372.0 | 5570028 | 308284 | 16 |
| 1287 | LN01 | 050:15:08.43N | 089:40:17.97W | 442.0 | 5569884 | 309540 | 16 |
| 1288 | LN01 | 050:15:16.83N | 089:39:13.06W | 305.0 | 5570098 | 310835 | 16 |
| 1289 | LN01 | 050:15:21.00N | 089:38:14.53W | 83.0 | 5570185 | 311998 | 16 |
| 1290 | LN01 | 050:15:28.75N | 089:37:09.81W | 357.0 | 5570379 | 313288 | 16 |
| 1291 | LN01 | 050:15:36.43N | 089:36:05.20W | 362.0 | 5570572 | 314575 | 16 |
| 1292 | LN01 | 050:15:53.75N | 089:35:06.84W | 359.0 | 5571066 | 315749 | 16 |
| 1293 | LN01 | 050:16:13.63N | 089:34:09.78W | 243.0 | 5571641 | 316900 | 16 |
| 1294 | LN01 | 050:16:36.72N | 089:33:16.89W | 335.0 | 5572318 | 317971 | 16 |
| 1295 | LN01 | 050:16:59.49N | 089:32:21.53W | 347.0 | 5572984 | 319091 | 16 |
| 1296 | LN01 | 050:17:10.80N | 089:31:25.20W | 346.0 | 5573295 | 320217 | 16 |
| 1297 | LN01 | 050:17:22.56N | 089:30:21.90W | 368.0 | 5573616 | 321482 | 16 |
| 1298 | LN01 | 050:17:24.73N | 089:29:21.53W | 237.0 | 5573643 | 322679 | 16 |
| 1299 | LN01 | 050:17:29.63N | 089:28:17.50W | 220.0 | 5573752 | 323951 | 16 |
| 1300 | LN01 | 050:17:40.84N | 089:27:06.13W | 422.0 | 5574051 | 325374 | 16 |
| 1301 | LN01 | 050:17:41.78N | 089:26:01.52W | 342.0 | 5574039 | 326653 | 16 |
| 1302 | LN01 | 050:17:20.66N | 089:25:01.83W | 355.0 | 5573348 | 327813 | 16 |
| 1303 | LN01 | 050:16:58.49N | 089:23:58.90W | 340.0 | 5572623 | 329036 | 16 |
| 1304 | LN01 | 050:16:36.80N | 089:22:57.41W | 350.0 | 5571914 | 330231 | 16 |
| 1305 | LN01 | 050:16:13.71N | 089:22:00.54W | 342.0 | 5571165 | 331334 | 16 |
| 1306 | LN01 | 050:15:53.10N | 089:20:56.62W | 346.0 | 5570489 | 332579 | 16 |
| ** FSU Code: JU31 | | | | | | | |
| 1307 | LN01 | 050:15:46.23N | 089:19:51.26W | 300.0 | 5570236 | 333866 | 16 |
| ** FSU Code: LAKE | | | | | | | |
| 1308 | LN01 | 050:15:28.99N | 089:18:45.98W | 341.0 | 5569663 | 335142 | 16 |
| 1309 | LN01 | 050:16:37.91N | 089:17:29.25W | 313.0 | 5571744 | 336727 | 16 |
| 1310 | LN01 | 050:16:58.98N | 089:16:21.02W | 410.0 | 5572354 | 338097 | 16 |
| 1311 | LN01 | 050:17:15.57N | 089:15:23.36W | 277.0 | 5572831 | 339253 | 16 |

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|---|---|---|---|---|---|---|---|
| 1312 | LN01 | 050:17:02.94N | 089:14:19.74W | 318.0 | 5572403 | 340500 | 16 |
| 1313 | LN01 | 050:16:58.94N | 089:13:18.42W | 338.0 | 5572243 | 341710 | 16 |
| 1314 | LN01 | 050:17:00.94N | 089:12:12.46W | 353.0 | 5572266 | 343017 | 16 |
| 1315 | LN01 | 050:16:44.35N | 089:11:15.56W | 319.0 | 5571721 | 344128 | 16 |
| 1316 | LN01 | 050:17:03.83N | 089:10:19.72W | 459.0 | 5572290 | 345251 | 16 |
| 1317 | LN01 | 050:17:18.80N | 089:09:20.72W | 191.0 | 5572718 | 346432 | 16 |
| 1318 | LN01 | 050:17:26.57N | 089:08:13.39W | 325.0 | 5572920 | 347771 | 16 |
| 1319 | LN01 | 050:17:22.52N | 089:07:10.06W | 328.0 | 5572759 | 349020 | 16 |
| 1320 | LN01 | 050:17:08.27N | 089:06:09.18W | 320.0 | 5572285 | 350212 | 16 |
| 1321 | LN01 | 050:16:57.73N | 089:05:05.50W | 315.0 | 5571924 | 351463 | 16 |
| 1322 | LN01 | 050:16:58.02N | 089:04:03.06W | 315.0 | 5571898 | 352699 | 16 |
| 1323 | LN01 | 050:17:19.75N | 089:03:08.19W | 375.0 | 5572540 | 353803 | 16 |
| ** FSU Code: JU31 | | | | | | | |
| 1324 | LN01 | 050:18:02.18N | 089:02:14.52W | 309.0 | 5573821 | 354901 | 16 |
| 1325 | LN01 | 050:18:32.44N | 089:01:20.78W | 307.0 | 5574726 | 355990 | 16 |
| 1326 | LN01 | 050:18:27.17N | 089:00:10.78W | 270.0 | 5574526 | 357370 | 16 |
| 1327 | LN01 | 050:18:16.76N | 088:59:04.54W | 316.0 | 5574169 | 358671 | 16 |
| 1328 | LN01 | 050:18:21.90N | 088:58:07.10W | 291.0 | 5574298 | 359812 | 16 |
| 1329 | LN01 | 050:18:47.29N | 088:56:48.45W | 298.0 | 5575041 | 361388 | 16 |
| 1330 | LN01 | 050:18:21.71N | 088:55:48.40W | 297.0 | 5574220 | 362555 | 16 |
| 1331 | LN01 | 050:17:47.33N | 088:54:38.88W | 293.0 | 5573123 | 363903 | 16 |
| 1332 | LN01 | 050:17:23.62N | 088:53:28.91W | 285.0 | 5572355 | 365268 | 16 |
| ** FSU Code: LAKE | | | | | | | |
| 1333 | | 050:17:01.54N | 088:52:23.85W | 0.0 | 5571641 | 366538 | 16 |
| ** FSU Code: JU31 | | | | | | | |
| 1334 | LN01 | 050:16:52.22N | 088:51:17.47W | 283.0 | 5571320 | 367845 | 16 |
| 1335 | LN01 | 050:16:49.02N | 088:50:06.17W | 257.0 | 5571187 | 369253 | 16 |
| 1336 | LN01 | 050:16:52.45N | 088:49:09.73W | 275.0 | 5571265 | 370373 | 16 |
| 1337 | LN01 | 050:16:53.88N | 088:48:07.38W | 274.0 | 5571279 | 371608 | 16 |
| 1338 | LN01 | 050:17:09.20N | 088:47:00.38W | 273.0 | 5571720 | 372945 | 16 |
| 1339 | LN01 | 050:17:28.32N | 088:45:57.32W | 283.0 | 5572281 | 374207 | 16 |
| 1340 | LN01 | 050:17:45.67N | 088:44:44.60W | 247.0 | 5572783 | 375658 | 16 |
| 1341 | LN01 | 050:17:55.37N | 088:43:45.93W | 266.0 | 5573056 | 376826 | 16 |
| 1342 | LN01 | 050:18:00.22N | 088:42:38.75W | 262.0 | 5573175 | 378159 | 16 |
| 1343 | LN01 | 050:18:02.38N | 088:41:42.95W | 273.0 | 5573216 | 379264 | 16 |
| 1344 | LN01 | 050:18:08.94N | 088:40:35.49W | 259.0 | 5573388 | 380603 | 16 |
| 1345 | LN01 | 050:18:13.82N | 088:39:34.77W | 335.0 | 5573512 | 381808 | 16 |
| 1346 | LN01 | 050:18:15.63N | 088:38:40.34W | 347.0 | 5573544 | 382885 | 16 |
| 1347 | LN01 | 050:18:16.65N | 088:37:18.08W | 261.0 | 5573540 | 384513 | 16 |
| 1348 | LN01 | 050:18:10.16N | 088:36:10.94W | 252.0 | 5573311 | 385837 | 16 |
| 1349 | LN01 | 050:18:04.02N | 088:35:07.97W | 244.0 | 5573095 | 387079 | 16 |
| 1350 | LN01 | 050:18:04.99N | 088:33:50.73W | 353.0 | 5573092 | 388607 | 16 |

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|---|---|---|---|---|---|---|---|
| 1351 | LN01 | 050:18:29.45N | 088:32:41.40W | 215.0 | 5573819 | 389994 | 16 |
| 1352 | LN01 | 050:18:45.00N | 088:32:01.17W | 284.0 | 5574283 | 390800 | 16 |
| 1353 | LN01 | 050:19:09.49N | 088:30:51.87W | 248.0 | 5575011 | 392186 | 16 |
| 1354 | LN01 | 050:19:32.44N | 088:29:45.12W | 635.0 | 5575693 | 393520 | 16 |
| 1355 | LN01 | 050:19:51.30N | 088:28:23.48W | 251.0 | 5576243 | 395146 | 16 |
| 1356 | LN01 | 050:18:46.21N | 088:27:19.00W | 253.0 | 5574208 | 396381 | 16 |
| 1357 | LN01 | 050:18:51.45N | 088:26:18.39W | 119.0 | 5574347 | 397583 | 16 |
| 1358 | LN01 | 050:18:57.37N | 088:25:11.91W | 185.0 | 5574504 | 398902 | 16 |
| 1359 | LN01 | 050:18:58.33N | 088:24:09.18W | 259.0 | 5574510 | 400143 | 16 |
| 1360 | LN01 | 050:19:09.90N | 088:23:02.01W | 256.0 | 5574843 | 401478 | 16 |
| 1361 | LN01 | 050:19:17.57N | 088:21:44.38W | 260.0 | 5575051 | 403017 | 16 |
| 1362 | LN01 | 050:18:34.82N | 088:20:41.88W | 260.0 | 5573709 | 404229 | 16 |
| 1363 | LN01 | 050:18:02.46N | 088:19:42.48W | 308.0 | 5572688 | 405386 | 16 |
| 1364 | LN01 | 050:17:52.65N | 088:18:51.23W | 199.0 | 5572367 | 406395 | 16 |
| 1365 | LN01 | 050:17:28.83N | 088:17:40.76W | 388.0 | 5571607 | 407776 | 16 |
| 1366 | LN01 | 050:16:52.58N | 088:15:56.44W | 383.0 | 5570452 | 409821 | 16 |
| 1367 | LN01 | 050:16:41.94N | 088:15:14.65W | 325.0 | 5570109 | 410643 | 16 |
| 1368 | LN01 | 050:16:20.04N | 088:14:06.24W | 274.0 | 5569410 | 411986 | 16 |
| 1369 | LN01 | 050:16:01.21N | 088:12:55.67W | 286.0 | 5568806 | 413373 | 16 |
| 1370 | LN01 | 050:15:56.45N | 088:11:56.65W | 295.0 | 5568640 | 414539 | 16 |
| 1371 | LN01 | 050:15:37.85N | 088:11:04.73W | 118.0 | 5568049 | 415558 | 16 |
| 1372 | LN01 | 050:15:29.61N | 088:10:00.32W | 283.0 | 5567774 | 416829 | 16 |
| 1373 | LN01 | 050:15:28.69N | 088:09:07.47W | 285.0 | 5567730 | 417875 | 16 |
| 1374 | LN01 | 050:15:26.31N | 088:08:13.39W | 291.0 | 5567640 | 418945 | 16 |
| 1375 | LN01 | 050:15:16.30N | 088:06:35.41W | 275.0 | 5567301 | 420880 | 16 |
| 1376 | LN01 | 050:14:48.51N | 088:05:26.65W | 313.0 | 5566423 | 422229 | 16 |
| 1377 | LN01 | 050:13:57.07N | 088:04:13.48W | 245.0 | 5564813 | 423656 | 16 |
| 1378 | LN01 | 050:14:09.97N | 088:03:00.85W | 299.0 | 5565191 | 425100 | 16 |
| 1379 | LN01 | 050:13:28.15N | 086:59:04.23W | 290.0 | 5563372 | 501105 | 16 |
| 1380 | LN01 | 050:13:36.58N | 087:00:07.05W | 291.0 | 5563632 | 499860 | 16 |
| 1381 | LN01 | 050:13:46.00N | 087:01:11.14W | 290.0 | 5563923 | 498590 | 16 |
| 1382 | LN01 | 050:13:56.45N | 087:02:14.16W | 302.0 | 5564246 | 497342 | 16 |
| 1383 | LN01 | 050:14:08.16N | 087:03:24.12W | 291.0 | 5564609 | 495956 | 16 |
| 1384 | LN01 | 050:14:18.95N | 087:04:29.89W | 297.0 | 5564943 | 494654 | 16 |
| 1385 | LN01 | 050:14:28.57N | 087:05:36.35W | 400.0 | 5565242 | 493337 | 16 |
| 1386 | LN01 | 050:14:40.03N | 087:06:40.08W | 319.0 | 5565598 | 492076 | 16 |
| 1387 | LN01 | 050:14:46.65N | 087:07:43.52W | 223.0 | 5565804 | 490819 | 16 |
| 1388 | LN01 | 050:14:49.06N | 087:08:40.95W | 328.0 | 5565881 | 489682 | 16 |
| 1389 | LN01 | 050:14:46.66N | 087:09:46.22W | 366.0 | 5565809 | 488389 | 16 |
| 1390 | LN01 | 050:14:47.58N | 087:10:50.46W | 286.0 | 5565841 | 487117 | 16 |
| 1391 | LN01 | 050:14:46.04N | 087:11:58.35W | 285.0 | 5565796 | 485772 | 16 |
| 1392 | LN01 | 050:14:35.66N | 087:13:10.47W | 288.0 | 5565480 | 484343 | 16 |
| 1393 | LN01 | 050:14:25.04N | 087:14:09.41W | 287.0 | 5565155 | 483174 | 16 |
| 1394 | LN01 | 050:14:04.88N | 087:15:12.05W | 279.0 | 5564537 | 481931 | 16 |
| 1395 | LN01 | 050:13:57.06N | 087:16:16.63W | 286.0 | 5564300 | 480651 | 16 |

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| 1396 | LN01 | 050:13:49.84N | 087:17:20.60W | 291.0 | 5564082 | 479383 | 16 |
| 1397 | LN01 | 050:13:47.02N | 087:18:24.00W | 282.0 | 5564000 | 478126 | 16 |
| 1398 | LN01 | 050:13:51.46N | 087:19:33.73W | 293.0 | 5564143 | 476745 | 16 |
| 1399 | LN01 | 050:14:04.26N | 087:20:38.08W | 292.0 | 5564544 | 475472 | 16 |
| 1400 | LN01 | 050:14:30.49N | 087:21:43.43W | 293.0 | 5565360 | 474181 | 16 |
| 1401 | LN01 | 050:14:54.06N | 087:22:51.25W | 275.0 | 5566095 | 472842 | 16 |
| 1402 | LN01 | 050:15:14.28N | 087:24:00.83W | 283.0 | 5566726 | 471467 | 16 |
| 1403 | LN01 | 050:15:16.57N | 087:25:14.05W | 289.0 | 5566805 | 470018 | 16 |
| 1404 | LN01 | 050:15:21.07N | 087:26:19.19W | 293.0 | 5566951 | 468728 | 16 |
| 1405 | LN01 | 050:15:30.95N | 087:27:17.38W | 500.0 | 5567263 | 467578 | 16 |
| 1406 | LN01 | 050:15:17.84N | 087:28:28.82W | 202.0 | 5566867 | 466161 | 16 |
| 1407 | LN01 | 050:14:50.93N | 087:29:30.85W | 248.0 | 5566044 | 464927 | 16 |
| 1408 | LN01 | 050:14:38.15N | 087:30:37.57W | 369.0 | 5565658 | 463603 | 16 |
| 1409 | LN01 | 050:14:29.50N | 087:31:42.24W | 302.0 | 5565400 | 462320 | 16 |
| 1410 | LN01 | 050:14:02.51N | 087:32:48.55W | 311.0 | 5564576 | 461000 | 16 |
| 1411 | LN01 | 050:13:47.85N | 087:34:01.42W | 310.0 | 5564134 | 459553 | 16 |
| 1412 | LN01 | 050:13:21.39N | 087:35:07.59W | 304.0 | 5563327 | 458236 | 16 |
| 1413 | LN01 | 050:13:15.96N | 087:36:16.26W | 300.0 | 5563170 | 456874 | 16 |
| 1414 | LN01 | 050:13:24.06N | 087:37:24.96W | 311.0 | 5563431 | 455514 | 16 |
| 1415 | LN01 | 050:13:39.57N | 087:38:37.34W | 294.0 | 5563923 | 454084 | 16 |
| 1416 | LN01 | 050:13:54.81N | 087:39:48.02W | 293.0 | 5564406 | 452688 | 16 |
| 1417 | LN01 | 050:14:06.89N | 087:40:54.01W | 292.0 | 5564791 | 451384 | 16 |
| 1418 | LN01 | 050:14:14.54N | 087:42:03.56W | 294.0 | 5565040 | 450009 | 16 |
| 1419 | LN01 | 050:14:22.81N | 087:43:19.10W | 287.0 | 5565309 | 448515 | 16 |
| 1420 | LN01 | 050:14:37.39N | 087:44:27.29W | 380.0 | 5565773 | 447168 | 16 |
| 1421 | LN01 | 050:14:41.42N | 087:45:34.73W | 444.0 | 5565911 | 445834 | 16 |
| 1422 | LN01 | 050:14:21.55N | 087:46:32.63W | 381.0 | 5565309 | 444681 | 16 |
| 1423 | LN01 | 050:13:58.47N | 087:47:32.99W | 533.0 | 5564609 | 443477 | 16 |
| 1424 | LN01 | 050:13:54.51N | 087:48:47.38W | 279.0 | 5564502 | 442002 | 16 |
| 1425 | LN01 | 050:13:58.61N | 087:49:46.47W | 304.0 | 5564642 | 440833 | 16 |
| 1426 | LN01 | 050:14:04.13N | 087:51:04.42W | 298.0 | 5564830 | 439291 | 16 |
| 1427 | LN01 | 050:13:55.71N | 087:52:07.66W | 282.0 | 5564584 | 438035 | 16 |
| 1428 | LN01 | 050:13:46.98N | 087:53:09.57W | 285.0 | 5564329 | 436805 | 16 |
| 1429 | LN01 | 050:13:38.52N | 087:54:08.95W | 277.0 | 5564082 | 435625 | 16 |
| 1430 | LN01 | 050:13:57.46N | 087:55:09.78W | 283.0 | 5564681 | 434427 | 16 |
| 1431 | LN01 | 050:14:17.48N | 087:56:10.02W | 289.0 | 5565315 | 433242 | 16 |
| 1432 | LN01 | 050:14:45.09N | 087:57:05.90W | 294.0 | 5566181 | 432146 | 16 |
| 1433 | LN01 | 050:15:10.89N | 087:58:00.56W | 292.0 | 5566992 | 431073 | 16 |
| 1434 | LN01 | 050:15:08.71N | 087:58:56.57W | 311.0 | 5566939 | 429963 | 16 |
| 1435 | LN01 | 050:14:51.48N | 087:59:59.40W | 286.0 | 5566424 | 428712 | 16 |
| 1436 | LN01 | 050:14:37.62N | 088:01:00.18W | 292.0 | 5566012 | 427502 | 16 |
| 1437 | LN01 | 050:14:24.58N | 088:01:57.58W | 286.0 | 5565625 | 426360 | 16 |
| 1585 | LN01 | 050:13:57.21N | 086:58:46.13W | 307.0 | 5564269 | 501464 | 16 |
| 1586 | LN01 | 050:13:46.72N | 086:58:00.05W | 362.0 | 5563946 | 502377 | 16 |
| 1587 | LN01 | 050:13:34.71N | 086:56:50.10W | 373.0 | 5563576 | 503763 | 16 |

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| 1588 | LN01 | 050:13:25.54N | 086:55:16.75W | 295.0 | 5563294 | 505613 | 16 |
| 1589 | LN01 | 050:13:30.28N | 086:53:59.07W | 301.0 | 5563442 | 507152 | 16 |
| 1590 | LN01 | 050:12:18.90N | 086:52:52.25W | 309.0 | 5561240 | 508479 | 16 |
| 1591 | LN01 | 050:14:16.32N | 086:51:19.03W | 305.0 | 5564869 | 510320 | 16 |
| 1592 | LN01 | 050:14:21.95N | 086:50:30.23W | 325.0 | 5565045 | 511287 | 16 |
| 1593 | LN01 | 050:14:36.79N | 086:49:24.81W | 295.0 | 5565507 | 512581 | 16 |
| 1594 | LN01 | 050:14:30.65N | 086:48:22.04W | 308.0 | 5565320 | 513825 | 16 |
| 1595 | LN01 | 050:14:28.81N | 086:47:12.99W | 309.0 | 5565267 | 515193 | 16 |
| 1596 | LN01 | 050:14:16.72N | 086:46:12.95W | 300.0 | 5564897 | 516384 | 16 |
| 1597 | LN01 | 050:13:17.11N | 086:45:05.61W | 285.0 | 5563060 | 517724 | 16 |
| 1598 | LN01 | 050:13:05.06N | 086:44:24.11W | 290.0 | 5562691 | 518547 | 16 |
| 1599 | LN01 | 050:12:31.51N | 086:43:06.04W | 300.0 | 5561660 | 520099 | 16 |
| ** FSU Code: LAKE | | | | | | | |
| 1600 | LN01 | 050:12:30.29N | 086:41:57.43W | 276.0 | 5561628 | 521459 | 16 |
| 1601 | LN01 | 050:12:39.06N | 086:40:47.08W | 261.0 | 5561905 | 522852 | 16 |
| 1602 | LN01 | 050:13:01.70N | 086:39:44.04W | 270.0 | 5562609 | 524098 | 16 |
| 1603 | LN01 | 050:13:37.73N | 086:38:36.93W | 293.0 | 5563728 | 525423 | 16 |
| 1604 | LN01 | 050:13:51.70N | 086:37:21.21W | 278.0 | 5564167 | 526921 | 16 |
| 1605 | LN01 | 050:14:01.24N | 086:36:20.05W | 275.0 | 5564468 | 528131 | 16 |
| 1606 | LN01 | 050:14:38.25N | 086:35:10.14W | 275.0 | 5565619 | 529510 | 16 |
| ** FSU Code: AU02 | | | | | | | |
| 1607 | LN01 | 050:15:00.27N | 086:34:07.08W | 300.0 | 5566306 | 530755 | 16 |
| ** FSU Code: LAKE | | | | | | | |
| 1608 | LN01 | 050:14:29.10N | 086:33:00.30W | 252.0 | 5565351 | 532083 | 16 |
| ** FSU Code: AU02 | | | | | | | |
| 1609 | LN01 | 050:14:11.02N | 086:32:01.58W | 110.0 | 5564800 | 533250 | 16 |
| ** FSU Code: LAKE | | | | | | | |
| 1610 | LN01 | 050:13:36.45N | 086:30:41.75W | 287.0 | 5563742 | 534839 | 16 |
| 1611 | LN01 | 050:12:05.10N | 086:29:31.71W | 278.0 | 5560930 | 536246 | 16 |
| 1612 | LN01 | 050:12:39.39N | 086:28:25.22W | 290.0 | 5561998 | 537556 | 16 |
| 1613 | LN01 | 050:13:50.02N | 086:27:18.89W | 265.0 | 5564189 | 538855 | 16 |
| 1614 | LN01 | 050:14:43.08N | 086:26:11.47W | 251.0 | 5565838 | 540178 | 16 |
| 1615 | LN01 | 050:14:50.64N | 086:25:02.69W | 277.0 | 5566082 | 541539 | 16 |
| 1616 | LN01 | 050:15:53.98N | 086:23:58.79W | 265.0 | 5568048 | 542789 | 16 |
| 1617 | LN01 | 050:16:46.63N | 086:22:51.02W | 275.0 | 5569685 | 544117 | 16 |
| ** FSU Code: AU02 | | | | | | | |
| 1618 | LN01 | 050:17:06.19N | 086:21:48.45W | 185.0 | 5570300 | 545350 | 16 |
| ** FSU Code: LAKE | | | | | | | |

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| 1619 | LN01 | 050:17:24.55N | 086:20:34.08W | 271.0 | 5570880 | 546817 | 16 |
| 1620 | LN01 | 050:17:44.03N | 086:19:26.89W | 285.0 | 5571493 | 548141 | 16 |
| 1621 | LN01 | 050:18:14.76N | 086:18:18.98W | 294.0 | 5572455 | 549476 | 16 |
| 1622 | LN01 | 050:18:31.49N | 086:17:12.40W | 280.0 | 5572984 | 550788 | 16 |
| 1623 | LN01 | 050:18:36.12N | 086:16:02.87W | 370.0 | 5573140 | 552162 | 16 |
| 1624 | LN01 | 050:18:58.79N | 086:14:57.13W | 238.0 | 5573853 | 553455 | 16 |
| ** FSU Code: JU31 | | | | | | | |
| 2001 | LN02 | 048:07:15.49N | 090:45:08.09W | 583.0 | 5331970 | 667281 | 15 |
| 2002 | LN02 | 048:07:49.83N | 090:45:14.51W | 409.0 | 5333027 | 667117 | 15 |
| 2003 | LN02 | 048:08:19.51N | 090:43:59.07W | 539.0 | 5333989 | 668649 | 15 |
| 2004 | LN02 | 048:08:52.23N | 090:43:30.17W | 438.0 | 5335016 | 669216 | 15 |
| 2005 | LN02 | 048:09:26.31N | 090:42:46.89W | 449.0 | 5336095 | 670079 | 15 |
| 2006 | LN02 | 048:09:57.16N | 090:42:27.59W | 439.0 | 5337059 | 670450 | 15 |
| 2007 | LN02 | 048:10:29.72N | 090:42:05.13W | 458.0 | 5338078 | 670883 | 15 |
| 2008 | LN02 | 048:11:03.70N | 090:44:59.09W | 445.0 | 5339021 | 667260 | 15 |
| 2009 | LN02 | 048:11:38.60N | 090:45:08.93W | 424.0 | 5340093 | 667026 | 15 |
| 2010 | LN02 | 048:12:13.87N | 090:45:30.18W | 416.0 | 5341169 | 666555 | 15 |
| 2011 | LN02 | 048:12:50.53N | 090:46:41.74W | 445.0 | 5342258 | 665046 | 15 |
| 2012 | LN02 | 048:13:23.62N | 090:46:49.94W | 259.0 | 5343274 | 664847 | 15 |
| 2013 | LN02 | 048:13:59.24N | 090:47:07.58W | 446.0 | 5344363 | 664451 | 15 |
| 2014 | LN02 | 048:14:30.00N | 090:46:39.37W | 423.0 | 5345330 | 665006 | 15 |
| 2015 | LN02 | 048:15:01.22N | 090:46:56.24W | 419.0 | 5346284 | 664630 | 15 |
| 2016 | LN02 | 048:15:37.98N | 090:46:57.46W | 427.0 | 5347418 | 664572 | 15 |
| 2017 | LN02 | 048:16:07.62N | 090:46:46.43W | 451.0 | 5348339 | 664773 | 15 |
| 2018 | LN02 | 048:16:40.14N | 090:46:40.09W | 476.0 | 5349347 | 664875 | 15 |
| 2021 | LN02 | 048:22:42.07N | 090:42:31.33W | 412.0 | 5360672 | 669667 | 15 |
| 2022 | LN02 | 048:23:16.95N | 090:42:29.54W | 321.0 | 5361750 | 669672 | 15 |
| 2023 | LN02 | 048:23:49.22N | 090:42:04.74W | 459.0 | 5362761 | 670152 | 15 |
| 2024 | LN02 | 048:24:19.37N | 090:41:36.14W | 384.0 | 5363710 | 670712 | 15 |
| 2025 | LN02 | 048:24:54.37N | 090:41:45.79W | 432.0 | 5364784 | 670481 | 15 |
| 2026 | LN02 | 048:25:24.88N | 090:41:23.49W | 559.0 | 5365740 | 670911 | 15 |
| 2027 | LN02 | 048:25:57.39N | 090:41:03.31W | 520.0 | 5366756 | 671295 | 15 |
| 2028 | LN02 | 048:26:29.53N | 090:40:51.94W | 492.0 | 5367756 | 671499 | 15 |
| 2029 | LN02 | 048:26:37.40N | 090:49:42.71W | 453.0 | 5367679 | 660588 | 15 |
| 2030 | LN02 | 048:27:12.03N | 090:49:36.77W | 456.0 | 5368751 | 660680 | 15 |
| 2031 | LN02 | 048:27:45.38N | 090:49:53.35W | 416.0 | 5369771 | 660310 | 15 |
| 2032 | LN02 | 048:28:13.57N | 090:49:30.00W | 421.0 | 5370655 | 660765 | 15 |
| 2033 | LN02 | 048:28:48.16N | 090:49:16.60W | 394.0 | 5371731 | 661010 | 15 |
| 2034 | LN02 | 048:29:19.70N | 090:48:54.48W | 409.0 | 5372718 | 661436 | 15 |
| 2035 | LN02 | 048:29:49.59N | 090:48:37.13W | 419.0 | 5373651 | 661766 | 15 |
| 2036 | LN02 | 048:30:21.36N | 090:47:40.54W | 412.0 | 5374665 | 662899 | 15 |
| 2037 | LN02 | 048:30:55.74N | 090:47:28.28W | 423.0 | 5375734 | 663120 | 15 |
| 2038 | LN02 | 048:31:28.32N | 090:47:45.64W | 431.0 | 5376729 | 662734 | 15 |
| 2039 | LN02 | 048:32:01.86N | 090:48:20.36W | 398.0 | 5377744 | 661993 | 15 |

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| 2040 | LN02 | 048:32:30.65N | 090:48:01.23W | 395.0 | 5378644 | 662359 | 15 |
| 2041 | LN02 | 048:33:05.53N | 090:47:26.80W | 410.0 | 5379742 | 663034 | 15 |
| 2042 | LN02 | 048:33:37.11N | 090:47:16.15W | 415.0 | 5380723 | 663224 | 15 |
| 2043 | LN02 | 048:34:09.23N | 090:44:53.17W | 424.0 | 5381800 | 666125 | 15 |
| 2044 | LN02 | 048:34:38.81N | 090:44:49.98W | 421.0 | 5382715 | 666164 | 15 |
| 2045 | LN02 | 048:35:10.95N | 090:44:18.54W | 431.0 | 5383727 | 666778 | 15 |
| 2046 | LN02 | 048:35:43.50N | 090:44:23.45W | 423.0 | 5384729 | 666648 | 15 |
| 2047 | LN02 | 048:36:16.80N | 090:44:07.45W | 426.0 | 5385767 | 666945 | 15 |
| 2048 | LN02 | 048:36:47.15N | 090:42:41.80W | 442.0 | 5386756 | 668671 | 15 |
| 2049 | LN02 | 048:37:15.88N | 090:41:44.47W | 445.0 | 5387678 | 669818 | 15 |
| 2050 | LN02 | 048:37:49.88N | 090:40:39.47W | 457.0 | 5388768 | 671116 | 15 |
| 2051 | LN02 | 048:38:21.17N | 090:39:25.64W | 457.0 | 5389780 | 672598 | 15 |
| 2052 | LN02 | 048:38:50.68N | 090:38:54.90W | 458.0 | 5390711 | 673199 | 15 |
| 2053 | LN02 | 048:39:33.87N | 090:43:25.85W | 468.0 | 5391876 | 667616 | 15 |
| 2054 | LN02 | 048:40:21.30N | 090:47:54.33W | 359.0 | 5393179 | 662082 | 15 |
| ** FSU Code: AU02 | | | | | | | |
| 2055 | LN02 | 048:40:48.63N | 090:48:33.81W | 374.0 | 5394000 | 661250 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 2056 | LN02 | 048:41:04.68N | 090:49:54.28W | 522.0 | 5394449 | 659591 | 15 |
| 2057 | LN02 | 048:41:40.88N | 090:50:33.55W | 468.0 | 5395543 | 658756 | 15 |
| 2058 | LN02 | 048:42:10.46N | 090:51:03.68W | 353.0 | 5396439 | 658115 | 15 |
| 2059 | LN02 | 048:42:45.29N | 090:51:39.17W | 483.0 | 5397494 | 657359 | 15 |
| 2060 | LN02 | 048:43:18.49N | 090:52:12.31W | 482.0 | 5398500 | 656653 | 15 |
| 2061 | LN02 | 048:43:53.62N | 090:51:45.67W | 444.0 | 5399600 | 657167 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 2062 | | 048:44:33.72N | 090:50:48.28W | 0.0 | 5400871 | 658304 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 2063 | LN02 | 048:44:59.73N | 090:50:27.91W | 435.0 | 5401686 | 658698 | 15 |
| 2064 | LN02 | 048:45:32.58N | 090:50:07.60W | 437.0 | 5402712 | 659084 | 15 |
| 2065 | LN02 | 048:46:03.92N | 090:49:37.95W | 450.0 | 5403697 | 659661 | 15 |
| 2066 | LN02 | 048:46:35.78N | 090:49:12.77W | 445.0 | 5404695 | 660147 | 15 |
| 2067 | LN02 | 048:47:12.71N | 090:48:37.68W | 455.0 | 5405856 | 660830 | 15 |
| 2068 | LN02 | 048:47:45.92N | 090:46:53.66W | 413.0 | 5406943 | 662923 | 15 |
| 2069 | LN02 | 048:48:16.68N | 090:47:25.85W | 405.0 | 5407874 | 662238 | 15 |
| 2070 | LN02 | 048:48:51.71N | 090:48:01.95W | 423.0 | 5408934 | 661471 | 15 |
| 2071 | LN02 | 048:49:24.39N | 090:48:25.95W | 438.0 | 5409929 | 660952 | 15 |
| 2072 | LN02 | 048:49:57.19N | 090:49:16.62W | 370.0 | 5410912 | 659890 | 15 |
| 2073 | LN02 | 048:50:29.68N | 090:49:44.09W | 445.0 | 5411899 | 659302 | 15 |
| 2074 | LN02 | 048:51:01.06N | 090:49:25.58W | 466.0 | 5412879 | 659651 | 15 |
| 2075 | LN02 | 048:51:25.95N | 090:48:15.94W | 436.0 | 5413688 | 661048 | 15 |
| 2076 | LN02 | 048:52:52.87N | 090:43:58.63W | 355.0 | 5416525 | 666211 | 15 |

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| Site ID | Line ID | Lat. | Long. | Site Elev. m | Northing | Easting | UTM Zone |
|---|---|---|---|---|---|---|---|
| 2077 | LN02 | 048:53:44.61N | 090:44:09.05W | 369.0 | 5418116 | 665951 | 15 |
| 2078 | LN02 | 048:54:39.39N | 090:44:40.28W | 436.0 | 5419789 | 665265 | 15 |
| 2079 | LN02 | 048:55:29.51N | 090:44:43.76W | 445.0 | 5421334 | 665148 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 2080 | LN02 | 048:54:32.77N | 090:44:36.81W | 431.0 | 5419587 | 665342 | 15 |
| 2081 | LN02 | 048:55:06.93N | 090:44:44.07W | 432.0 | 5420637 | 665162 | 15 |
| 2082 | LN02 | 048:55:41.19N | 090:44:41.72W | 358.0 | 5421696 | 665179 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 2083 | LN02 | 048:55:49.53N | 090:44:38.36W | 394.0 | 5421956 | 665240 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 2084 | LN02 | 048:56:43.92N | 090:44:22.48W | 410.0 | 5423645 | 665513 | 15 |
| 2085 | LN02 | 048:57:19.94N | 090:44:51.97W | 525.0 | 5424739 | 664880 | 15 |
| 2086 | LN02 | 048:57:51.67N | 090:44:57.90W | 448.0 | 5425715 | 664730 | 15 |
| 2087 | LN02 | 048:58:24.92N | 090:45:00.97W | 565.0 | 5426740 | 664637 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 2088 | LN02 | 048:59:01.15N | 090:44:48.88W | 300.0 | 5427866 | 664850 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 2089 | LN02 | 048:59:24.11N | 090:45:10.15W | 445.0 | 5428562 | 664397 | 15 |
| 2090 | LN02 | 048:59:54.69N | 090:45:29.84W | 453.0 | 5429494 | 663969 | 15 |
| 2091 | LN02 | 049:00:29.31N | 090:45:39.27W | 434.0 | 5430557 | 663746 | 15 |
| 2092 | LN02 | 049:00:59.11N | 090:45:29.65W | 446.0 | 5431483 | 663914 | 15 |
| 2093 | LN02 | 049:01:34.49N | 090:45:15.63W | 449.0 | 5432584 | 664166 | 15 |
| 2094 | LN02 | 049:02:10.82N | 090:45:02.36W | 447.0 | 5433714 | 664402 | 15 |
| 2095 | LN02 | 049:02:40.38N | 090:45:07.56W | 434.0 | 5434623 | 664270 | 15 |
| 2096 | LN02 | 049:03:07.48N | 090:41:28.72W | 437.0 | 5435594 | 668686 | 15 |
| 2097 | LN02 | 049:03:43.19N | 090:40:37.19W | 459.0 | 5436728 | 669698 | 15 |
| 2098 | LN02 | 049:04:12.28N | 090:39:34.08W | 459.0 | 5437666 | 670951 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 2099 | LN02 | 049:04:54.90N | 090:38:55.79W | 266.0 | 5439006 | 671687 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 2100 | LN02 | 049:05:23.27N | 090:38:33.25W | 459.0 | 5439896 | 672117 | 15 |
| 2101 | LN02 | 049:05:52.93N | 090:38:16.95W | 459.0 | 5440822 | 672419 | 15 |
| 2102 | LN02 | 049:06:33.94N | 090:38:18.94W | 459.0 | 5442087 | 672339 | 15 |
| 2103 | LN02 | 049:07:12.69N | 090:37:27.97W | 434.0 | 5443316 | 673335 | 15 |
| 2104 | LN02 | 049:07:43.45N | 090:37:04.61W | 435.0 | 5444280 | 673778 | 15 |
| 2105 | LN02 | 049:08:17.63N | 090:36:35.17W | 521.0 | 5445354 | 674342 | 15 |
| 2106 | LN02 | 049:08:54.90N | 090:36:20.07W | 588.0 | 5446515 | 674611 | 15 |
| 2107 | LN02 | 049:09:28.81N | 090:36:19.81W | 458.0 | 5447562 | 674583 | 15 |

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| Site ID | Line ID | Lat. | Long. | Site Elev. m | Northing | Easting | UTM Zone |
|---|---|---|---|---|---|---|---|
| 2108 | LN02 | 049:10:11.10N | 090:36:07.55W | 440.0 | 5448876 | 674790 | 15 |
| 2109 | LN02 | 049:10:44.33N | 090:36:07.48W | 450.0 | 5449902 | 674759 | 15 |
| 2110 | LN02 | 049:11:15.83N | 090:36:08.33W | 455.0 | 5450874 | 674711 | 15 |
| 2111 | LN02 | 049:11:52.16N | 090:36:50.56W | 446.0 | 5451968 | 673821 | 15 |
| 2112 | LN02 | 049:12:25.46N | 090:37:05.66W | 462.0 | 5452987 | 673483 | 15 |
| 2113 | LN02 | 049:12:59.01N | 090:37:09.78W | 450.0 | 5454020 | 673367 | 15 |
| 2114 | LN02 | 049:13:35.56N | 090:36:47.81W | 467.0 | 5455163 | 673776 | 15 |
| 2115 | LN02 | 049:14:09.05N | 090:36:02.33W | 460.0 | 5456226 | 674663 | 15 |
| 2116 | LN02 | 049:14:41.87N | 090:35:04.40W | 455.0 | 5457277 | 675802 | 15 |
| 2117 | LN02 | 049:15:11.31N | 090:33:13.98W | 457.0 | 5458257 | 678004 | 15 |
| 2118 | LN02 | 049:15:52.10N | 090:32:37.66W | 362.0 | 5459541 | 678698 | 15 |
| 2119 | LN02 | 049:16:29.61N | 090:32:00.63W | 246.0 | 5460723 | 679408 | 15 |
| 2120 | LN02 | 049:17:00.64N | 090:31:20.23W | 429.0 | 5461708 | 680193 | 15 |
| 2121 | LN02 | 049:17:33.64N | 090:30:41.36W | 404.0 | 5462753 | 680945 | 15 |
| 2122 | LN02 | 049:18:06.47N | 090:29:55.04W | 454.0 | 5463797 | 681846 | 15 |
| 2123 | LN02 | 049:18:39.41N | 090:29:32.70W | 387.0 | 5464829 | 682264 | 15 |
| 2124 | LN02 | 049:19:19.51N | 090:29:22.50W | 510.0 | 5466074 | 682429 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 2125 | LN02 | 049:19:49.81N | 090:29:13.55W | 300.0 | 5467016 | 682578 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 2126 | LN02 | 049:20:22.98N | 090:28:56.44W | 636.0 | 5468052 | 682889 | 15 |
| 2127 | LN02 | 049:20:53.81N | 090:28:27.93W | 511.0 | 5469023 | 683433 | 15 |
| 2128 | LN02 | 049:21:28.32N | 090:28:03.87W | 480.0 | 5470105 | 683882 | 15 |
| 2129 | LN02 | 049:22:01.05N | 090:27:41.08W | 459.0 | 5471131 | 684308 | 15 |
| 2130 | LN02 | 049:22:38.08N | 090:27:11.10W | 442.0 | 5472294 | 684874 | 15 |
| 2131 | LN02 | 049:23:02.68N | 090:27:01.04W | 507.0 | 5473061 | 685051 | 15 |
| 2132 | LN02 | 049:23:37.10N | 090:27:10.04W | 499.0 | 5474117 | 684834 | 15 |
| 2133 | LN02 | 049:24:12.64N | 090:27:03.78W | 425.0 | 5475219 | 684923 | 15 |
| 2134 | LN02 | 049:24:41.44N | 090:27:06.49W | 416.0 | 5476106 | 684838 | 15 |
| 2135 | LN02 | 049:25:17.71N | 090:26:49.04W | 145.0 | 5477238 | 685152 | 15 |
| 2136 | LN02 | 049:25:52.46N | 090:26:24.93W | 546.0 | 5478328 | 685601 | 15 |
| ** FSU Code: AU02 | | | | | | | |
| 2137 | LN02 | 049:26:29.19N | 090:26:04.33W | 412.0 | 5479476 | 685977 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 2138 | LN02 | 049:26:53.99N | 090:25:55.73W | 453.0 | 5480248 | 686124 | 15 |
| 2139 | LN02 | 049:27:33.74N | 090:25:43.63W | 499.0 | 5481483 | 686326 | 15 |
| 2140 | LN02 | 049:27:52.92N | 090:24:55.73W | 554.0 | 5482108 | 687270 | 15 |
| 2141 | LN02 | 049:28:23.53N | 090:24:25.19W | 546.0 | 5483075 | 687852 | 15 |
| 2154 | LN02 | 049:29:02.40N | 090:24:06.52W | 430.0 | 5484288 | 688186 | 15 |
| 2155 | LN02 | 049:29:35.56N | 090:24:12.21W | 431.0 | 5485308 | 688036 | 15 |
| 2156 | LN02 | 049:30:09.77N | 090:24:15.54W | 444.0 | 5486362 | 687933 | 15 |

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|---|---|---|---|---|---|---|---|
| 2157 | LN02 | 049:30:40.39N | 090:24:05.30W | 429.0 | 5487314 | 688106 | 15 |
| 2158 | LN02 | 049:31:15.93N | 090:24:01.70W | 443.0 | 5488414 | 688141 | 15 |
| 2159 | LN02 | 049:31:49.13N | 090:23:54.64W | 437.0 | 5489444 | 688247 | 15 |
| 2160 | LN02 | 049:32:20.56N | 090:23:41.88W | 437.0 | 5490424 | 688470 | 15 |
| 2161 | LN02 | 049:32:52.54N | 090:23:28.92W | 379.0 | 5491420 | 688696 | 15 |
| 2162 | LN02 | 049:33:22.50N | 090:23:10.79W | 437.0 | 5492358 | 689028 | 15 |
| 2163 | LN02 | 049:33:49.51N | 090:22:39.27W | 441.0 | 5493214 | 689632 | 15 |
| 2164 | LN02 | 049:34:18.63N | 090:22:05.00W | 446.0 | 5494137 | 690289 | 15 |
| 2165 | LN02 | 049:34:52.17N | 090:22:17.33W | 450.0 | 5495164 | 690005 | 15 |
| 2166 | LN02 | 049:35:25.68N | 090:22:02.51W | 451.0 | 5496209 | 690267 | 15 |
| 2167 | LN02 | 049:35:57.43N | 090:21:50.10W | 587.0 | 5497198 | 690481 | 15 |
| 2168 | LN02 | 049:36:27.40N | 090:21:51.07W | 439.0 | 5498123 | 690430 | 15 |
| 2169 | LN02 | 049:36:57.92N | 090:22:10.92W | 451.0 | 5499051 | 689998 | 15 |
| 2170 | LN02 | 049:37:30.23N | 090:22:01.48W | 449.0 | 5500055 | 690153 | 15 |
| 2171 | LN02 | 049:37:59.05N | 090:21:33.01W | 439.0 | 5500965 | 690693 | 15 |
| 2172 | LN02 | 049:38:27.23N | 090:20:52.52W | 421.0 | 5501864 | 691474 | 15 |
| 2173 | LN02 | 049:38:52.43N | 090:20:18.95W | 447.0 | 5502666 | 692119 | 15 |
| 2174 | LN02 | 049:39:26.32N | 090:19:59.18W | 570.0 | 5503727 | 692479 | 15 |
| 2175 | LN02 | 049:39:59.13N | 090:19:40.00W | 496.0 | 5504753 | 692827 | 15 |
| 2176 | LN02 | 049:40:29.82N | 090:19:21.59W | 438.0 | 5505714 | 693162 | 15 |
| 2177 | LN02 | 049:41:04.45N | 090:19:00.17W | 422.0 | 5506799 | 693553 | 15 |
| 2178 | LN02 | 049:41:27.70N | 090:18:24.38W | 438.0 | 5507542 | 694245 | 15 |
| 2179 | LN02 | 049:41:56.10N | 090:17:51.54W | 423.0 | 5508443 | 694871 | 15 |
| 2180 | LN02 | 049:42:27.86N | 090:17:32.44W | 364.0 | 5509437 | 695218 | 15 |
| 2181 | LN02 | 049:43:00.83N | 090:17:17.80W | 429.0 | 5510466 | 695475 | 15 |
| 2182 | LN02 | 049:43:32.81N | 090:17:09.35W | 421.0 | 5511459 | 695608 | 15 |
| 2183 | LN02 | 049:44:06.23N | 090:16:54.44W | 423.0 | 5512502 | 695869 | 15 |
| 2184 | LN02 | 049:44:42.70N | 090:16:31.09W | 433.0 | 5513645 | 696295 | 15 |
| 2185 | LN02 | 049:45:20.21N | 090:16:20.11W | 364.0 | 5514811 | 696473 | 15 |
| 2186 | LN02 | 049:46:12.11N | 090:15:55.28W | 492.0 | 5516432 | 696911 | 15 |
| 2187 | LN02 | 049:46:26.08N | 090:17:58.29W | 233.0 | 5516774 | 694436 | 15 |
| 2188 | LN02 | 049:46:50.37N | 090:17:56.15W | 427.0 | 5517526 | 694451 | 15 |
| 2189 | LN02 | 049:47:28.67N | 090:17:42.59W | 361.0 | 5518718 | 694680 | 15 |
| 2190 | LN02 | 049:47:59.09N | 090:18:05.49W | 431.0 | 5519641 | 694188 | 15 |
| 2191 | LN02 | 049:48:32.25N | 090:19:02.22W | 526.0 | 5520624 | 693018 | 15 |
| 2192 | LN02 | 049:49:01.03N | 090:20:00.64W | 508.0 | 5521471 | 691819 | 15 |
| 2193 | LN02 | 049:49:24.05N | 090:20:06.82W | 417.0 | 5522178 | 691670 | 15 |
| 2194 | LN02 | 049:49:59.92N | 090:19:58.93W | 445.0 | 5523291 | 691788 | 15 |
| 2195 | LN02 | 049:50:23.49N | 090:19:51.00W | 359.0 | 5524024 | 691921 | 15 |
| 2196 | LN02 | 049:50:59.59N | 090:20:08.70W | 425.0 | 5525126 | 691528 | 15 |
| 2197 | LN02 | 049:51:27.92N | 090:20:56.91W | 416.0 | 5525967 | 690534 | 15 |
| 2198 | LN02 | 049:51:57.56N | 090:20:47.87W | 426.0 | 5526889 | 690682 | 15 |
| 2199 | LN02 | 049:52:31.36N | 090:20:46.29W | 427.0 | 5527934 | 690677 | 15 |
| 2201 | LN02 | 049:53:31.67N | 090:19:55.64W | 412.0 | 5529832 | 691621 | 15 |
| 2202 | LN02 | 049:54:12.47N | 090:19:40.62W | 421.0 | 5531102 | 691876 | 15 |

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|---|---|---|---|---|---|---|---|
| 2203 | LN02 | 049:54:49.46N | 090:19:02.54W | 411.0 | 5532272 | 692594 | 15 |
| 2204 | LN02 | 049:55:24.88N | 090:18:31.35W | 417.0 | 5533388 | 693177 | 15 |
| 2205 | LN02 | 049:56:02.28N | 090:18:24.24W | 408.0 | 5534548 | 693277 | 15 |
| 2206 | LN02 | 049:56:34.62N | 090:18:25.09W | 418.0 | 5535546 | 693224 | 15 |
| 2207 | LN02 | 049:57:11.24N | 090:19:07.30W | 417.0 | 5536646 | 692342 | 15 |
| 2208 | LN02 | 049:57:50.53N | 090:18:43.08W | 418.0 | 5537877 | 692781 | 15 |
| 2209 | LN02 | 049:58:23.34N | 090:18:27.45W | 426.0 | 5538901 | 693056 | 15 |
| 2210 | LN02 | 049:58:52.62N | 090:18:05.03W | 415.0 | 5539821 | 693470 | 15 |
| 2211 | LN02 | 049:59:25.87N | 090:17:54.74W | 403.0 | 5540855 | 693638 | 15 |
| 2212 | LN02 | 050:00:02.66N | 090:34:22.89W | 404.0 | 5541317 | 673928 | 15 |
| 2213 | LN02 | 050:00:35.83N | 090:34:25.63W | 401.0 | 5542339 | 673840 | 15 |
| 2214 | LN02 | 050:01:08.94N | 090:35:02.61W | 430.0 | 5543338 | 673071 | 15 |
| 2215 | LN02 | 050:01:42.74N | 090:34:29.57W | 409.0 | 5544403 | 673695 | 15 |
| 2216 | LN02 | 050:02:13.08N | 090:33:40.60W | 399.0 | 5545371 | 674639 | 15 |
| 2217 | LN02 | 050:02:41.70N | 090:31:54.29W | 390.0 | 5546325 | 676724 | 15 |
| 2218 | LN02 | 050:03:13.38N | 090:31:20.88W | 412.0 | 5547325 | 677356 | 15 |
| 2219 | LN02 | 050:03:46.47N | 090:30:53.84W | 405.0 | 5548365 | 677859 | 15 |
| 2220 | LN02 | 050:04:23.54N | 090:30:36.82W | 427.0 | 5549521 | 678160 | 15 |
| 2221 | LN02 | 050:04:56.51N | 090:30:02.88W | 411.0 | 5550561 | 678800 | 15 |
| 2222 | LN02 | 050:05:32.59N | 090:29:57.45W | 536.0 | 5551679 | 678871 | 15 |
| 2223 | LN02 | 050:06:04.26N | 090:30:02.17W | 452.0 | 5552654 | 678744 | 15 |
| 2224 | LN02 | 050:06:37.11N | 090:30:10.72W | 499.0 | 5553662 | 678540 | 15 |
| 2225 | LN02 | 050:07:09.95N | 090:29:48.10W | 400.0 | 5554692 | 678956 | 15 |
| 2226 | LN02 | 050:07:42.05N | 090:29:35.24W | 415.0 | 5555691 | 679178 | 15 |
| 2227 | LN02 | 050:08:14.62N | 090:29:42.80W | 395.0 | 5556692 | 678994 | 15 |
| 2228 | LN02 | 050:08:51.01N | 090:29:34.30W | 398.0 | 5557822 | 679125 | 15 |
| 2229 | LN02 | 050:09:27.93N | 090:29:25.74W | 398.0 | 5558967 | 679256 | 15 |
| 2230 | LN02 | 050:09:58.62N | 090:29:27.69W | 388.0 | 5559914 | 679186 | 15 |
| 2231 | LN02 | 050:10:30.20N | 090:29:43.94W | 387.0 | 5560878 | 678831 | 15 |
| 2232 | LN02 | 050:11:04.58N | 090:30:23.00W | 382.0 | 5561914 | 678020 | 15 |
| 2233 | LN02 | 050:11:37.66N | 090:33:03.14W | 398.0 | 5562830 | 674811 | 15 |
| 2234 | LN02 | 050:12:22.05N | 090:38:40.18W | 428.0 | 5563986 | 668086 | 15 |
| 2235 | LN02 | 050:12:55.98N | 090:38:38.07W | 427.0 | 5565035 | 668095 | 15 |
| 2236 | LN02 | 050:13:26.69N | 090:38:19.90W | 430.0 | 5565994 | 668425 | 15 |
| 2237 | LN02 | 050:14:02.73N | 090:37:30.78W | 418.0 | 5567138 | 669363 | 15 |
| 2238 | LN02 | 050:14:37.45N | 090:38:28.18W | 430.0 | 5568174 | 668192 | 15 |
| 2239 | LN02 | 050:15:11.44N | 090:39:37.44W | 454.0 | 5569181 | 666787 | 15 |
| 2240 | LN02 | 050:15:48.72N | 090:40:12.96W | 417.0 | 5570310 | 666048 | 15 |
| 2241 | LN02 | 050:16:18.90N | 090:40:35.67W | 355.0 | 5571228 | 665569 | 15 |
| 2242 | LN02 | 050:16:50.29N | 090:40:48.02W | 581.0 | 5572190 | 665295 | 15 |
| 2243 | LN02 | 050:17:28.29N | 090:40:49.38W | 383.0 | 5573362 | 665231 | 15 |
| 2244 | LN02 | 050:18:01.94N | 090:40:50.59W | 308.0 | 5574401 | 665175 | 15 |
| 2245 | LN02 | 050:18:34.66N | 090:41:06.61W | 562.0 | 5575401 | 664826 | 15 |

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|---|---|---|---|---|---|---|---|
| 2246 | LN02 | 050:19:22.31N | 091:00:44.06W | 300.0 | 5576200 | 641500 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 2247 | LN02 | 050:19:30.85N | 090:41:27.90W | 469.0 | 5577124 | 664352 | 15 |
| 2248 | LN02 | 050:20:11.37N | 090:40:55.64W | 407.0 | 5578395 | 664950 | 15 |
| 2249 | LN02 | 050:20:46.56N | 090:40:37.99W | 401.0 | 5579492 | 665265 | 15 |
| 2250 | LN02 | 050:21:19.66N | 090:40:37.59W | 393.0 | 5580515 | 665241 | 15 |
| 2251 | LN02 | 050:21:52.11N | 090:40:13.25W | 381.0 | 5581532 | 665691 | 15 |
| 2252 | LN02 | 050:22:26.83N | 090:39:41.24W | 385.0 | 5582624 | 666289 | 15 |
| 2253 | LN02 | 050:22:56.48N | 090:39:02.86W | 383.0 | 5583564 | 667018 | 15 |
| 2254 | LN02 | 050:23:30.17N | 090:38:44.47W | 381.0 | 5584615 | 667349 | 15 |
| 2255 | LN02 | 050:24:03.92N | 090:38:32.43W | 384.0 | 5585665 | 667553 | 15 |
| 2256 | LN02 | 050:24:40.29N | 090:38:07.93W | 389.0 | 5586804 | 668001 | 15 |
| 2257 | LN02 | 050:25:16.59N | 090:37:40.82W | 379.0 | 5587942 | 668500 | 15 |
| 2258 | LN02 | 050:25:49.26N | 090:37:01.56W | 371.0 | 5588976 | 669243 | 15 |
| 2259 | LN02 | 050:26:22.67N | 090:36:08.39W | 378.0 | 5590041 | 670258 | 15 |
| 2260 | LN02 | 050:26:58.67N | 090:35:53.51W | 394.0 | 5591162 | 670516 | 15 |
| 2261 | LN02 | 050:27:28.10N | 090:35:47.39W | 402.0 | 5592075 | 670607 | 15 |
| 2262 | LN02 | 050:27:59.20N | 090:35:20.36W | 361.0 | 5593053 | 671109 | 15 |
| 2263 | LN02 | 050:28:33.65N | 090:35:03.83W | 361.0 | 5594127 | 671400 | 15 |
| 2264 | LN02 | 050:29:02.73N | 090:34:48.31W | 553.0 | 5595035 | 671677 | 15 |
| 2265 | LN02 | 050:29:38.04N | 090:34:59.48W | 577.0 | 5596119 | 671421 | 15 |
| 2266 | LN02 | 050:30:06.93N | 090:35:42.69W | 430.0 | 5596983 | 670541 | 15 |
| 2267 | LN02 | 050:30:40.47N | 090:36:11.03W | 426.0 | 5598001 | 669949 | 15 |
| 2268 | LN02 | 050:31:13.78N | 090:36:04.97W | 405.0 | 5599033 | 670035 | 15 |
| 2269 | LN02 | 050:31:44.79N | 090:36:03.14W | 478.0 | 5599992 | 670040 | 15 |
| 2270 | LN02 | 050:32:21.78N | 090:36:14.49W | 396.0 | 5601127 | 669780 | 15 |
| 2271 | LN02 | 050:32:55.80N | 090:36:31.32W | 421.0 | 5602167 | 669415 | 15 |
| 2272 | LN02 | 050:33:26.68N | 090:36:49.59W | 387.0 | 5603109 | 669025 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 2273 | LN02 | 050:34:09.86N | 090:36:22.52W | 300.0 | 5604460 | 669514 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 2274 | LN02 | 050:34:34.06N | 090:36:10.56W | 394.0 | 5605215 | 669725 | 15 |
| 2275 | LN02 | 050:35:06.29N | 090:36:20.90W | 381.0 | 5606204 | 669490 | 15 |
| 2276 | LN02 | 050:35:48.21N | 090:37:00.92W | 368.0 | 5607473 | 668661 | 15 |
| 2277 | LN02 | 050:36:22.69N | 090:36:53.17W | 256.0 | 5608543 | 668779 | 15 |
| 2278 | LN02 | 050:36:48.50N | 090:36:25.64W | 399.0 | 5609357 | 669295 | 15 |
| 2279 | LN02 | 050:37:20.09N | 090:35:57.22W | 387.0 | 5610351 | 669821 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 2280 | LN02 | 050:38:01.11N | 090:35:37.89W | 300.0 | 5611630 | 670160 | 15 |
| ** FSU Code: LAKE | | | | | | | |

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|---|---|---|---|---|---|---|---|
| 2281 | LN02 | 050:38:26.82N | 090:35:27.03W | 346.0 | 5612431 | 670348 | 15 |
| 2282 | LN02 | 050:38:58.95N | 090:35:13.23W | 346.0 | 5613432 | 670586 | 15 |
| 2283 | LN02 | 050:39:29.59N | 090:34:46.02W | 390.0 | 5614396 | 671090 | 15 |
| 2284 | LN02 | 050:39:56.75N | 090:34:23.21W | 392.0 | 5615249 | 671510 | 15 |
| 2285 | LN02 | 050:40:28.96N | 090:34:05.28W | 293.0 | 5616255 | 671829 | 15 |
| 2286 | LN02 | 050:41:06.00N | 090:33:48.25W | 383.0 | 5617410 | 672126 | 15 |
| 2287 | LN02 | 050:41:34.82N | 090:33:27.80W | 297.0 | 5618314 | 672498 | 15 |
| 2288 | LN02 | 050:42:04.33N | 090:33:30.41W | 368.0 | 5619223 | 672416 | 15 |
| 2289 | LN02 | 050:42:41.30N | 090:34:00.86W | 362.0 | 5620345 | 671781 | 15 |
| 2290 | LN02 | 050:43:24.83N | 090:33:39.20W | 12.0 | 5621704 | 672162 | 15 |
| 2291 | LN02 | 050:43:43.82N | 090:33:10.49W | 371.0 | 5622309 | 672705 | 15 |
| 2292 | LN02 | 050:44:14.59N | 090:32:38.75W | 370.0 | 5623280 | 673296 | 15 |
| 2293 | LN02 | 050:44:43.09N | 090:32:12.83W | 369.0 | 5624177 | 673775 | 15 |
| 2294 | LN02 | 050:45:06.61N | 090:32:08.23W | 2.0 | 5624906 | 673841 | 15 |
| 2295 | LN02 | 050:45:51.99N | 090:30:28.04W | 362.0 | 5626373 | 675756 | 15 |
| 2296 | LN02 | 050:46:23.33N | 090:29:01.24W | 347.0 | 5627399 | 677423 | 15 |
| 2297 | LN02 | 050:46:49.35N | 090:28:35.97W | 354.0 | 5628219 | 677891 | 15 |
| 2298 | LN02 | 050:47:28.59N | 090:28:36.90W | 392.0 | 5629430 | 677831 | 15 |
| 2299 | LN02 | 050:48:01.12N | 090:28:54.30W | 405.0 | 5630423 | 677456 | 15 |
| 2300 | LN02 | 050:48:31.42N | 090:29:17.61W | 391.0 | 5631344 | 676968 | 15 |
| 2301 | LN02 | 050:49:00.88N | 090:29:55.25W | 409.0 | 5632228 | 676201 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 2302 | LN02 | 050:49:37.20N | 090:29:55.92W | 300.0 | 5633350 | 676150 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 2303 | LN02 | 050:50:14.37N | 090:29:37.21W | 470.0 | 5634510 | 676477 | 15 |
| 2304 | LN02 | 050:50:46.04N | 090:29:45.11W | 371.0 | 5635483 | 676289 | 15 |
| 2305 | LN02 | 050:51:16.20N | 090:29:20.37W | 365.0 | 5636431 | 676741 | 15 |
| 2306 | LN02 | 050:51:48.30N | 090:29:13.95W | 433.0 | 5637426 | 676833 | 15 |
| 2307 | LN02 | 050:52:24.29N | 090:28:56.43W | 433.0 | 5638550 | 677138 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 2308 | LN02 | 050:52:59.75N | 090:28:48.77W | 300.0 | 5639650 | 677250 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 2309 | LN02 | 050:53:27.78N | 090:28:26.81W | 491.0 | 5640530 | 677649 | 15 |
| 2310 | LN02 | 050:53:56.68N | 090:28:13.21W | 642.0 | 5641432 | 677884 | 15 |
| 2311 | LN02 | 050:54:37.15N | 090:27:46.65W | 292.0 | 5642699 | 678360 | 15 |
| 2312 | LN02 | 050:55:08.11N | 090:27:28.28W | 272.0 | 5643668 | 678686 | 15 |
| 2313 | LN02 | 050:55:36.28N | 090:27:07.54W | 351.0 | 5644552 | 679061 | 15 |
| 2314 | LN02 | 050:56:03.86N | 090:26:32.72W | 352.0 | 5645427 | 679711 | 15 |
| 2315 | LN02 | 050:56:40.26N | 090:26:22.10W | 356.0 | 5646558 | 679879 | 15 |
| 2316 | LN02 | 050:57:12.79N | 090:25:45.85W | 294.0 | 5647588 | 680551 | 15 |
| 2317 | LN02 | 050:57:43.37N | 090:25:02.22W | 356.0 | 5648562 | 681369 | 15 |

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|---|---|---|---|---|---|---|---|
| 2318 | LN02 | 050:58:14.02N | 090:24:27.85W | 345.0 | 5649532 | 682006 | 15 |
| 2319 | LN02 | 050:58:39.49N | 090:23:49.25W | 321.0 | 5650345 | 682731 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 2320 | LN02 | 050:59:11.49N | 090:23:33.89W | 300.0 | 5651344 | 682996 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 2321 | LN02 | 050:59:49.67N | 090:23:46.25W | 132.0 | 5652515 | 682713 | 15 |
| 2322 | LN02 | 051:00:25.38N | 090:23:05.68W | 327.0 | 5653645 | 683465 | 15 |
| 2323 | LN02 | 051:00:46.29N | 090:22:15.86W | 347.0 | 5654326 | 684413 | 15 |
| 2324 | LN02 | 051:01:18.16N | 090:21:47.14W | 374.0 | 5655330 | 684937 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 2325 | LN02 | 051:01:52.24N | 090:21:09.51W | 300.0 | 5656409 | 685632 | 15 |
| 2326 | LN02 | 051:02:19.77N | 090:20:31.27W | 300.0 | 5657286 | 686346 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 2327 | LN02 | 051:02:45.04N | 090:19:39.20W | 338.0 | 5658103 | 687332 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 2328 | LN02 | 051:03:20.46N | 090:18:25.88W | 350.0 | 5659249 | 688719 | 15 |
| 2329 | LN02 | 051:03:50.01N | 090:17:40.59W | 351.0 | 5660194 | 689567 | 15 |
| 2330 | LN02 | 051:04:20.66N | 090:16:54.10W | 350.0 | 5661174 | 690437 | 15 |
| 2331 | LN02 | 051:04:52.01N | 090:14:34.78W | 354.0 | 5662243 | 693111 | 15 |
| 2332 | LN02 | 051:05:23.26N | 090:13:55.53W | 353.0 | 5663236 | 693839 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 2333 | | 051:05:55.50N | 090:12:57.11W | 0.0 | 5664275 | 694937 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 2334 | LN02 | 051:06:29.67N | 090:11:30.18W | 351.0 | 5665394 | 696587 | 15 |
| 2335 | LN02 | 051:06:54.25N | 090:10:51.55W | 335.0 | 5666182 | 697309 | 15 |
| 2336 | LN02 | 051:06:54.63N | 090:10:54.66W | 319.0 | 5666192 | 697248 | 15 |
| 2337 | LN02 | 051:08:08.91N | 090:12:07.08W | 323.0 | 5668432 | 695753 | 15 |
| 2338 | LN02 | 051:08:51.72N | 090:13:01.11W | 323.0 | 5669714 | 694653 | 15 |
| 2339 | LN02 | 051:09:20.54N | 090:13:07.25W | 322.0 | 5670600 | 694500 | 15 |
| 2340 | LN02 | 051:09:53.57N | 090:13:00.59W | 358.0 | 5671625 | 694591 | 15 |
| 2341 | LN02 | 051:10:23.68N | 090:12:47.92W | 346.0 | 5672564 | 694802 | 15 |
| 2342 | LN02 | 051:10:57.82N | 090:12:46.85W | 353.0 | 5673619 | 694783 | 15 |
| 2343 | LN02 | 051:11:33.89N | 090:12:50.22W | 339.0 | 5674731 | 694675 | 15 |
| 2344 | LN02 | 051:12:05.90N | 090:13:31.57W | 356.0 | 5675689 | 693835 | 15 |
| 2345 | LN02 | 051:12:41.18N | 090:14:03.68W | 343.0 | 5676755 | 693171 | 15 |
| 2346 | LN02 | 051:13:12.75N | 090:13:49.74W | 354.0 | 5677740 | 693405 | 15 |
| 2347 | LN02 | 051:13:37.81N | 090:13:49.46W | 397.0 | 5678514 | 693381 | 15 |
| 2348 | LN02 | 051:14:13.45N | 090:13:50.29W | 357.0 | 5679614 | 693324 | 15 |

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|---|---|---|---|---|---|---|---|
| 2349 | LN02 | 051:14:46.46N | 090:13:25.92W | 344.0 | 5680652 | 693757 | 15 |
| 2350 | LN02 | 051:15:20.28N | 090:13:22.74W | 435.0 | 5681698 | 693780 | 15 |
| 2351 | LN02 | 051:15:56.45N | 090:13:52.73W | 366.0 | 5682793 | 693156 | 15 |
| 2352 | LN02 | 051:16:26.79N | 090:14:07.29W | 262.0 | 5683720 | 692839 | 15 |
| 2353 | LN02 | 051:16:56.35N | 090:14:14.78W | 273.0 | 5684627 | 692659 | 15 |
| 2354 | LN02 | 051:17:27.82N | 090:14:01.88W | 341.0 | 5685609 | 692873 | 15 |
| 2355 | LN02 | 051:18:02.66N | 090:13:36.01W | 362.0 | 5686704 | 693333 | 15 |
| 2356 | LN02 | 051:18:31.73N | 090:13:40.30W | 359.0 | 5687598 | 693216 | 15 |
| 2357 | LN02 | 051:19:02.93N | 090:13:51.41W | 365.0 | 5688554 | 692964 | 15 |
| 2358 | LN02 | 051:19:36.51N | 090:13:53.20W | 369.0 | 5689589 | 692891 | 15 |
| 2359 | LN02 | 051:20:08.51N | 090:13:55.01W | 364.0 | 5690576 | 692818 | 15 |
| 2360 | LN02 | 051:20:43.84N | 090:13:46.50W | 329.0 | 5691674 | 692942 | 15 |
| 2361 | LN02 | 051:21:14.50N | 090:13:19.88W | 355.0 | 5692640 | 693421 | 15 |
| 2362 | LN02 | 051:21:45.75N | 090:13:28.35W | 363.0 | 5693599 | 693220 | 15 |
| 2363 | LN02 | 051:22:19.18N | 090:13:08.27W | 445.0 | 5694646 | 693569 | 15 |
| 2364 | LN02 | 051:22:49.43N | 090:12:39.56W | 353.0 | 5695602 | 694089 | 15 |
| 2365 | LN02 | 051:23:22.90N | 090:12:18.59W | 354.0 | 5696651 | 694455 | 15 |
| 2366 | LN02 | 051:23:54.84N | 090:12:26.36W | 354.0 | 5697631 | 694267 | 15 |
| 2367 | LN02 | 051:24:28.94N | 090:12:18.99W | 344.0 | 5698690 | 694369 | 15 |
| 2368 | LN02 | 051:24:58.47N | 090:12:07.00W | 344.0 | 5699611 | 694566 | 15 |
| 2369 | LN02 | 051:25:30.78N | 090:11:54.41W | 336.0 | 5700618 | 694771 | 15 |
| 2370 | LN02 | 051:26:03.42N | 090:11:44.10W | 333.0 | 5701634 | 694931 | 15 |
| 2371 | LN02 | 051:26:35.57N | 090:11:19.46W | 336.0 | 5702645 | 695369 | 15 |
| 2372 | LN02 | 051:27:07.14N | 090:10:24.89W | 345.0 | 5703660 | 696385 | 15 |
| 2373 | LN02 | 051:27:38.82N | 090:09:48.33W | 368.0 | 5704666 | 697052 | 15 |
| 2374 | LN02 | 051:28:10.32N | 090:09:51.12W | 384.0 | 5705637 | 696961 | 15 |
| 2375 | LN02 | 051:28:43.97N | 090:09:43.55W | 333.0 | 5706682 | 697066 | 15 |
| 2376 | LN02 | 051:29:24.30N | 090:09:22.00W | 314.0 | 5707943 | 697433 | 15 |
| 2377 | LN02 | 051:29:59.95N | 090:09:11.34W | 310.0 | 5709052 | 697596 | 15 |
| 2378 | LN02 | 051:30:22.75N | 090:08:41.11W | 306.0 | 5709779 | 698151 | 15 |
| 2379 | LN02 | 051:30:53.97N | 090:08:07.00W | 339.0 | 5710769 | 698771 | 15 |
| ** FSU Code: LAKE | | | | | | | |
| 2439 | | 052:03:07.70N | 090:01:20.33W | 0.0 | 5770805 | 704167 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 2440 | LN02 | 052:03:39.13N | 090:02:22.40W | 337.0 | 5771727 | 702945 | 15 |
| 2441 | LN02 | 052:04:17.48N | 090:03:37.42W | 347.0 | 5772853 | 701469 | 15 |
| 2442 | LN02 | 052:04:48.61N | 090:04:38.88W | 341.0 | 5773768 | 700261 | 15 |
| 2443 | LN02 | 052:05:22.81N | 090:05:46.58W | 348.0 | 5774772 | 698930 | 15 |
| 2444 | LN02 | 052:05:58.29N | 090:06:56.59W | 342.0 | 5775815 | 697554 | 15 |
| 2445 | LN02 | 052:06:30.91N | 090:08:01.69W | 351.0 | 5776773 | 696276 | 15 |
| 2446 | LN02 | 052:07:06.13N | 090:10:10.73W | 526.0 | 5777765 | 693780 | 15 |
| 2447 | LN02 | 052:07:44.82N | 090:13:33.83W | 247.0 | 5778811 | 689872 | 15 |
| 2448 | LN02 | 052:08:17.67N | 090:14:33.31W | 329.0 | 5779782 | 688703 | 15 |

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| 2449 | LN02 | 052:08:51.38N | 090:15:25.71W | 266.0 | 5780786 | 687668 | 15 |
| 2450 | LN02 | 052:09:25.77N | 090:16:15.31W | 342.0 | 5781812 | 686685 | 15 |
| 2451 | LN02 | 052:09:59.87N | 090:17:45.97W | 250.0 | 5782801 | 684923 | 15 |
| 2452 | LN02 | 052:10:37.41N | 090:20:39.82W | 216.0 | 5783838 | 681579 | 15 |
| 2453 | LN02 | 052:11:11.06N | 090:22:06.78W | 338.0 | 5784818 | 679890 | 15 |
| 2454 | LN02 | 052:11:44.24N | 090:23:29.81W | 338.0 | 5785785 | 678276 | 15 |
| 2455 | LN02 | 052:12:20.62N | 090:25:01.62W | 340.0 | 5786847 | 676494 | 15 |
| 2456 | LN02 | 052:12:54.00N | 090:26:25.58W | 333.0 | 5787821 | 674864 | 15 |
| 2457 | LN02 | 052:13:28.26N | 090:28:06.02W | 334.0 | 5788813 | 672921 | 15 |
| 2458 | LN02 | 052:14:00.06N | 090:29:17.14W | 343.0 | 5789748 | 671538 | 15 |
| 2459 | LN02 | 052:14:35.18N | 090:30:35.42W | 342.0 | 5790782 | 670016 | 15 |
| 2460 | LN02 | 052:15:09.61N | 090:32:02.05W | 341.0 | 5791789 | 668337 | 15 |
| 2461 | LN02 | 052:15:43.25N | 090:32:35.12W | 341.0 | 5792807 | 667675 | 15 |
| 2462 | LN02 | 052:16:16.96N | 090:33:06.88W | 315.0 | 5793828 | 667037 | 15 |
| 2463 | LN02 | 052:16:52.81N | 090:33:35.66W | 379.0 | 5794917 | 666455 | 15 |
| 2464 | LN02 | 052:17:25.26N | 090:33:23.51W | 475.0 | 5795927 | 666651 | 15 |
| 2465 | LN02 | 052:17:56.99N | 090:33:29.21W | 421.0 | 5796903 | 666510 | 15 |
| 2466 | LN02 | 052:18:26.91N | 090:33:57.02W | 379.0 | 5797810 | 665952 | 15 |
| 2467 | LN02 | 052:18:55.73N | 090:33:48.95W | 436.0 | 5798705 | 666075 | 15 |
| 2468 | LN02 | 052:19:31.95N | 090:33:08.42W | 413.0 | 5799850 | 666805 | 15 |
| 2469 | LN02 | 052:20:08.66N | 090:32:33.08W | 223.0 | 5801006 | 667435 | 15 |
| 2470 | LN02 | 052:20:33.92N | 090:31:59.74W | 241.0 | 5801808 | 668039 | 15 |
| 2471 | LN02 | 052:21:05.02N | 090:31:43.28W | 313.0 | 5802779 | 668318 | 15 |
| 2472 | LN02 | 052:21:38.78N | 090:31:02.41W | 306.0 | 5803849 | 669055 | 15 |
| 2473 | LN02 | 052:22:09.16N | 090:30:53.94W | 315.0 | 5804793 | 669183 | 15 |
| 2474 | LN02 | 052:22:40.67N | 090:30:38.56W | 314.0 | 5805776 | 669440 | 15 |
| 2475 | LN02 | 052:23:13.14N | 090:30:22.57W | 316.0 | 5806790 | 669708 | 15 |
| 2476 | LN02 | 052:23:45.04N | 090:30:05.09W | 314.0 | 5807786 | 670004 | 15 |
| 2477 | LN02 | 052:24:18.77N | 090:30:16.60W | 314.0 | 5808821 | 669751 | 15 |
| 2478 | LN02 | 052:24:56.96N | 090:30:28.90W | 309.0 | 5809992 | 669478 | 15 |
| 2479 | LN02 | 052:25:23.65N | 090:30:33.24W | 322.0 | 5810814 | 669367 | 15 |
| 2480 | LN02 | 052:25:59.86N | 090:30:06.89W | 332.0 | 5811950 | 669826 | 15 |
| 2481 | LN02 | 052:26:31.55N | 090:29:21.00W | 328.0 | 5812959 | 670659 | 15 |
| 2482 | LN02 | 052:27:00.90N | 090:28:53.47W | 268.0 | 5813883 | 671147 | 15 |
| 2483 | LN02 | 052:27:29.65N | 090:28:14.65W | 275.0 | 5814797 | 671848 | 15 |
| 2484 | LN02 | 052:28:02.21N | 090:27:36.21W | 232.0 | 5815828 | 672538 | 15 |
| 2485 | LN02 | 052:28:36.46N | 090:26:58.10W | 194.0 | 5816912 | 673220 | 15 |
| 2486 | LN02 | 052:29:12.16N | 090:26:34.82W | 77.0 | 5818030 | 673620 | 15 |
| 2487 | LN02 | 052:29:35.53N | 090:26:03.09W | 337.0 | 5818773 | 674193 | 15 |
| 2488 | LN02 | 052:30:07.50N | 090:25:24.57W | 236.0 | 5819787 | 674884 | 15 |
| 2489 | LN02 | 052:30:42.45N | 090:24:45.25W | 291.0 | 5820893 | 675586 | 15 |
| 2490 | LN02 | 052:31:16.81N | 090:24:54.96W | 140.0 | 5821947 | 675365 | 15 |
| 2491 | LN02 | 052:31:41.50N | 090:24:53.92W | 298.0 | 5822711 | 675358 | 15 |
| 2492 | LN02 | 052:32:16.21N | 090:24:48.46W | 302.0 | 5823787 | 675422 | 15 |
| 2493 | LN02 | 052:32:50.84N | 090:24:44.05W | 286.0 | 5824859 | 675467 | 15 |

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|---|---|---|---|---|---|---|---|
| 2494 | LN02 | 052:33:24.23N | 090:25:10.89W | 279.0 | 5825873 | 674924 | 15 |
| 2495 | LN02 | 052:33:55.71N | 090:26:37.24W | 270.0 | 5826787 | 673264 | 15 |
| 2496 | LN02 | 052:34:27.85N | 090:26:08.97W | 272.0 | 5827799 | 673761 | 15 |
| 2497 | LN02 | 052:34:58.38N | 090:25:49.93W | 261.0 | 5828755 | 674086 | 15 |
| 2498 | LN02 | 052:35:29.91N | 090:24:24.36W | 291.0 | 5829786 | 675661 | 15 |
| 2499 | LN02 | 052:35:58.89N | 090:22:41.18W | 272.0 | 5830752 | 677569 | 15 |
| 3001 | LN03 | 048:22:12.55N | 090:42:35.43W | 468.0 | 5359758 | 669610 | 15 |
| 3002 | LN03 | 048:21:42.71N | 090:42:44.91W | 479.0 | 5358831 | 669443 | 15 |
| 3003 | LN03 | 048:21:07.23N | 090:43:04.58W | 573.0 | 5357723 | 669070 | 15 |
| 3004 | LN03 | 048:20:34.74N | 090:42:46.31W | 542.0 | 5356731 | 669476 | 15 |
| 3005 | LN03 | 048:20:01.81N | 090:41:43.36W | 469.0 | 5355754 | 670803 | 15 |
| 3006 | LN03 | 048:19:29.40N | 090:41:47.84W | 607.0 | 5354750 | 670740 | 15 |
| 3007 | LN03 | 048:18:59.29N | 090:42:57.70W | 550.0 | 5353778 | 669330 | 15 |
| 3008 | LN03 | 048:18:28.41N | 090:44:18.88W | 423.0 | 5352775 | 667686 | 15 |
| 3009 | LN03 | 048:17:58.03N | 090:44:41.52W | 360.0 | 5351823 | 667247 | 15 |
| 4000 | LN04 | 051:31:04.52N | 090:17:04.56W | 300.0 | 5710700 | 688400 | 15 |
| ** FSU Code: AU02 | | | | | | | |
| 4001 | LN04 | 051:32:19.19N | 090:17:27.52W | 343.0 | 5712990 | 687872 | 15 |
| 4002 | LN09 | 051:32:48.17N | 090:16:57.55W | 167.0 | 5713906 | 688416 | 15 |
| 4003 | LN04 | 051:33:39.78N | 090:16:37.60W | 338.0 | 5715514 | 688741 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 4004 | LN04 | 051:34:17.19N | 090:15:55.92W | 300.0 | 5716700 | 689500 | 15 |
| ** FSU Code: AU02 | | | | | | | |
| 4005 | LN04 | 051:35:09.45N | 090:15:31.27W | 348.0 | 5718332 | 689914 | 15 |
| 4006 | LN04 | 051:36:18.10N | 090:15:39.36W | 255.0 | 5720446 | 689679 | 15 |
| 4007 | LN04 | 051:37:35.51N | 090:14:30.15W | 331.0 | 5722887 | 690920 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 4008 | LN04 | 051:38:03.92N | 090:14:50.26W | 300.0 | 5723750 | 690500 | 15 |
| 4009 | LN04 | 051:39:13.64N | 090:15:04.93W | 312.0 | 5725893 | 690137 | 15 |
| ** FSU Code: AU02 | | | | | | | |
| 4010 | LN09 | 051:39:56.74N | 090:15:02.17W | 222.0 | 5727226 | 690140 | 15 |
| ** FSU Code: JU31 | | | | | | | |
| 4011 | LN04 | 051:40:46.71N | 090:14:19.55W | 300.0 | 5728800 | 690900 | 15 |
| 4012 | LN04 | 051:41:15.57N | 090:15:29.63W | 394.0 | 5729641 | 689521 | 15 |
| 4013 | LN04 | 051:42:02.51N | 090:15:39.25W | 266.0 | 5731083 | 689282 | 15 |
| 4014 | LN04 | 051:42:51.65N | 090:15:11.03W | 326.0 | 5732621 | 689766 | 15 |
| 4015 | LN04 | 051:43:25.84N | 090:14:58.10W | 330.0 | 5733687 | 689974 | 15 |
| 4016 | LN04 | 051:45:55.89N | 090:14:09.42W | 308.0 | 5738356 | 690733 | 15 |
| 4017 | LN04 | 051:46:23.93N | 090:14:01.66W | 319.0 | 5739228 | 690848 | 15 |

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List of LithoSEIS Survey Sites
Standard Report Form

| Site ID | Line ID | Lat. | Long. | Site Elev. m | Northing | Easting | UTM Zone |
|---|---|---|---|---|---|---|---|
| 4018 | LN04 | 051:46:55.46N | 090:13:29.45W | 365.0 | 5740225 | 691428 | 15 |
| 4019 | LN04 | 051:47:47.87N | 090:13:32.30W | 321.0 | 5741842 | 691312 | 15 |
| 4020 | LN04 | 051:48:12.99N | 090:12:12.25W | 336.0 | 5742677 | 692816 | 15 |
| 4021 | LN04 | 051:49:20.43N | 090:11:38.85W | 327.0 | 5744784 | 693375 | 15 |
| 4022 | LN04 | 051:49:47.44N | 090:11:29.36W | 385.0 | 5745625 | 693524 | 15 |
| 4023 | LN04 | 051:50:37.50N | 090:10:33.21W | 380.0 | 5747213 | 694539 | 15 |
| 4024 | LN04 | 051:51:29.00N | 090:09:49.73W | 381.0 | 5748836 | 695309 | 15 |
| 4025 | LN04 | 051:51:51.25N | 090:08:58.44W | 375.0 | 5749561 | 696263 | 15 |
| 4026 | LN04 | 051:52:19.67N | 090:07:57.33W | 300.0 | 5750485 | 697397 | 15 |
| 4027 | LN04 | 051:52:58.95N | 090:08:12.43W | 288.0 | 5751687 | 697060 | 15 |
| 4028 | LN04 | 051:53:47.29N | 090:07:53.72W | 233.0 | 5753194 | 697359 | 15 |
| 4029 | LN04 | 051:54:22.75N | 090:07:05.41W | 321.0 | 5754326 | 698239 | 15 |
| 4030 | LN04 | 051:54:54.72N | 090:07:03.64W | 348.0 | 5755314 | 698233 | 15 |
| 4031 | LN04 | 051:55:46.86N | 090:07:21.61W | 306.0 | 5756911 | 697827 | 15 |
| 4032 | LN04 | 051:56:10.92N | 090:07:04.74W | 320.0 | 5757667 | 698119 | 15 |
| 4033 | LN04 | 051:56:43.82N | 090:07:02.59W | 284.0 | 5758685 | 698120 | 15 |
| 4034 | LN04 | 051:57:13.00N | 090:06:47.60W | 227.0 | 5759598 | 698370 | 15 |
| 4035 | LN04 | 051:57:46.00N | 090:05:59.47W | 316.0 | 5760653 | 699248 | 15 |
| 4036 | LN04 | 051:58:09.06N | 090:05:54.18W | 324.0 | 5761370 | 699321 | 15 |
| 4037 | LN04 | 051:59:04.77N | 090:05:07.30W | 319.0 | 5763126 | 700146 | 15 |
| 4038 | LN04 | 052:00:11.16N | 090:04:41.67W | 314.0 | 5765196 | 700552 | 15 |
| 4039 | LN04 | 052:00:31.74N | 090:03:58.77W | 316.0 | 5765865 | 701344 | 15 |
| 4040 | LN04 | 052:01:17.33N | 090:03:40.94W | 430.0 | 5767287 | 701627 | 15 |
| 4041 | LN04 | 052:01:33.31N | 090:03:41.45W | 290.0 | 5767780 | 701598 | 15 |
| 4042 | LN04 | 052:02:12.85N | 090:03:27.81W | 371.0 | 5769011 | 701808 | 15 |
| 4043 | LN04 | 052:02:40.07N | 090:03:48.92W | 516.0 | 5769836 | 701372 | 15 |
| 4044 | LN04 | 052:03:21.39N | 090:03:52.74W | 266.0 | 5771109 | 701248 | 15 |
| 4045 | LN04 | 052:03:59.66N | 090:03:50.04W | 433.0 | 5772293 | 701251 | 15 |
| 4046 | LN04 | 051:26:54.62N | 090:13:15.88W | 347.0 | 5703147 | 693100 | 15 |
| 4047 | LN04 | 051:26:57.35N | 090:10:40.86W | 354.0 | 5703346 | 696088 | 15 |
| 4048 | LN04 | 051:27:25.09N | 090:09:54.37W | 341.0 | 5704238 | 696952 | 15 |
| 4049 | LN04 | 051:24:10.28N | 090:12:22.71W | 360.0 | 5698111 | 694319 | 15 |
| 5076 | LN05 | 049:02:40.40N | 090:59:38.95W | 415.0 | 5434128 | 646582 | 15 |
| 5080 | LN05 | 049:02:47.66N | 090:56:54.89W | 458.0 | 5434441 | 649906 | 15 |
| 5086 | LN05 | 049:03:04.63N | 090:52:14.73W | 274.0 | 5435122 | 655578 | 15 |
| 5092 | LN05 | 049:03:07.16N | 090:47:49.76W | 404.0 | 5435354 | 660953 | 15 |
| 5103 | LN05 | 049:06:59.92N | 090:37:39.65W | 376.0 | 5442914 | 673110 | 15 |
| 5109 | LN05 | 049:10:09.63N | 090:36:10.04W | 632.0 | 5448829 | 674741 | 15 |

# E GSC Records

The following is a list generated from LithoSEIS databases. It shows the time correction for the duration of each recording.

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List of LithoSEIS Recordings
With Upload and Download Times

| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| ** FSU Code: DUST | | | | | | | | | |
| A179 | DUST | A162 | 199:14:57:07 | 199:15:18:22 | 0.4 | 0.000 | 12.74 | 12.73 | |
| ** FSU Code: CLAY | | | | | | | | | |
| BNDS | 0110 | A145 | 196:12:14:10 | 197:16:29:49 | 28.3 | -0.002 | 11.93 | 11.63 | |
| BNDS | 0111 | A142 | 196:12:16:17 | 197:16:31:13 | 28.2 | -0.008 | 11.85 | 11.49 | |
| CAL1 | CLAY | A019 | 191:22:58:51 | 192:12:42:58 | 13.7 | 0.000 | 12.10 | 11.98 | |
| CAL1 | CLAY | A143 | 191:23:00:27 | 192:12:41:35 | 13.7 | 0.002 | 12.14 | 11.90 | |
| ** FSU Code: DUST | | | | | | | | | |
| CAL1 | DUST | A152 | 191:23:00:39 | 192:12:47:29 | 13.8 | 0.001 | 12.28 | 12.04 | |
| CAL1 | DUST | A183 | 191:22:58:55 | 192:12:49:00 | 13.8 | -0.002 | 12.67 | 12.45 | |
| ** FSU Code: MINE | | | | | | | | | |
| CAL1 | MINE | 0317 | 191:22:58:00 | 192:12:09:58 | 13.2 | -0.027 | 11.25 | 10.95 | |
| CAL1 | MINE | 0318 | 191:22:58:53 | 192:12:08:06 | 13.2 | -0.025 | 12.10 | 11.80 | |
| ** FSU Code: MOON | | | | | | | | | |
| CAL1 | MOON | A021 | 191:22:58:51 | 192:12:39:13 | 13.7 | 0.005 | 12.53 | 12.38 | |
| CAL1 | MOON | A024 | 191:23:00:19 | 192:12:37:43 | 13.6 | 0.003 | 12.13 | 11.94 | |
| ** FSU Code: GOLD | | | | | | | | | |
| CAL1 | VILA | A025 | 191:22:58:42 | 192:12:30:19 | 13.5 | 0.004 | 12.53 | 12.38 | |
| ** FSU Code: MARS | | | | | | | | | |
| CAL1 | VILA | A065 | 191:22:58:46 | 192:12:33:37 | 13.6 | 0.002 | 12.59 | 12.44 | |
| CAL1 | VILA | A068 | 191:23:00:10 | 192:12:32:00 | 13.5 | 0.004 | 12.73 | 12.53 | |
| ** FSU Code: GOLD | | | | | | | | | |
| CAL1 | VILA | A097 | 191:23:00:00 | 192:12:29:10 | 13.5 | 0.003 | 12.70 | 12.49 | |
| ** FSU Code: CLAY | | | | | | | | | |
| CAL2 | CLAY | A106 | 193:14:41:38 | 193:18:15:27 | 3.6 | -0.001 | 12.57 | 12.47 | |
| CAL2 | CLAY | A107 | 193:14:43:15 | 193:18:19:26 | 3.6 | 0.000 | 12.70 | 12.67 | |
| CAL2 | CLAY | A108 | 193:14:44:39 | 193:18:22:45 | 3.6 | 0.001 | 12.74 | 12.72 | |
| CAL2 | CLAY | A109 | 193:14:46:18 | 193:18:24:51 | 3.6 | 0.000 | 12.69 | 12.64 | |
| CAL2 | CLAY | A110 | 193:14:47:51 | 193:18:26:48 | 3.6 | 0.001 | 12.67 | 12.64 | |
| CAL2 | CLAY | A111 | 193:14:49:26 | 193:18:29:31 | 3.7 | 0.000 | 12.77 | 12.74 | |
| CAL2 | CLAY | A112 | 193:14:51:21 | 193:18:33:32 | 3.7 | -0.001 | 12.69 | 12.64 | |
| CAL2 | CLAY | A113 | 193:14:52:47 | 193:18:36:31 | 3.7 | 0.001 | 12.67 | 12.63 | |
| CAL2 | CLAY | A114 | 193:14:54:15 | 193:18:39:41 | 3.8 | 0.001 | 12.63 | 12.60 | |
| CAL2 | CLAY | A115 | 193:14:55:37 | 193:18:43:31 | 3.8 | 0.000 | 12.63 | 12.58 | |
| CAL2 | CLAY | A116 | 193:14:57:18 | 193:18:45:40 | 3.8 | 0.001 | 12.63 | 12.58 | |
| CAL2 | CLAY | A117 | 193:14:58:53 | 193:18:55:47 | 3.9 | 0.002 | 12.64 | 12.60 | |

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List of LithoSEIS Recordings
With Upload and Download Times

| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| CAL2 | CLAY | A119 | 193:15:00:24 | 193:18:58:59 | 4.0 | -0.002 | 12.63 | 12.59 | |
| CAL2 | CLAY | A120 | 193:15:01:58 | 193:19:03:17 | 4.0 | 0.001 | 12.64 | 12.59 | |
| CAL2 | CLAY | A121 | 193:15:03:28 | 193:19:05:19 | 4.0 | 0.000 | 12.62 | 12.57 | |
| CAL2 | CLAY | A122 | 193:15:04:57 | 193:19:06:29 | 4.0 | 0.000 | 12.53 | 12.43 | |
| CAL2 | CLAY | A123 | 193:15:06:49 | 193:19:08:32 | 4.0 | 0.001 | 12.75 | 12.69 | |
| CAL2 | CLAY | A124 | 193:15:08:30 | 193:19:10:59 | 4.0 | 0.001 | 12.63 | 12.58 | |
| CAL2 | CLAY | A125 | 193:15:10:04 | 193:19:12:38 | 4.0 | 0.002 | 12.67 | 12.63 | |
| CAL2 | CLAY | A126 | 193:15:11:26 | 193:19:14:20 | 4.0 | 0.001 | 12.65 | 12.60 | |
| CAL2 | CLAY | A127 | 193:15:12:47 | 193:19:15:27 | 4.0 | 0.001 | 12.65 | 12.63 | |
| CAL2 | CLAY | A128 | 193:15:14:15 | 193:19:17:35 | 4.1 | 0.000 | 12.63 | 12.57 | |
| CAL2 | CLAY | A129 | 193:15:15:40 | 193:19:20:51 | 4.1 | 0.001 | 12.62 | 12.55 | |
| CAL2 | CLAY | A130 | 193:15:17:10 | 193:19:28:43 | 4.2 | 0.002 | 12.63 | 12.58 | |
| CAL2 | CLAY | A131 | 193:15:18:41 | 193:19:29:55 | 4.2 | 0.002 | 12.72 | 12.67 | |
| CAL2 | CLAY | A132 | 193:15:20:14 | 193:19:31:07 | 4.2 | 0.000 | 12.64 | 12.59 | |
| CAL2 | CLAY | A133 | 193:15:22:35 | 193:19:32:39 | 4.2 | 0.001 | 12.67 | 12.63 | |
| CAL2 | CLAY | A134 | 193:15:23:54 | 193:19:34:24 | 4.2 | 0.002 | 12.57 | 12.53 | |
| CAL2 | CLAY | A135 | 193:15:25:28 | 193:19:35:54 | 4.2 | 0.000 | 12.74 | 12.70 | |
| CAL2 | CLAY | A136 | 193:15:26:45 | 193:19:37:25 | 4.2 | 0.001 | 12.64 | 12.60 | |
| CAL2 | CLAY | A137 | 193:15:28:08 | 193:19:38:53 | 4.2 | 0.002 | 12.68 | 12.63 | |
| CAL2 | CLAY | A138 | 193:15:29:22 | 193:19:40:09 | 4.2 | 0.001 | 12.64 | 12.63 | |
| CAL2 | CLAY | A139 | 193:15:30:44 | 193:19:41:24 | 4.2 | 0.000 | 12.60 | 12.57 | |
| CAL2 | CLAY | A140 | 193:15:32:05 | 193:19:42:48 | 4.2 | 0.002 | 12.68 | 12.64 | |
| CAL2 | CLAY | A181 | 193:15:35:32 | 193:19:46:28 | 4.2 | 0.001 | 12.84 | 12.74 | |
| CAL2 | CLAY | A182 | 193:15:33:34 | 193:19:44:39 | 4.2 | 0.000 | 12.84 | 12.73 | |
| ** FSU Code: DUST | | | | | | | | | |
| CAL2 | DUST | A141 | 193:14:41:23 | 193:18:21:45 | 3.7 | -0.002 | 12.73 | 12.69 | |
| CAL2 | DUST | A142 | 193:14:46:50 | 193:18:24:41 | 3.6 | -0.001 | 12.10 | 12.03 | |
| CAL2 | DUST | A143 | 193:15:11:13 | 193:18:26:34 | 3.3 | 0.001 | 11.68 | 11.64 | |
| CAL2 | DUST | A144 | 193:14:51:36 | 193:18:29:17 | 3.6 | 0.001 | 12.29 | 12.23 | |
| CAL2 | DUST | A145 | 193:14:53:14 | 193:18:33:18 | 3.7 | 0.000 | 12.13 | 12.04 | |
| CAL2 | DUST | A146 | 193:14:55:19 | 193:18:36:00 | 3.7 | 0.000 | 12.19 | 12.14 | |
| CAL2 | DUST | A147 | 193:14:57:03 | 193:18:40:07 | 3.7 | 0.000 | 12.14 | 12.10 | |
| CAL2 | DUST | A148 | 193:14:58:37 | 193:18:43:54 | 3.8 | -0.001 | 12.18 | 12.10 | |
| CAL2 | DUST | A149 | 193:15:00:11 | 193:18:46:04 | 3.8 | 0.001 | 12.18 | 12.10 | |
| CAL2 | DUST | A150 | 193:15:02:08 | 193:18:56:10 | 3.9 | 0.000 | 12.23 | 12.14 | |
| CAL2 | DUST | A151 | 193:16:23:28 | 193:18:59:24 | 2.6 | 0.001 | 12.15 | 12.04 | |
| CAL2 | DUST | A152 | 193:15:05:05 | 193:19:03:49 | 4.0 | 0.000 | 11.84 | 11.83 | |
| CAL2 | DUST | A153 | 193:15:06:43 | 193:19:04:58 | 4.0 | 0.001 | 12.23 | 12.13 | |
| CAL2 | DUST | A154 | 193:15:08:19 | 193:19:06:12 | 4.0 | 0.001 | 12.15 | 12.04 | |
| CAL2 | DUST | A155 | 193:15:09:48 | 193:19:07:43 | 4.0 | -0.001 | 12.44 | 12.37 | |
| CAL2 | DUST | A160 | 193:15:21:53 | 193:19:12:22 | 3.8 | -0.001 | 12.65 | 12.58 | |
| CAL2 | DUST | A161 | 193:15:20:24 | 193:19:14:08 | 3.9 | -0.003 | 12.67 | 12.63 | |
| CAL2 | DUST | A163 | 193:15:18:54 | 193:19:17:03 | 4.0 | -0.001 | 12.70 | 12.63 | |
| CAL2 | DUST | A164 | 193:15:17:21 | 193:19:19:11 | 4.0 | 0.000 | 12.69 | 12.60 | |

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List of LithoSEIS Recordings
With Upload and Download Times

| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| CAL2 | DUST | A165 | 193:15:15:54 | 193:19:21:02 | 4.1 | 0.002 | 12.58 | 12.49 | |
| CAL2 | DUST | A166 | 193:15:14:25 | 193:19:22:38 | 4.1 | -0.001 | 12.04 | 11.93 | |
| CAL2 | DUST | A168 | 193:15:12:41 | 193:19:23:45 | 4.2 | -0.001 | 12.85 | 12.74 | |
| CAL2 | DUST | A169 | 193:14:49:49 | 193:19:25:12 | 4.6 | 0.002 | 12.85 | 12.74 | |
| CAL2 | DUST | A170 | 193:14:44:43 | 193:19:26:34 | 4.7 | -0.001 | 12.88 | 12.74 | |
| CAL2 | DUST | A171 | 193:15:23:27 | 193:19:27:56 | 4.1 | -0.001 | 12.34 | 12.32 | |
| CAL2 | DUST | A172 | 193:15:24:55 | 193:19:29:15 | 4.1 | -0.001 | 12.09 | 12.04 | |
| CAL2 | DUST | A173 | 193:15:26:21 | 194:00:46:09 | 9.3 | ****** | 12.85 | 12.15 | |
| CAL2 | DUST | A174 | 193:15:27:45 | 193:19:37:11 | 4.2 | 0.001 | 12.69 | 12.48 | |
| CAL2 | DUST | A175 | 193:15:29:15 | 193:19:38:44 | 4.2 | 0.000 | 12.79 | 12.68 | |
| CAL2 | DUST | A177 | 193:15:31:17 | 193:19:40:33 | 4.2 | 0.000 | 12.87 | 12.75 | |
| CAL2 | DUST | A178 | 193:15:32:44 | 193:19:41:51 | 4.2 | -0.001 | 12.13 | 12.07 | |
| CAL2 | DUST | A179 | 193:15:34:09 | 193:19:43:05 | 4.1 | -0.001 | 12.90 | 12.80 | |
| CAL2 | DUST | A180 | 193:15:36:00 | 193:19:44:27 | 4.1 | 0.001 | 12.72 | 12.62 | |
| ** FSU Code: MINE | | | | | | | | | |
| CAL2 | MINE | 0073 | 193:14:44:09 | 193:18:23:51 | 3.7 | 0.003 | 11.70 | 11.30 | |
| CAL2 | MINE | 0075 | 193:15:03:33 | 193:18:57:08 | 3.9 | -0.006 | 11.55 | 11.20 | |
| CAL2 | MINE | 0218 | 193:15:01:51 | 193:18:06:38 | 3.1 | -0.003 | 11.65 | 11.30 | |
| CAL2 | MINE | 0219 | 193:15:12:10 | 193:18:10:10 | 3.0 | 0.001 | 11.60 | 11.25 | |
| CAL2 | MINE | 0224 | 193:14:45:58 | 193:19:30:16 | 4.7 | -0.001 | 11.60 | 11.05 | |
| CAL2 | MINE | 0225 | 193:15:08:49 | 193:18:58:55 | 3.8 | 0.002 | 11.60 | 11.35 | |
| CAL2 | MINE | 0226 | 193:14:52:29 | 193:18:38:22 | 3.8 | 0.001 | 11.20 | 10.50 | |
| CAL2 | MINE | 0252 | 193:14:43:19 | 193:19:21:41 | 4.6 | -0.003 | 11.90 | 11.70 | |
| CAL2 | MINE | 0254 | 193:14:59:40 | 193:19:39:38 | 4.7 | 0.000 | 11.30 | 11.15 | |
| CAL2 | MINE | 0257 | 193:15:39:33 | 193:19:41:19 | 4.0 | -0.001 | 11.10 | 11.20 | |
| CAL2 | MINE | 0258 | 193:14:55:23 | 193:19:20:01 | 4.4 | 0.002 | 11.80 | 11.55 | |
| CAL2 | MINE | 0262 | 193:14:49:07 | 193:19:23:21 | 4.6 | -0.001 | 11.70 | 11.50 | |
| CAL2 | MINE | 0263 | 193:15:05:54 | 193:19:01:52 | 3.9 | 0.001 | 11.45 | 11.25 | |
| CAL2 | MINE | 0271 | 193:15:02:39 | 193:19:28:30 | 4.4 | 0.000 | 11.90 | 11.65 | |
| CAL2 | MINE | 0272 | 193:14:57:56 | 193:18:40:54 | 3.7 | 0.001 | 11.80 | 11.55 | |
| CAL2 | MINE | 0273 | 193:15:00:26 | 193:17:06:23 | 2.1 | 0.000 | 11.90 | 11.75 | |
| CAL2 | MINE | 0274 | 193:14:54:25 | 193:19:26:41 | 4.5 | 0.000 | 11.80 | 11.55 | |
| CAL2 | MINE | 0275 | 193:14:42:18 | 193:19:03:24 | 4.4 | -0.001 | 11.75 | 11.55 | |
| CAL2 | MINE | 0277 | 193:14:40:19 | 193:19:35:39 | 4.9 | -0.002 | 11.85 | 11.60 | |
| CAL2 | MINE | 0278 | 193:15:04:19 | 193:19:37:44 | 4.6 | 0.001 | 11.25 | 11.15 | |
| CAL2 | MINE | 0280 | 193:14:48:20 | 193:19:11:26 | 4.4 | 0.001 | 11.95 | 11.80 | |
| CAL2 | MINE | 0281 | 193:15:14:02 | 193:19:06:51 | 3.9 | 0.001 | 11.65 | 11.55 | |
| CAL2 | MINE | 0285 | 193:14:58:53 | 193:19:05:04 | 4.1 | -0.001 | 11.80 | 11.70 | |
| CAL2 | MINE | 0286 | 193:14:46:45 | 193:18:44:25 | 4.0 | 0.000 | 11.60 | 11.35 | |
| CAL2 | MINE | 0287 | 193:14:47:32 | 193:19:08:26 | 4.3 | 0.001 | 11.85 | 11.60 | |
| CAL2 | MINE | 0288 | 193:15:01:10 | 193:18:25:53 | 3.4 | 0.000 | 11.60 | 11.30 | |
| CAL2 | MINE | 0304 | 193:14:53:23 | 193:18:13:24 | 3.3 | -0.002 | 11.60 | 11.60 | |
| CAL2 | MINE | 0305 | 193:15:07:18 | 193:19:33:55 | 4.4 | 0.000 | 12.25 | 12.15 | |
| CAL2 | MINE | 0306 | 193:14:51:31 | 193:18:28:00 | 3.6 | 0.000 | 12.00 | 12.15 | |

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List of LithoSEIS Recordings
With Upload and Download Times

| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| CAL2 | MINE | 0307 | 193:15:10:11 | 193:19:24:58 | 4.2 | 0.000 | 11.95 | 11.75 | |
| CAL2 | MINE | 0308 | 193:14:45:04 | 193:19:16:37 | 4.5 | -0.002 | 11.85 | 11.85 | |
| CAL2 | MINE | 0309 | 193:14:57:06 | 193:19:18:16 | 4.4 | -0.002 | 12.15 | 12.05 | |
| CAL2 | MINE | 0310 | 193:15:38:23 | 193:19:32:21 | 3.9 | 0.000 | 11.55 | 11.45 | |
| CAL2 | MINE | 0314 | 193:14:56:17 | 193:18:54:11 | 4.0 | 0.001 | 12.20 | 12.15 | |
| CAL2 | MINE | 0315 | 193:14:50:26 | 193:19:09:58 | 4.3 | -0.014 | 12.25 | 12.10 | |
| CAL2 | MINE | 0317 | 193:14:36:41 | 193:19:13:11 | 4.6 | -0.010 | 10.95 | 10.95 | |
| CAL2 | MINE | 0318 | 193:14:38:01 | 193:19:14:57 | 4.6 | -0.009 | 11.65 | 11.60 | |
| ** FSU Code: MOON | | | | | | | | | |
| CAL2 | MOON | A070 | 193:14:40:50 | 193:18:12:19 | 3.5 | 0.000 | 12.63 | 12.59 | |
| CAL2 | MOON | A071 | 193:14:42:21 | 193:18:13:54 | 3.5 | 0.001 | 12.74 | 12.73 | |
| CAL2 | MOON | A072 | 193:14:43:45 | 193:18:16:22 | 3.5 | -0.053 | 12.68 | 12.64 | |
| CAL2 | MOON | A073 | 193:14:45:07 | 193:18:19:09 | 3.6 | 0.001 | 12.55 | 12.53 | |
| CAL2 | MOON | A074 | 193:14:46:27 | 193:18:22:57 | 3.6 | 0.001 | 12.63 | 12.59 | |
| CAL2 | MOON | A075 | 193:14:48:08 | 193:18:25:07 | 3.6 | 0.002 | 12.63 | 12.58 | |
| CAL2 | MOON | A076 | 193:14:49:41 | 193:18:27:05 | 3.6 | -0.001 | 12.68 | 12.64 | |
| CAL2 | MOON | A077 | 193:14:51:11 | 193:18:32:21 | 3.7 | 0.000 | 12.69 | 12.68 | |
| CAL2 | MOON | A078 | 193:14:52:39 | 193:18:33:43 | 3.7 | 0.001 | 12.77 | 12.73 | |
| CAL2 | MOON | A079 | 193:14:53:57 | 193:18:36:51 | 3.7 | 0.002 | 12.67 | 12.63 | |
| CAL2 | MOON | A080 | 193:14:55:20 | 193:18:39:13 | 3.7 | 0.001 | 12.74 | 12.70 | |
| CAL2 | MOON | A081 | 193:14:56:42 | 193:18:42:48 | 3.8 | 0.001 | 12.64 | 12.62 | |
| CAL2 | MOON | A082 | 193:14:58:03 | 193:18:55:22 | 4.0 | 0.000 | 12.69 | 12.67 | |
| CAL2 | MOON | A083 | 193:14:59:24 | 193:18:58:07 | 4.0 | 0.001 | 12.64 | 12.59 | |
| CAL2 | MOON | A084 | 193:15:00:47 | 193:19:02:50 | 4.0 | 0.000 | 12.68 | 12.63 | |
| CAL2 | MOON | A085 | 193:15:02:07 | 193:19:05:32 | 4.1 | 0.001 | 12.59 | 12.54 | |
| CAL2 | MOON | A086 | 193:15:03:28 | 193:19:06:47 | 4.1 | 0.002 | 12.74 | 12.68 | |
| CAL2 | MOON | A087 | 193:15:04:52 | 193:19:08:48 | 4.1 | 0.000 | 12.72 | 12.64 | |
| CAL2 | MOON | A088 | 193:15:06:43 | 193:19:11:13 | 4.1 | -0.001 | 12.70 | 12.64 | |
| CAL2 | MOON | A089 | 193:15:08:03 | 193:19:12:54 | 4.1 | 0.000 | 12.73 | 12.69 | |
| CAL2 | MOON | A090 | 193:15:09:23 | 193:19:15:48 | 4.1 | 0.000 | 12.64 | 12.62 | |
| CAL2 | MOON | A091 | 193:15:10:48 | 193:19:17:50 | 4.1 | 0.000 | 12.67 | 12.63 | |
| CAL2 | MOON | A092 | 193:15:13:21 | 193:19:21:11 | 4.1 | -0.001 | 12.70 | 12.64 | |
| CAL2 | MOON | A093 | 193:15:14:54 | 193:19:37:43 | 4.4 | 0.000 | 12.73 | 12.67 | |
| CAL2 | MOON | A094 | 193:15:17:20 | 193:19:39:21 | 4.4 | -0.001 | 12.72 | 12.67 | |
| CAL2 | MOON | A095 | 193:15:18:41 | 193:19:43:11 | 4.4 | 0.002 | 12.67 | 12.63 | |
| CAL2 | MOON | A096 | 193:15:19:59 | 193:19:44:44 | 4.4 | 0.001 | 12.68 | 12.63 | |
| CAL2 | MOON | A097 | 193:15:21:40 | 193:19:46:07 | 4.4 | 0.001 | 12.29 | 12.27 | |
| CAL2 | MOON | A098 | 193:15:23:08 | 193:19:47:28 | 4.4 | 0.004 | 12.73 | 12.67 | |
| CAL2 | MOON | A099 | 193:15:24:20 | 193:19:48:50 | 4.4 | 0.002 | 12.70 | 12.65 | |
| CAL2 | MOON | A100 | 193:15:25:38 | 193:19:49:59 | 4.4 | 0.002 | 12.63 | 12.54 | |
| CAL2 | MOON | A101 | 193:15:26:56 | 193:19:51:20 | 4.4 | -0.001 | 12.70 | 12.64 | |
| CAL2 | MOON | A102 | 193:15:28:10 | 193:19:52:35 | 4.4 | 0.002 | 12.63 | 12.55 | |
| CAL2 | MOON | A103 | 193:15:29:24 | 193:19:54:27 | 4.4 | 0.000 | 12.73 | 12.65 | |
| CAL2 | MOON | A104 | 193:15:30:38 | 193:19:55:43 | 4.4 | 0.000 | 12.73 | 12.67 | |

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List of LithoSEIS Recordings
With Upload and Download Times

| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| CAL2 | MOON | A105 | 193:15:31:56 | 193:19:57:16 | 4.4 | 0.001 | 12.73 | 12.67 | |
| CAL2 | MOON | A183 | 193:15:33:32 | 193:19:58:50 | 4.4 | -0.001 | 12.17 | 12.13 | |
| CAL2 | MOON | A184 | 193:15:34:58 | 193:20:00:00 | 4.4 | -0.001 | 12.87 | 12.77 | |
| CAL2 | MOON | A187 | 193:15:36:23 | 193:20:01:11 | 4.4 | 0.003 | 12.67 | 12.55 | |
| ** FSU Code: GOLD | | | | | | | | | |
| CAL2 | VILA | A001 | 193:14:40:26 | 193:18:09:27 | 3.5 | 0.001 | 12.73 | 12.69 | |
| CAL2 | VILA | A002 | 193:14:42:09 | 193:18:10:21 | 3.5 | 0.001 | 12.64 | 12.63 | |
| CAL2 | VILA | A003 | 193:14:45:35 | 193:18:12:59 | 3.5 | 0.001 | 12.68 | 12.64 | |
| CAL2 | VILA | A004 | 193:14:47:06 | 193:18:18:34 | 3.5 | -0.001 | 12.73 | 12.69 | |
| CAL2 | VILA | A005 | 193:14:48:33 | 193:18:23:31 | 3.6 | 0.002 | 12.73 | 12.73 | |
| CAL2 | VILA | A006 | 193:14:49:57 | 193:18:25:29 | 3.6 | 0.001 | 12.74 | 12.70 | |
| CAL2 | VILA | A007 | 193:14:51:22 | 193:18:27:37 | 3.6 | 0.000 | 12.67 | 12.63 | |
| CAL2 | VILA | A008 | 193:14:52:51 | 193:18:37:21 | 3.7 | -0.001 | 12.67 | 12.63 | |
| CAL2 | VILA | A009 | 193:14:54:15 | 193:18:38:40 | 3.7 | 0.002 | 12.60 | 12.55 | |
| CAL2 | VILA | A010 | 193:14:56:48 | 193:18:42:20 | 3.8 | 0.001 | 12.65 | 12.63 | |
| CAL2 | VILA | A011 | 193:14:58:14 | 193:18:44:37 | 3.8 | 0.001 | 12.70 | 12.64 | |
| CAL2 | VILA | A012 | 193:14:59:34 | 193:18:41:16 | 3.7 | 0.001 | 12.67 | 12.63 | |
| CAL2 | VILA | A013 | 193:15:00:58 | 193:18:54:36 | 3.9 | 0.002 | 12.64 | 12.60 | |
| CAL2 | VILA | A014 | 193:15:02:25 | 193:18:57:30 | 3.9 | -0.001 | 12.64 | 12.59 | |
| CAL2 | VILA | A015 | 193:15:03:44 | 193:19:01:27 | 4.0 | 0.001 | 12.72 | 12.67 | |
| CAL2 | VILA | A016 | 193:15:05:03 | 193:19:05:52 | 4.0 | -0.001 | 12.64 | 12.59 | |
| CAL2 | VILA | A017 | 193:15:06:29 | 193:19:07:08 | 4.0 | 0.002 | 12.64 | 12.59 | |
| CAL2 | VILA | A019 | 193:15:07:49 | 193:19:09:19 | 4.0 | 0.000 | 11.83 | 11.83 | |
| CAL2 | VILA | A020 | 193:15:09:29 | 193:19:11:43 | 4.0 | 0.001 | 12.63 | 12.57 | |
| CAL2 | VILA | A021 | 193:15:10:56 | 193:19:13:29 | 4.0 | 0.001 | 12.27 | 12.24 | |
| CAL2 | VILA | A022 | 193:15:12:20 | 193:19:16:23 | 4.1 | 0.000 | 12.59 | 12.54 | |
| CAL2 | VILA | A023 | 193:15:13:57 | 193:19:18:20 | 4.1 | -0.002 | 12.73 | 12.68 | |
| CAL2 | VILA | A024 | 193:15:15:19 | 193:19:20:23 | 4.1 | 0.001 | 11.94 | 11.90 | |
| CAL2 | VILA | A025 | 193:15:16:42 | 193:19:21:44 | 4.1 | 0.001 | 12.18 | 12.17 | |
| CAL2 | VILA | A026 | 193:15:18:11 | 193:19:35:34 | 4.3 | 0.001 | 12.72 | 12.67 | |
| CAL2 | VILA | A027 | 193:15:19:39 | 193:19:36:47 | 4.3 | 0.000 | 12.59 | 12.52 | |
| CAL2 | VILA | A028 | 193:15:22:19 | 193:19:38:02 | 4.3 | 0.000 | 12.63 | 12.54 | |
| CAL2 | VILA | A029 | 193:15:23:43 | 193:19:39:21 | 4.3 | 0.001 | 12.64 | 12.58 | |
| CAL2 | VILA | A030 | 193:15:25:00 | 193:19:41:36 | 4.3 | 0.001 | 12.73 | 12.68 | |
| CAL2 | VILA | A031 | 193:15:26:23 | 193:19:44:08 | 4.3 | 0.002 | 12.68 | 12.62 | |
| CAL2 | VILA | A032 | 193:15:27:47 | 193:19:45:37 | 4.3 | 0.001 | 12.63 | 12.57 | |
| CAL2 | VILA | A033 | 193:15:29:08 | 193:19:47:01 | 4.3 | -0.001 | 12.29 | 12.27 | |
| CAL2 | VILA | A034 | 193:15:30:31 | 193:19:48:27 | 4.3 | -0.001 | 12.67 | 12.60 | |
| ** FSU Code: MARS | | | | | | | | | |
| CAL2 | VILA | A036 | 193:14:40:34 | 193:18:09:46 | 3.5 | 0.001 | 12.59 | 12.58 | |
| CAL2 | VILA | A037 | 193:14:42:02 | 193:18:10:33 | 3.5 | 0.002 | 12.63 | 12.59 | |
| CAL2 | VILA | A038 | 193:14:43:30 | 193:18:12:40 | 3.5 | -0.002 | 12.74 | 12.70 | |
| CAL2 | VILA | A039 | 193:14:44:59 | 193:18:13:42 | 3.5 | 0.000 | 12.73 | 12.70 | |

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List of LithoSEIS Recordings
With Upload and Download Times

| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| CAL2 | VILA | A040 | 193:14:46:33 | 193:18:17:35 | 3.5 | -0.001 | 12.73 | 12.68 | |
| CAL2 | VILA | A041 | 193:14:48:29 | 193:18:18:56 | 3.5 | 0.000 | 12.73 | 12.69 | |
| CAL2 | VILA | A042 | 193:14:50:20 | 193:18:23:14 | 3.5 | 0.001 | 12.75 | 12.73 | |
| CAL2 | VILA | A043 | 193:14:51:51 | 193:18:25:19 | 3.6 | -0.002 | 12.72 | 12.69 | |
| CAL2 | VILA | A044 | 193:14:53:25 | 193:18:27:24 | 3.6 | 0.000 | 12.74 | 12.70 | |
| CAL2 | VILA | A045 | 193:14:54:53 | 193:18:35:24 | 3.7 | -0.001 | 12.68 | 12.64 | |
| CAL2 | VILA | A046 | 193:14:56:36 | 193:18:37:03 | 3.7 | -0.001 | 12.60 | 12.55 | |
| CAL2 | VILA | A047 | 193:14:58:14 | 193:18:39:00 | 3.7 | 0.001 | 12.64 | 12.59 | |
| CAL2 | VILA | A048 | 193:14:59:49 | 193:18:42:36 | 3.7 | 0.000 | 12.64 | 12.62 | |
| CAL2 | VILA | A049 | 193:15:01:35 | 193:18:45:21 | 3.7 | 0.002 | 12.64 | 12.63 | |
| CAL2 | VILA | A050 | 193:15:03:01 | 193:18:55:09 | 3.9 | 0.001 | 12.80 | 12.75 | |
| CAL2 | VILA | A051 | 193:15:04:27 | 193:18:57:53 | 3.9 | 0.000 | 12.69 | 12.64 | |
| CAL2 | VILA | A052 | 193:15:05:54 | 193:19:02:00 | 3.9 | 0.000 | 12.64 | 12.59 | |
| CAL2 | VILA | A053 | 193:15:07:17 | 193:19:05:44 | 4.0 | 0.002 | 12.74 | 12.70 | |
| CAL2 | VILA | A054 | 193:15:08:39 | 193:19:06:59 | 4.0 | 0.001 | 12.77 | 12.73 | |
| CAL2 | VILA | A055 | 193:15:10:05 | 193:19:09:04 | 4.0 | 0.001 | 12.74 | 12.70 | |
| CAL2 | VILA | A056 | 193:15:11:31 | 193:19:11:28 | 4.0 | 0.000 | 12.68 | 12.68 | |
| CAL2 | VILA | A057 | 193:15:13:12 | 193:19:13:14 | 4.0 | 0.001 | 12.63 | 12.57 | |
| CAL2 | VILA | A058 | 193:15:15:24 | 193:19:16:11 | 4.0 | 0.001 | 12.75 | 12.68 | |
| CAL2 | VILA | A059 | 193:15:16:46 | 193:19:18:07 | 4.0 | -0.001 | 12.64 | 12.60 | |
| CAL2 | VILA | A060 | 193:15:18:14 | 193:19:21:32 | 4.1 | 0.001 | 12.67 | 12.62 | |
| CAL2 | VILA | A061 | 193:15:19:49 | 193:19:36:22 | 4.3 | 0.000 | 12.69 | 12.63 | |
| CAL2 | VILA | A062 | 193:15:21:47 | 193:19:37:43 | 4.3 | 0.000 | 12.64 | 12.60 | |
| CAL2 | VILA | A063 | 193:15:23:24 | 193:19:39:21 | 4.3 | 0.001 | 12.64 | 12.58 | |
| CAL2 | VILA | A064 | 193:15:24:45 | 193:19:40:35 | 4.3 | 0.000 | 12.63 | 12.57 | |
| CAL2 | VILA | A065 | 193:15:26:12 | 193:19:43:27 | 4.3 | 0.000 | 12.29 | 12.29 | |
| CAL2 | VILA | A066 | 193:15:27:38 | 193:19:44:40 | 4.3 | 0.000 | 12.70 | 12.64 | |
| CAL2 | VILA | A067 | 193:15:29:04 | 193:19:45:56 | 4.3 | 0.000 | 12.67 | 12.47 | |
| CAL2 | VILA | A068 | 193:15:30:27 | 193:19:47:17 | 4.3 | 0.001 | 12.42 | 12.39 | |
| CAL2 | VILA | A069 | 193:15:31:49 | 193:19:48:32 | 4.3 | 0.002 | 12.63 | 12.55 | |
| ** FSU Code: GOLD | | | | | | | | | |
| CAL2 | VILA | A185 | 193:15:33:49 | 193:19:57:29 | 4.4 | -0.001 | 12.63 | 12.43 | |
| ** FSU Code: MARS | | | | | | | | | |
| CAL2 | VILA | A186 | 193:15:34:20 | 193:19:49:57 | 4.3 | -0.002 | 12.84 | 12.73 | |
| ** FSU Code: GOLD | | | | | | | | | |
| CAL2 | VILA | A188 | 193:15:36:05 | 193:19:58:26 | 4.4 | 0.007 | 11.05 | 10.98 | |
| ** FSU Code: MARS | | | | | | | | | |
| CAL2 | VILA | A189 | 193:15:35:40 | 193:19:51:08 | 4.3 | 0.001 | 12.77 | 12.67 | |
| ** FSU Code: DUST | | | | | | | | | |
| CLAY | DUST | A183 | 191:15:27:46 | 191:15:37:55 | 0.2 | 0.000 | 12.87 | 12.85 | |

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List of LithoSEIS Recordings
With Upload and Download Times

| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| ** FSU Code: MINE | | | | | | | | | |
| DEP1 | 1135 | 0288 | 195:12:45:46 | 198:13:41:42 | 72.9 | 0.010 | 11.05 | 13.85 | |
| DEP1 | 1136 | 0315 | 195:12:31:42 | 198:13:03:50 | 72.5 | -0.239 | 12.00 | 13.95 | |
| DEP1 | 1137 | 0287 | 195:12:32:42 | 198:13:11:45 | 72.7 | 0.007 | 11.45 | 13.65 | |
| DEP1 | 1138 | 0281 | 195:12:33:59 | 198:13:19:16 | 72.8 | 0.025 | 11.45 | 13.60 | |
| DEP1 | 1139 | 0310 | 195:12:14:25 | 198:12:05:30 | 71.9 | -0.011 | 11.40 | 14.25 | |
| DEP1 | 1140 | 0224 | 195:11:47:26 | 198:04:09:14 | 64.4 | -0.009 | 10.90 | 10.25 | |
| DEP1 | 1141 | 0262 | 195:11:49:07 | 198:04:14:52 | 64.4 | -0.012 | 11.40 | 13.85 | |
| DEP1 | 1142 | 0252 | 195:11:50:38 | 198:04:20:39 | 64.5 | -0.034 | 11.55 | 14.30 | |
| DEP1 | 1143 | 0073 | 195:12:44:27 | 198:05:44:43 | 65.0 | 0.045 | 10.95 | 13.85 | |
| DEP1 | 1144 | 0304 | 195:12:38:44 | 198:13:34:55 | 72.9 | -0.057 | 11.45 | 14.10 | |
| DEP1 | 1145 | 0271 | 195:11:46:13 | 198:04:03:38 | 64.3 | 0.170 | 11.50 | 13.80 | |
| DEP1 | 1146 | 0075 | 195:12:59:31 | 198:05:50:59 | 64.9 | -0.095 | 10.85 | 13.60 | |
| DEP1 | 1147 | 0314 | 195:12:58:24 | 198:14:25:01 | 73.4 | 0.001 | 11.95 | 14.10 | |
| DEP1 | 1148 | 0286 | 195:12:57:33 | 198:14:12:29 | 73.2 | 0.004 | 11.20 | 13.65 | |
| DEP1 | 1149 | 0272 | 195:12:54:51 | 198:13:57:09 | 73.0 | 0.024 | 11.35 | 13.80 | |
| DEP1 | 1150 | 0273 | 195:13:02:58 | 198:14:46:30 | 73.7 | -0.001 | 11.50 | 13.65 | |
| DEP1 | 1151 | 0305 | 195:12:15:22 | 198:12:12:12 | 71.9 | -0.009 | 12.00 | 14.20 | |
| DEP1 | 1152 | 0275 | 195:12:37:01 | 198:13:26:48 | 72.8 | -0.017 | 11.40 | 13.80 | |
| DEP1 | 1153 | 0317 | 195:12:25:35 | 198:12:48:05 | 72.4 | -0.153 | 10.90 | 14.10 | |
| DEP1 | 1154 | 0306 | 195:12:53:46 | 198:13:50:31 | 72.9 | -0.009 | 11.95 | 14.15 | |
| DEP1 | 1155 | 0225 | 195:13:00:41 | 198:14:31:42 | 73.5 | 0.040 | 11.15 | 13.65 | |
| DEP1 | 1156 | 0263 | 195:13:01:56 | 198:14:40:00 | 73.6 | -0.003 | 11.05 | 13.40 | |
| DEP1 | 1157 | 0280 | 195:12:27:42 | 198:12:57:04 | 72.5 | 0.014 | 11.70 | 13.70 | |
| DEP1 | 1158 | 0318 | 195:12:21:32 | 198:12:33:07 | 72.2 | -0.135 | 11.55 | 14.50 | |
| DEP1 | 1159 | 0308 | 195:12:20:30 | 198:12:40:08 | 72.3 | -0.035 | 11.55 | 13.70 | |
| DEP1 | 1160 | 0309 | 195:12:19:27 | 198:12:26:13 | 72.1 | -0.033 | 11.85 | 14.00 | |
| DEP1 | 1161 | 0285 | 195:12:17:04 | 198:12:18:36 | 72.0 | -0.031 | 11.55 | 13.60 | |
| DEP1 | 1162 | 0257 | 195:12:00:57 | 198:04:43:43 | 64.7 | -0.020 | 11.15 | 13.65 | |
| DEP1 | 1163 | 0254 | 195:12:00:04 | 198:04:37:56 | 64.6 | -0.001 | 11.05 | 13.75 | |
| DEP1 | 1164 | 0278 | 195:11:57:16 | 198:04:32:11 | 64.6 | 0.018 | 11.00 | 13.80 | |
| DEP1 | 1165 | 0277 | 195:11:56:25 | 198:04:26:31 | 64.5 | -0.037 | 11.45 | 13.65 | |
| DEP1 | 1166 | 0274 | 195:11:44:13 | 198:03:57:59 | 64.2 | -0.005 | 11.45 | 13.70 | |
| DEP1 | 1167 | 0218 | 195:11:42:11 | 198:03:45:50 | 64.1 | -0.077 | 11.05 | 10.50 | |
| DEP1 | 1168 | 0219 | 195:11:41:19 | 198:03:37:32 | 63.9 | 0.019 | 10.95 | 10.30 | |
| DEP1 | 1169 | 0258 | 195:11:42:58 | 198:03:52:23 | 64.2 | 0.010 | 11.45 | 13.60 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP1 | 1320 | A057 | 194:20:29:50 | 198:15:13:21 | 90.7 | 0.015 | 12.47 | 11.93 | |
| DEP1 | 1321 | A058 | 194:20:31:13 | 198:15:18:08 | 90.8 | 0.012 | 12.60 | 12.03 | |
| ** FSU Code: MOON | | | | | | | | | |
| DEP1 | 1322 | A076 | 194:20:08:37 | 198:13:24:19 | 89.3 | -0.030 | 12.54 | 11.97 | |
| DEP1 | 1323 | A085 | 194:20:21:28 | 198:14:12:28 | 89.8 | 0.032 | 12.44 | 11.90 | |

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With Upload and Download Times

| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| DEP1 | 1324 | A084 | 194:20:20:09 | 198:14:07:33 | 89.8 | 0.008 | 12.54 | 11.98 | |
| DEP1 | 1325 | A088 | 194:20:25:32 | 198:14:26:24 | 90.0 | 0.000 | 12.55 | 12.03 | |
| DEP1 | 1326 | A087 | 194:20:24:08 | 198:14:21:45 | 90.0 | 0.013 | 12.57 | 12.02 | |
| DEP1 | 1327 | A086 | 194:20:22:46 | 198:14:17:01 | 89.9 | 0.050 | 12.59 | 12.03 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP1 | 1328 | A049 | 194:20:17:22 | 198:14:07:59 | 89.8 | 0.041 | 12.52 | 11.97 | |
| DEP1 | 1329 | A050 | 194:20:18:41 | 198:14:38:40 | 90.3 | 0.010 | 12.64 | 12.10 | |
| DEP1 | 1330 | A051 | 194:20:20:10 | 198:14:44:32 | 90.4 | 0.017 | 12.54 | 11.99 | |
| ** FSU Code: MOON | | | | | | | | | |
| DEP1 | 1331 | A077 | 194:20:10:21 | 198:13:29:17 | 89.3 | 0.005 | 12.57 | 12.03 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP1 | 1332 | A052 | 194:20:21:29 | 198:14:49:27 | 90.5 | 0.023 | 12.49 | 11.90 | |
| DEP1 | 1333 | A041 | 194:20:05:54 | 198:13:23:46 | 89.3 | 0.002 | 12.58 | 12.00 | |
| DEP1 | 1334 | A042 | 194:20:07:26 | 198:13:29:03 | 89.4 | 0.019 | 12.60 | 12.03 | |
| DEP1 | 1335 | A043 | 194:20:08:50 | 198:13:35:33 | 89.4 | -0.037 | 12.57 | 12.03 | |
| ** FSU Code: MOON | | | | | | | | | |
| DEP1 | 1336 | A078 | 194:20:11:43 | 198:13:38:39 | 89.4 | 0.025 | 12.63 | 12.07 | |
| DEP1 | 1337 | A079 | 194:20:13:11 | 198:13:43:38 | 89.5 | 0.035 | 12.53 | 11.97 | |
| DEP1 | 1338 | A080 | 194:20:14:32 | 198:13:48:12 | 89.6 | 0.018 | 12.60 | 12.05 | |
| DEP1 | 1339 | A081 | 194:20:15:55 | 198:13:52:20 | 89.6 | 0.020 | 12.52 | 11.98 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP1 | 1340 | A062 | 194:20:37:48 | 198:15:38:14 | 91.0 | 0.008 | 12.49 | 11.97 | |
| DEP1 | 1341 | A061 | 194:20:35:49 | 198:15:33:25 | 91.0 | 0.008 | 12.54 | 12.00 | |
| DEP1 | 1342 | A060 | 194:20:34:28 | 198:15:28:49 | 90.9 | 0.025 | 12.53 | 11.94 | |
| DEP1 | 1343 | A059 | 194:20:33:02 | 198:15:23:21 | 90.8 | -0.011 | 12.50 | 11.97 | |
| DEP1 | 1344 | A044 | 194:20:10:14 | 198:13:40:27 | 89.5 | 0.000 | 12.59 | 12.02 | |
| ** FSU Code: MOON | | | | | | | | | |
| DEP1 | 1345 | A083 | 194:20:18:44 | 198:14:01:51 | 89.7 | 0.027 | 12.50 | 11.97 | |
| DEP1 | 1346 | A082 | 194:20:17:23 | 198:13:57:09 | 89.7 | 0.015 | 12.55 | 12.00 | |
| ** FSU Code: GOLD | | | | | | | | | |
| DEP1 | 1347 | A005 | 194:20:06:47 | 198:13:36:06 | 89.5 | 0.047 | 12.59 | 12.03 | |
| DEP1 | 1348 | A006 | 194:20:08:12 | 198:13:40:02 | 89.5 | 0.030 | 12.59 | 12.03 | |
| DEP1 | 1349 | A007 | 194:20:09:41 | 198:13:43:48 | 89.6 | 0.012 | 12.53 | 11.94 | |
| DEP1 | 1350 | A008 | 194:20:11:07 | 198:13:50:20 | 89.7 | 0.004 | 12.53 | 11.94 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP1 | 1351 | A045 | 194:20:11:49 | 198:13:46:06 | 89.6 | -0.025 | 12.54 | 11.99 | |
| DEP1 | 1352 | A056 | 194:20:27:22 | 198:15:08:21 | 90.7 | 0.014 | 12.50 | 11.99 | |

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| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| DEP1 | 1353 | A055 | 194:20:25:41 | 198:15:03:19 | 90.6 | 0.025 | 12.60 | 12.04 | |
| DEP1 | 1354 | A054 | 194:20:24:15 | 198:14:58:48 | 90.6 | 0.025 | 12.63 | 12.10 | |
| DEP1 | 1355 | A053 | 194:20:22:56 | 198:14:54:02 | 90.5 | 0.050 | 12.62 | 12.07 | |
| DEP1 | 1356 | A046 | 194:20:13:14 | 198:13:51:12 | 89.6 | -0.010 | 12.44 | 11.87 | |
| DEP1 | 1357 | A047 | 194:20:14:36 | 198:13:56:32 | 89.7 | 0.018 | 12.47 | 11.77 | |
| DEP1 | 1358 | A048 | 194:20:15:58 | 198:14:02:57 | 89.8 | 0.017 | 12.49 | 11.97 | |
| ** FSU Code: GOLD | | | | | | | | | |
| DEP1 | 1359 | A013 | 194:20:18:22 | 198:13:58:09 | 89.7 | 0.044 | 12.49 | 11.95 | |
| DEP1 | 1360 | A014 | 194:20:19:54 | 198:14:02:12 | 89.7 | -0.007 | 12.49 | 11.94 | |
| DEP1 | 1361 | A015 | 194:20:21:21 | 198:14:06:19 | 89.7 | 0.035 | 12.57 | 12.02 | |
| DEP1 | 1362 | A016 | 194:20:22:53 | 198:14:48:35 | 90.4 | -0.015 | 12.52 | 11.97 | |
| DEP1 | 1363 | A024 | 194:20:33:43 | 198:15:21:48 | 90.8 | 0.031 | 11.89 | 11.60 | |
| DEP1 | 1364 | A023 | 194:20:32:06 | 198:15:17:51 | 90.8 | -0.049 | 12.58 | 12.04 | |
| DEP1 | 1365 | A022 | 194:20:30:24 | 198:15:10:58 | 90.7 | 0.013 | 12.44 | 11.88 | |
| DEP1 | 1366 | A021 | 194:20:28:51 | 198:15:06:19 | 90.6 | 0.021 | 12.23 | 11.82 | |
| DEP1 | 1367 | A020 | 194:20:27:22 | 198:15:02:11 | 90.6 | 0.035 | 12.47 | 11.94 | |
| DEP1 | 1368 | A019 | 194:20:25:47 | 198:14:57:43 | 90.5 | 0.006 | 11.83 | 11.60 | |
| DEP1 | 1369 | A017 | 194:20:24:19 | 198:14:52:47 | 90.5 | 0.044 | 12.49 | 11.97 | |
| DEP1 | 1370 | A009 | 194:20:12:35 | 198:13:54:12 | 89.7 | 0.044 | 12.44 | 11.90 | |
| DEP1 | 1371 | A010 | 194:20:14:02 | 198:15:29:47 | 91.3 | 0.022 | 12.53 | 11.99 | |
| DEP1 | 1372 | A011 | 194:20:15:29 | 198:15:33:42 | 91.3 | 0.019 | 12.57 | 12.02 | |
| DEP1 | 1374 | A001 | 194:20:00:52 | 198:13:19:39 | 89.3 | 0.009 | 12.59 | 12.00 | |
| DEP1 | 1375 | A002 | 194:20:02:29 | 198:13:24:17 | 89.4 | 0.037 | 12.53 | 11.94 | |
| DEP1 | 1376 | A003 | 194:20:03:56 | 198:13:28:05 | 89.4 | 0.029 | 12.54 | 11.98 | |
| DEP1 | 1377 | A004 | 194:20:05:24 | 198:13:32:06 | 89.4 | -0.013 | 12.58 | 12.03 | |
| DEP1 | 1378 | A025 | 194:20:35:11 | 198:15:25:52 | 90.8 | 0.027 | 12.14 | 11.77 | |
| ** FSU Code: DUST | | | | | | | | | |
| DEP1 | 1379 | A161 | 194:20:18:48 | 198:16:54:53 | 92.6 | -0.041 | 12.54 | 12.02 | |
| DEP1 | 1380 | A163 | 194:20:20:13 | 198:16:59:02 | 92.6 | -0.010 | 12.50 | 11.77 | |
| DEP1 | 1381 | A164 | 194:20:21:42 | 198:17:03:21 | 92.7 | 0.015 | 12.49 | 11.74 | |
| DEP1 | 1382 | A165 | 194:20:23:12 | 198:17:08:14 | 92.8 | 0.034 | 12.38 | 11.63 | |
| DEP1 | 1383 | A179 | 194:20:49:41 | 198:20:47:46 | 96.0 | -0.015 | 12.67 | 0.72 | |
| DEP1 | 1384 | A180 | 194:20:51:24 | 198:20:51:58 | 96.0 | 0.032 | 12.50 | 11.73 | |
| DEP1 | 1385 | A181 | 194:20:52:53 | 198:20:56:12 | 96.1 | 0.023 | 12.63 | 11.87 | |
| DEP1 | 1386 | A182 | 194:20:54:19 | 198:21:00:36 | 96.1 | 0.017 | 12.62 | 11.49 | |
| ** FSU Code: CLAY | | | | | | | | | |
| DEP1 | 1387 | A134 | 194:20:48:31 | 198:16:53:49 | 92.1 | 0.043 | 12.40 | 11.84 | |
| DEP1 | 1388 | A135 | 194:20:50:03 | 198:16:59:18 | 92.2 | 0.011 | 12.60 | 12.03 | |
| DEP1 | 1389 | A136 | 194:20:51:59 | 198:17:04:08 | 92.2 | 0.002 | 12.49 | 11.94 | |
| ** FSU Code: DUST | | | | | | | | | |
| DEP1 | 1390 | A160 | 194:20:17:12 | 198:16:49:42 | 92.5 | -0.003 | 12.48 | 11.73 | |

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| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| DEP1 | 1391 | A185 | 194:20:58:29 | 198:21:14:04 | 96.3 | -0.012 | 12.25 | 11.27 | |
| DEP1 | 1392 | A186 | 194:20:59:51 | 198:21:18:40 | 96.3 | -0.018 | 12.59 | 11.83 | |
| DEP1 | 1393 | A187 | 194:21:01:15 | 198:21:24:01 | 96.4 | 0.039 | 12.45 | 11.69 | |
| DEP1 | 1394 | A166 | 194:20:36:59 | 198:17:12:20 | 92.6 | -0.002 | 11.57 | 10.95 | |
| DEP1 | 1395 | A175 | 194:20:45:00 | 198:17:46:07 | 93.0 | 0.020 | 12.57 | 11.79 | |
| DEP1 | 1396 | A177 | 194:20:46:45 | 198:20:37:32 | 95.8 | 0.004 | 12.63 | 11.84 | |
| DEP1 | 1397 | A178 | 194:20:48:12 | 198:20:42:17 | 95.9 | -0.017 | 12.03 | 11.63 | |
| DEP1 | 1398 | A172 | 194:20:41:21 | 198:17:35:38 | 92.9 | -0.018 | 11.99 | 11.59 | |
| DEP1 | 1399 | A174 | 194:20:43:31 | 198:17:41:06 | 93.0 | 0.042 | 12.33 | 11.20 | |
| DEP1 | 1400 | A183 | 194:20:55:43 | 198:21:05:01 | 96.2 | 0.000 | 12.15 | 11.69 | |
| DEP1 | 1401 | A184 | 194:20:57:05 | 198:21:09:50 | 96.2 | -0.024 | 12.63 | 12.05 | |
| ** FSU Code: CLAY | | | | | | | | | |
| DEP1 | 1402 | A126 | 194:20:34:25 | 198:16:48:12 | 92.2 | 0.031 | 12.50 | 11.95 | |
| ** FSU Code: DUST | | | | | | | | | |
| DEP1 | 1403 | A171 | 194:20:39:55 | 198:17:30:34 | 92.8 | -0.006 | 12.27 | 11.87 | |
| DEP1 | 1404 | A170 | 194:20:38:30 | 198:17:25:14 | 92.8 | -0.004 | 12.60 | 11.78 | |
| DEP1 | 1405 | A169 | 194:20:35:28 | 198:17:20:43 | 92.8 | 0.042 | 12.63 | 11.83 | |
| DEP1 | 1406 | A168 | 194:20:34:03 | 198:17:16:26 | 92.7 | -0.022 | 12.63 | 11.84 | |
| ** FSU Code: CLAY | | | | | | | | | |
| DEP1 | 1407 | A129 | 194:20:39:55 | 198:02:41:17 | 78.0 | 0.034 | 12.47 | 11.94 | |
| DEP1 | 1408 | A128 | 194:20:38:20 | 198:02:38:20 | 78.0 | -0.003 | 12.45 | 11.95 | |
| DEP1 | 1409 | A127 | 194:20:35:54 | 198:01:55:17 | 77.3 | 0.025 | 12.52 | 12.03 | |
| DEP1 | 1410 | A117 | 194:20:21:48 | 198:01:37:40 | 77.3 | 0.026 | 12.49 | 12.03 | |
| DEP1 | 1411 | A119 | 194:20:23:28 | 198:01:39:53 | 77.3 | -0.027 | 12.48 | 12.00 | |
| DEP1 | 1412 | A120 | 194:20:25:28 | 198:01:42:06 | 77.3 | 0.018 | 12.49 | 12.00 | |
| DEP1 | 1413 | A121 | 194:20:27:00 | 198:01:44:14 | 77.3 | -0.010 | 12.47 | 11.98 | |
| ** FSU Code: MOON | | | | | | | | | |
| DEP1 | 1414 | A089 | 194:20:26:53 | 198:01:22:58 | 76.9 | -0.009 | 12.59 | 11.73 | |
| DEP1 | 1415 | A090 | 194:20:28:24 | 198:01:25:36 | 77.0 | 0.004 | 12.49 | 12.04 | |
| DEP1 | 1416 | A091 | 194:20:29:45 | 198:01:28:03 | 77.0 | 0.000 | 12.53 | 12.04 | |
| DEP1 | 1417 | A092 | 194:20:31:23 | 198:01:31:12 | 77.0 | 0.000 | 12.54 | 12.04 | |
| ** FSU Code: CLAY | | | | | | | | | |
| DEP1 | 1418 | A130 | 194:20:41:46 | 198:02:44:07 | 78.0 | 0.037 | 12.47 | 11.98 | |
| DEP1 | 1419 | A131 | 194:20:43:50 | 198:02:46:51 | 78.1 | 0.029 | 12.55 | 12.07 | |
| DEP1 | 1420 | A132 | 194:20:45:34 | 198:02:49:37 | 78.1 | 0.000 | 12.49 | 12.00 | |
| DEP1 | 1421 | A133 | 194:20:47:03 | 198:02:52:37 | 78.1 | 0.013 | 12.53 | 12.02 | |
| ** FSU Code: MOON | | | | | | | | | |
| DEP1 | 1422 | A093 | 194:20:32:53 | 198:01:33:39 | 77.0 | -0.005 | 12.58 | 12.10 | |
| DEP1 | 1423 | A094 | 194:20:34:14 | 198:01:36:06 | 77.0 | -0.025 | 12.54 | 12.10 | |

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List of LithoSEIS Recordings
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| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| DEP1 | 1424 | A095 | 194:20:35:37 | 198:01:39:24 | 77.1 | 0.033 | 12.53 | 12.03 | |
| DEP1 | 1425 | A096 | 194:20:36:59 | 198:01:43:12 | 77.1 | 0.042 | 12.53 | 12.04 | |
| ** FSU Code: CLAY | | | | | | | | | |
| DEP1 | 1426 | A113 | 194:20:15:58 | 198:01:28:51 | 77.2 | 0.015 | 12.53 | 12.04 | |
| DEP1 | 1427 | A114 | 194:20:17:25 | 198:01:31:07 | 77.2 | 0.024 | 12.49 | 12.03 | |
| DEP1 | 1428 | A115 | 194:20:18:54 | 198:01:33:15 | 77.2 | 0.016 | 12.48 | 12.00 | |
| DEP1 | 1429 | A116 | 194:20:20:24 | 198:01:35:28 | 77.3 | 0.019 | 12.47 | 11.99 | |
| ** FSU Code: MOON | | | | | | | | | |
| DEP1 | 1430 | A097 | 194:20:38:23 | 198:01:45:38 | 77.1 | 0.023 | 12.24 | 11.90 | |
| DEP1 | 1431 | A098 | 194:20:39:44 | 198:01:48:10 | 77.1 | 0.040 | 12.58 | 12.10 | |
| ** FSU Code: CLAY | | | | | | | | | |
| DEP1 | 1432 | A111 | 194:20:13:08 | 198:01:23:46 | 77.2 | 0.014 | 12.63 | 12.13 | |
| DEP1 | 1433 | A112 | 194:20:14:33 | 198:01:26:29 | 77.2 | -0.007 | 12.55 | 12.04 | |
| DEP1 | 1434 | A122 | 194:20:28:26 | 198:01:46:25 | 77.3 | -0.003 | 12.29 | 11.55 | |
| DEP1 | 1435 | A123 | 194:20:29:54 | 198:01:48:35 | 77.3 | 0.028 | 12.60 | 12.10 | |
| DEP1 | 1436 | A124 | 194:20:31:29 | 198:01:50:49 | 77.3 | 0.027 | 12.47 | 11.97 | |
| DEP1 | 1437 | A125 | 194:20:32:57 | 198:01:53:07 | 77.3 | 0.050 | 12.53 | 12.03 | |
| ** FSU Code: MOON | | | | | | | | | |
| DEP1 | 1585 | A100 | 195:15:23:35 | 198:00:16:39 | 56.9 | 0.026 | 12.14 | 11.90 | |
| DEP1 | 1586 | A101 | 195:15:25:02 | 198:00:20:24 | 56.9 | -0.009 | 12.24 | 11.99 | |
| DEP1 | 1587 | A103 | 195:15:28:20 | 198:00:27:32 | 57.0 | -0.020 | 12.24 | 11.98 | |
| DEP1 | 1588 | A102 | 195:15:26:48 | 198:00:23:30 | 56.9 | 0.030 | 12.14 | 11.99 | |
| DEP1 | 1589 | A104 | 195:15:29:45 | 198:00:30:20 | 57.0 | 0.001 | 12.24 | 12.02 | |
| DEP1 | 1590 | A105 | 195:15:31:11 | 198:00:33:29 | 57.0 | 0.013 | 12.24 | 12.00 | |
| DEP1 | 1591 | A106 | 195:15:32:35 | 198:00:36:12 | 57.1 | -0.011 | 11.74 | 11.44 | |
| DEP1 | 1592 | A107 | 195:15:35:23 | 198:00:41:09 | 57.1 | 0.009 | 12.22 | 11.94 | |
| DEP1 | 1593 | A099 | 195:15:22:03 | 198:00:13:49 | 56.9 | 0.025 | 12.24 | 11.99 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP1 | 1594 | A075 | 195:15:38:54 | 198:00:49:35 | 57.2 | 0.026 | 12.13 | 11.87 | |
| DEP1 | 1595 | A074 | 195:15:37:00 | 198:00:46:46 | 57.2 | 0.021 | 12.13 | 11.87 | |
| DEP1 | 1596 | A073 | 195:15:35:15 | 198:00:43:48 | 57.1 | 0.020 | 12.10 | 11.84 | |
| ** FSU Code: CLAY | | | | | | | | | |
| DEP1 | 1597 | A137 | 195:15:41:22 | 198:00:13:06 | 56.5 | 0.025 | 12.23 | 11.97 | |
| ** FSU Code: MOON | | | | | | | | | |
| DEP1 | 1598 | A110 | 195:15:39:53 | 198:00:49:58 | 57.2 | 0.021 | 12.20 | 11.94 | |
| DEP1 | 1599 | A109 | 195:15:38:19 | 198:00:47:16 | 57.1 | 0.003 | 12.19 | 11.78 | |
| DEP1 | 1600 | A108 | 195:15:36:51 | 198:00:44:07 | 57.1 | 0.019 | 12.24 | 12.00 | |

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| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| ** FSU Code: MARS | | | | | | | | | |
| DEP1 | 1601 | A063 | 195:15:16:53 | 197:23:44:47 | 56.5 | 0.006 | 12.17 | 11.90 | |
| DEP1 | 1602 | A064 | 195:15:18:32 | 198:00:14:35 | 56.9 | 0.005 | 12.15 | 11.90 | |
| ** FSU Code: GOLD | | | | | | | | | |
| DEP1 | 1603 | A027 | 195:15:16:52 | 198:00:19:33 | 57.0 | 0.012 | 12.42 | 11.82 | |
| DEP1 | 1604 | A026 | 195:15:15:25 | 198:00:17:25 | 57.0 | 0.023 | 12.60 | 12.19 | |
| DEP1 | 1605 | A028 | 195:15:18:18 | 198:00:22:59 | 57.1 | 0.009 | 12.48 | 12.03 | |
| DEP1 | 1606 | A029 | 195:15:20:09 | 198:00:26:08 | 57.1 | 0.022 | 12.49 | 12.10 | |
| DEP1 | 1607 | A030 | 195:15:21:31 | 198:00:28:34 | 57.1 | 0.004 | 12.59 | 12.19 | |
| DEP1 | 1608 | A031 | 195:15:22:53 | 198:00:30:48 | 57.1 | 0.039 | 12.55 | 12.13 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP1 | 1609 | A068 | 195:15:26:26 | 198:00:26:52 | 57.0 | 0.019 | 12.08 | 11.89 | |
| DEP1 | 1610 | A067 | 195:15:24:37 | 198:00:23:14 | 57.0 | 0.003 | 11.78 | 11.87 | |
| DEP1 | 1611 | A066 | 195:15:22:57 | 198:00:20:09 | 57.0 | -0.004 | 12.23 | 11.97 | |
| DEP1 | 1612 | A065 | 195:15:20:50 | 198:00:17:43 | 56.9 | 0.017 | 12.03 | 11.84 | |
| ** FSU Code: GOLD | | | | | | | | | |
| DEP1 | 1613 | A036 | 195:15:28:37 | 198:00:55:46 | 57.5 | 0.022 | 12.49 | 12.05 | |
| DEP1 | 1614 | A034 | 195:15:27:09 | 198:00:53:27 | 57.4 | -0.009 | 12.53 | 12.10 | |
| DEP1 | 1615 | A033 | 195:15:25:45 | 198:00:50:15 | 57.4 | -0.007 | 12.19 | 11.75 | |
| DEP1 | 1616 | A032 | 195:15:24:20 | 198:00:33:47 | 57.2 | 0.022 | 12.49 | 12.08 | |
| DEP1 | 1617 | A037 | 195:15:30:00 | 198:00:59:06 | 57.5 | 0.027 | 12.49 | 12.03 | |
| DEP1 | 1618 | A038 | 195:15:31:24 | 198:01:01:20 | 57.5 | -0.017 | 12.59 | 12.17 | |
| DEP1 | 1619 | A039 | 195:15:32:47 | 198:01:04:35 | 57.5 | 0.008 | 12.59 | 12.17 | |
| DEP1 | 1620 | A040 | 195:15:34:31 | 198:01:07:35 | 57.6 | -0.019 | 12.58 | 12.14 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP1 | 1621 | A072 | 195:15:32:43 | 198:00:40:49 | 57.1 | -0.852 | 12.20 | 11.94 | |
| DEP1 | 1622 | A071 | 195:15:31:14 | 198:00:35:54 | 57.1 | 0.017 | 12.27 | 12.03 | |
| DEP1 | 1623 | A070 | 195:15:29:41 | 198:00:33:10 | 57.1 | 0.004 | 12.14 | 11.88 | |
| DEP1 | 1624 | A069 | 195:15:27:58 | 198:00:29:55 | 57.0 | 0.016 | 12.13 | 11.84 | |
| ** FSU Code: DUST | | | | | | | | | |
| DEP1 | 2021 | A148 | 196:10:51:11 | 198:01:28:07 | 38.6 | -0.007 | 12.03 | 11.64 | |
| DEP1 | 2026 | A149 | 196:10:52:57 | 198:01:30:43 | 38.6 | 0.007 | 12.03 | 11.69 | |
| DEP1 | 2031 | A150 | 196:10:55:22 | 198:01:33:10 | 38.6 | 0.002 | 12.10 | 11.73 | |
| DEP1 | 2036 | A138 | 196:10:40:45 | 198:01:12:37 | 38.5 | 0.011 | 12.00 | 11.90 | |
| DEP1 | 2041 | A139 | 196:10:42:22 | 198:01:15:38 | 38.6 | 0.004 | 11.95 | 11.87 | |
| DEP1 | 2046 | A140 | 196:10:43:50 | 198:01:20:19 | 38.6 | 0.015 | 12.02 | 11.93 | |
| DEP1 | 2051 | A141 | 196:10:45:19 | 198:01:23:01 | 38.6 | -0.016 | 12.03 | 11.95 | |
| DEP1 | 2055 | A155 | 196:11:03:52 | 198:01:47:13 | 38.7 | -0.005 | 12.28 | 11.94 | |
| DEP1 | 2060 | A152 | 196:10:59:09 | 198:01:39:37 | 38.7 | -0.002 | 11.83 | 11.57 | |

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| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| DEP1 | 2065 | A153 | 196:11:00:56 | 198:01:42:05 | 38.7 | 0.004 | 12.07 | 11.73 | |
| DEP1 | 2069 | A154 | 196:11:02:28 | 198:01:44:30 | 38.7 | 0.015 | 12.00 | 11.64 | |
| DEP1 | 2073 | A151 | 196:10:57:13 | 198:01:35:51 | 38.6 | 0.007 | 11.98 | 11.57 | |
| DEP1 | 3006 | A146 | 196:10:46:55 | 198:01:25:37 | 38.6 | 0.001 | 12.03 | 11.73 | |
| ** FSU Code: MINE | | | | | | | | | |
| DEP1 | VILA | 0307 | 196:22:22:53 | 197:05:42:53 | 7.3 | -0.001 | 14.00 | 14.00 | |
| ** FSU Code: DUST | | | | | | | | | |
| DEP1 | VILA | A147 | 196:10:49:44 | 197:05:31:25 | 18.7 | -0.002 | 11.83 | 11.64 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP2 | 0209 | A041 | 198:18:14:13 | 202:17:54:51 | 95.7 | 0.000 | 12.00 | 11.72 | |
| DEP2 | 0212 | A072 | 198:19:16:32 | 202:17:48:59 | 94.5 | -1.409 | 11.89 | 11.65 | |
| ** FSU Code: CLAY | | | | | | | | | |
| DEP2 | 2001 | A168 | 199:02:59:18 | 202:01:24:00 | 70.4 | -0.015 | 11.83 | 11.68 | |
| DEP2 | 2002 | A169 | 199:03:00:55 | 202:01:30:22 | 70.5 | 0.072 | 11.82 | 11.67 | |
| DEP2 | 2003 | A166 | 199:02:57:49 | 202:01:19:03 | 70.4 | 0.001 | 11.93 | 11.14 | |
| DEP2 | 2004 | A165 | 199:02:56:18 | 202:01:15:32 | 70.3 | 0.024 | 11.62 | 11.48 | |
| DEP2 | 2005 | A164 | 199:02:54:44 | 202:01:11:53 | 70.3 | 0.010 | 11.74 | 11.62 | |
| DEP2 | 2006 | A163 | 199:02:53:11 | 202:01:08:46 | 70.3 | 0.006 | 11.74 | 11.63 | |
| DEP2 | 2007 | A161 | 199:02:51:42 | 202:01:02:03 | 70.2 | -0.033 | 12.00 | 11.83 | |
| DEP2 | 2008 | A160 | 199:02:50:10 | 202:00:58:08 | 70.1 | -0.006 | 11.73 | 11.60 | |
| DEP2 | 2010 | A172 | 199:03:05:58 | 202:01:55:15 | 70.8 | -0.026 | 11.60 | 11.52 | |
| DEP2 | 2011 | A171 | 199:03:04:15 | 202:01:38:10 | 70.6 | 0.009 | 11.84 | 11.82 | |
| DEP2 | 2012 | A170 | 199:03:02:27 | 202:01:35:03 | 70.5 | -0.012 | 11.78 | 11.60 | |
| DEP2 | 2013 | A131 | 199:02:26:33 | 202:00:51:56 | 70.4 | 0.023 | 11.99 | 11.83 | |
| DEP2 | 2014 | A130 | 199:02:25:06 | 202:00:49:06 | 70.4 | 0.033 | 11.90 | 11.74 | |
| DEP2 | 2015 | A129 | 199:02:23:39 | 202:00:46:21 | 70.4 | 0.024 | 11.88 | 11.73 | |
| DEP2 | 2016 | A128 | 199:02:21:48 | 202:00:43:16 | 70.4 | 0.001 | 11.87 | 11.73 | |
| DEP2 | 2018 | A132 | 199:02:28:35 | 202:00:55:15 | 70.4 | 0.010 | 11.90 | 11.74 | |
| ** FSU Code: MOON | | | | | | | | | |
| DEP2 | 2021 | A083 | 199:02:10:52 | 202:01:24:48 | 71.2 | 0.017 | 11.94 | 11.75 | |
| DEP2 | 2022 | A084 | 199:02:12:24 | 202:01:28:21 | 71.3 | 0.005 | 11.94 | 11.77 | |
| DEP2 | 2023 | A085 | 199:02:14:03 | 202:01:31:07 | 71.3 | 0.022 | 11.87 | 11.68 | |
| DEP2 | 2024 | A106 | 199:03:05:52 | 202:02:59:02 | 71.9 | -0.010 | 11.39 | 11.28 | |
| DEP2 | 2025 | A096 | 199:02:40:21 | 202:02:25:27 | 71.8 | 0.033 | 11.94 | 11.75 | |
| DEP2 | 2026 | A097 | 199:02:41:56 | 202:02:29:37 | 71.8 | 0.026 | 11.83 | 11.69 | |
| DEP2 | 2027 | A095 | 199:02:38:34 | 202:02:22:50 | 71.7 | 0.040 | 11.95 | 11.78 | |
| DEP2 | 2028 | A094 | 199:02:36:51 | 202:02:19:38 | 71.7 | -0.021 | 11.97 | 11.79 | |
| DEP2 | 2029 | A087 | 199:02:22:10 | 202:01:37:08 | 71.2 | 0.011 | 11.98 | 11.83 | |
| DEP2 | 2030 | A086 | 199:02:20:38 | 202:01:33:50 | 71.2 | 0.034 | 12.00 | 11.83 | |
| DEP2 | 2031 | A088 | 199:02:23:42 | 202:01:40:28 | 71.3 | -0.006 | 11.99 | 11.83 | |

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| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| DEP2 | 2032 | A090 | 199:02:27:49 | 202:01:48:31 | 71.3 | 0.001 | 11.94 | 11.77 | |
| DEP2 | 2033 | A091 | 199:02:30:03 | 202:01:51:13 | 71.4 | 0.005 | 11.94 | 11.78 | |
| DEP2 | 2034 | A089 | 199:02:31:50 | 202:01:45:04 | 71.2 | 0.005 | 12.68 | 12.17 | |
| DEP2 | 2035 | A101 | 199:02:51:00 | 202:02:43:22 | 71.9 | -0.012 | 11.90 | 11.74 | |
| DEP2 | 2036 | A100 | 199:02:47:39 | 202:02:39:43 | 71.9 | 0.039 | 11.83 | 11.64 | |
| DEP2 | 2037 | A099 | 199:02:45:17 | 202:02:36:22 | 71.9 | 0.039 | 11.93 | 11.79 | |
| DEP2 | 2038 | A098 | 199:02:43:42 | 202:02:32:34 | 71.8 | 0.029 | 12.00 | 11.84 | |
| DEP2 | 2039 | A078 | 199:02:00:55 | 202:00:58:00 | 71.0 | 0.018 | 12.05 | 11.88 | |
| DEP2 | 2040 | A079 | 199:02:02:33 | 202:01:03:13 | 71.0 | 0.031 | 11.94 | 11.77 | |
| ** FSU Code: CLAY | | | | | | | | | |
| DEP2 | 2041 | A124 | 199:02:13:35 | 202:00:40:05 | 70.4 | 0.026 | 11.90 | 11.74 | |
| ** FSU Code: MOON | | | | | | | | | |
| DEP2 | 2042 | A080 | 199:02:04:54 | 202:01:11:05 | 71.1 | 0.018 | 12.03 | 11.87 | |
| DEP2 | 2043 | A081 | 199:02:18:40 | 202:01:14:54 | 70.9 | 0.020 | 11.95 | 11.79 | |
| ** FSU Code: CLAY | | | | | | | | | |
| DEP2 | 2044 | A123 | 199:02:10:03 | 202:00:34:28 | 70.4 | 0.036 | 12.00 | 11.87 | |
| ** FSU Code: MOON | | | | | | | | | |
| DEP2 | 2045 | A110 | 199:03:15:14 | 202:03:20:17 | 72.1 | 0.019 | 11.84 | 11.73 | |
| DEP2 | 2046 | A109 | 199:03:12:42 | 202:03:16:57 | 72.1 | 0.001 | 11.74 | 11.57 | |
| DEP2 | 2047 | A108 | 199:03:09:44 | 202:03:11:47 | 72.0 | 0.019 | 11.93 | 11.74 | |
| DEP2 | 2048 | A107 | 199:03:07:56 | 202:03:09:09 | 72.0 | 0.015 | 11.87 | 11.70 | |
| ** FSU Code: CLAY | | | | | | | | | |
| DEP2 | 2049 | A117 | 199:01:59:48 | 202:02:30:26 | 72.5 | 0.031 | 11.94 | 11.73 | |
| DEP2 | 2050 | A116 | 199:01:57:34 | 202:02:27:06 | 72.5 | 0.014 | 11.90 | 11.69 | |
| DEP2 | 2051 | A114 | 199:01:50:32 | 202:02:20:08 | 72.5 | 0.026 | 11.94 | 11.72 | |
| DEP2 | 2052 | A115 | 199:01:52:06 | 202:02:23:05 | 72.5 | 0.011 | 11.90 | 11.69 | |
| DEP2 | 2053 | A122 | 199:02:07:29 | 202:02:42:21 | 72.6 | 0.005 | 11.48 | 11.30 | |
| DEP2 | 2054 | A126 | 199:02:17:49 | 202:02:49:20 | 72.5 | 0.025 | 11.94 | 11.73 | |
| DEP2 | 2055 | A125 | 199:02:15:45 | 202:02:45:34 | 72.5 | 0.039 | 11.94 | 11.74 | |
| DEP2 | 2056 | A121 | 199:02:04:48 | 202:02:38:42 | 72.6 | -0.002 | 11.89 | 11.69 | |
| DEP2 | 2057 | A120 | 199:02:03:11 | 202:02:35:49 | 72.5 | 0.032 | 11.93 | 11.75 | |
| DEP2 | 2058 | A119 | 199:02:01:38 | 202:02:33:03 | 72.5 | -0.027 | 11.93 | 11.73 | |
| DEP2 | 2059 | A141 | 199:02:48:23 | 202:03:05:12 | 72.3 | -0.031 | 11.87 | 11.73 | |
| DEP2 | 2060 | A140 | 199:02:46:42 | 202:03:02:18 | 72.3 | 0.030 | 11.84 | 11.70 | |
| DEP2 | 2061 | A139 | 199:02:45:07 | 202:02:58:11 | 72.2 | -0.006 | 11.78 | 11.64 | |
| DEP2 | 2062 | A138 | 199:02:38:29 | 202:02:54:24 | 72.3 | 0.021 | 11.82 | 11.68 | |
| DEP2 | 2063 | A189 | 199:17:41:05 | 202:03:08:26 | 57.5 | 0.039 | 11.90 | 11.67 | |
| DEP2 | 2064 | A188 | 199:17:39:17 | 202:03:33:49 | 57.9 | 0.103 | 12.07 | 11.79 | |
| ** FSU Code: MOON | | | | | | | | | |

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With Upload and Download Times

| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| DEP2 | 2065 | A113 | 199:03:20:12 | 202:03:28:20 | 72.1 | 0.013 | 11.94 | 11.75 | |
| DEP2 | 2066 | A112 | 199:03:18:32 | 202:03:25:37 | 72.1 | -0.004 | 11.94 | 11.75 | |
| DEP2 | 2067 | A111 | 199:03:16:51 | 202:03:22:57 | 72.1 | 0.012 | 12.03 | 11.83 | |
| ** FSU Code: CLAY | | | | | | | | | |
| DEP2 | 2068 | A127 | 199:02:19:59 | 202:03:17:56 | 73.0 | 0.024 | 11.93 | 11.74 | |
| DEP2 | 2069 | A187 | 199:17:37:38 | 202:03:31:03 | 57.9 | 0.033 | 11.83 | 11.54 | |
| DEP2 | 2070 | A134 | 199:02:31:48 | 202:03:20:42 | 72.8 | 0.031 | 11.84 | 11.67 | |
| DEP2 | 2071 | A135 | 199:02:33:27 | 202:03:23:16 | 72.8 | 0.011 | 11.99 | 11.83 | |
| DEP2 | 2072 | A136 | 199:02:35:11 | 202:03:25:48 | 72.8 | 0.014 | 11.93 | 11.73 | |
| DEP2 | 2073 | A137 | 199:02:36:50 | 202:03:28:16 | 72.9 | 0.032 | 11.90 | 11.73 | |
| ** FSU Code: MOON | | | | | | | | | |
| DEP2 | 2074 | A092 | 199:02:33:35 | 202:03:31:02 | 73.0 | -0.006 | 11.95 | 11.75 | |
| DEP2 | 2075 | A093 | 199:02:35:23 | 202:03:34:13 | 73.0 | 0.003 | 11.98 | 11.83 | |
| ** FSU Code: CLAY | | | | | | | | | |
| DEP2 | 2107 | A133 | 199:02:30:18 | 201:22:14:04 | 67.7 | 0.015 | 12.70 | 12.18 | |
| ** FSU Code: DUST | | | | | | | | | |
| DEP2 | 2154 | A180 | 199:17:14:57 | 202:03:20:11 | 58.1 | 0.028 | 11.79 | 11.59 | |
| DEP2 | 2155 | A181 | 199:17:13:23 | 202:03:17:01 | 58.1 | 0.020 | 11.92 | 11.73 | |
| DEP2 | 2156 | A182 | 199:17:11:52 | 202:03:14:09 | 58.0 | 0.006 | 12.87 | 12.10 | |
| DEP2 | 2157 | A162 | 199:17:16:33 | 202:02:28:42 | 57.2 | -0.017 | 12.67 | 12.00 | |
| DEP2 | 2158 | A178 | 199:17:18:08 | 202:03:22:49 | 58.1 | -0.014 | 11.72 | 11.54 | |
| DEP2 | 2159 | A177 | 199:17:19:34 | 202:03:25:38 | 58.1 | -0.001 | 11.92 | 11.72 | |
| DEP2 | 2160 | A174 | 199:17:22:51 | 202:03:31:26 | 58.1 | 0.016 | 11.37 | 10.94 | |
| DEP2 | 2161 | A175 | 199:17:21:18 | 202:03:28:26 | 58.1 | 0.015 | 11.85 | 11.67 | |
| DEP2 | 2162 | A184 | 199:17:08:39 | 202:03:08:39 | 58.0 | -0.017 | 13.17 | 12.10 | |
| DEP2 | 2163 | A185 | 199:17:06:54 | 202:03:06:00 | 58.0 | -0.009 | 11.39 | 10.97 | |
| DEP2 | 2164 | A186 | 199:17:04:48 | 202:03:03:22 | 58.0 | -0.008 | 11.89 | 11.70 | |
| DEP2 | 2165 | A012 | 199:17:02:54 | 202:03:00:17 | 58.0 | 0.014 | 12.67 | 11.94 | |
| DEP2 | 2166 | A148 | 199:16:50:16 | 202:02:37:56 | 57.8 | -0.010 | 11.54 | 11.30 | |
| DEP2 | 2167 | A149 | 199:16:51:48 | 202:02:40:24 | 57.8 | 0.008 | 11.57 | 11.27 | |
| DEP2 | 2168 | A150 | 199:16:53:20 | 202:02:42:59 | 57.8 | 0.005 | 11.63 | 11.33 | |
| DEP2 | 2169 | A151 | 199:16:54:48 | 202:02:46:14 | 57.9 | 0.013 | 11.48 | 11.13 | |
| DEP2 | 2170 | A155 | 199:17:01:27 | 202:02:56:59 | 57.9 | -0.005 | 11.84 | 11.57 | |
| DEP2 | 2171 | A154 | 199:16:59:59 | 202:02:54:23 | 57.9 | 0.025 | 11.57 | 11.30 | |
| DEP2 | 2172 | A153 | 199:16:58:34 | 202:02:51:53 | 57.9 | 0.014 | 11.63 | 11.33 | |
| DEP2 | 2173 | A152 | 199:16:57:09 | 202:02:49:16 | 57.9 | 0.001 | 11.49 | 11.24 | |
| DEP2 | 2174 | A183 | 199:17:10:12 | 202:03:11:23 | 58.0 | -0.008 | 11.78 | 11.60 | |
| DEP2 | 2175 | A147 | 199:16:45:36 | 202:02:35:06 | 57.8 | -0.008 | 11.47 | 11.17 | |
| DEP2 | 2176 | A146 | 199:16:43:34 | 202:02:32:17 | 57.8 | 0.002 | 11.63 | 11.33 | |
| ** FSU Code: MINE | | | | | | | | | |

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| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| DEP2 | 2177 | 0314 | 199:02:57:36 | 202:02:30:10 | 71.5 | 0.003 | 11.90 | 14.15 | |
| DEP2 | 2178 | 0225 | 199:02:56:03 | 202:02:26:14 | 71.5 | 0.039 | 11.15 | 13.65 | |
| DEP2 | 2179 | 0306 | 199:03:00:00 | 202:02:22:26 | 71.4 | -0.015 | 11.95 | 14.20 | |
| DEP2 | 2180 | 0272 | 199:02:59:10 | 202:02:18:28 | 71.3 | 0.029 | 11.30 | 13.60 | |
| DEP2 | 2181 | 0219 | 199:03:03:17 | 202:13:59:50 | 82.9 | 0.024 | 11.85 | 10.20 | |
| DEP2 | 2182 | 0218 | 199:03:02:26 | 202:14:13:37 | 83.2 | -0.058 | 10.90 | 10.00 | |
| DEP2 | 2183 | 0254 | 199:02:35:35 | 202:14:27:36 | 83.9 | 0.000 | 11.00 | 13.60 | |
| DEP2 | 2184 | 0257 | 199:02:36:26 | 202:14:20:37 | 83.7 | -0.041 | 11.10 | 13.45 | |
| DEP2 | 2185 | 0281 | 199:02:32:29 | 202:11:55:15 | 81.4 | 0.023 | 11.40 | 13.60 | |
| DEP2 | 2186 | 0304 | 199:02:34:36 | 202:03:17:05 | 72.7 | -0.070 | 11.45 | 14.10 | |
| DEP2 | 2187 | 0275 | 199:02:33:48 | 202:03:13:06 | 72.7 | -0.016 | 11.40 | 13.75 | |
| DEP2 | 2188 | 0252 | 199:02:50:50 | 202:03:09:19 | 72.3 | -0.054 | 11.55 | 13.75 | |
| DEP2 | 2189 | 0075 | 199:02:56:49 | 202:14:35:46 | 83.6 | -0.127 | 11.65 | 10.65 | |
| DEP2 | 2190 | 0073 | 199:02:53:32 | 202:13:13:01 | 82.3 | 0.048 | 11.80 | 10.80 | |
| DEP2 | 2191 | 0273 | 199:02:54:24 | 202:13:04:40 | 82.2 | -0.007 | 11.45 | 13.80 | |
| DEP2 | 2192 | 0263 | 199:02:55:14 | 202:12:42:56 | 81.8 | 0.001 | 11.05 | 13.20 | |
| DEP2 | 2193 | 0288 | 199:02:44:03 | 202:12:35:44 | 81.9 | 0.000 | 11.00 | 13.80 | |
| DEP2 | 2194 | 0308 | 199:02:41:25 | 202:12:28:45 | 81.8 | -0.030 | 11.50 | 13.75 | |
| DEP2 | 2195 | 0318 | 199:02:42:12 | 202:12:21:04 | 81.6 | -0.147 | 11.55 | 14.00 | |
| DEP2 | 2196 | 0317 | 199:02:43:08 | 202:02:53:52 | 72.2 | -0.176 | 10.90 | 14.20 | |
| DEP2 | 2197 | 0310 | 199:02:37:13 | 202:02:49:49 | 72.2 | -0.013 | 11.35 | 14.35 | |
| DEP2 | 2198 | 0305 | 199:02:38:02 | 202:02:12:26 | 71.6 | 0.000 | 11.95 | 11.60 | |
| DEP2 | 2199 | 0285 | 199:02:39:11 | 202:12:11:12 | 81.5 | -0.027 | 11.50 | 13.60 | |
| DEP2 | 2200 | 0309 | 199:02:40:02 | 202:13:51:04 | 83.2 | -0.031 | 11.85 | 14.10 | |
| DEP2 | 2201 | 0286 | 199:02:58:24 | 202:13:42:23 | 82.7 | 0.010 | 11.20 | 13.65 | |
| DEP2 | 2202 | 0258 | 199:02:44:54 | 202:13:27:10 | 82.7 | 0.028 | 11.45 | 13.65 | |
| DEP2 | 2203 | 0274 | 199:02:46:02 | 202:13:20:35 | 82.6 | -0.004 | 11.50 | 13.70 | |
| DEP2 | 2204 | 0271 | 199:02:46:51 | 202:03:05:25 | 72.3 | 0.032 | 11.50 | 14.20 | |
| DEP2 | 2205 | 0262 | 199:02:47:45 | 202:03:01:52 | 72.2 | -0.019 | 11.40 | 13.80 | |
| DEP2 | 2206 | 0277 | 199:02:48:43 | 202:02:57:24 | 72.1 | -0.039 | 11.55 | 13.65 | |
| DEP2 | 2207 | 0224 | 199:02:52:20 | 202:12:03:05 | 81.2 | -0.013 | 12.15 | 10.05 | |
| DEP2 | 2208 | 0278 | 199:02:49:56 | 202:02:45:43 | 71.9 | 0.009 | 11.10 | 14.25 | |
| DEP2 | 2209 | 0287 | 199:02:31:39 | 202:02:41:13 | 72.2 | 0.009 | 11.40 | 13.70 | |
| DEP2 | 2210 | 0280 | 199:02:29:40 | 202:02:37:17 | 72.1 | 0.018 | 11.60 | 13.85 | |
| DEP2 | 2211 | 0315 | 199:02:30:27 | 202:02:33:42 | 72.1 | -0.224 | 11.95 | 14.05 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP2 | 2361 | A065 | 198:19:03:34 | 202:15:59:02 | 92.9 | 0.024 | 11.80 | 11.63 | |
| DEP2 | 2362 | A044 | 198:18:18:39 | 202:13:48:45 | 91.5 | 0.006 | 12.00 | 11.69 | |
| DEP2 | 2363 | A045 | 198:18:23:10 | 202:13:53:31 | 91.5 | -0.029 | 11.98 | 11.67 | |
| DEP2 | 2364 | A046 | 198:18:25:25 | 202:13:58:45 | 91.6 | -0.008 | 11.84 | 11.57 | |
| DEP2 | 2365 | A047 | 198:18:27:06 | 202:14:03:36 | 91.6 | 0.026 | 11.79 | 11.49 | |
| DEP2 | 2366 | A048 | 198:18:28:29 | 202:14:08:44 | 91.7 | 0.011 | 11.97 | 11.67 | |
| DEP2 | 2367 | A058 | 198:18:45:44 | 202:15:17:59 | 92.5 | 0.010 | 12.03 | 11.74 | |
| DEP2 | 2368 | A057 | 198:18:44:06 | 202:15:13:06 | 92.5 | 0.019 | 11.89 | 11.63 | |

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|---|---|---|---|---|---|---|---|---|---|
| DEP2 | 2369 | A056 | 198:18:42:32 | 202:15:07:59 | 92.4 | 0.012 | 11.98 | 11.73 | |
| DEP2 | 2370 | A055 | 198:18:40:28 | 202:15:02:08 | 92.4 | 0.010 | 12.03 | 11.74 | |
| DEP2 | 2371 | A061 | 198:18:50:29 | 202:15:34:53 | 92.7 | 0.006 | 11.98 | 11.69 | |
| DEP2 | 2372 | A060 | 198:18:49:06 | 202:15:28:53 | 92.7 | 0.031 | 11.93 | 11.64 | |
| DEP2 | 2373 | A059 | 198:18:47:09 | 202:15:23:33 | 92.6 | -0.008 | 11.94 | 11.64 | |
| DEP2 | 2374 | A068 | 198:19:08:39 | 202:17:00:41 | 93.9 | 0.012 | 11.84 | 11.64 | |
| DEP2 | 2375 | A067 | 198:19:06:46 | 202:16:55:10 | 93.8 | 0.005 | 11.80 | 11.58 | |
| DEP2 | 2376 | A066 | 198:19:05:19 | 202:16:05:06 | 93.0 | -0.005 | 11.90 | 11.67 | |
| ** FSU Code: MOON | | | | | | | | | |
| DEP2 | 3001 | A082 | 199:02:08:58 | 202:01:18:23 | 71.2 | 0.019 | 11.99 | 11.80 | |
| DEP2 | 3002 | A077 | 199:01:59:18 | 202:00:54:57 | 70.9 | 0.003 | 11.99 | 11.79 | |
| DEP2 | 3003 | A076 | 199:01:57:12 | 202:00:51:51 | 70.9 | -0.007 | 11.97 | 11.79 | |
| DEP2 | 3004 | A102 | 199:02:54:10 | 202:02:46:18 | 71.9 | 0.039 | 11.84 | 11.69 | |
| DEP2 | 3005 | A075 | 199:01:51:47 | 202:00:48:37 | 70.9 | 0.047 | 11.83 | 11.67 | |
| DEP2 | 3006 | A074 | 199:01:50:04 | 202:00:44:54 | 70.9 | 0.026 | 11.83 | 11.65 | |
| DEP2 | 3007 | A105 | 199:03:03:53 | 202:02:54:29 | 71.8 | 0.020 | 11.93 | 11.74 | |
| DEP2 | 3008 | A104 | 199:03:01:32 | 202:02:51:51 | 71.8 | 0.001 | 11.93 | 11.77 | |
| DEP2 | 3009 | A103 | 199:02:56:05 | 202:02:48:55 | 71.9 | -0.012 | 11.90 | 11.74 | |
| ** FSU Code: GOLD | | | | | | | | | |
| DEP2 | 4000 | A006 | 198:18:22:36 | 202:14:07:59 | 91.8 | 0.021 | 12.00 | 11.74 | |
| DEP2 | 4001 | A002 | 198:18:14:09 | 202:13:51:44 | 91.6 | 0.030 | 11.94 | 11.67 | |
| DEP2 | 4002 | A023 | 198:18:52:00 | 202:15:20:17 | 92.5 | -0.042 | 12.03 | 11.75 | |
| DEP2 | 4003 | A025 | 198:18:55:55 | 202:15:30:16 | 92.6 | 0.025 | 11.74 | 11.58 | |
| DEP2 | 4004 | A007 | 198:18:24:10 | 202:14:12:52 | 91.8 | 0.008 | 11.93 | 11.64 | |
| DEP2 | 4005 | A019 | 198:18:43:09 | 202:15:01:59 | 92.3 | 0.008 | 11.60 | 11.49 | |
| DEP2 | 4006 | A020 | 198:18:44:50 | 202:15:06:26 | 92.4 | 0.034 | 11.93 | 11.64 | |
| DEP2 | 4007 | A001 | 198:18:11:53 | 202:13:42:58 | 91.5 | 0.013 | 12.00 | 11.73 | |
| DEP2 | 4008 | A005 | 198:18:20:50 | 202:14:03:57 | 91.7 | 0.047 | 12.03 | 11.77 | |
| DEP2 | 4009 | A009 | 198:18:28:34 | 202:14:26:33 | 92.0 | 0.039 | 11.89 | 11.60 | |
| DEP2 | 4010 | A003 | 198:18:17:28 | 202:13:56:05 | 91.6 | 0.020 | 11.97 | 11.69 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP2 | 4011 | A070 | 198:19:12:39 | 202:17:13:14 | 94.0 | 0.001 | 11.83 | 11.58 | |
| DEP2 | 4012 | A050 | 198:18:32:06 | 202:14:33:47 | 92.0 | 0.009 | 12.10 | 11.79 | |
| ** FSU Code: GOLD | | | | | | | | | |
| DEP2 | 4013 | A004 | 198:18:19:24 | 202:13:59:51 | 91.7 | -0.016 | 11.99 | 11.73 | |
| DEP2 | 4014 | A030 | 198:19:09:03 | 202:16:23:26 | 93.2 | 0.013 | 12.10 | 11.79 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP2 | 4015 | A069 | 198:19:11:12 | 202:17:07:17 | 93.9 | 0.027 | 11.79 | 11.59 | |
| ** FSU Code: GOLD | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|
| DEP2 | 4016 | A015 | 198:18:38:01 | 202:14:47:43 | 92.2 | 0.037 | 12.00 | 11.73 | |
| DEP2 | 4017 | A016 | 198:18:39:49 | 202:14:53:07 | 92.2 | -0.015 | 11.95 | 11.67 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP2 | 4018 | A053 | 198:18:37:14 | 202:14:50:21 | 92.2 | 0.052 | 12.04 | 11.74 | |
| ** FSU Code: GOLD | | | | | | | | | |
| DEP2 | 4019 | A013 | 198:18:34:34 | 202:14:39:22 | 92.1 | 0.040 | 11.94 | 11.67 | |
| DEP2 | 4020 | A027 | 198:18:59:33 | 202:16:11:28 | 93.2 | 0.019 | 11.73 | 11.43 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP2 | 4021 | A071 | 198:19:20:29 | 202:17:18:34 | 94.0 | 0.027 | 11.95 | 11.73 | |
| ** FSU Code: GOLD | | | | | | | | | |
| DEP2 | 4022 | A024 | 198:18:54:06 | 202:15:25:31 | 92.5 | 0.030 | 11.63 | 11.44 | |
| DEP2 | 4023 | A011 | 198:18:32:51 | 202:14:35:15 | 92.0 | 0.015 | 12.00 | 11.73 | |
| DEP2 | 4024 | A039 | 198:19:20:23 | 202:16:53:27 | 93.6 | 0.014 | 12.07 | 11.78 | |
| DEP2 | 4025 | A036 | 198:19:16:15 | 202:16:41:00 | 93.4 | 0.049 | 11.94 | 11.67 | |
| DEP2 | 4026 | A038 | 198:19:19:00 | 202:16:49:34 | 93.5 | -0.035 | 12.10 | 11.75 | |
| DEP2 | 4027 | A034 | 198:19:14:48 | 202:16:36:33 | 93.4 | -0.013 | 12.00 | 11.70 | |
| DEP2 | 4028 | A040 | 198:19:21:43 | 202:16:57:57 | 93.6 | -0.033 | 12.04 | 11.74 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP2 | 4029 | A049 | 198:18:30:06 | 202:14:28:37 | 92.0 | 0.043 | 11.94 | 11.65 | |
| DEP2 | 4030 | A062 | 198:18:52:55 | 202:15:42:12 | 92.8 | 0.011 | 11.95 | 11.64 | |
| ** FSU Code: GOLD | | | | | | | | | |
| DEP2 | 4031 | A031 | 198:19:10:26 | 202:16:27:36 | 93.3 | 0.056 | 12.04 | 11.74 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP2 | 4032 | A052 | 198:18:35:49 | 202:14:44:26 | 92.1 | 0.023 | 11.88 | 11.59 | |
| ** FSU Code: GOLD | | | | | | | | | |
| DEP2 | 4033 | A029 | 198:19:07:23 | 202:16:19:41 | 93.2 | 0.031 | 11.99 | 11.69 | |
| DEP2 | 4034 | A037 | 198:19:17:38 | 202:16:45:03 | 93.5 | 0.043 | 11.94 | 11.64 | |
| DEP2 | 4035 | A033 | 198:19:13:24 | 202:16:32:27 | 93.3 | -0.007 | 11.64 | 11.34 | |
| DEP2 | 4036 | A028 | 198:19:05:59 | 202:16:16:02 | 93.2 | 0.004 | 11.98 | 11.68 | |
| DEP2 | 4037 | A022 | 198:18:49:24 | 202:15:15:48 | 92.4 | 0.020 | 11.87 | 11.60 | |
| DEP2 | 4038 | A008 | 198:18:26:24 | 202:14:16:48 | 91.8 | 0.001 | 11.94 | 11.68 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP2 | 4039 | A063 | 198:18:55:17 | 202:15:47:49 | 92.9 | 0.012 | 11.84 | 11.63 | |
| ** FSU Code: GOLD | | | | | | | | | |
| DEP2 | 4040 | A014 | 198:18:36:06 | 202:14:43:42 | 92.1 | -0.009 | 11.93 | 11.67 | |

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|---|---|---|---|---|---|---|---|---|---|
| DEP2 | 4041 | A017 | 198:18:41:26 | 202:14:57:55 | 92.3 | 0.046 | 11.94 | 11.67 | |
| DEP2 | 4042 | A026 | 198:18:57:29 | 202:15:35:02 | 92.6 | 0.031 | 12.10 | 11.80 | |
| DEP2 | 4043 | A021 | 198:18:46:40 | 202:15:10:20 | 92.4 | 0.031 | 11.79 | 11.60 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP2 | 4044 | A064 | 198:18:56:58 | 202:15:52:59 | 92.9 | 0.004 | 11.84 | 11.63 | |
| DEP2 | 4045 | A073 | 198:19:17:53 | 202:17:33:30 | 94.3 | 0.031 | 11.77 | 11.54 | |
| ** FSU Code: GOLD | | | | | | | | | |
| DEP2 | 4046 | A032 | 198:19:11:49 | 202:17:04:18 | 93.9 | 0.038 | 11.99 | 11.69 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP2 | 4047 | A054 | 198:18:38:45 | 202:14:57:14 | 92.3 | 0.026 | 12.07 | 11.78 | |
| ** FSU Code: GOLD | | | | | | | | | |
| DEP2 | 4048 | A010 | 198:18:30:26 | 202:14:30:47 | 92.0 | 0.021 | 11.98 | 11.67 | |
| ** FSU Code: MARS | | | | | | | | | |
| DEP2 | 4049 | A051 | 198:18:33:48 | 202:14:39:04 | 92.1 | 0.016 | 11.98 | 11.68 | |
| ** FSU Code: CLAY | | | | | | | | | |
| DFBS | 0113 | A144 | 195:15:58:04 | 197:20:23:42 | 52.4 | 0.005 | 12.13 | 11.69 | |
| DFBS | 0114 | A143 | 195:15:59:40 | 197:20:53:42 | 52.9 | 0.008 | 11.64 | 11.34 | |
| ** FSU Code: MARS | | | | | | | | | |
| MARS | VILA | A065 | 191:14:35:55 | 191:14:44:43 | 0.1 | -0.028 | 12.67 | 12.69 | |
| ** FSU Code: MINE | | | | | | | | | |
| MINE | MINE | 0317 | 191:15:46:55 | 191:16:33:55 | 0.8 | -0.002 | 11.35 | 11.40 | |
| ** FSU Code: MOON | | | | | | | | | |
| MOON | MOON | A021 | 191:14:50:34 | 191:14:58:30 | 0.1 | 0.000 | 12.63 | 12.63 | |
| ** FSU Code: CLAY | | | | | | | | | |
| SHOT | 0201 | A144 | 200:11:23:26 | 201:06:54:43 | 19.5 | 0.003 | 11.63 | 11.49 | |
| SHOT | 0202 | A142 | 200:14:40:34 | 201:06:56:42 | 16.3 | -0.004 | 11.34 | 11.17 | |
| SHOT | 0203 | A143 | 200:12:04:15 | 201:07:04:48 | 19.0 | 0.004 | 11.33 | 11.20 | |
| SHOT | 0204 | A145 | 200:14:43:54 | 201:22:02:06 | 31.3 | -0.003 | 11.49 | 11.30 | |
| ** FSU Code: MINE | | | | | | | | | |
| TEL1 | MINE | 0307 | 196:13:10:01 | 196:13:23:47 | 0.2 | 0.000 | 11.55 | 11.45 | |
| TEL2 | MINE | 0307 | 196:13:27:18 | 196:13:31:34 | 0.1 | 0.000 | 11.50 | 11.45 | |
| TEL3 | MINE | 0307 | 196:13:34:45 | 196:13:43:31 | 0.1 | 0.000 | 11.50 | 14.00 | |
| TEL4 | MINE | 0307 | 196:13:54:46 | 196:14:07:20 | 0.2 | 0.000 | 13.95 | 14.00 | |

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| Dep Code | Site ID | PRS Ser. Num. | Download Time jjj:hh:mm:ss | Upload Time jjj:hh:mm:ss | Record Span (hr) | Time Corr. (s) | Down Volts | Up Volts | Level One ? |
|---|---|---|---|---|---|---|---|---|---|
| ** FSU Code: GOLD | | | | | | | | | |
| TST1 | VILA | A025 | 191:14:18:35 | 191:14:33:13 | 0.2 | 0.000 | 12.64 | 12.64 | |
| ** FSU Code: MINE | | | | | | | | | |
| VILA | VILA | 0307 | 200:15:24:12 | 201:07:35:25 | 16.2 | 0.000 | 11.60 | 13.95 | |

# F Window1 data reduction source code

The source code for window1.c follows.

```
/*  PROGRAM: window1.c
VERSION: 2.1
AUTHOR: Brian Roberts
LAST MODIFIED: Feb 12, 1997
PURPOSE: To read in unreduced IRIS and/or USGS refraction
data and output a reduced dataset (SEGY) with a
time length equal to or less than 60 s.
COMPILING: Please use the SUN C compiler at
/gaia/opt/SUNWspro/SC3.0.1/bin/cc (gcc does not work
with this program - array size problems?)
RESPONSE FILE: All the variable parameters are set in a response
file called window1.rsp and should reside in the
directory in which the program is being run.  An
example is below;

CRDLOG /moho/roberts/th93/window1.log ==> log file
CRDISG /data/asudeh/th93/usgs/tapes/u60t1s.sgy ==> input segy file
CRDOSG /moho/roberts/th93/output.sgy ==> output segy file
CRDDIS /moho/roberts/th93/liner1.dis ==> distance file
CRDTYP USGS ==> data type (IRIS or USGS)
CRDSTM /moho/roberts/th93/shotsms.lst ==> shot time file
IRDLEN 60 ==> input record length
IRDHLN 3600 ==> input SEGY header length
RRDTST -5.0 ==> new trace start time
RRDTND 55.0 ==> new trace end time
RRDRVL 8.00 ==> reduction velocity
IRDISR 250 ==> input sample rate
*/

#include <stdio.h>
#include <fcntl.h>
#define PERMS 0666

main()
{
FILE *fp;
FILE *nf;
FILE *rd2;
FILE *wrt;
int rd1,rd3,ct,sflag,icount,samp_rate,ss1,min,sec,stflag,st_offset;
int rec_min, rec_sec, usgs_shift, min_diff, sec_diff, tot_diff, scount;
int size,head,length,receiver,len,cut,start,end,insert,samps,ttrace,mm;
int c,f,h,i,j,jj,k,n,m,num,num1,num2,shot,mult,factor,flag,rvel,success;
     int s1,s2,r1,tsamp1,byte_cut,new_start,num_samp,pad_begin,pad_end;
     int shot_offset,rec_offset,samp_offset,red_offset,time_offset,msec,hr;
float d1,d2,d3,tred,tnew,tstart,time,new_len,red_vel,sr,ntime,ver;
char *line, *ftest1,*ftest2;
char file1[40], file2[40], file3[40], file4[40], file5[40], file6[40],skip[7];
char buf[50000][43],log[74],param[60], stimes[40][25];

/* Read in parameters from the file window1.rsp */

   jj = 1;
  rd2 = fopen("window1.rsp", "r");
while (jj < 13) {
for (i=0; i<60 && (c=getc(rd2)) !=EOF && c!='\n'; i++)
param[i] = c;
```

```
if(c == '\n') { param[i] = '\0'; }
if (jj == 1) { m = sscanf(param, "%s%s", skip, file1); }
if (jj == 2) { m = sscanf(param, "%s%s", skip, file2); }
if (jj == 3) { m = sscanf(param, "%s%s", skip, file3); }
if (jj == 4) { m = sscanf(param, "%s%s", skip, file4); }
if (jj == 5) { m = sscanf(param, "%s%s", skip, file5); }
if (jj == 6) { m = sscanf(param, "%s%s", skip, file6); }
if (jj == 7) { m = sscanf(param, "%s%d", skip, &length); }
if (jj == 8) { m = sscanf(param, "%s%d", skip, &head); }
if (jj == 9) { m = sscanf(param, "%s%f", skip, &tnew); }
if (jj == 10) { m = sscanf(param, "%s%f", skip, &new_len); }
if (jj == 11) { m = sscanf(param, "%s%f", skip, &red_vel); }
if (jj == 12) { m = sscanf(param, "%s%d", skip, &samp_rate); }
jj++;
}

printf("\n\nLog file:%37s\nInput segy file:%30s\nOutput segy file:%29s\n
Distance file:%32s\nShot time file:%31s\nData type:%36s\nRecord length: %4d\n
SEGY header length: %4d\nNew trace start time: %5f\nNew trace end time: %5f\n
Reduction velocity: %4f\nSamples per second: %4d\n", file1, file2, file3,
 file4, file5, file6, length, head, tnew, new_len, red_vel, samp_rate);

/* wrt = creat(file1, PERMS); */
wrt = fopen(file1,"w+");
fp = fopen(file2,"r");
nf = fopen(file3,"w");

/* set constants and some other variables  */

time = 0.0;
ver = 2.1;

fprintf(wrt,"Program window1.c Version %4.1f\n\n", ver);
fprintf(wrt,"Parameters below are as follows: s1, s2, r1, d1, d2, d3, tstart,
 num_samp, ttrace\n\n");

i=1;
j=0;
flag=0;
sflag=0;
pad_begin = 0;
success = 0;
pad_end = 0;

start= head + 241;
rvel = red_vel * 1000;
samps = new_len * samp_rate;
sr = samp_rate * 1.0;
new_start = head;

/* set byte offsets for certain header values */

ftest1 = "IRIS";
ftest2 = "USGS";
if(ct=strcmp(file5,ftest1)==0) {   /* rec offset for IRIS data */
shot_offset = 12;
rec_offset = 173;
mult = (length*samp_rate*4)+240;
}
if(ct=strcmp(file5,ftest2)==0) {   /* rec offset for USGS data */
shot_offset = 20;
rec_offset = 15;
mult = ((length*samp_rate+1)*4)+240;
```

```
}

/* Read shot times into an array (stimes) */

printf("\nReading shot times into array ....");
icount=0;
rd3 = open(file6, O_RDONLY, 0);
while (n = read(rd3, stimes[icount], 26) != 0) { icount = icount + 1; }
printf("Shot times for %2d shots have been read in\n",icount);

factor = head+(j*mult);
samp_offset = 3221; /* reel header offset for samp/trace */
red_offset = 3275;  /* reel heder offset for red vel */
time_offset = 209; /* trace header offset for ttrace */
st_offset = 164; /* hdr offset for rec start time */

/* read the values from the distance file into a large array (buf) */

printf("\nReading distance file into array ....");
icount=0;
rd1 = open(file4, O_RDONLY, 0);
while (n = read(rd1, buf[icount], 44) != 0) { icount = icount + 1; }
printf("%8d entries\n",icount);

/* start reading in data from segy file  */

printf("\n\nStart reading in data from SEGY file...\n");
while((c=getc(fp)) !=EOF) {

/* Alter some values in the tape and trace headers */

if(i == samp_offset || i == new_start + 115) { c = samps >> 8; }
if(i == samp_offset+1 || i == new_start + 116) { c = samps & 0377; }
if(i == red_offset) { c = rvel >> 8; }
if(i == red_offset+1) { c = rvel & 0377; }

if(i == factor+shot_offset){ shot = c;} /* Read the shot # */

if(i == factor+rec_offset) { num1 = c; }  /* read the rec # */
if(i == factor+rec_offset+1) {
num2 = c;
receiver = num1*256 + num2;
}
if(i == factor+st_offset) { rec_min = c; }
if(i == factor+st_offset+2) {
rec_sec = c;
usgs_shift = 0;

/* Compare shot times with record times in trace header to
determine if a shift is required for this trace */

scount = 0;
stflag=0;
while (stflag != 1) {
mm = sscanf(stimes[scount], "%d%d%d%d%d", &ss1,  &hr, &min, &sec, &msec);
if(shot == ss1) {
stflag = 1;
/* printf("\n\nfor shot %3d rec %4d; shot min = %2d
 shot sec = %2d msec = %4d rec min = %2d rec sec = %2d\n", ss1,receiver, min, sec,
 msec, rec_min, rec_sec);  */
}
scount = scount + 1;
}
```

```
min_diff = rec_min - min;
sec_diff = rec_sec - sec;
tot_diff = min_diff*60 + sec_diff;

/* Adjust start time to reflect shift in recording window and shot time corrections (msec) */

time = tot_diff;
time = time - msec/1000.;
if(abs(tot_diff) > 100) {
printf("\n\nThis trace header is CORRUPT!  Time is %5.1f", time);
time = 0.0;
}
/* printf("\nmin diff = %2d sec diff = %2d tot diff = %2d
 time shift = %7.3f sec\n", min_diff, sec_diff, tot_diff, time); */
}

if(i == factor+200) { flag = 1; }
if(flag == 1) {
printf("\nshot = %4d receiver = %4d", shot, receiver);
j++;
flag=0;
sflag=0;
success = 0;

/* In here goes the code that calculates the reduced time section based on
   the shot - receiver distance and the parameters read in from the
   response file (see notes at top of program) */

icount = 0;
while (sflag != 1) {
m = sscanf(buf[icount], "%d%d%d%f%f%f",
&s1, &s2, &r1, &d1, &d2, &d3);
if(shot == s2 && receiver == r1) {
printf("...found");
sflag = 1;
success = 1;
ntime = (-1.0*time) + tnew;
ntime = ntime + d1/red_vel;

/* Proceed with calculation of bytes to cut and the padding required */

tred = time - d1/red_vel;
tstart = tred - tnew;
tsamp1  = (tstart)*sr;
num_samp = abs(tsamp1);

/* Calculate ttrace (in usec) for writing into trace headers */

ttrace = (num_samp/sr) * 1000000.;
if(tsamp1 > 0.0) {
ttrace = -1 * ttrace;
}

byte_cut = num_samp*4;
cut = start + byte_cut - 1;
end = cut + (new_len*samp_rate*4) + 1;
if(tred > tnew) {
cut = start - 1;
end = cut + (new_len*samp_rate*4) - byte_cut + 1;
pad_begin = 1;
}
new_start = head + (j*mult);
if(end > new_start) {
```

```
insert = end - new_start;
end = new_start;
pad_end = 1;
}

/* Print out key parameters to a log file  */

fprintf(wrt,"%5d %5d %5d %7.2f
 %7.2f %7.2f %11.2f %6d %10d\n", s1, s2, r1, d1, d2, d3, tstart, num_samp, ttrace);

}
icount = icount + 1;
if(icount == 10000) {sflag = 1; }  /* no match can be found in buf */
}
}

/* If no match is found between the trace header and the dist file then just
  write out the first new_len seconds of the trace  */

if(success == 0) {
tred = 0.0;
ttrace = 0;
num_samp = 0;
cut = start - 1;
end = cut + new_len*samp_rate*4 + 1;
new_start = head + (j*mult);
}

/* Put ttrace into the header 1 byte at a time */

if(i == factor + time_offset) { c = ttrace >> 24; }
if(i == factor + time_offset+1) { c = ttrace >> 16; }
if(i == factor + time_offset+2) { c = ttrace >> 8; }
if(i == factor + time_offset+3) {
c = ttrace & 0377;
factor = head+(j*mult);
}

/* pad the beginning of the reduced trace if necessary  */

if(i == start && pad_begin == 1) {
h = 0;
pad_begin = 0;
while(h < byte_cut) {
putc(pad_begin,nf);
h++;
}
}

if(i < start || i > cut && i < end) {

putc(c,nf);   /* write out the next byte  */
}

/* pad the end of the reduced trace if necessary  */

if(i == end-1 && pad_end == 1) {
h = 0;
pad_end = 0;
while(h < insert) {
putc(pad_end,nf);
h++;
}
```

```
}

if(i == new_start) {
start = new_start + 241;
}
i++;
}
fclose(wrt);
printf("\n\n");
}
```

# G Resample program

The source code for the resampling program follows.

```
      SUBROUTINE RESAMPB (SRA,LA,A,SRB,LB,DR,DI,VR,VI)
C
C     This subroutine resamples a time series by using the frequency domain.
C     The significant part of the spectrum remains unchanged.
C
C     SUBROUTINE RESAMPB was written by    R. Mereu
C                                          Department of Geophysics
C                                          University of Western Ontario
C                                          London, Ontario, Canada, N6A 5B7
C     Date:  August 11,1992
C
C     INPUT:    A(I),I=1,LA with sample rate SRA
C     OUTPUT:   B(I),I=1,LB with sample rate SRB
C
C     WORK SPACE   DR(LW),DI(LW),VR(LW),VI(LW)
C                  DIMENSION A(LA), B(LB)
C                  Where   LB= LA*SRB/SRA
C                          LW= LA if SRA > SRB
C                          LW= LB if SRB > SRA
c
C     Example:  Given:   (A(I),I=1,LA) where SRA = 250 and LA=1000
C               Output:  (B(I),I=1,LB) where SRB = 120 and LB=LA*SRB/SRA=480
C
C         1. Take the spectrum of series (A(I),I=1,LA)
C            The original Nyquist frequency = SRA/2 = 125 Hz
C         2. Remove 260 spectral points on each side of the Nyquist Frequency
C            This step effectively changes the Nyquist frequency to 60 hz
C            The significant part of the spectrum of the original time
C               series remains untouched.
C         3. Go Back to the time domain.
C            The new sample rate will 2* the new Nyquist frequnecy
C             i.e.    SRB = 2 * 60 = 120.
C
C     The spectrum is obtained with a special FFT subroutine called
C     FOURG3. This subroutine does not require that LA = 2 ** Power
C                         ----------------------
      Dimension A(*)
      real di[huge],dr[huge],vi[huge],vr[huge]
      dimension di(*),dr(*),vi(*),vr(*)
      ALA=LA
      ALB=ALA*SRB/SRA
      LB=ALB
      NFREQA=LA/2+1
      NFREQB=LB/2+1
C
C        Prepare the given data for the input of FOURG3
C
      DO 1 I=1,LA
      DR(I)=A(I)
      DI(I)=0.0
1     CONTINUE
C
C        Obtain its spectrum (DR = the real part, DI = the imaginary part)
C
      CALL FOURG3 (DR,DI,LA,-1,VR,VI)
      DO 2 I=1,LA
```

```
      VR(I)=DR(I)
      VI(I)=DI(I)
2     CONTINUE
      IF (LB.GT.LA) GO TO 5
C
C      Remove central points of DR and DI to effectively change
C      the Nyquist Frequency from SRA/2 to SRB/2
C
      DR(NFREQB)=VR(NFREQA)
      DI(NFREQB)=VI(NFREQA)
      DO 3 I=NFREQB+1,LB
      DR(I)=VR(I+LA-LB)
      DI(I)=VI(I+LA-LB)
3     CONTINUE
      GO TO 6
C
C   Insert zeros to the central points of x to increase the Nyquist Frequency
C
5     CONTINUE
      DO 8 I=NFREQA,LB
      DR(I)=0.0
      DI(I)=0.0
8     CONTINUE
      K=LB+1
      DO 9 I=1,NFREQA-2
      J=LA+1-I
      K=K-1
      DR(K)=VR(J)
      DI(K)=VI(J)
9     CONTINUE
      DR(NFREQB)=VR(NFREQA)
      DI(NFREQB)=VI(NFREQA)
6     CONTINUE
C
C         Go back to the time domain
C
      CALL FOURG3 (DR,DI,LB,+1,VR,VI)
      DO 4 I=1,LB
      A(I)=DR(I)
4     CONTINUE
      RETURN
      END
c-----------------------------------------------------------------
      SUBROUTINE FOURG3 (DR,DI,N,ISIGN,VR,VI)
C     This Subroutine computes the FFT spectrum of a time series
C     N does not need to be a power of 2.
C     Single PRECISION VERSION
IMPLICIT INTEGER (I-N)
      real dr[huge],di[huge],vr[huge],vi[huge]
      DIMENSION DR(N),DI(N),VR(N),VI(N),IFACT(512)
PI=4.00*ATAN(1.00)
      TWOPI=2.00*PI*FLOAT(ISIGN)
      IF=0
      NPART=N
      DO 50 ID=1,N,2
      IDIV=ID
      IF (ID-1) 10,10,20
 10   IDIV=2
 20   IQUOT=NPART/IDIV
      IF (NPART-IDIV*IQUOT) 40,30,40
 30   IF=IF+1
      IFACT(IF)=IDIV
      NPART=IQUOT
```

```
      GO TO 20
40    IF (IQUOT-IDIV) 60,60,50
50    CONTINUE
60    IF (NPART-1) 80,80,70
70    IF=IF+1
      IFACT(IF)=NPART
80    NFACT=IF
      IP0=1
      IP3=IP0*N
      IWORK=1
      I3REV=1
      DO 110 I3=1,IP3,IP0
      VR(IWORK)=DR(I3REV)
      VI(IWORK)=DI(I3REV)
      IP2=IP3
      DO 100 IF=1,NFACT
      IP1=IP2/IFACT(IF)
      I3REV=I3REV+IP1
      IF (I3REV-IP2) 110,110,90
90    I3REV=I3REV-IP2
100   IP2=IP1
110   IWORK=IWORK+IP0
      IWORK=1
      DO 120 I3=1,IP3,IP0
      DR(I3)=VR(IWORK)
      DI(I3)=VI(IWORK)
120   IWORK=IWORK+IP0
      IF=0
      IP1=IP0
130   IF (IP1-IP3) 140,240,240
140   IF=IF+1
      IFCUR=IFACT(IF)
      IP2=IP1*IFCUR
      THETA=TWOPI/FLOAT(IFCUR)
      SINTH=SIN(THETA/2.D0)
      ROOTR=-2.D0*SINTH*SINTH
      ROOTI=SIN(THETA)
      THETA=TWOPI/FLOAT(IP2/IP0)
      SINTH=SIN(THETA/2.D0)
      WSTPR=-2.D0*SINTH*SINTH
      WSTPI=SIN(THETA)
      WMINR=1.D0
      WMINI=0.D0
      DO 230 I1=1,IP1,IP0
      IF (IFCUR-2) 150,150,170
150   DO 160 I3=I1,IP3,IP2
      J0=I3
      J1=I3+IP1
      TEMPR=WMINR*DR(J1)-WMINI*DI(J1)
      TEMPI=WMINR*DI(J1)+WMINI*DR(J1)
      DR(J1)=DR(J0)-TEMPR
      DI(J1)=DI(J0)-TEMPI
      DR(J0)=DR(J0)+TEMPR
160   DI(J0)=DI(J0)+TEMPI
      GO TO 220
170   IWMAX=IP0*IFCUR
      DO 210 I3=I1,IP3,IP2
      I2MAX=I3+IP2-IP1
      WR=WMINR
      WI=WMINI
      DO 200 IWORK=1,IWMAX,IP0
      I2=I2MAX
      SUMR=DR(I2)
```

```
      SUMI=DI(I2)
  180 I2=I2-IP1
      TEMPR=SUMR
      SUMR=WR*SUMR-WI*SUMI+DR(I2)
      SUMI=WR*SUMI+WI*TEMPR+DI(I2)
      IF (I2-I3) 190,190,180
  190 VR(IWORK)=SUMR
      VI(IWORK)=SUMI
      TEMPR=WR
      WR=WR*ROOTR-WI*ROOTI+WR
  200 WI=TEMPR*ROOTI+WI*ROOTR+WI
      IWORK=1
      DO 210 I2=I3,I2MAX,IP1
      DR(I2)=VR(IWORK)
      DI(I2)=VI(IWORK)
  210 IWORK=IWORK+IP0
  220 TEMPR=WMINR
      WMINR=WMINR*WSTPR-WMINI*WSTPI+WMINR
  230 WMINI=TEMPR*WSTPI+WMINI*WSTPR+WMINI
      IP1=IP2
      GO TO 130
  240 CONTINUE
DT=1.
      Q=1.00/DT
      IF (ISIGN.EQ.+1) Q=DT/FLOAT(N)
      DO 35 J=1,N
      DR(J)=DR(J)*Q
   35 DI(J)=DI(J)*Q
      RETURN
      END
```

# H SEGY Include File

List of the SEGY-IASPEI definition file follows.

```
c- Start of FINAL segy.inc version 3.00 (IASPEI), January 25, 1993 ----
c
c Isa Asudeh, Geological Survey of Canada
c             1 Observatory Crescent
c             Ottawa, Ontario
c             Canada K1A 0Y3
c             Tel. 613-996-5757
c             Fax. 613-992-8836
c             e.mail asudeh@cg.emr.ca
c
c This file is an implicit definition of the SEGY format with additions
c for refraction work. It is based on the SEGY standard of Barry et al,
c Geophysics (1975) with extensions labelled SEGY_IASPEI
c for refraction work. This version has been checked and verified by
c the U.S. Geological Survey and the IRIS/PASSCAL Consortium and will
c be used for data exchange in North America.
c
c This format is primarily for the EXCHANGE of data between processing
c centers. All information that we consider to be  essential for the
c successful exchange of data are marked with a "R" in column 70:     R
c Items considered desirable are marked with a "D" in column 70:      D
c
c Some items have been added to facilitate disk
c storage in a SEGY type file.
c Items purely for tape use are labelled TAPE                   TAPE
c in column 62 items purely for disk user are
c labelled DISK, otherwise this field                           DISK
c is left blank.
c
c-Units:
c  Refraction ground velocities are
c  in nanometers/sec. We adopt the convention:
c    (tape data word)*(10**gc) = nanometers/sec;
c  where tape data word is the value in the trace
c  data block and gc is a two byte gain constant word
c  beginning in byte 121 of the trace header.
c
c-Dimensions:
c These may vary from system to system.
c SEGY allows no more than 32767
c samples per trace. Maximum number of bytes needed to
c hold a single trace and its header is:
c 131308 = (32767 samples)*(4 bytes per sample) + 240 bytes header.
c For TAPE we recommend that
c no more than 32767 bytes per trace be used (including
c 240 bytes for a header). This leaves space for
c 16728 two byte samples or 8139 4 byte samples per trace.

c
c start of Declarations:
c
c Parameter Statements:
c

c       maximum number of bytes per trace
        integer MAXLEN
        parameter (MAXLEN = 131308)
```

```
c       maximum number of samples per trace
        integer MAXSAM
        parameter (MAXSAM = 32767)

c       EBCDIC/ASCII header length (bytes)
        integer EBCDIC
        parameter (EBCDIC = 3200)

c       Reel Header Length (bytes)
        integer RHLEN
        parameter (RHLEN = 400)

c       Trace Header Length (bytes)
        integer THLEN
        parameter (THLEN = 240)
c
c Dimension Statements:
c

c       SEGY reel identification header part 1
        character*1  segy1a(EBCDIC)

c       SEGY reel identification header part 2
        character*1  segy1b(RHLEN)

c       SEGY trace data block
        character*1  segydb(MAXLEN)

c       SEGY trace header
        character*1 thead(THLEN)
        equivalence (segydb(1),thead(1))

c       real and integer data arrays
        integer*2    idata(MAXSAM)
        real*4       rdata(MAXSAM)
        equivalence (segydb(241),idata(1),rdata(1))
c
c end of Declarations.
c

c
c-----------------------------------------------------------------------+
c Reel Identification Header (total 400 bytes)    Starts here          |
c-----------------------------------------------------------------------+
c

c Job identification number                      SEGY_STANDARD
        integer*4    jobid
        equivalence  (segy1b(1),jobid)

c Line number                                    SEGY_STANDARD         R
        integer*4    lineno
        equivalence  (segy1b(5),lineno)

c Reel number                                    SEGY_STANDARD  TAPE   R
        integer*4    reelno
        equivalence  (segy1b(9),reelno)

c Number of data traces per record               SEGY_STANDARD         R
c By "record" we mean gather
        integer*2    ntrace
        equivalence  (segy1b(13),ntrace)
```

```
c Number of auxilliary traces per record        SEGY_STANDARD        R
      integer*2    nauxt
      equivalence  (segy1b(15),nauxt)

c Sample interval in microseconds (this data),  SEGY_STANDARD        R
c See override for this value (sinto, bytes 117-120) for
c more precise presentation.
      integer*2    sint
      equivalence  (segy1b(17),sint)

c Sample interval in microseconds (in field)    SEGY_STANDARD
c See override for this value (sint2o, bytes 121-124) for
c more precise presentation.
     integer*2    sint2
     equivalence  (segy1b(19),sint2)

c No of samples per trace this data             SEGY_STANDARD        R
c The total number of samples per trace is also
c stored with each trace, so this word is not
c essential. It can be used to calculate
c record length for disk files.
c If number of sample per trace varies
c from trace to trace leave this as 0.
     integer*2    nsam
     equivalence  (segy1b(21),nsam)

c No of samples per trace in the field          SEGY_STANDARD
     integer*2 nsamf
     equivalence  (segy1b(23),nsamf)

c Data sample format code                       SEGY_STANDARD        R
c  1   IBM 370 floating point (4 bytes)         SEGY_STANDARD        R
c  2   Fixed point            (4 bytes)         SEGY_STANDARD        R
c  3   Fixed point            (2 bytes)         SEGY_STANDARD        R
c  4   Fixed point with gain  (4 bytes)         SEGY_STANDARD        R
c
      integer*2    icode
      equivalence  (segy1b(25),icode)

c No of traces per  CDP ensemble                SEGY_STANDARD
      integer*2    ncdp
      equivalence  (segy1b(27),ncdp)

c Trace sorting code                            SEGY_STANDARD        R
c      itsort=1     Shot Gathers                SEGY_STANDARD
c      itsort=2     CDP ensemble                SEGY_STANDARD
c      itsort=3     Single fold continuous      SEGY_STANDARD
c      itsort=4     Horizontal stack            SEGY_STANDARD
c      itsort=5     Receiver Gather             SEGY_IASPEI
c      itsort=6     Gathers Sorted By Distance  SEGY_IASPEI
c      itsort=7     Gathers Sorted By Azimuth   SEGY_IASPEI
c      itsort=0     No sort.                    SEGY_IASPEI
      integer*2    itsort
      equivalence  (segy1b(29),itsort)

c  Vertical sum code                            SEGY_STANDARD
c  vcode = n sum on n traces                    SEGY_STANDARD
      integer*2    vcode
      equivalence  (segy1b(31),vcode)

c Start sweep frequency (HZ)                    SEGY_STANDARD
      integer*2    ssweep
```

```
      equivalence  (segy1b(33),ssweep)

c End sweep frequency (HZ)                          SEGY_STANDARD
      integer*2    esweep
      equivalence  (segy1b(35),esweep)

c Sweep length in milliseconds                      SEGY_STANDARD
      integer*2    sleng
      equivalence  (segy1b(37),sleng)

c Sweep type                                        SEGY_STANDARD
c     stype=1  linear                               SEGY_STANDARD
c     stype=2  parabolic                            SEGY_STANDARD
c     stype=3  exponential                          SEGY_STANDARD
c     stype=4  other                                SEGY_STANDARD
c     stype=5  borehole explosive source            SEGY_IASPEI
c     stype=6  water explosive source               SEGY_IASPEI
c     stype=7  airgun source                        SEGY_IASPEI
c     stype=8  earthquake                           SEGY_IASPEI
c     stype=9  quarry_blast                         SEGY_IASPEI
      integer*2    stype
      equivalence  (segy1b(39),stype)

c Trace no of sweep channel                         SEGY_STANDARD
      integer*2    nts
      equivalence  (segy1b(41),nts)

c Sweep trace taper in milliseconds at start        SEGY_STANDARD
      integer*2    stts
      equivalence  (segy1b(43),stts)

c Sweep trace taper  in milliseconds at end         SEGY_STANDARD
      integer*2    stte
      equivalence  (segy1b(45),stte)

c Taper type                                        SEGY_STANDARD
c     ttype=1 linrst                                SEGY_STANDARD
c     ttype=2 cos**2                                SEGY_STANDARD
c     ttype=3 other                                 SEGY_STANDARD
      integer*2    ttype
      equivalence  (segy1b(47),ttype)

c Correlated data traces                            SEGY_STANDARD
c     cort=1 no, 2=yes
      integer*2    cort
      equivalence  (segy1b(49),cort)

c Binary Gain recovered                             SEGY_STANDARD
c     bgr=1 yes, 2=no
      integer*2    bgr
      equivalence  (segy1b(51),bgr)

c Amplitude recovery methods                        SEGY_STANDARD
c     arm=1 none, 2=spherical, 3=AGC, 4=other
      integer*2    arm
      equivalence  (segy1b(53),arm)

c Measurement system                                SEGY_STANDARD        R
c     1=meters, 2=feet                              SEGY_STANDARD
      integer*2    isys
      equivalence  (segy1b(55),isys)

c Polarity                                          SEGY_STANDARD
```

```
c   ipol=1 upward case movement gives negative  SEGY_STANDARD
c   ipol=2 upward case movement gives positive  SEGY_STANDARD
      integer*2    ipol
      equivalence  (segy1b(57),ipol)

c Vibrator polarity code                        SEGY_STANDARD
      integer*2    vpc
      equivalence  (segy1b(59),vpc)

c     number of traces in the tape/file         SEGY_IASPEI
      integer*2 notif
      equivalence (segy1b(61),notif)

c attribute information
c attri=0    velocity data nanometers/s         SEGY_IASPEI
c attri=1    instantaneous velocity nanometers/sSEGY_IASPEI
c attri=2    instantaneous frequency milliHz    SEGY_IASPEI
c attri=3    instantaneous phase  degrees       SEGY_IASPEI
c attri=4    slowness (m/ms)                    SEGY_IASPEI
c attri=5    semblance (0-1000)                 SEGY_IASPEI
c attri=6    displacement nanometers            SEGY_IASPEI
      integer*2 attri
      equivalence (segy1b(63),attri)

c Mean amplitude of all samples in all          SEGY_IASPEI
c      traces in the file.
      real*4 meanas
      equivalence (segy1b(65),meanas)

c Domain of data                                SEGY_IASPEI
c       domain=0 time/distance
c             =1 fk
c             =2 tau-p
      integer*2 domain
      equivalence (segy1b(69),domain)

c Not in use from version 3.00.
c Set to 1 for compatibility.
      integer*2 msexp
      equivalence (segy1b(71),msexp)


c Reduction velocity in meter(feet)/sec         SEGY_IASPEI          R
      integer*4   vred
      equivalence (segy1b(73),vred)

c Seconds of window start time                  SEGY_IASPEI          R
      real*4 wstart
      equivalence (segy1b(77),wstart)

c Seconds of window end time                    SEGY_IASPEI          R
      real*4 wend
      equivalence (segy1b(81),wend)

c Minimum of all samples in the file.           SEGY_IASPEI
      real*4    minass
      equivalence (segy1b(85),minass)

c Maximum of all traces in the file             SEGY_IASPEI
      real*4     maxass
      equivalence (segy1b(89),maxass)

c Recording instrument type                     SEGY_IASPEI          R
```

```
c If instrument types in reel header and trace
c header are different, then the trace header value
c must be used.
c
c       =0 Not specified.
c       =1 EDA (Scintrex) PRS1
c       =2 USGS cassette
c       =3 GEOS
c       =4 Springnether
c       =5 Teledyne
c       =6 Kinemetrics
c       =7 SGR
c       =8 TERATEK
c       =9 EDA (Scintrex) PRS4
c       =10 MARS 88
c       =11 MARS 66
c       =12 PCM 5800
c       =13 REFTEK
c       =14 GEOSTORE
c       =100 Mixed data
       integer*2 iinstr
       equivalence(segy1b(93),iinstr)

c File creation date - Year                    SEGY_IASPEI          R
       integer*2 cryear
       equivalence(segy1b(95),cryear)

c File creation date - Month                   SEGY_IASPEI          R
       integer*2 crmnth
       equivalence(segy1b(97),crmnth)

c File creation date - Day                     SEGY_IASPEI          R
       integer*2 crday
       equivalence(segy1b(99),crday)

c Disk File format                                                  DISK
c   pad first header record past 3600 to data length
c   =0 Reel Header is 3600 bytes, data has
c      variable length records.
c   =1 Reel Header is 3600 bytes,
c      data is padded to nnb bytes.
c   =2 Reel Header and data are padded to nnb bytes.
c      All data have the same length.
       integer*2 padtyp
       equivalence (segy1b(101),padtyp)

c Character code. Must use EBCDIC for tape exchange.
c       =1 EBCDIC                              SEGY_IASPEI   TAPE   R
c       =2 ASCII                                             DISK
       integer*2 ccode
       equivalence(segy1b(103),ccode)

c File record length in bytes,                                     DISK
c    data are padded to nnb bytes.
c  if padtyp=1,
c       then nnb should be >= trhlen+data length in bytes)
c  if padtyp=2, t
c       then nnb should be >= max(3600,trhlen+data length in bytes)
       integer*4 nnb
       equivalence (segy1b(105),nnb)

c Byte order within words                                           DISK
c     1   ='00 01'x Most  Signicant Byte first.
```

```
c     2   ='02 00'x Least Significant Byte first.
c Default for tape is MSB. Default for disk depends on machine.
      integer*2 bord
      equivalence(segy1b(109),bord)

c Trace header length                                          DISK
c   traces on disk are stored with header length
      integer*2 trhlen
      equivalence(segy1b(111),trhlen)

c Max number of channels per seismograph        SEGY_IASPEI          D
      integer*2 nchps
      equivalence(segy1b(113),nchps)
c
c n.b. bytes 115-116 of Binary Reel ID are empty.
c

c Override for sample interval(this data; sint) SEGY_IASPEI          D
c This variable is related to variable sint bytes (17-18).
c If this variable is set to non-zero, it holds a more
c precise value than sint.
c
c This is the status table for the value of this variable:
c      Variable Name  Overrides  Value       Result
c      sinto          sint       0           No action
c      sinto          sint       < 0         Sample rate in samples per second
c      sinto          sint       > 0         Sample interval in Nanoseconds
c
      integer*4 sinto
      equivalence(segy1b(117),sinto)

c Override for sample interval(in field; sint2) SEGY_IASPEI          D
c This variable is related to variable sint2 bytes (19-20).
c If this variable is set to non-zero, it holds a more
c precise value than sint2
c
c This is the status table for the value of this variable:
c      Variable Name  Overrides  Value       Result
c      sint2o         sint2      0           No action
c      sint2o         sint2      < 0         Sample rate in samples per second
c      sint2o         sint2      > 0         Sample interval in Nanoseconds
c
      integer*4 sint2o
      equivalence(segy1b(121),sint2o)

c      Distance-Azimuth Calculation Algorithm   SEGY_IASPEI
c      0 = Not specified
c      1 = Sodano algorithm. The program utilizes the
c          Sodano and Robinson (1963) direct solution
c          of geodesics (Army Map Service, Tech Rep #7,
c          section IV).
      integer*2 daca
      equivalence(segy1b(125),daca)

c      Earth Dimension Code                     SEGY_IASPEI
c      0 = Not specified
c      1 = Fisher 1960
c      2 = Clark 1866
c      3 = Ref ellipsoid 1967
c      4 = Hayford Internationl 1910
c      5 = World Geodetic Survey 1972
c      6 = Bessel 1841
c      7 = Everest 1841
```

```
c      8 = Airy 1936
c      9 = Hough 1960
c      10= Fischer 1968
c      11= Clarke 1880
       integer*2 edc
       equivalence(segy1b(127),edc)

c
c n.b. bytes 129-398 of Binary Reel ID are empty.
c

c Format version number times 100              SEGY_IASPEI          R
c         =99 Version .99
c         =100 Version 1.0
c         =200 version 2.0
c         =300 version 3.0
       integer*2 fvn
       equivalence (segy1b(399),fvn)

c
c-----------------------------------------------------------------------+
c Reel Identification Header (total 400 bytes)    Ends here           |
c-----------------------------------------------------------------------+
c

c
c-----------------------------------------------------------------------+
c Trace Identification Header (total of 240 bytes) Starts here        |
c-----------------------------------------------------------------------+
c

c Trace sequence number within line            SEGY_STANDARD        R
       integer*4 tsnl
       equivalence (thead(1),tsnl)

c Trace sequence number within tape            SEGY_STANDARD        R
       integer*4 tsnt
       equivalence (thead(5),tsnt)

c Original field record number                 SEGY_STANDARD        D
c Sequential Shot Number                       SEGY_IASPEI
       integer*4 ofrn
       equivalence (thead(9),ofrn)

c Trace number withint original field record   SEGY_STANDARD        R
c Receiver Site Number                         SEGY_IASPEI
       integer*4 tnofr
       equivalence (thead(13),tnofr)

c Energy source point number                   SEGY_STANDARD        R
c Shot Site Number                             SEGY_IASPEI
       integer*4 espn
       equivalence (thead(17),espn)

c CDP number                                   SEGY_STANDARD
       integer*4 cdp
       equivalence (thead(21),cdp)

c Trace number within CDP                      SEGY_STANDARD        R
       integer*4 tncdp
       equivalence (thead(25),tncdp)

c Trace identifications code                   SEGY_STANDARD        R
```

```
c     tic=1 seismic data                          SEGY_STANDARD
c     tic=2 dead                                  SEGY_STANDARD
c     tic=3 dummy                                 SEGY_STANDARD
c     tic=4 time break                            SEGY_STANDARD
c     tic=5 uphole                                SEGY_STANDARD
c     tic=6 sweep                                 SEGY_STANDARD
c     tic=7 timing                                SEGY_STANDARD
c     tic=8 water break                           SEGY_STANDARD
c     tic=11 --> tic=20 component number + 10
c                       for multi-compnent data SEGY_IASPEI
c     e.g. tic=11 (vertical component, horizontals following);
c          tic=12 (North-South component of 3 component);
c          tic=13 (East-West component of 3 component).
c     tic=100 calibration pulse                   SEGY_IASPEI
c     tic=101 calibration Frequency               SEGY_IASPEI
c              /Amplitude/Phase triplets
c
       integer*2 tic
       equivalence (thead(29),tic)

c Number of vertically summed traces              SEGY_STANDARD
c yeilding this trace
       integer*2 nvs
       equivalence (thead(31),nvs)

c Number of horizontally stacked traces           SEGY_STANDARD
c  yeilding this trace
       integer*2 nhs
       equivalence (thead(33),nhs)

c Data use   (1=productions, 2=test)              SEGY_STANDARD
       integer*2 duse
       equivalence (thead(35),duse)

c Distance from source to receiver (meters)       SEGY_STANDARD
       integer*4 idist
       equivalence (thead(37),idist)

c Receiver group elevation                        SEGY_STANDARD
       integer*4 irel
       equivalence (thead(41),irel)

c Surface elevation of source                     SEGY_STANDARD
       integer*4 ishe
       equivalence (thead(45),ishe)

c Source depth                                    SEGY_STANDARD
       integer*4 ishd
       equivalence (thead(49),ishd)

c Datum elevation at receiver                     SEGY_STANDARD
       integer*4 delr
       equivalence (thead(53),delr)

c Datum elevation at source                       SEGY_STANDARD
       integer*4 dels
       equivalence (thead(57),dels)

c Water depth at source                           SEGY_STANDARD
       integer*4 wds
       equivalence (thead(61),wds)

c Water depth at receiver                         SEGY_STANDARD
```

```
      integer*4 wdr
      equivalence (thead(65),wdr)

c Scalar multiplier/divisor(+/-)for bytes 41-68 SEGY_STANDARD
      integer*2 smul1
      equivalence (thead(69),smul1)

c Scalar multiplier/diviso(+/-)for bytes 73-88  SEGY_STANDARD
      integer*2 smul2
      equivalence (thead(71),smul2)

c Source coordinate X or Longitude
c (East positive)                               SEGY_STANDARD
      integer*4 ishlo
      equivalence (thead(73),ishlo)

c Source coordinate Y or Latitude
c (North positive)                              SEGY_STANDARD
      integer*4 ishla
      equivalence (thead(77),ishla)

c Group coordinate X or Longitude
c (East positive)                               SEGY_STANDARD
      integer*4 irlo
      equivalence (thead(81),irlo)

c Group coordinate Y or Latitude
c (North positive)                              SEGY_STANDARD
      integer*4 irla
      equivalence (thead(85),irla)

c Ccoordinate units (1 : meters/feet,           SEGY_STANDARD
c                    2 : seconds of arc
c                       (smul2 holds multiplier)
c                   -N : mod 100 = TX UTM zone
c                        div 100 = RX UTM zone
      integer*2 cunits
      equivalence (thead(89),cunits)

c Weathering velocity (meters(feet)/sec)        SEGY_STANDARD
      integer*2 wvel
      equivalence (thead(91),wvel)

c Subweathering velocity (meters(feet)/sec)     SEGY_STANDARD
      integer*2 swvel
      equivalence (thead(93),swvel)

c Uphole time at source                         SEGY_STANDARD
      integer*2 utimes
      equivalence (thead(95),utimes)

c Uphole time at group                          SEGY_STANDARD
      integer*2 utimeg
      equivalence (thead(97),utimeg)

c Source static correction                      SEGY_STANDARD
      integer*2 sstati
      equivalence (thead(99),sstati)

c Group static                                  SEGY_STANDARD
      integer*2 gstati
      equivalence (thead(101),gstati)
```

```
c Total static                                    SEGY_STANDARD
      integer*2 tstati
      equivalence (thead(103),tstati)

c Lag time A                                      SEGY_STANDARD
      integer*2 istime
      equivalence (thead(105),istime)

c Lag time B                                      SEGY_STANDARD
      integer*2 ibtime
      equivalence (thead(107),ibtime)

c Delay recording time                            SEGY_STANDARD
      integer*2 ictime
      equivalence (thead(109),ictime)

c The above times as defined for SEGY are not
c adequate for refraction data because they
c are limited to 32s. Use cor and tstart later on.

c Mute time start                                 SEGY_STANDARD
      integer*2 mtimes
      equivalence (thead(111),mtimes)

c Mute time end                                   SEGY_STANDARD
      integer*2 mtimee
      equivalence (thead(113),mtimee)

c No of samples in this trace                     SEGY_STANDARD        R
      integer*2 length
      equivalence (thead(115),length)

c Sample interval in microseconds                 SEGY_STANDARD        R
c See override for this value (isin, bytes 201-204) for
c more precise presentation.
      integer*2 isi
      equivalence (thead(117),isi)

c Gain type  (1=fixed, 2=binary, 3=floating)      SEGY_STANDARD
      integer*2 gaint
      equivalence (thead(119),gaint)

c Gain constant                                   SEGY_STANDARD        D
c data in nanometers/sec = (tape data)*(10**gc) SEGY_IASPEI
      integer*2  gc
      equivalence (thead(121),gc)

c Instrument or initial gain in dB                SEGY_STANDARD
      integer*2 gidb
      equivalence (thead(123),gidb)

c Correlated 1=no, 2=yes                          SEGY_STANDARD
      integer*2  tcorr
      equivalence (thead(125),tcorr)

c Start sweep frequency (HZ)                      SEGY_STANDARD
      integer*2    tsswee
      equivalence  (thead(127),tsswee)

c End sweep frequency (HZ)                        SEGY_STANDARD
      integer*2    teswee
      equivalence  (thead(129),teswee)
```

```
c Sweep Length in milliseconds                  SEGY_STANDARD
      integer*2    tsleng
      equivalence  (thead(131),tsleng)

c Sweep type                                    SEGY_STANDARD        D
c     tstype=1  linear                          SEGY_STANDARD
c     tstype=2  parabolic                       SEGY_STANDARD
c     tstype=3  exponential                     SEGY_STANDARD
c     tstype=4  other                           SEGY_STANDARD
c     tstype=5  borehole source                 SEGY_IASPEI
c     tstype=6  water explosive source          SEGY_IASPEI
c     tstype=7  airgun source                   SEGY_IASPEI
c     tstype=8  earthquake                      SEGY_IASPEI
c     tstype=9  quarry-blast                    SEGY_IASPEI
c
      integer*2    tstype
      equivalence  (thead(133),tstype)

c Sweep trace taper in milliseconds at start    SEGY_STANDARD
      integer*2    tstts
      equivalence  (thead(135),tstts)
c
c Sweep trace taper in milliseconds at end      SEGY_STANDARD
      integer*2    tstte
      equivalence  (thead(137),tstte)

c Taper type                                    SEGY_STANDARD
c     ttype=1 linear
c     ttype=2 cos**2
c     ttype=3 other
      integer*2    tttype
      equivalence  (thead(139),tttype)

c Anti alias filter frequency                   SEGY_STANDARD
      integer*2    aif
      equivalence  (thead(141),aif)

c Alias filter slope                            SEGY_STANDARD
      integer*2    ais
      equivalence  (thead(143),ais)

c Notch filter frequency                        SEGY_STANDARD
      integer*2  nif
      equivalence (thead(145),nif)

c Notch filter slope                            SEGY_STANDARD
      integer*2    nis
      equivalence  (thead(147),nis)

c Low cut frequncy                              SEGY_STANDARD
      integer*2    flc
      equivalence  (thead(149),flc)

c High cut frequncy                             SEGY_STANDARD
      integer*2    fhc
      equivalence  (thead(151),fhc)

c Low cut slope                                 SEGY_STANDARD
      integer*2    slc
      equivalence  (thead(153),slc)

c High cut slope                                SEGY_STANDARD
      integer*2    shc
```

```
      equivalence  (thead(155),shc)

c Year of start of trace                          SEGY_STANDARD        R
      integer*2    tyear
      equivalence  (thead(157),tyear)

c Julian day of start of trace                    SEGY_STANDARD        R
      integer*2    tday
      equivalence  (thead(159),tday)

c Hour of start of trace                          SEGY_STANDARD        R
      integer*2    thour
      equivalence  (thead(161),thour)

c Minute of start of trace                        SEGY_STANDARD        R
      integer*2    tmin
      equivalence  (thead(163),tmin)

c Second of start of trace                        SEGY_STANDARD        R
      integer*2    tsec
      equivalence  (thead(165),tsec)

c Time basis code  1=local, 2=gmt                 SEGY_STANDARD        R
      integer*2    tbcode
      equivalence  (thead(167),tbcode)

c Trace weighting factor                          SEGY_STANDARD
      integer*2    twf
      equivalence  (thead(169),twf)

c Geophone group no on roll switch                SEGY_STANDARD
c first position
      integer*2    ggrp1
      equivalence  (thead(171),ggrp1)

c Geophone group no trace position 1 on rec       SEGY_STANDARD
      integer*2    ggtp
      equivalence  (thead(173),ggtp)

c Geophone group no on last trace of filed rec    SEGY_STANDARD
c     Or institution use
      integer*2    gglp
      equivalence  (thead(175),gglp)

c Gap size                                        SEGY_STANDARD
c     Or institution use
      integer*2    gapsz
      equivalence  (thead(177),gapsz)

c Field LINE number                               SEGY_IASPEI          D
      integer*2    overt
      equivalence  (thead(179),overt)

c Microseconds of trace start time                SEGY_IASPEI          R
      integer*4   mst
      equivalence (thead(181),mst)

c Charge size in kg or airgun size in litres      SEGY_IASPEI          R
      integer*2   charge
      equivalence (thead (185),charge)

c Shot or triger time - year                      SEGY_IASPEI          R
      integer*2 syear
```

```
      equivalence (thead(187),syear)

c Shot or triger time - Julian day              SEGY_IASPEI          R
      integer*2 sday
      equivalence (thead(189),sday)

c Shot or triger time - hour                    SEGY_IASPEI          R
      integer*2 shour
      equivalence (thead(191),shour)

c Shot or triger time - minute                  SEGY_IASPEI          R
     integer*2 smin
     equivalence (thead(193),smin)

c Shot or triger time - second                  SEGY_IASPEI          R
      integer*2 sseco
      equivalence (thead(195),sseco)

c Shot or triger time - microsecond             SEGY_IASPEI          R
      integer*4 ssmic
      equivalence (thead(197),ssmic)

c Override for sample interval.                 SEGY_IASPEI          D
c This variable is related to variable isi bytes (117-118).
c If this variable is set to non-zero, it holds a more
c precise value than isi.
c
c This is the status table for the value of this variable:
c      Variable Name  Overrides  Value       Result
c      isin           isi        0           No action
c      isin           isi        < 0         Sample rate in samples per second
c      isin           isi        > 0         Sample interval in Nanoseconds
c
      integer*4 isin
      equivalence (thead(201),isin)

c Azimuth of geophone orientation axis with     SEGY_IASPEI          D
c respect to true north in minutes of arc
      integer*2 geoazi
      equivalence (thead(205),geoazi)

c Angle between geophone orientation axis and   SEGY_IASPEI          D
c vertical in minutes of arc
      integer*2 geover
      equivalence (thead(207),geover)

c Static correction                             SEGY_IASPEI          D
c time to be added to recorded trace time to
c get actual trace start
c time. To be used when data has been reduced
      integer*4   ttrace
      equivalence (thead (209),ttrace)

c Flag to signal that ttrace has been used to   SEGY_IASPEI          D
c modify trace start time
c  tapply=0   static ttrace has been used to
c             reduce the data
c             and trace start time updated
c  tapply=1   static ttrace has beed has been
c             used to reduce the data but trace
c             start time has not been corrected
c
      integer*2   tapply
```

```
      equivalence (thead(213),tapply)

c Recording instrument type                    SEGY_IASPEI          R
c If instrument types in reel header and trace
c header are different, then the trace header value
c must be used.
c
c       =0 Not specified.
c       =1 EDA (Scintrex) PRS1
c       =2 USGS cassette
c       =3 GEOS
c       =4 Springnether
c       =5 Teledyne
c       =6 Kinemetrics
c       =7 SGR
c       =8 TERATEK
c       =9 EDA (Scintrex) PRS4
c       =10 MARS 88
c       =11 MARS 66
c       =12 PCM 5800
c       =13 REFTEK
c       =14 GEOSTORE
       integer*2 instru
       equivalence(thead(215),instru)

c Millisecond of timing correction             SEGY_IASPEI          R
c to be added to reported times to get true
c local or gmt times.
c This should be the sum of all timing
c corrections such as master clock and
c seismograph drifts.
       integer*2   cor
       equivalence (thead(217),cor)

c Azimuth of receiver                          SEGY_IASPEI          D
c from shot in minutes of arc
       integer*2 azimut
       equivalence (thead(219),azimut)

c
c-------------------------------------------------------------------+
c Binary part of Trace Identification Header Ends here              |
c-------------------------------------------------------------------+

c Character information.

c Recording instrument name
       character*4   scrs
       equivalence (thead (221),scrs)

c Shotpoint name
       character*4 spname
       equivalence (thead(225),spname)

c Receiver site name
       character*4 rstnam
       equivalence (thead(229),rstnam)

c Shot site name
       character*4 shotid
       equivalence (thead(233),shotid)

c Geophone mnemonic
```

```
c for example L4-Z, L4-N
c use reel header to explain the mnemonics
c used on a tape.
       character*4 geopin
       equivalence (thead (237),geopin)
c
c-----------------------------------------------------------------------+
c Trace Identification Header (total of 240 bytes) Ends   here         |
c-----------------------------------------------------------------------+
c
c- End   of FINAL segy.inc version 3.00 (IASPEI), January 25, 1993 ----
```

# I Waveform Data Plots

Trace-normalized plots of the waveform data follows. For details refer to Table 5 on page 31 . Plots show distance vs reduced time for inline shots, or Trace Sequencial Number (TSN) vs reduced time for broadside shots.

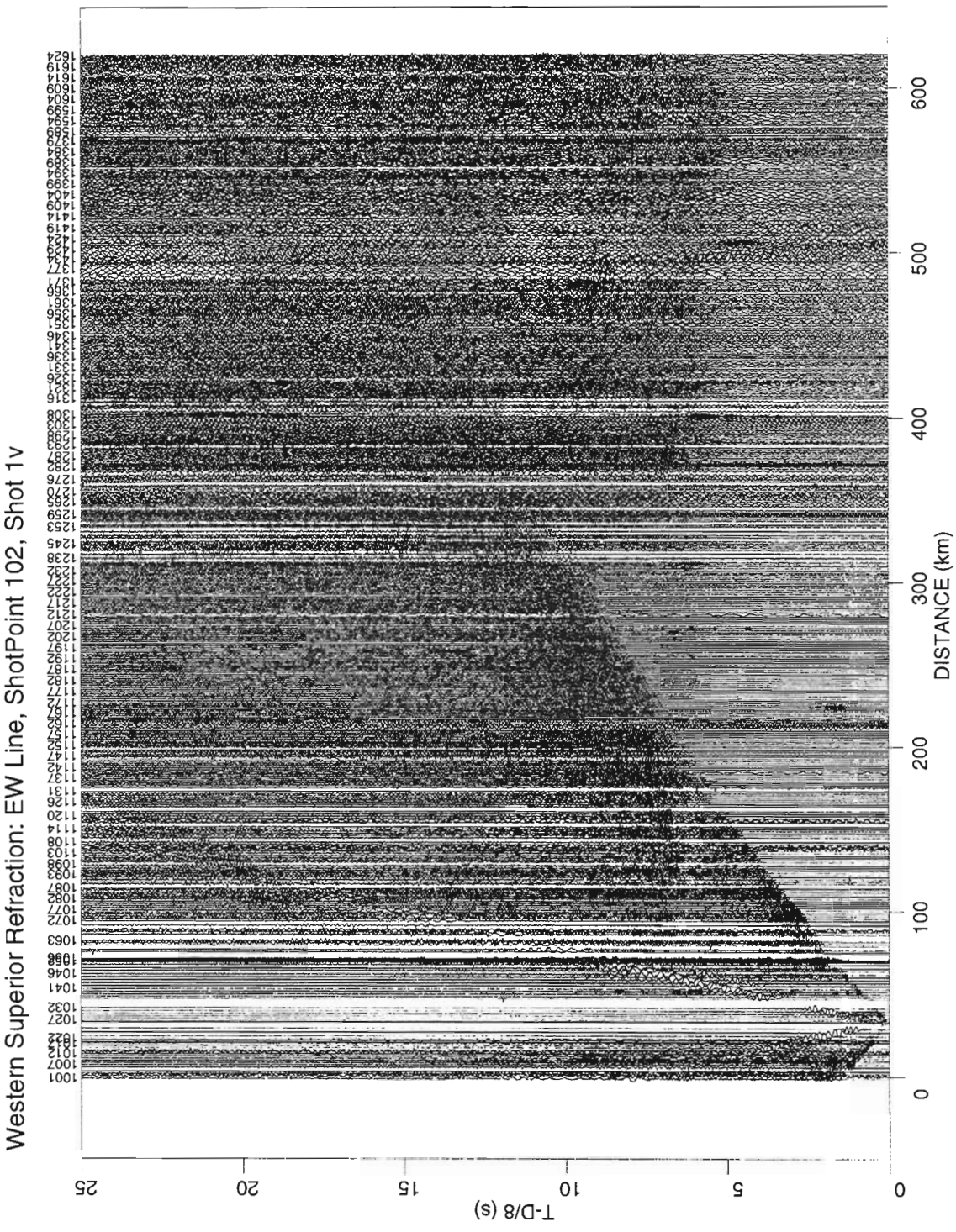


Figure 17: Shot 1v Vertical component

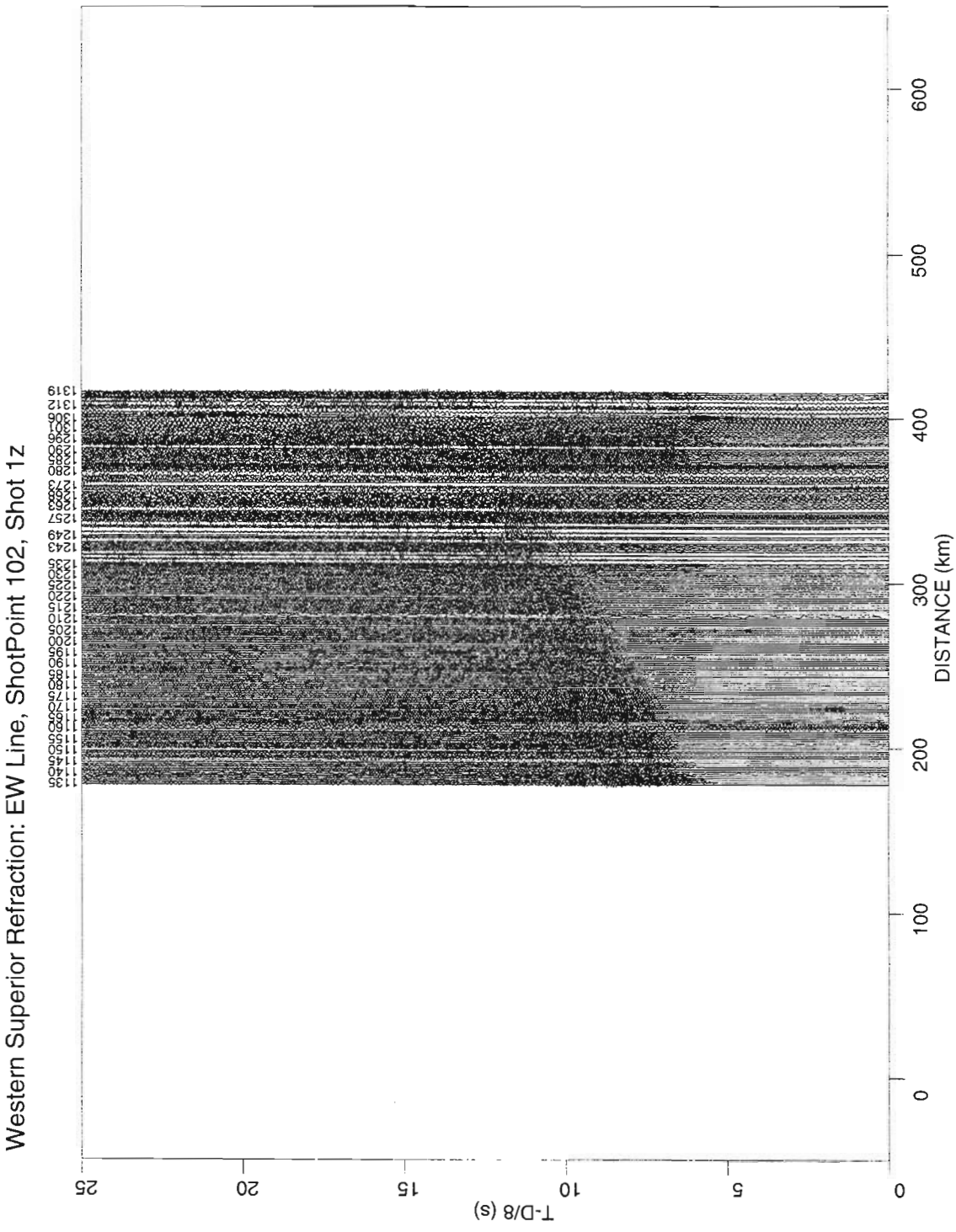


Figure 18: Shot 1z Vertical of ZNE

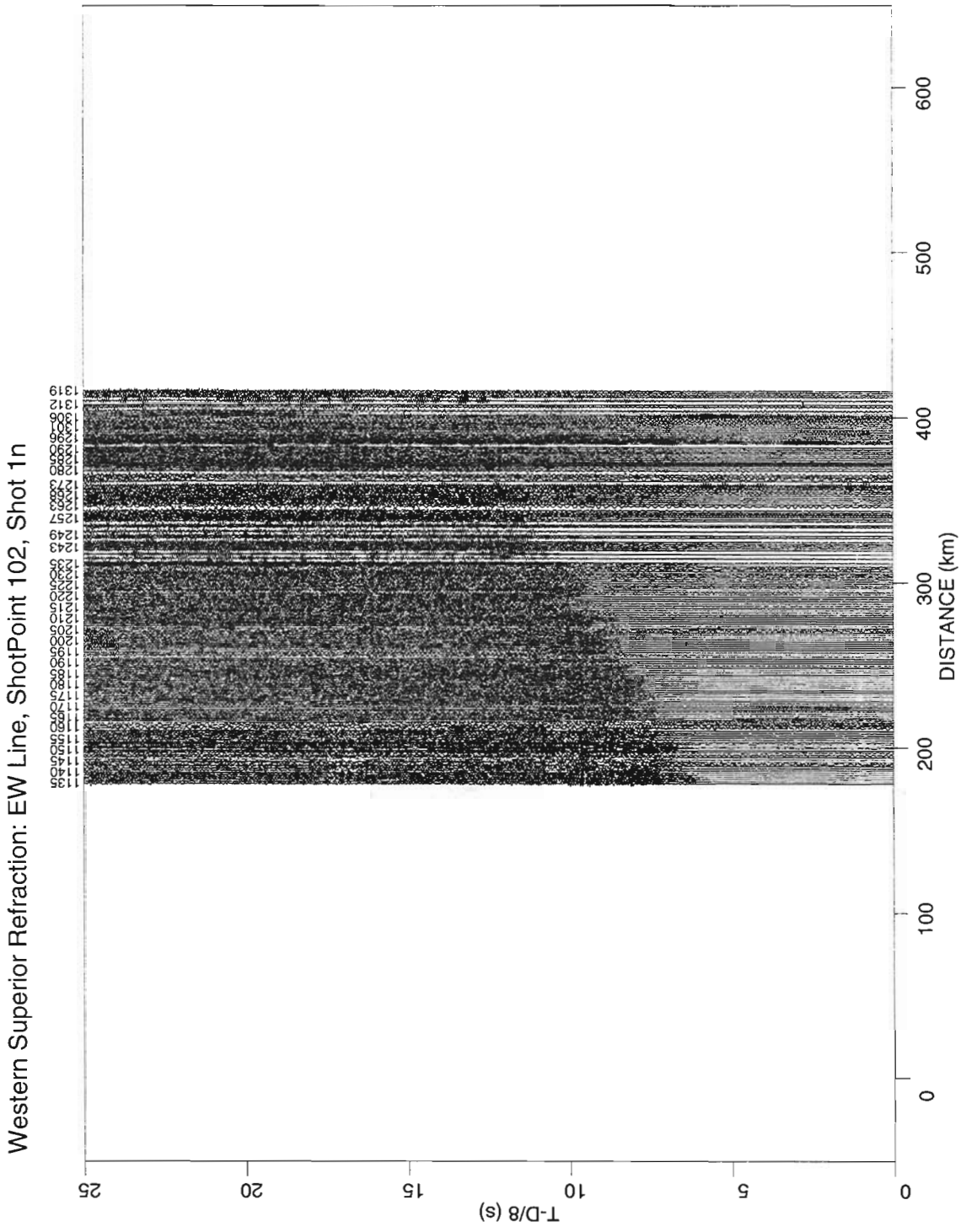


Figure 19: Shot 1n North-South of ZNE

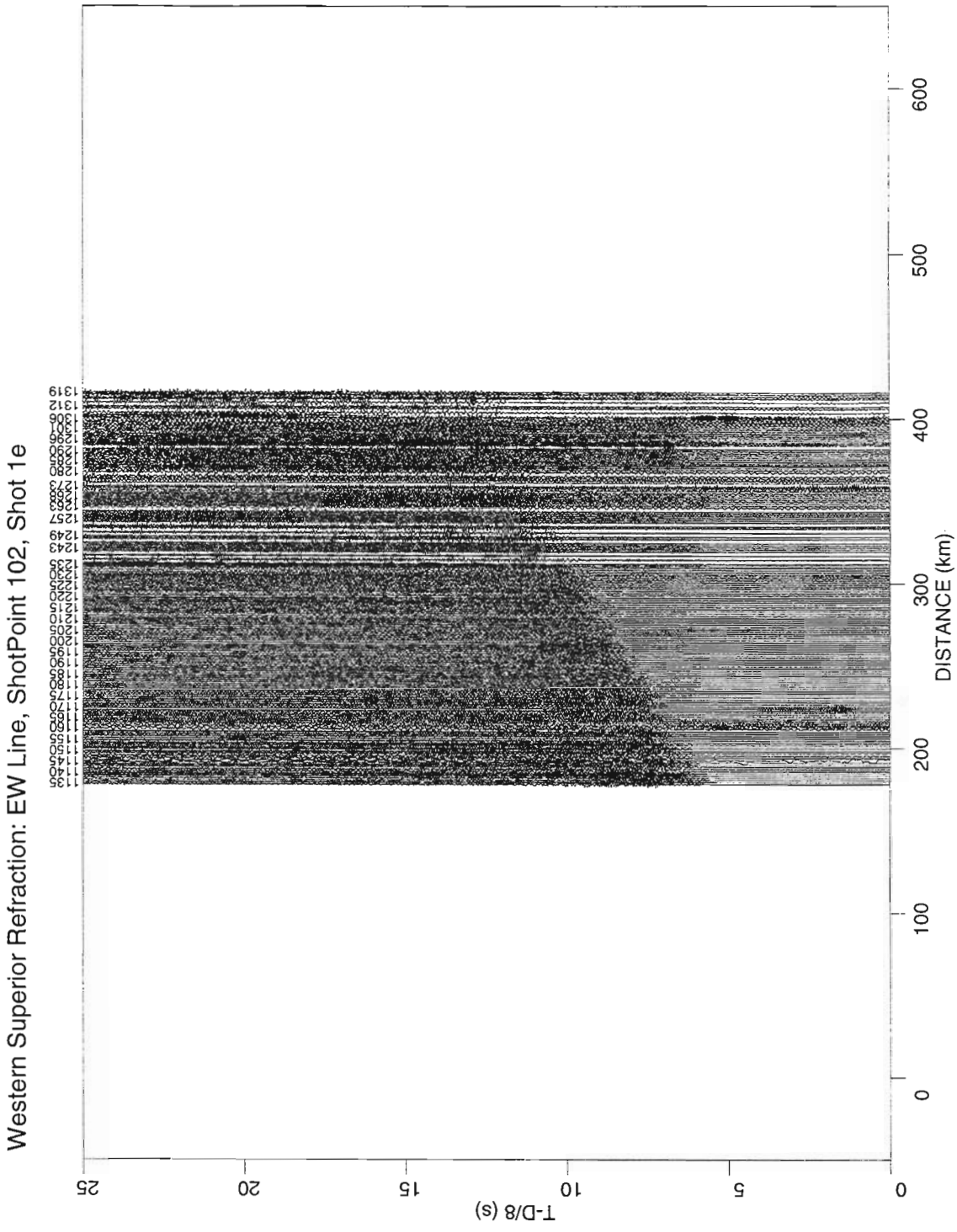


Figure 20: Shot 1e East-West of ZNE

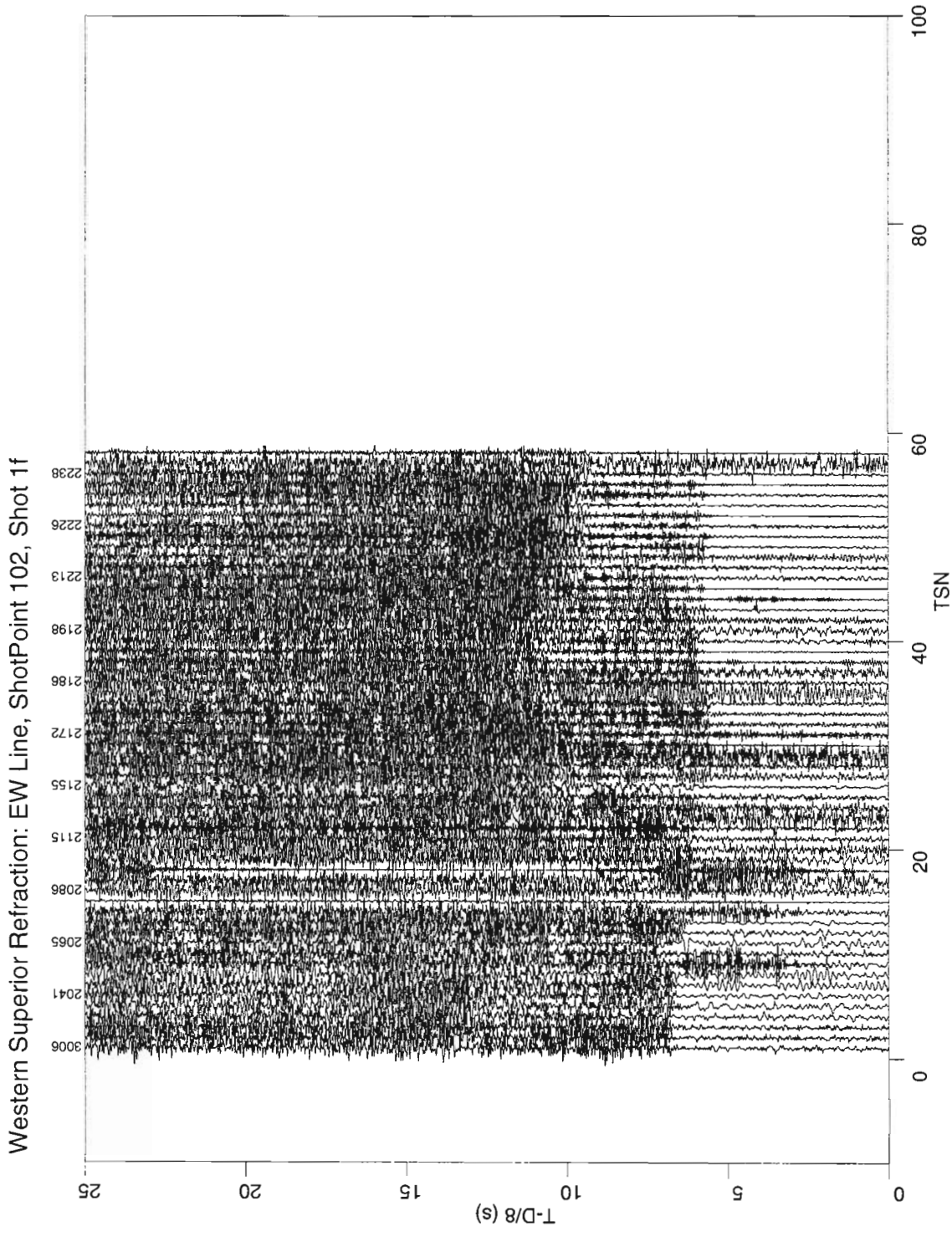


Figure 21: Shot 1f Broadside

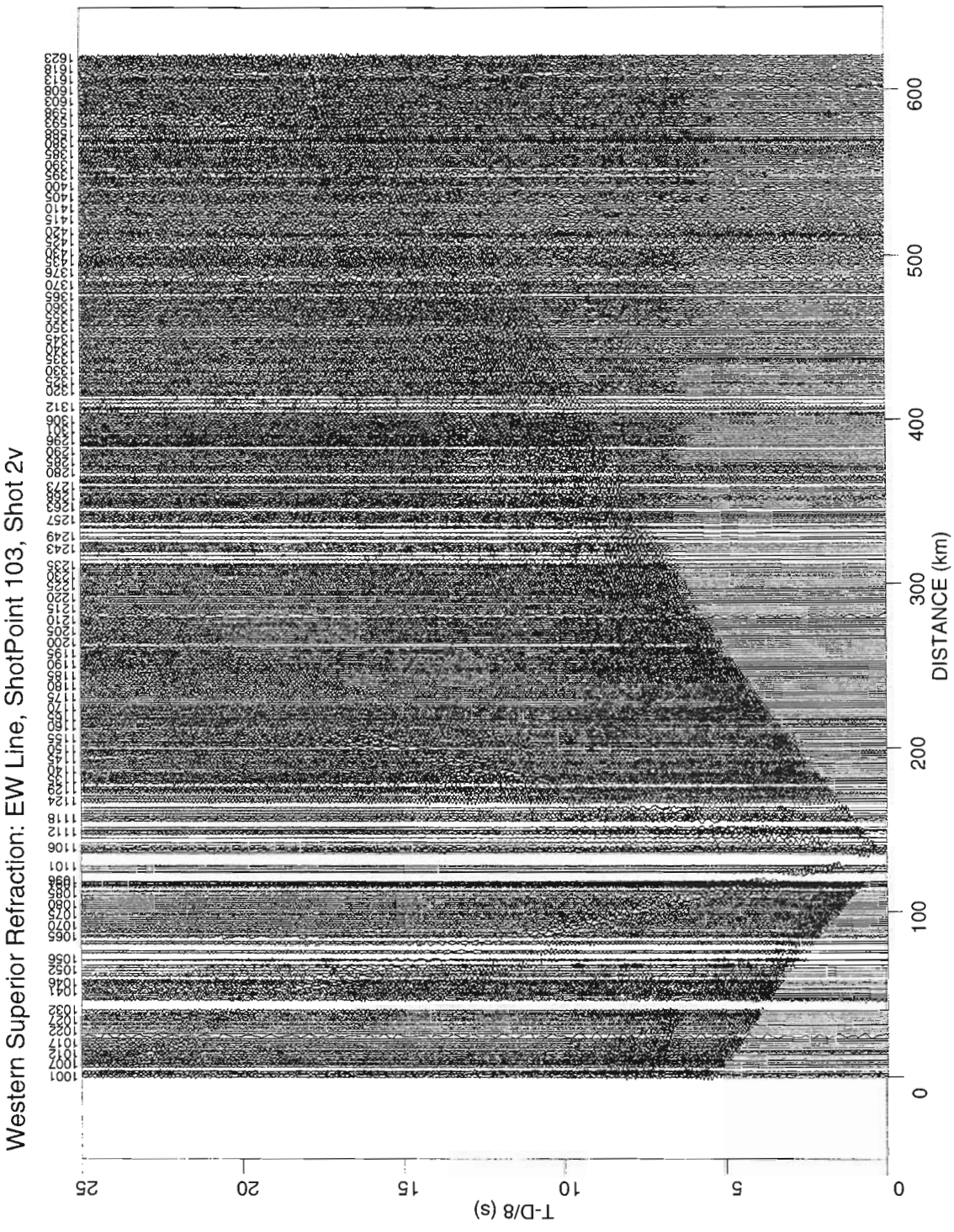


Figure 22: Shot 2v Vertical component

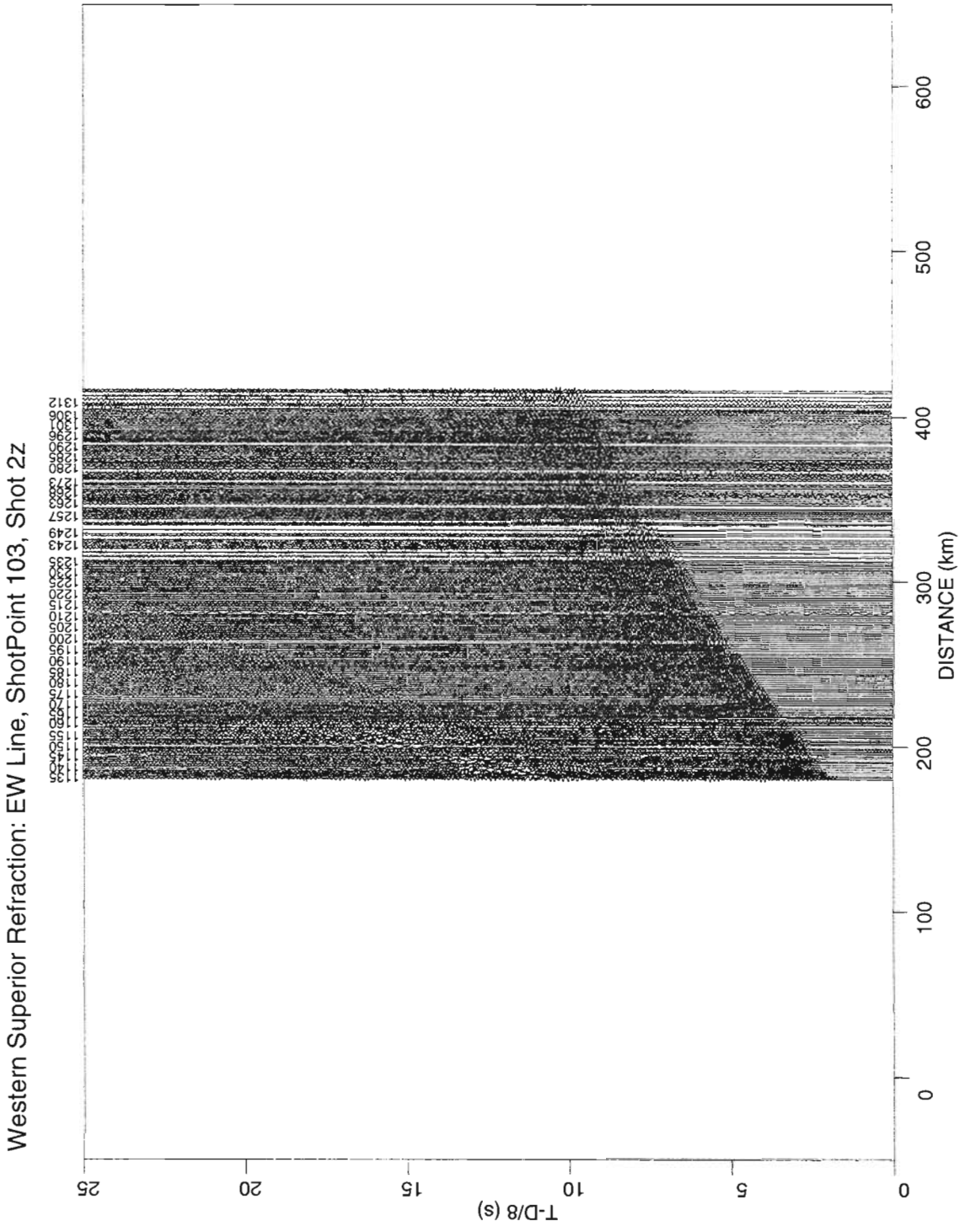


Figure 23: Shot 2z Vertical of ZNE

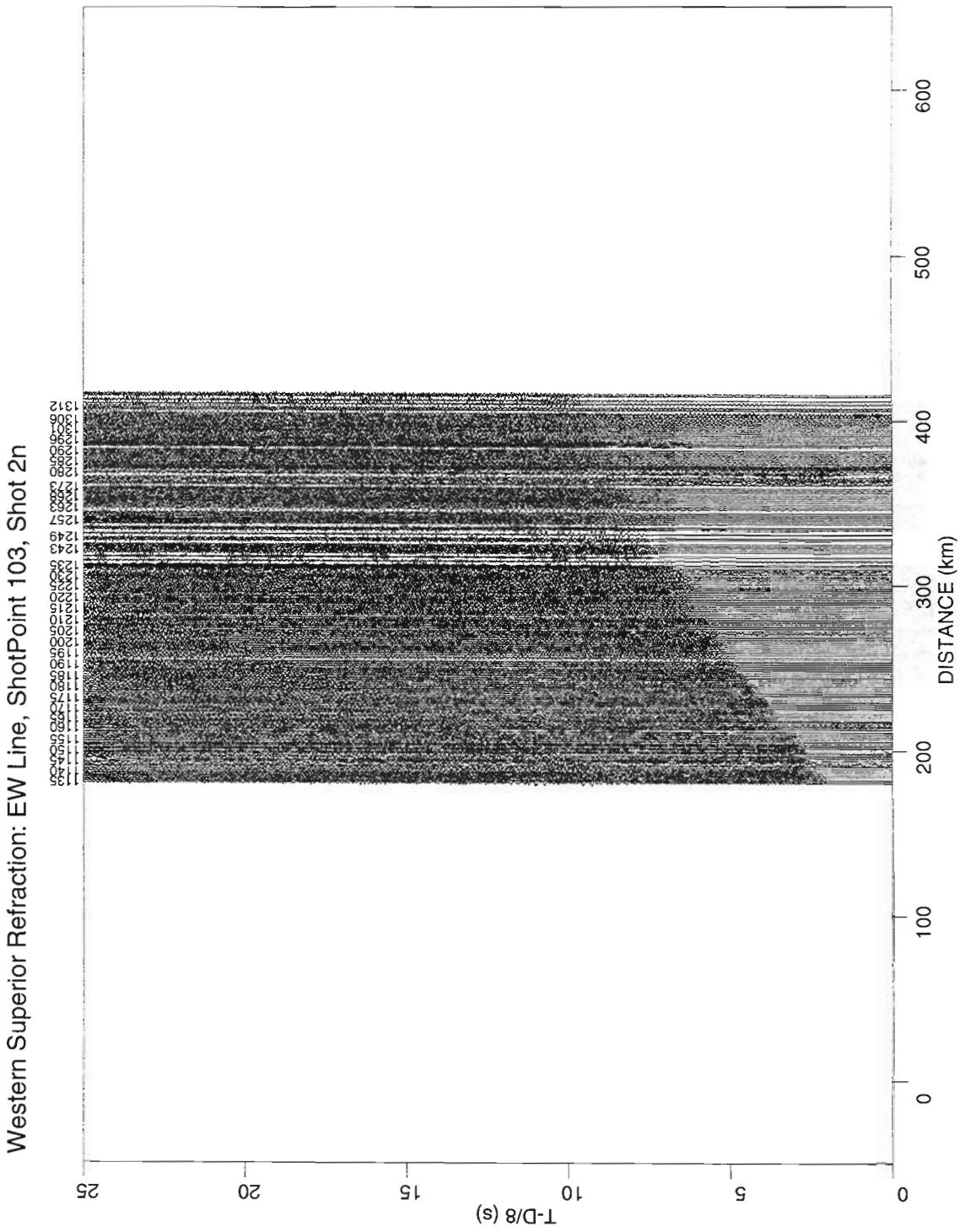


Figure 24: Shot 2n North-South of ZNE

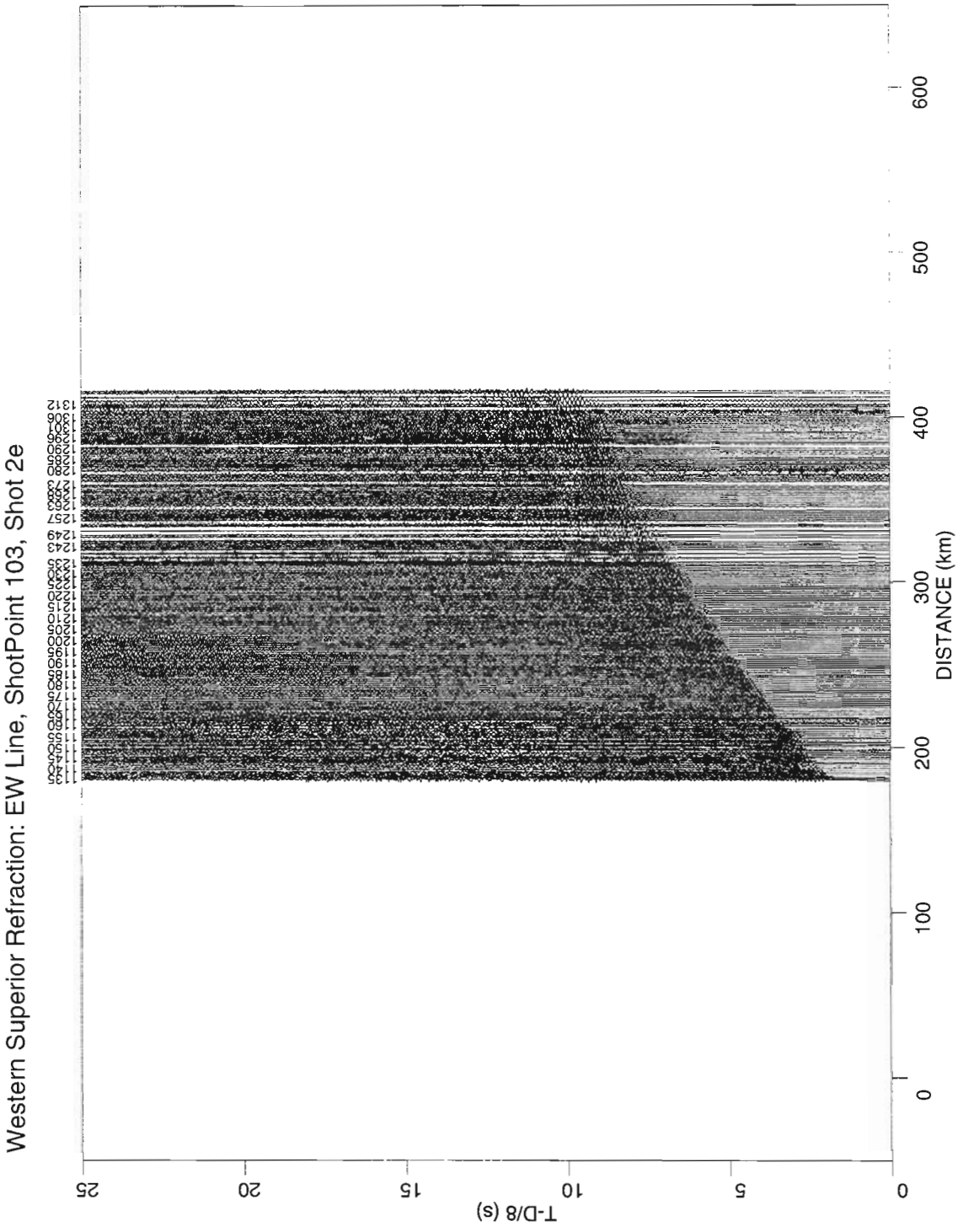


Figure 25: Shot 2e East-West of ZNE

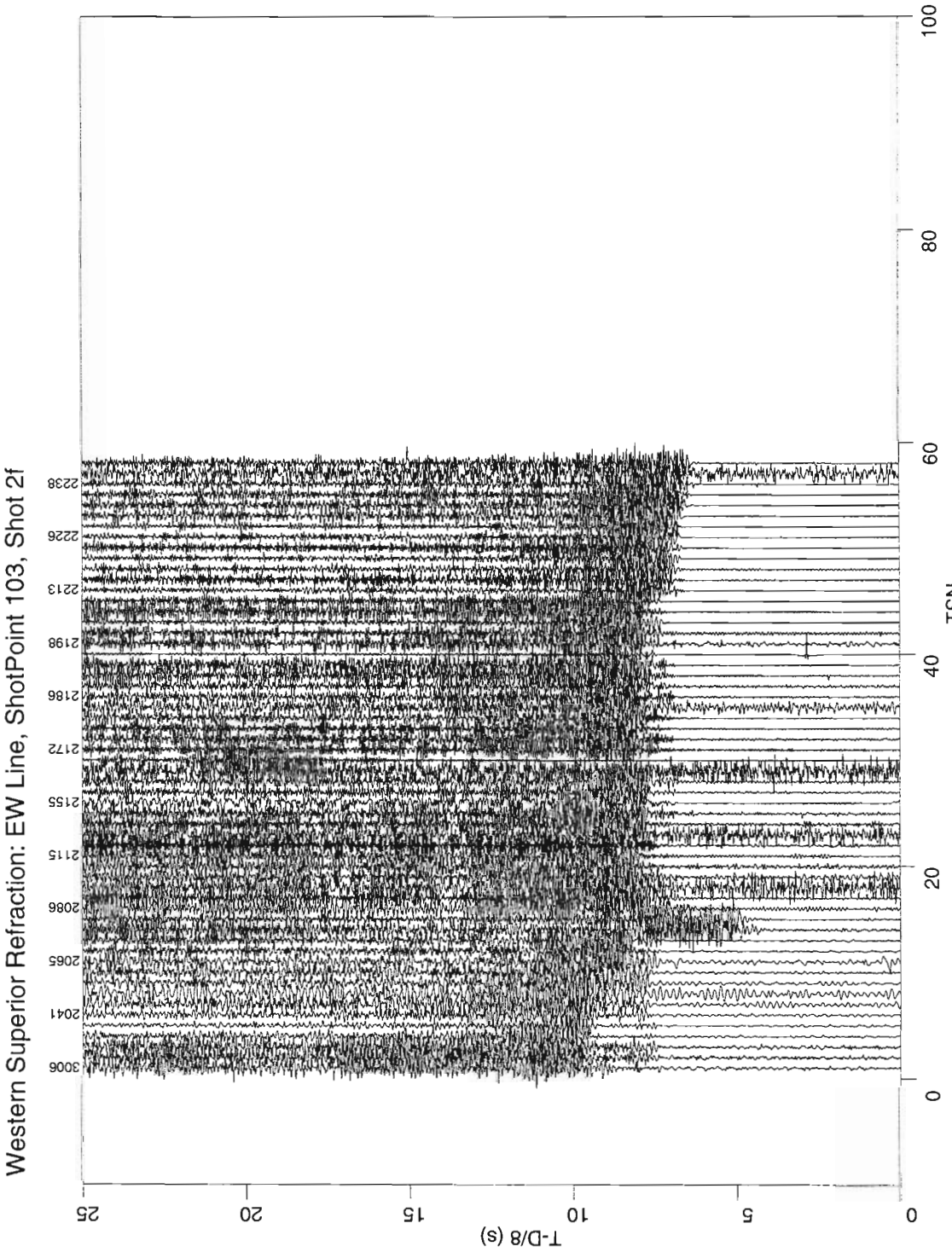


Figure 26: Shot 2f Broadside

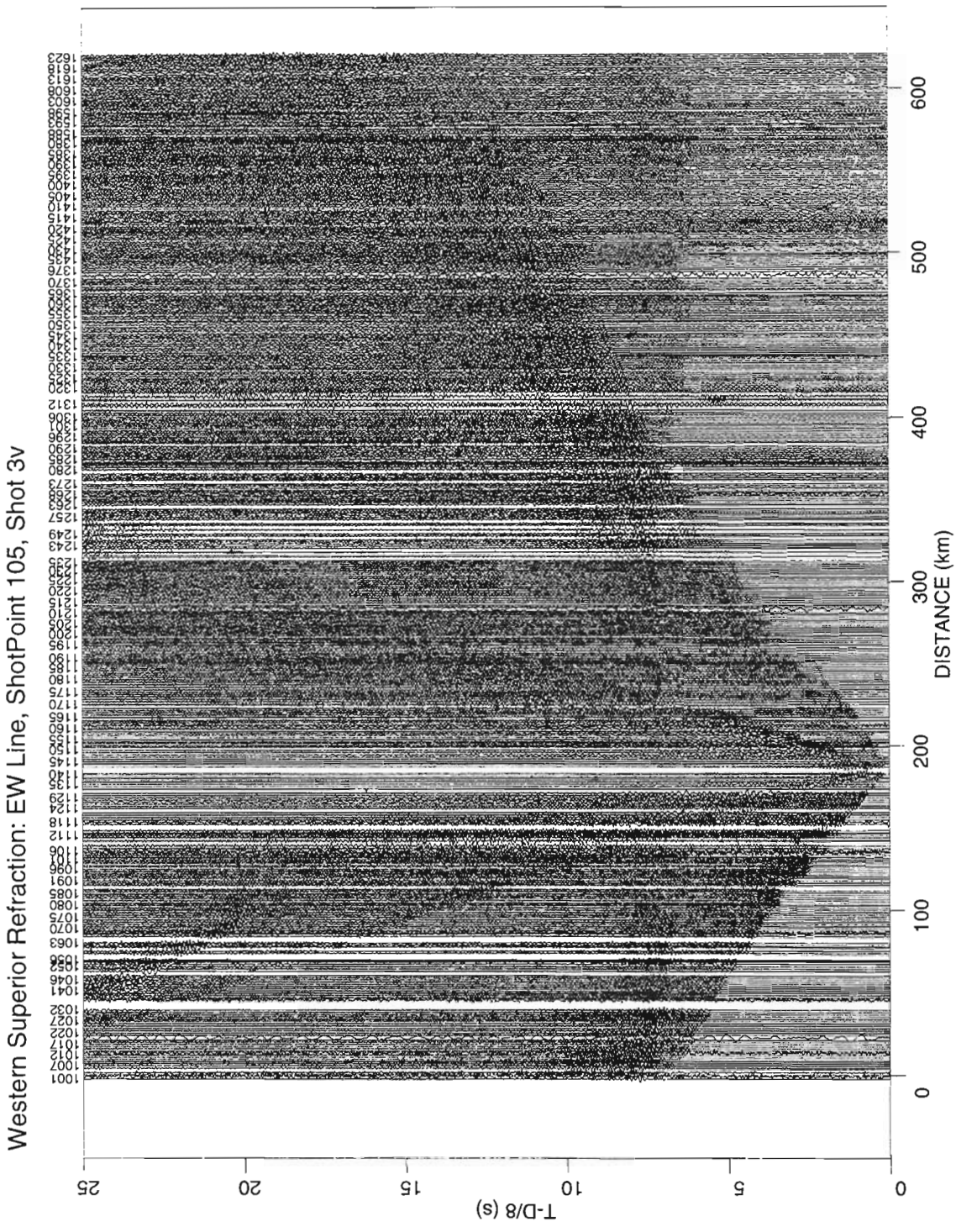


Figure 27: Shot 3v Vertical component

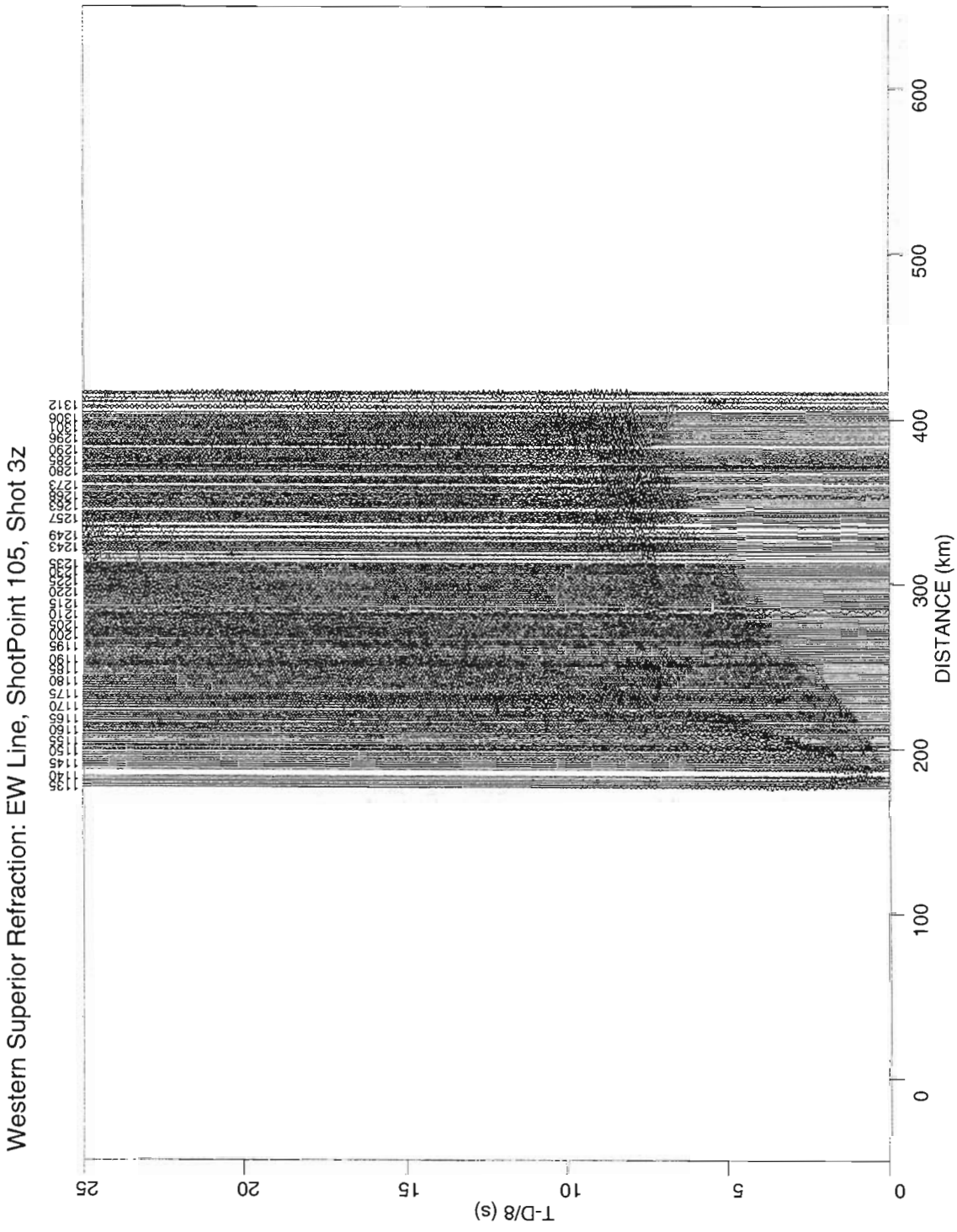


Figure 28: Shot 3z Vertical of ZNE

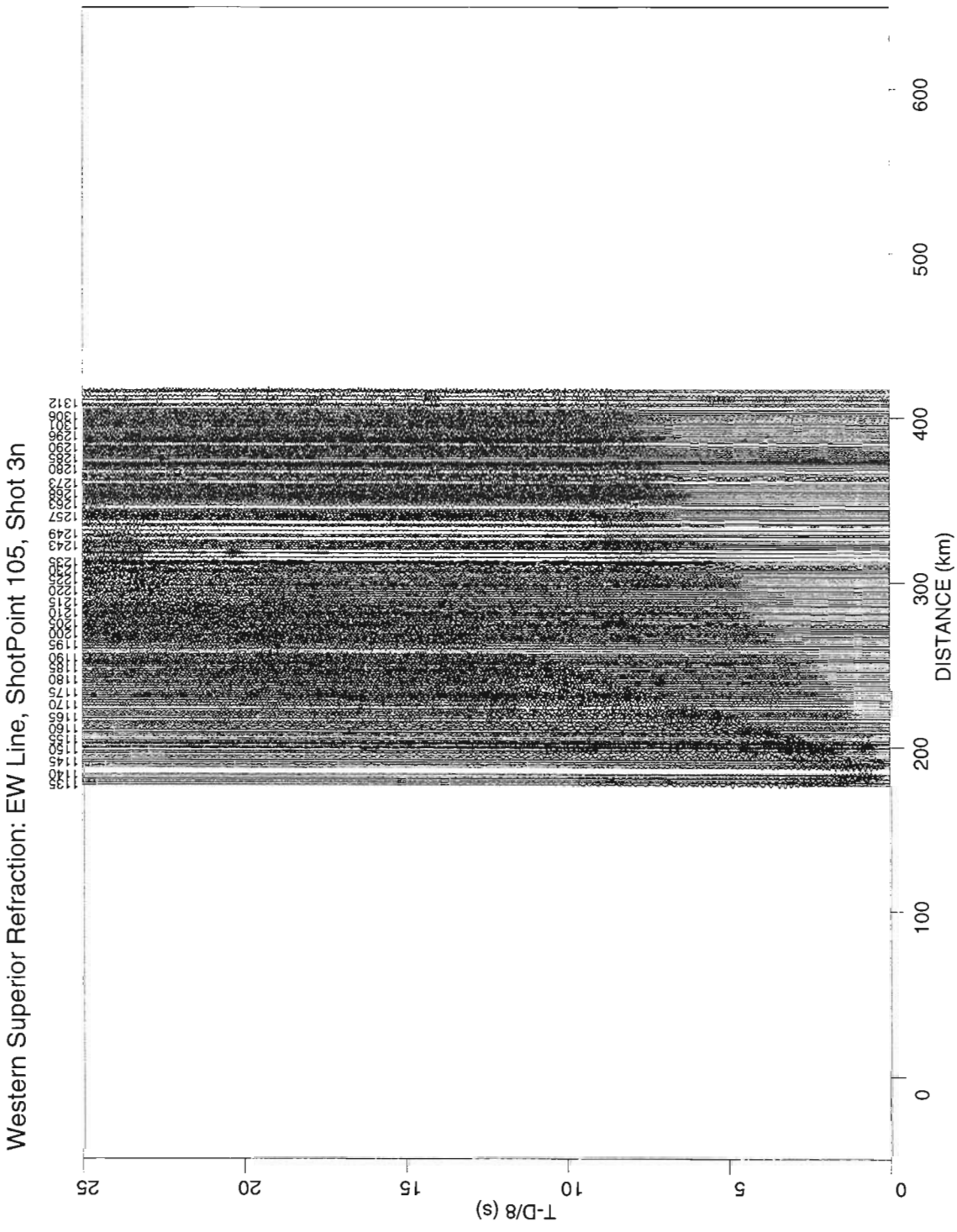


Figure 29: Shot 3n North-South of ZNE

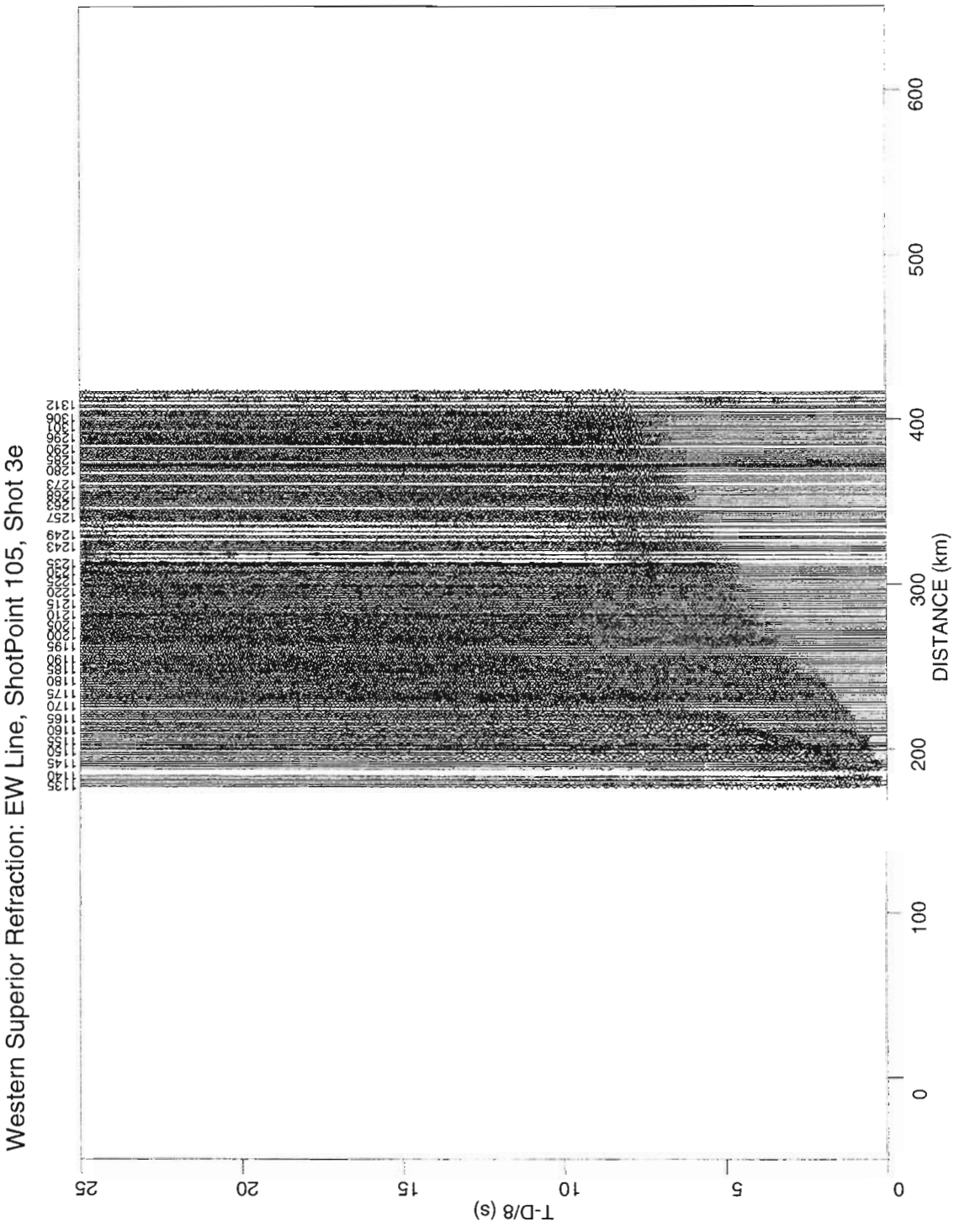


Figure 30: Shot 3e East-West of ZNE

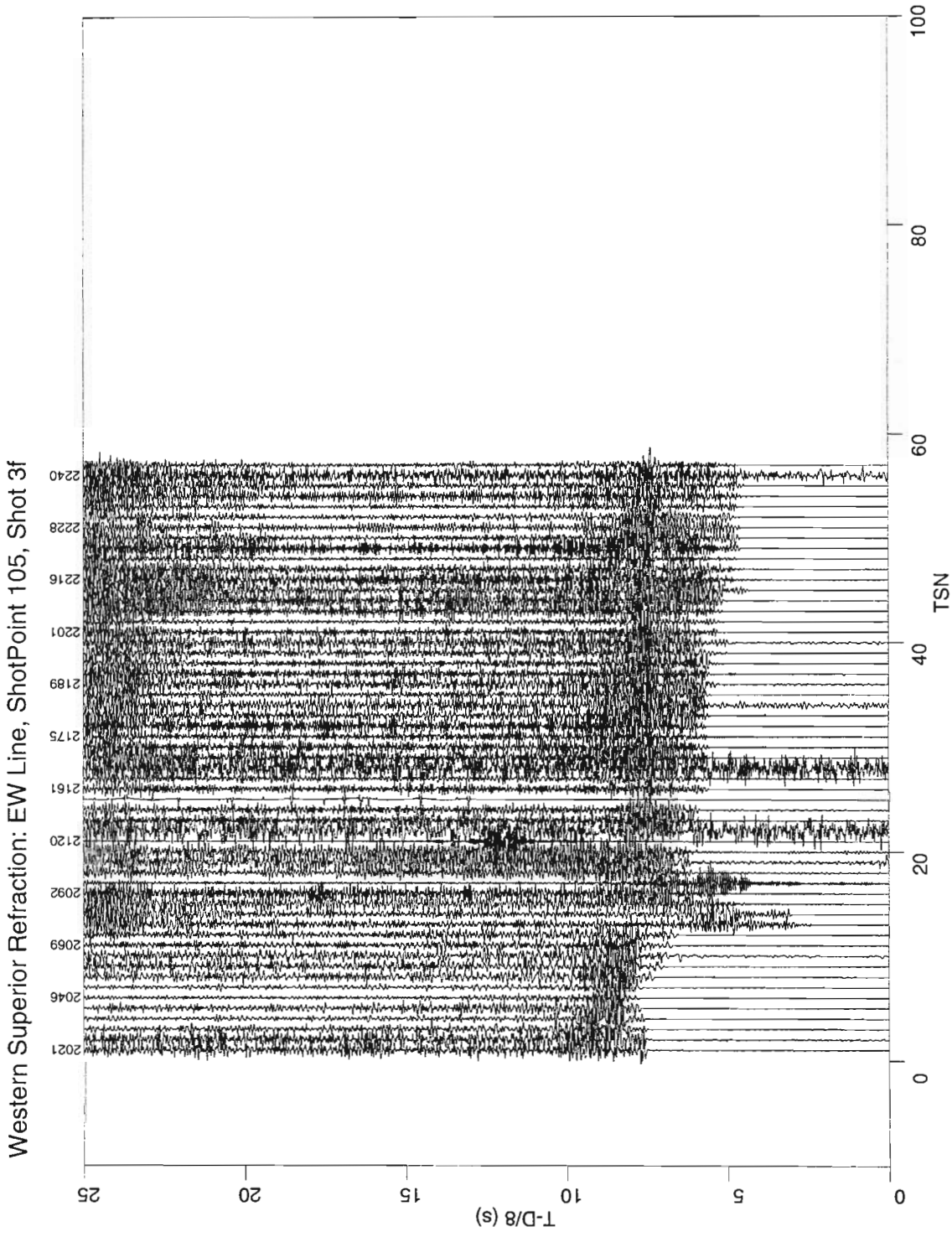


Figure 31: Shot 3f Broadside

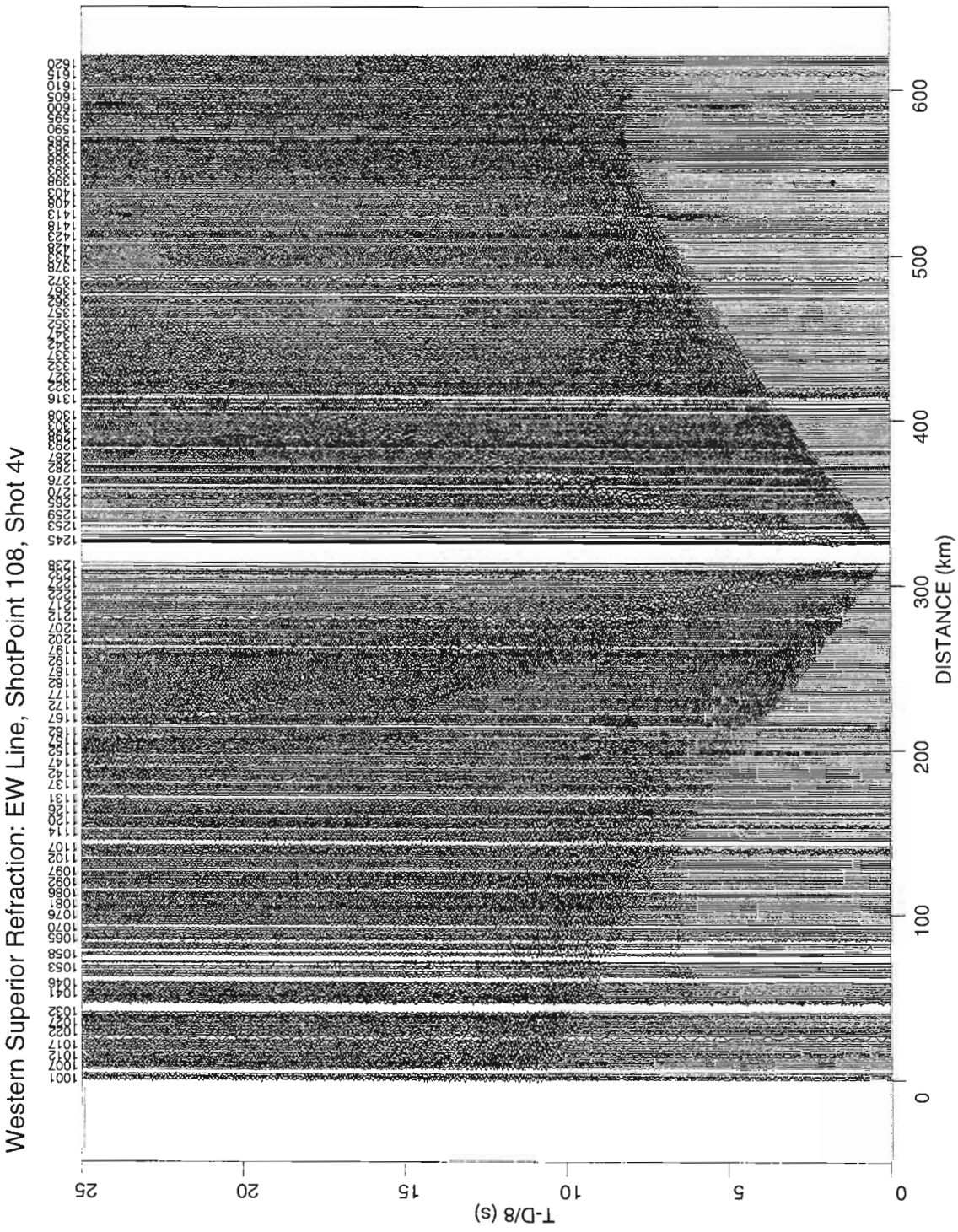


Figure 32: Shot 4v Vertical component

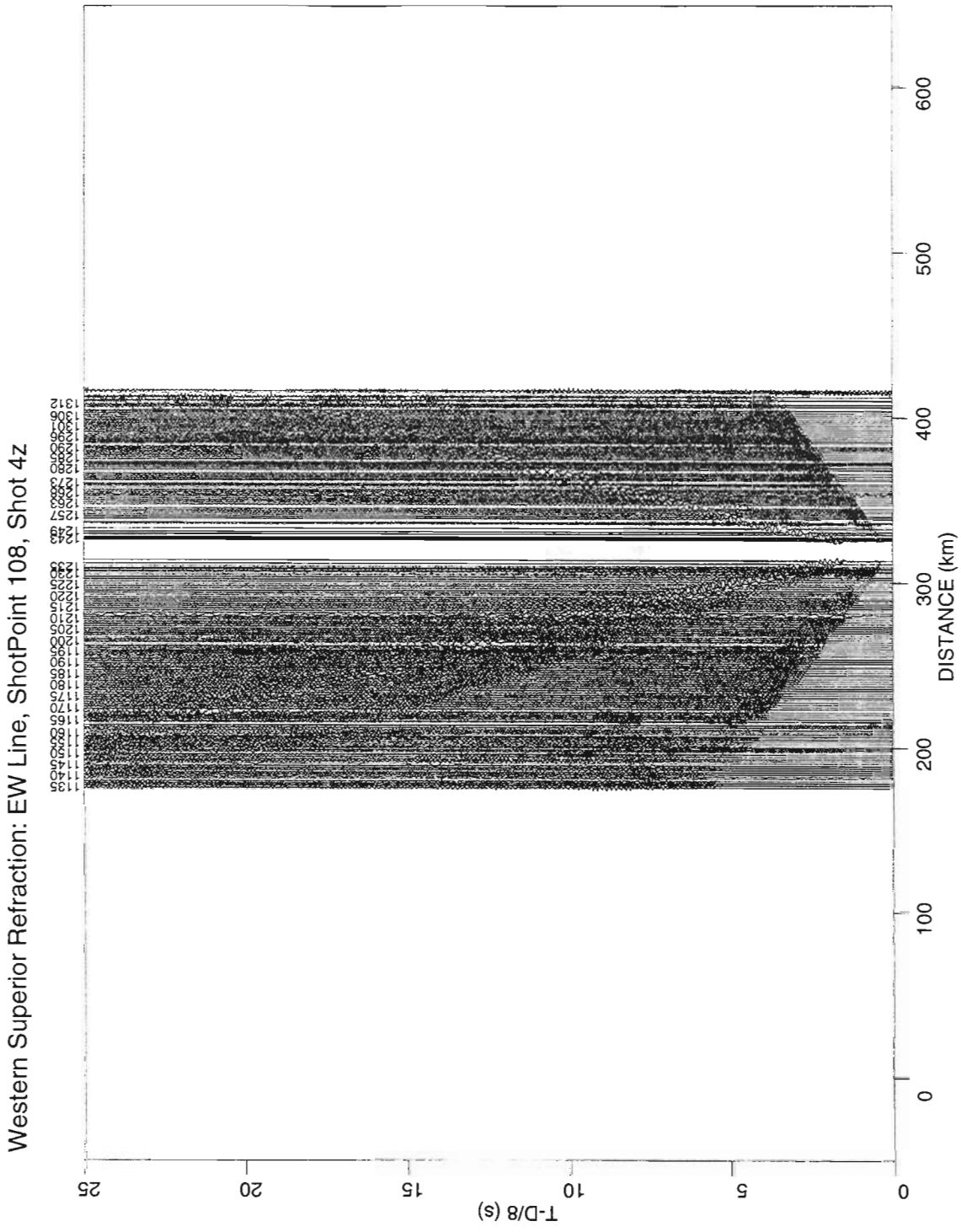


Figure 33: Shot 4z Vertical of ZNE

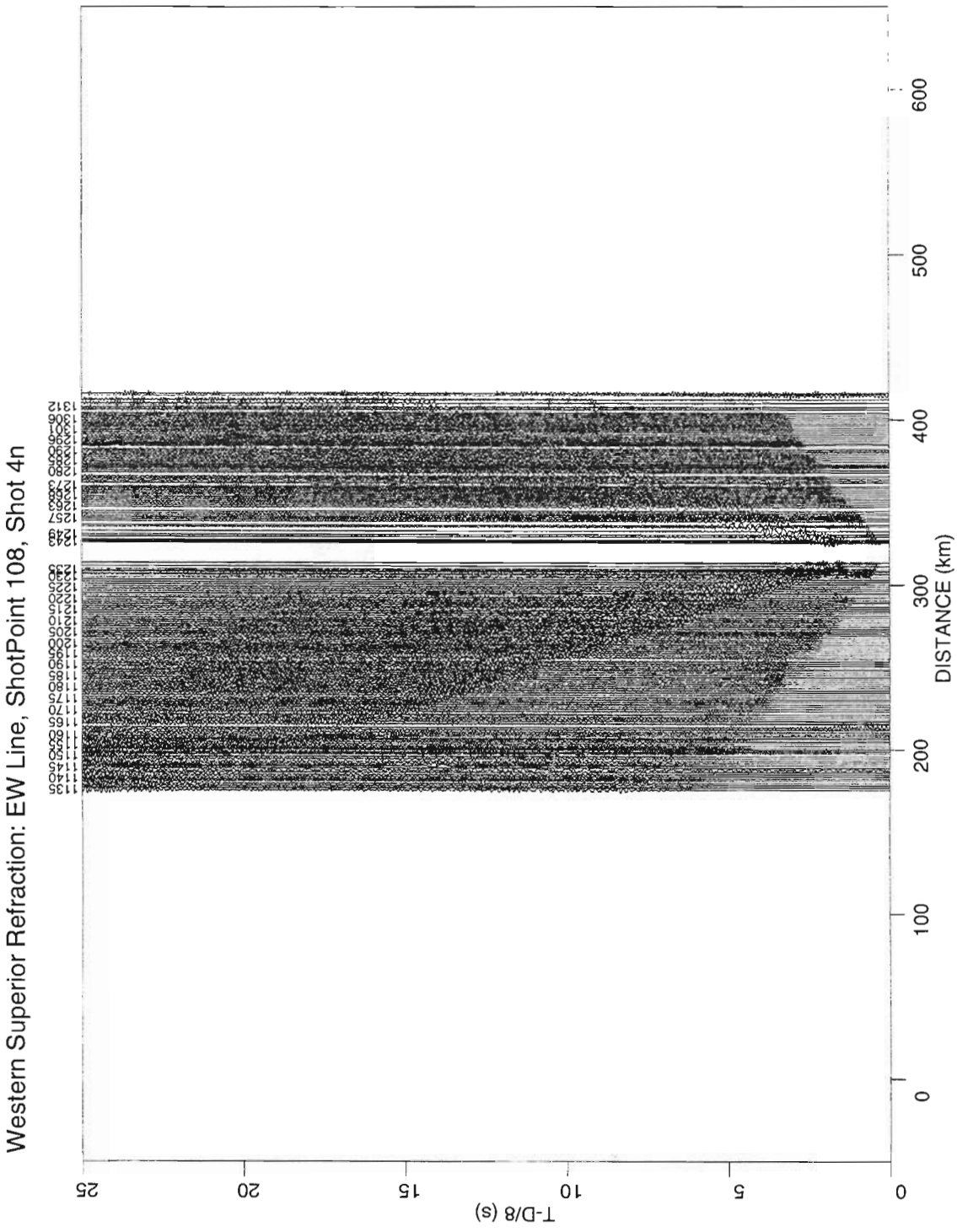


Figure 34: Shot 4n North-South of ZNE

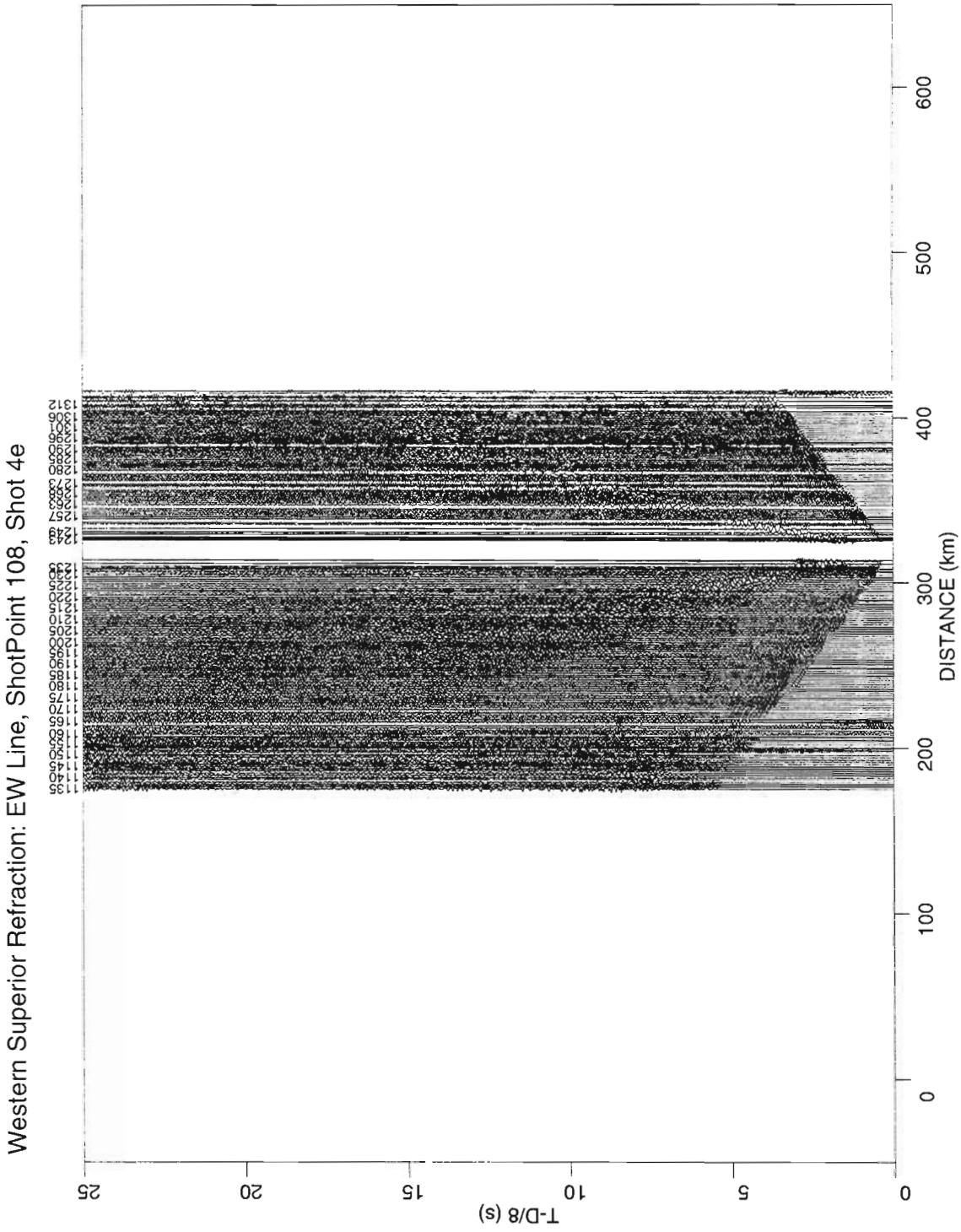


Figure 35: Shot 4e East-West of ZNE

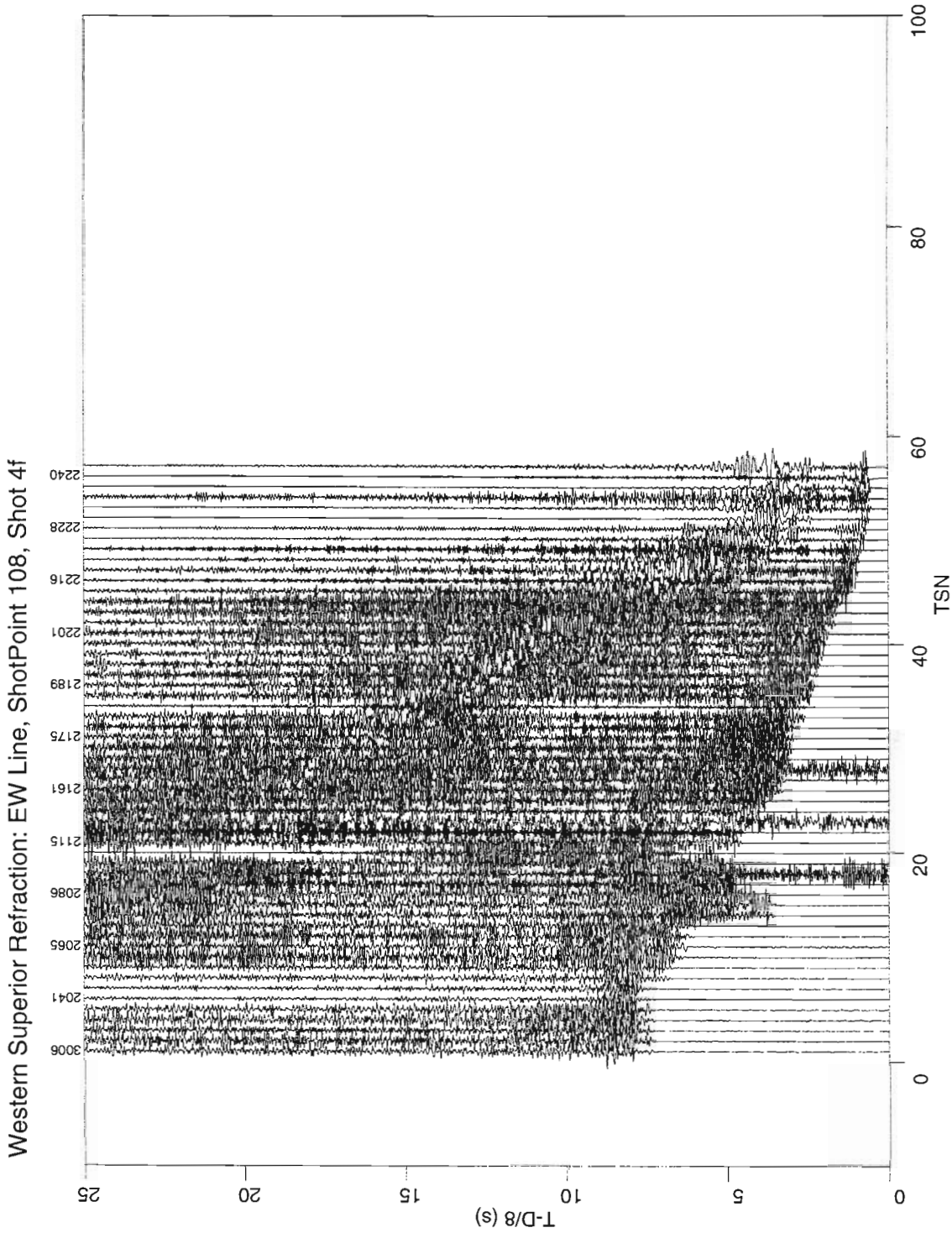


Figure 36: Shot 4f Broadside

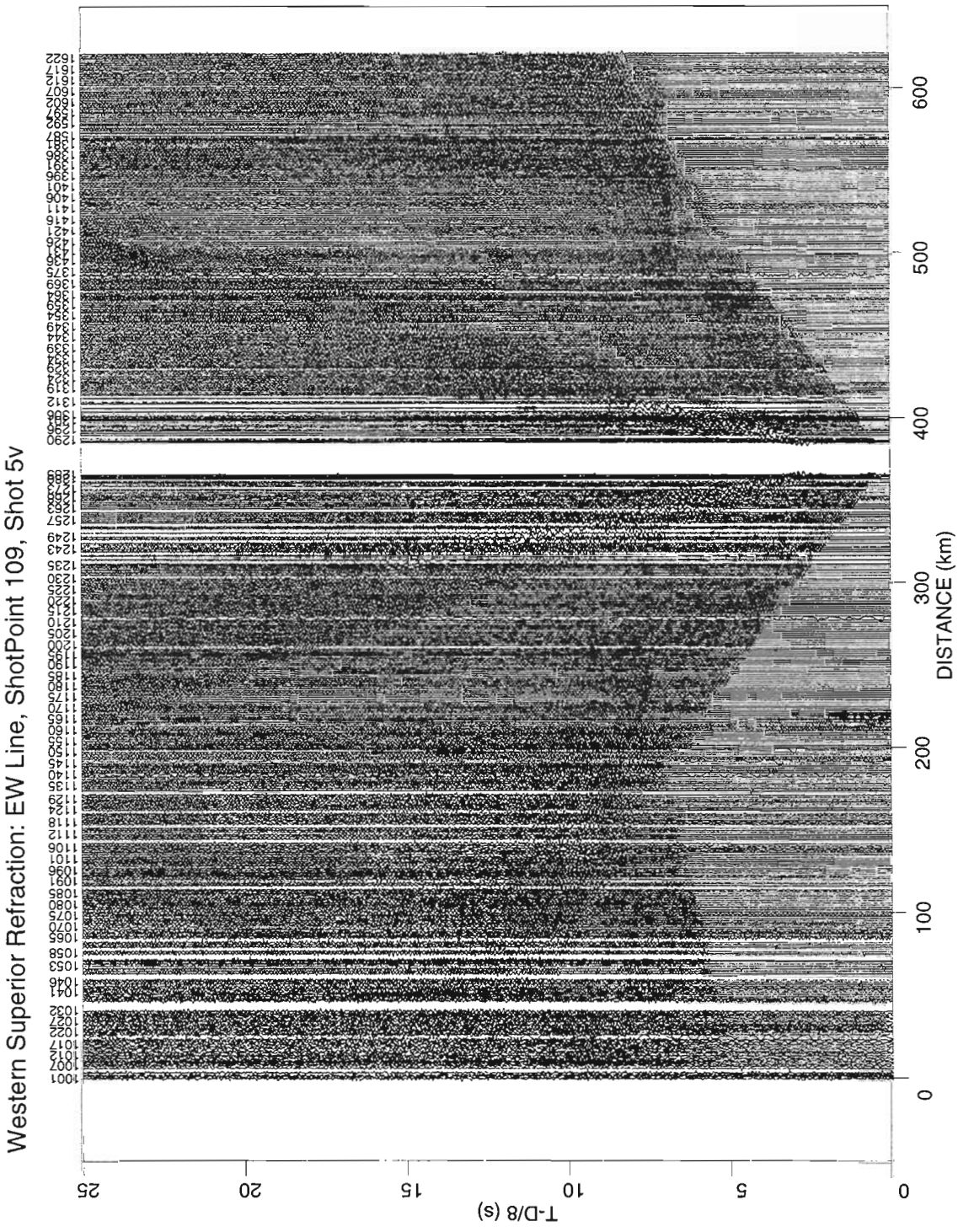


Figure 37: Shot 5v Vertical component

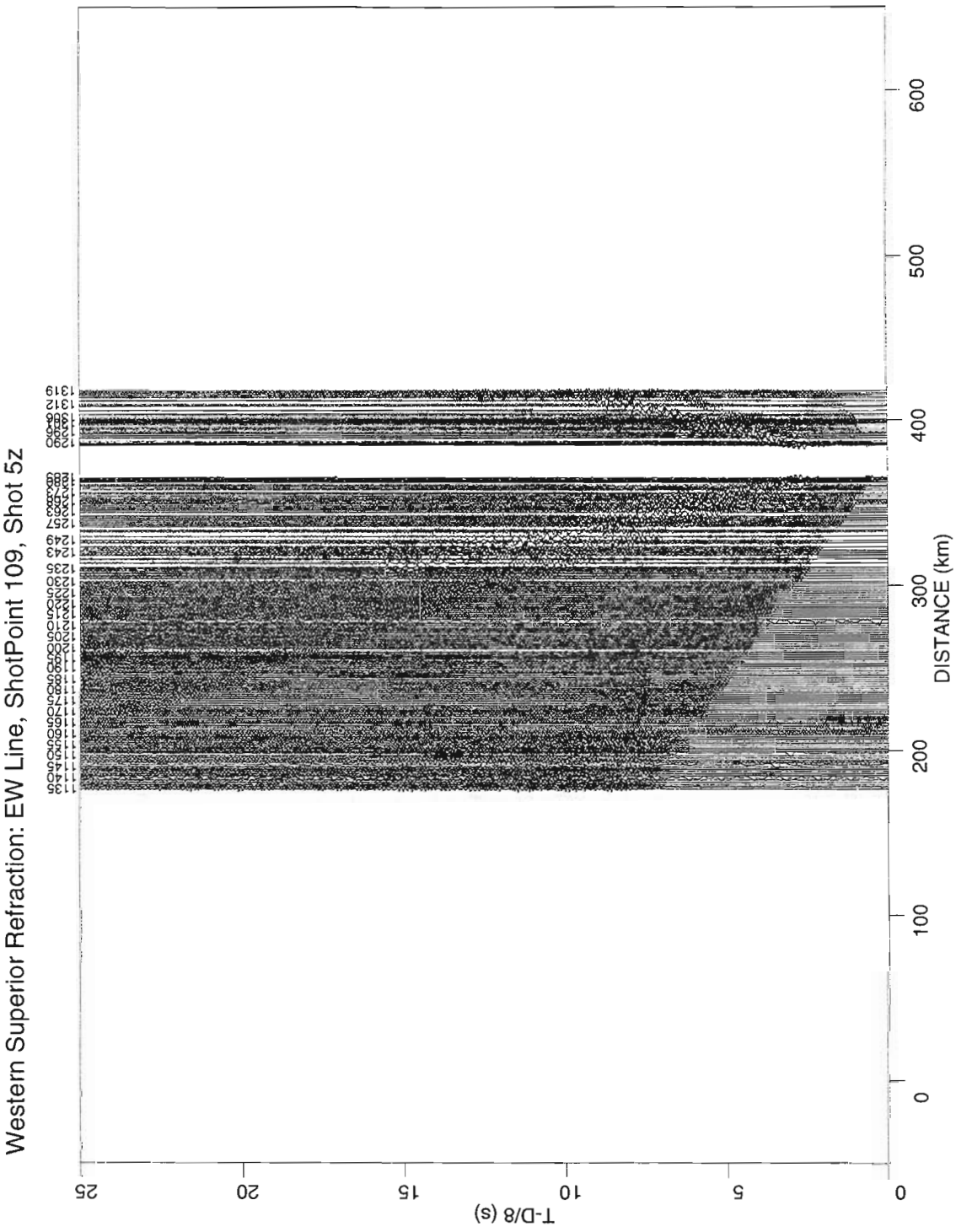


Figure 38: Shot 5z Vertical of ZNE

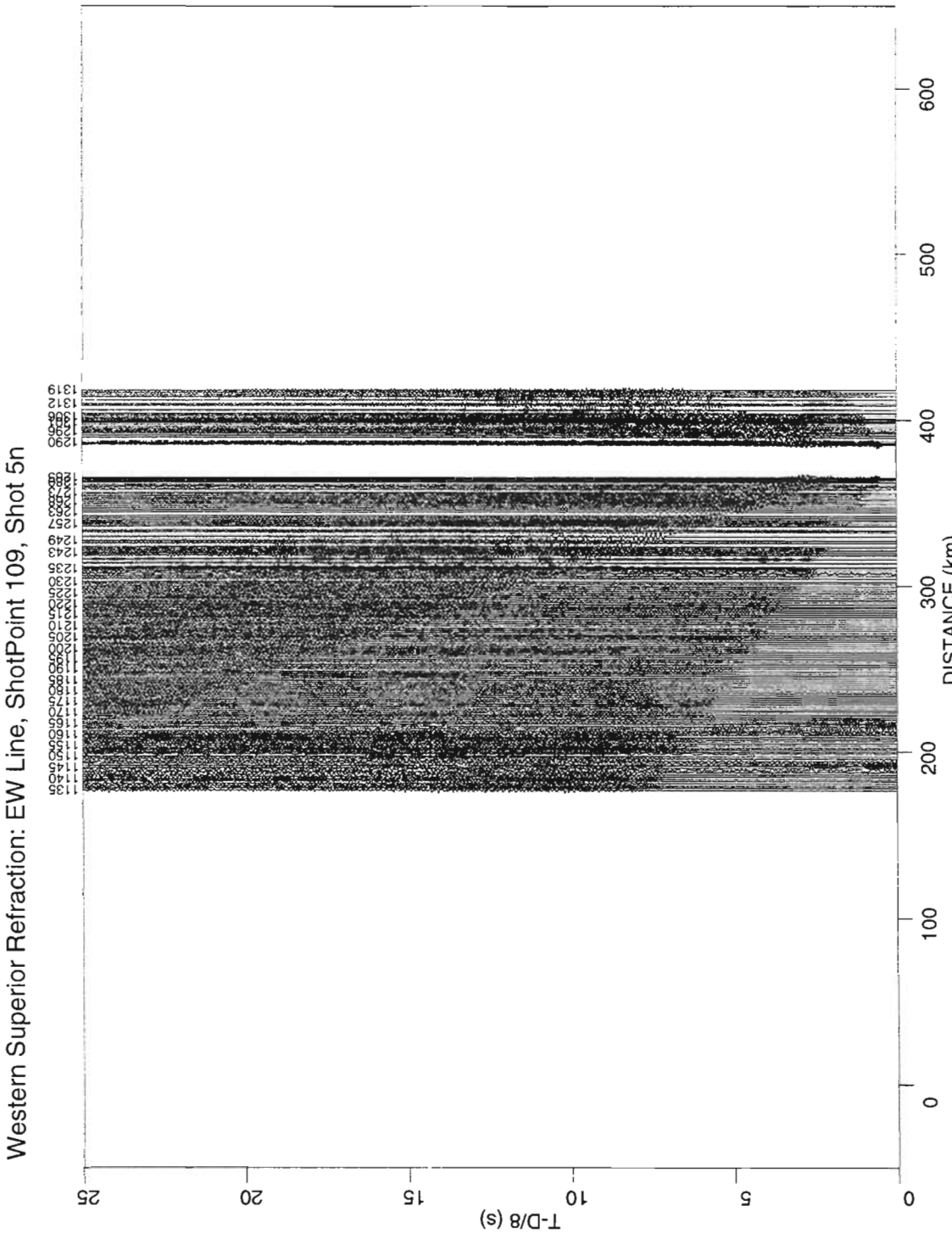


Figure 39: Shot 5n North-South of ZNE

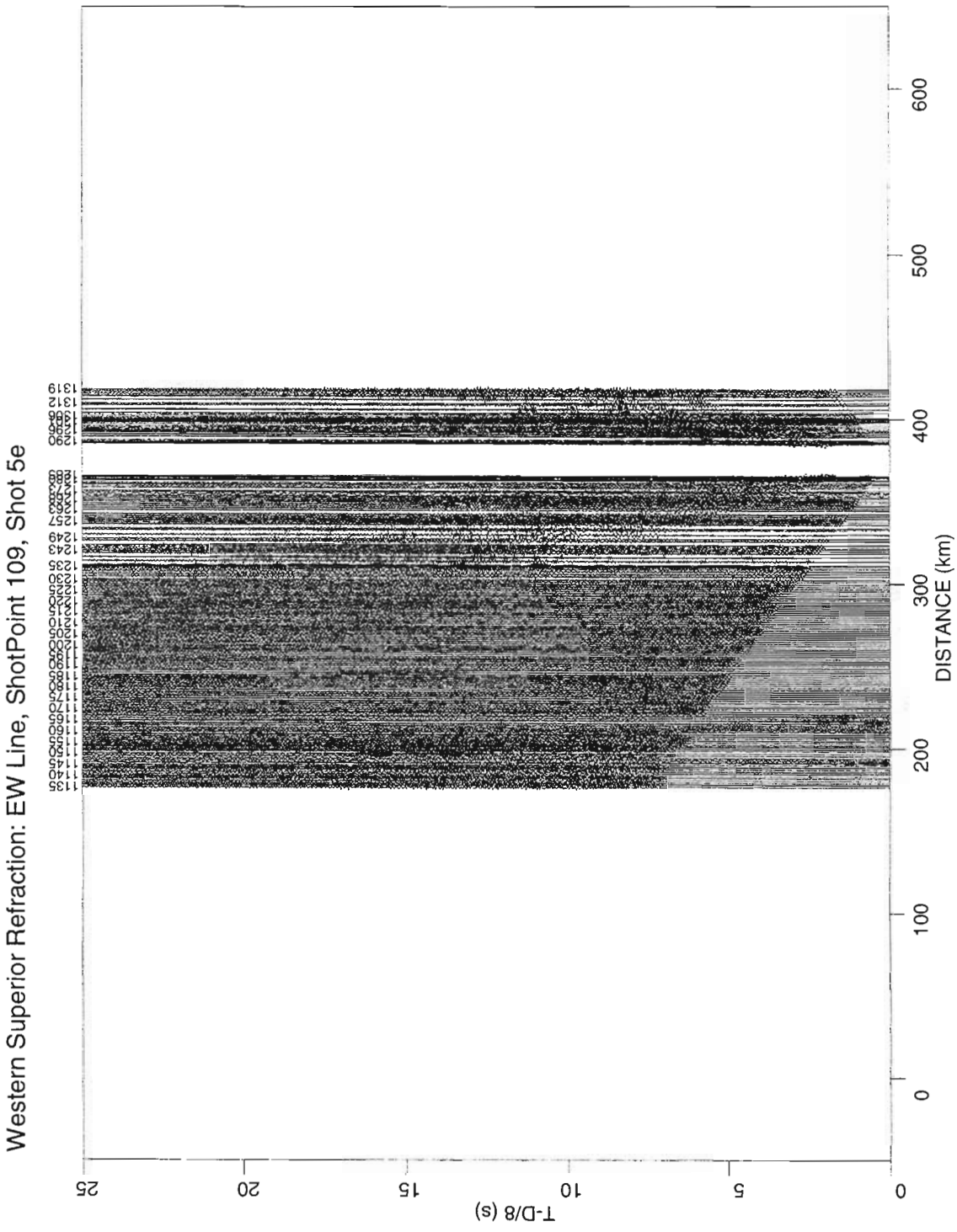


Figure 40: Shot 5e East-West of ZNE

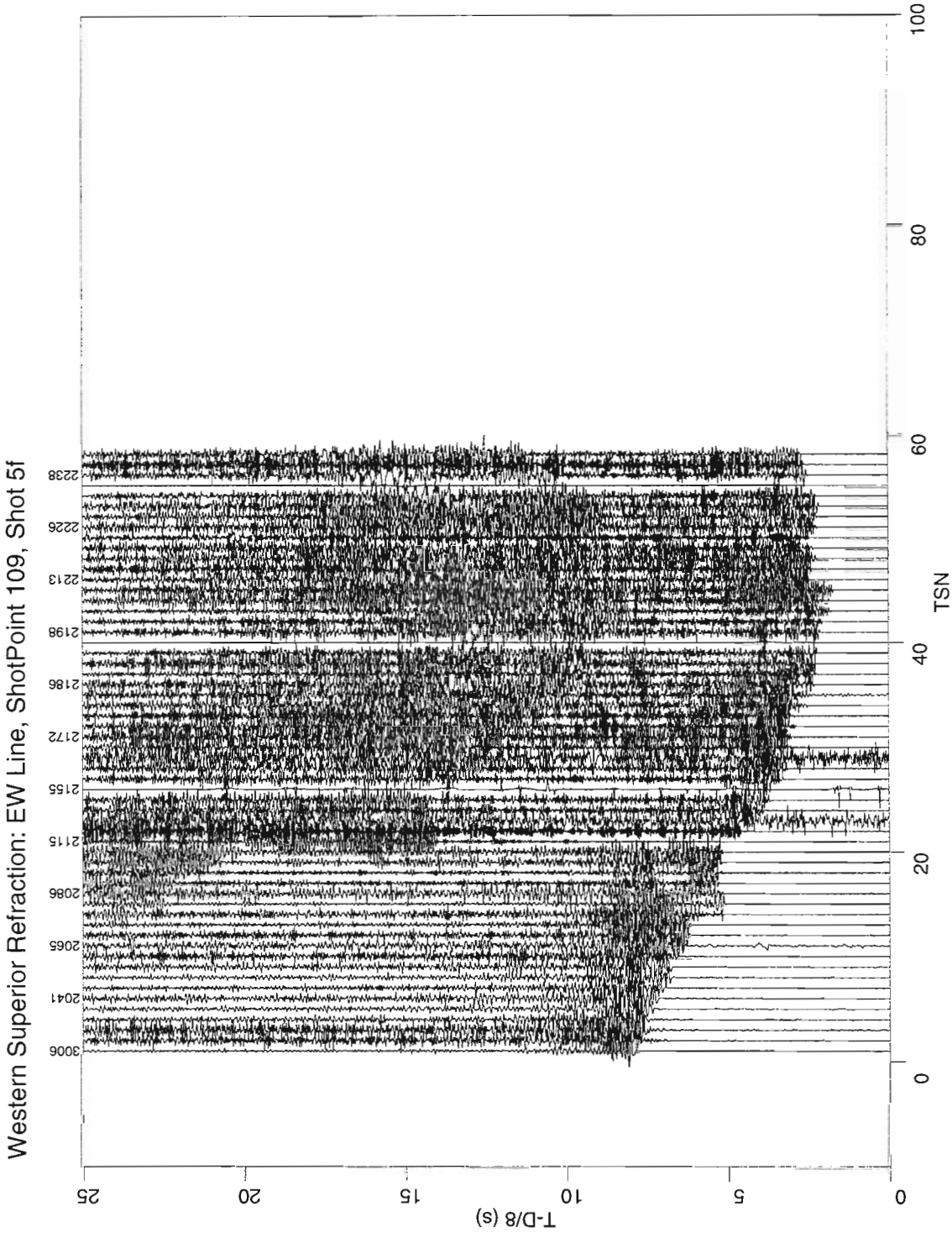


Figure 41: Shot 5f Broadside

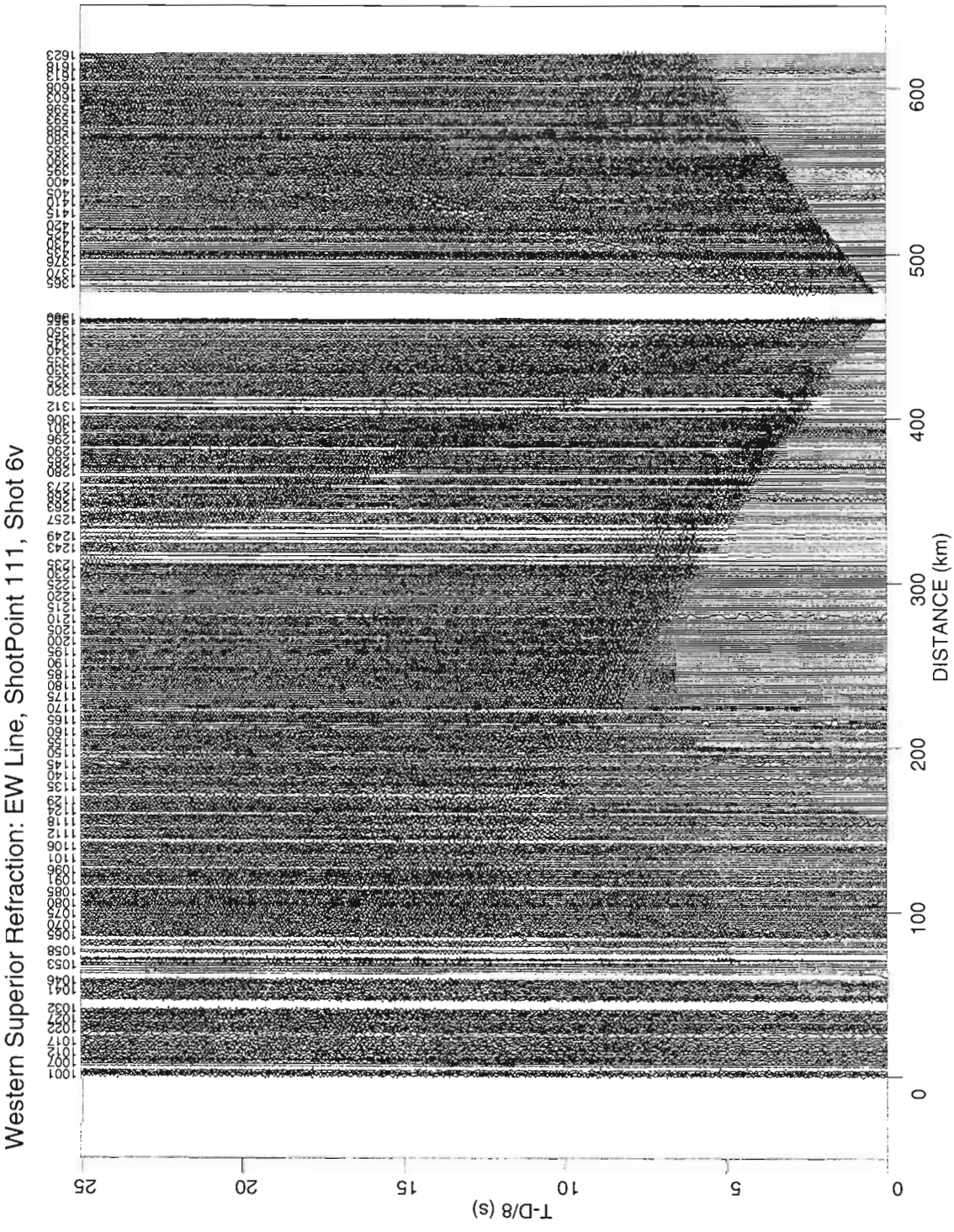


Figure 42: Shot 6v Vertical component

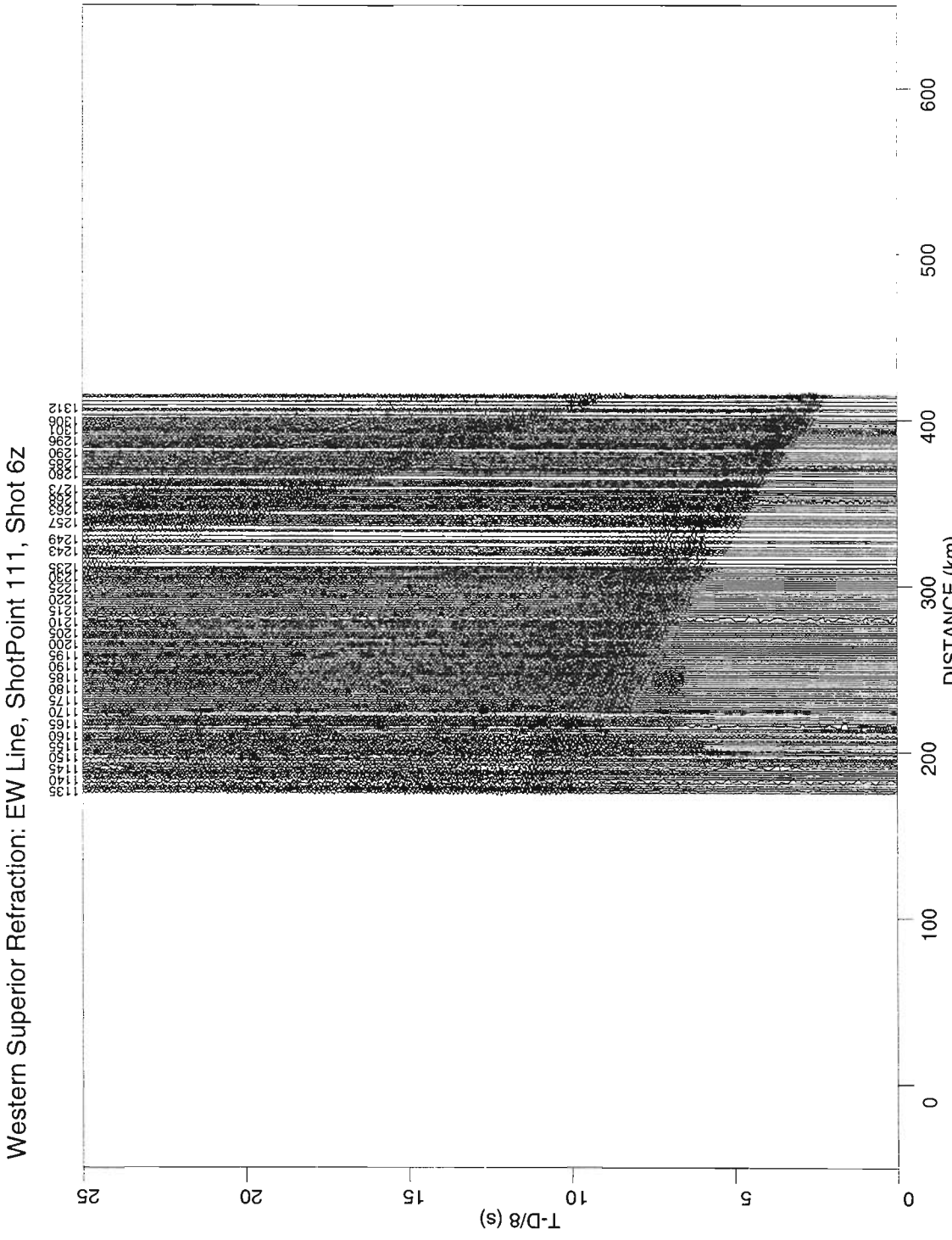


Figure 43: Shot 6z Vertical of ZNE

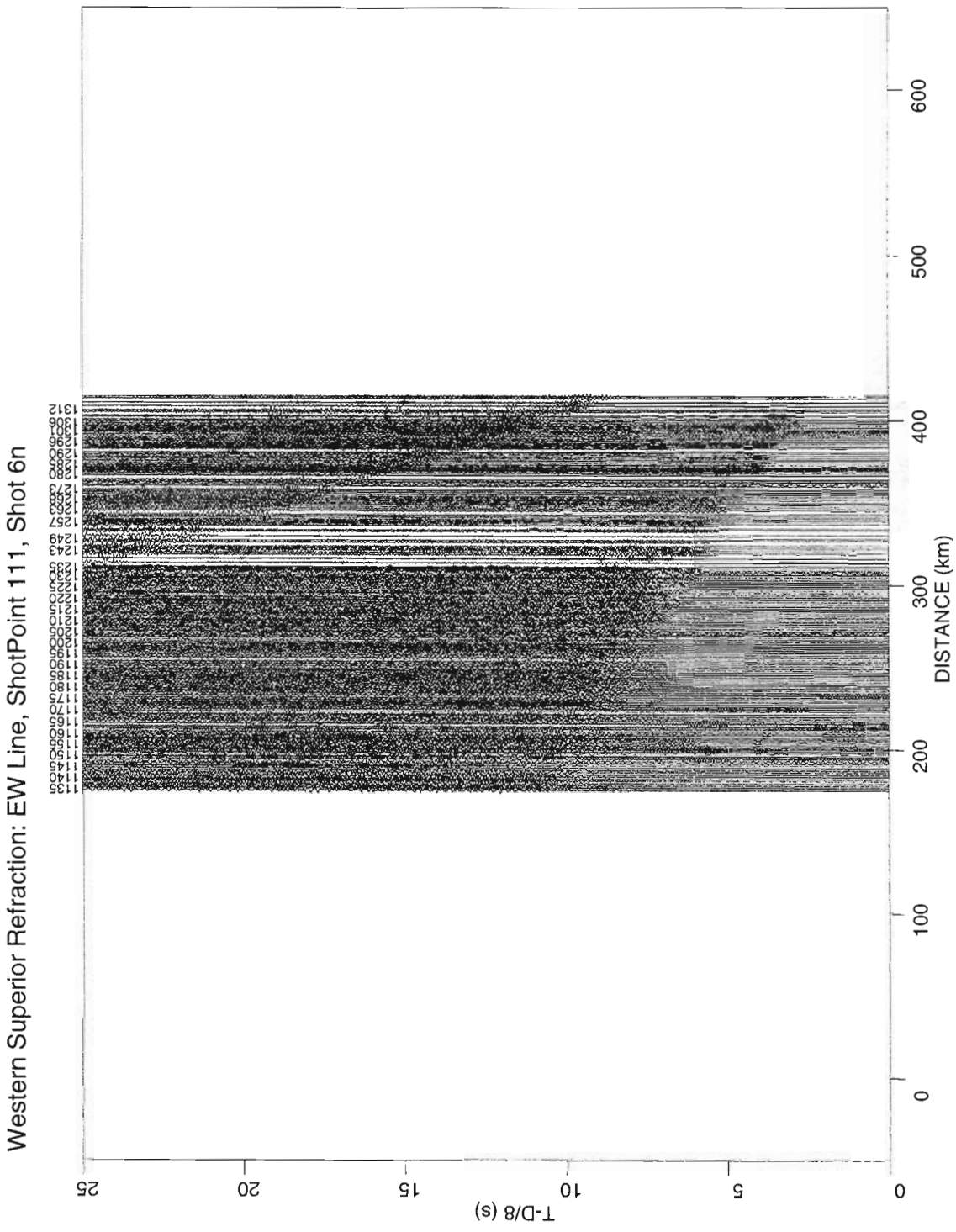


Figure 44: Shot 6n North-South of ZNE

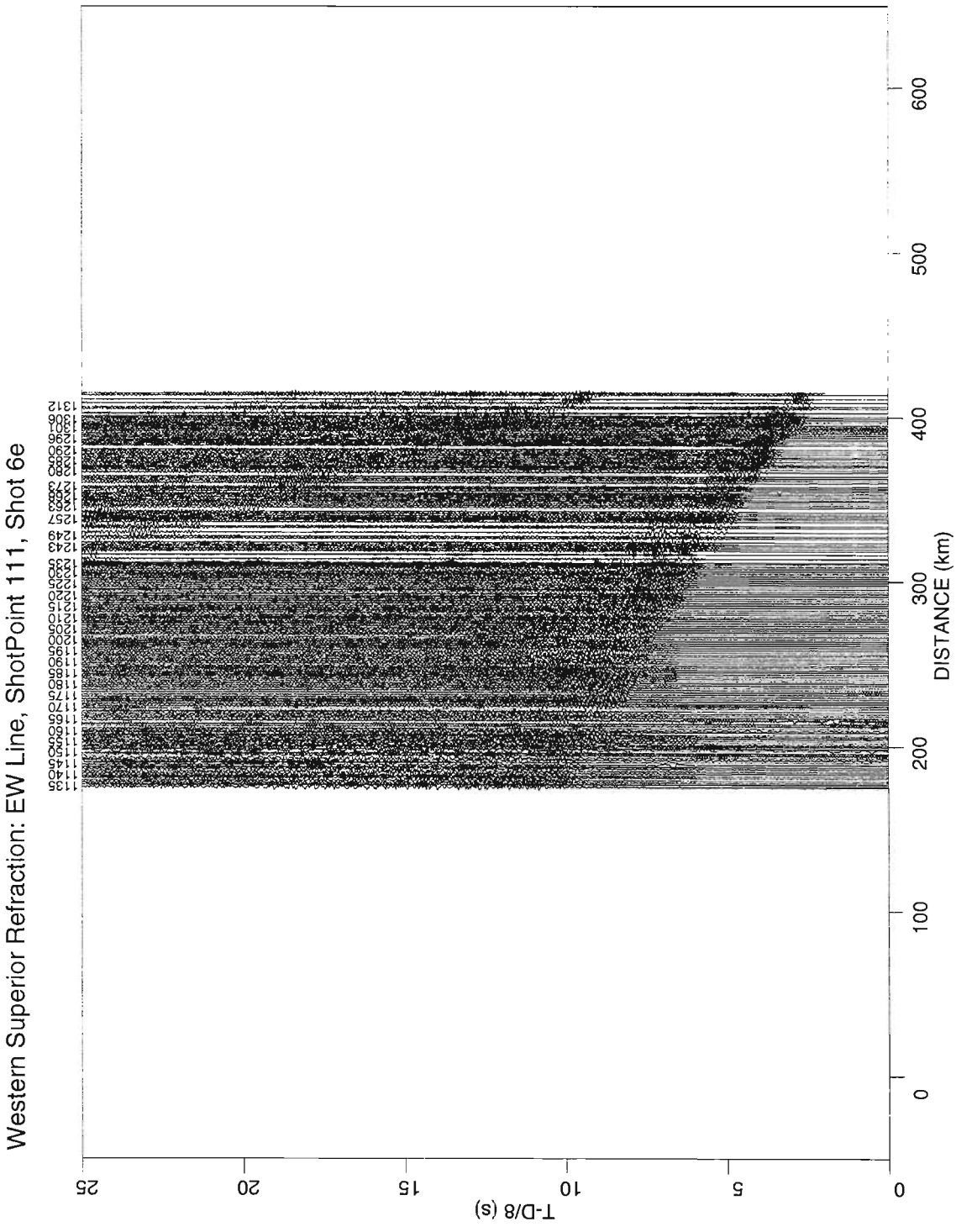


Figure 45: Shot 6e East-West of ZNE

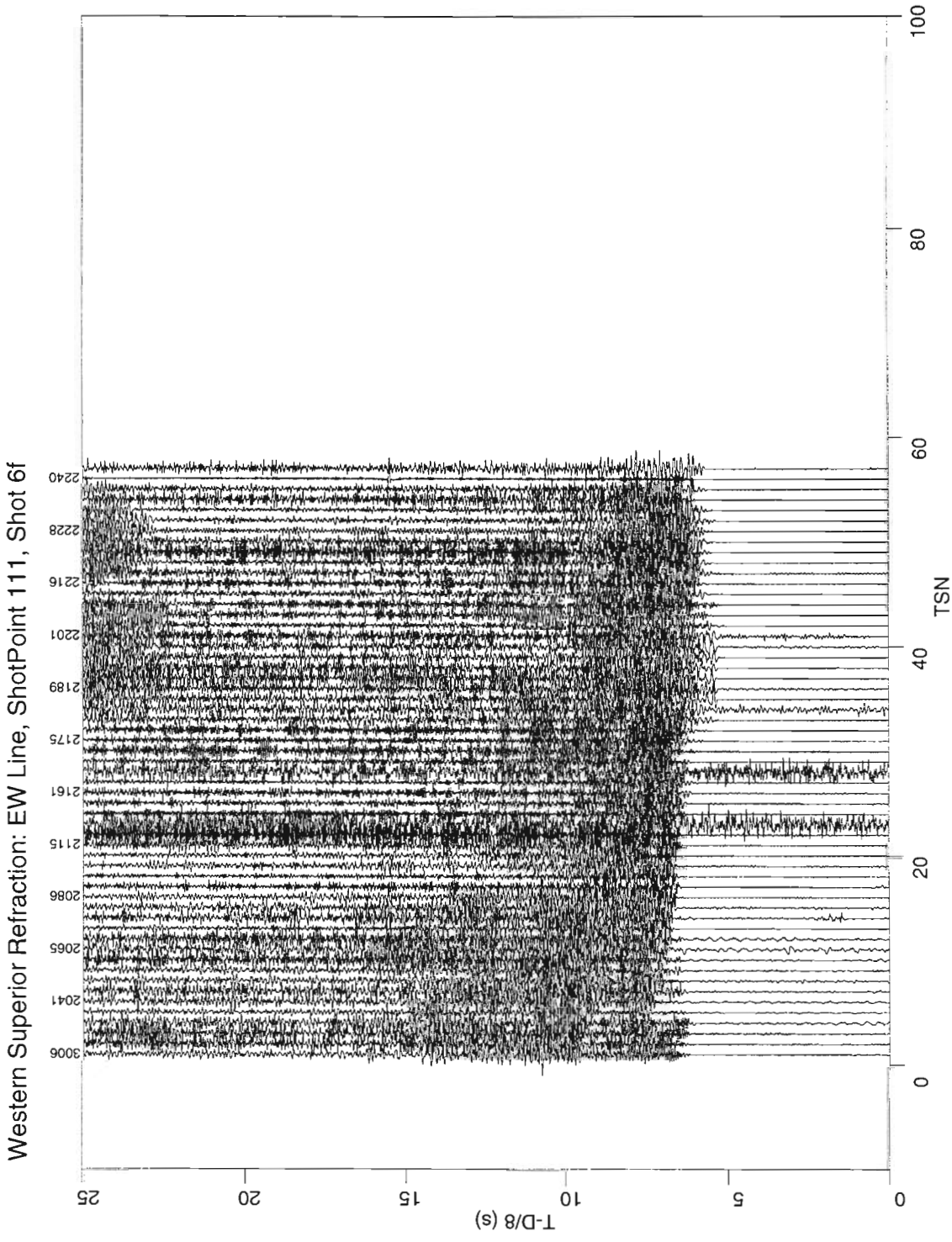


Figure 46: Shot 6f Broadside

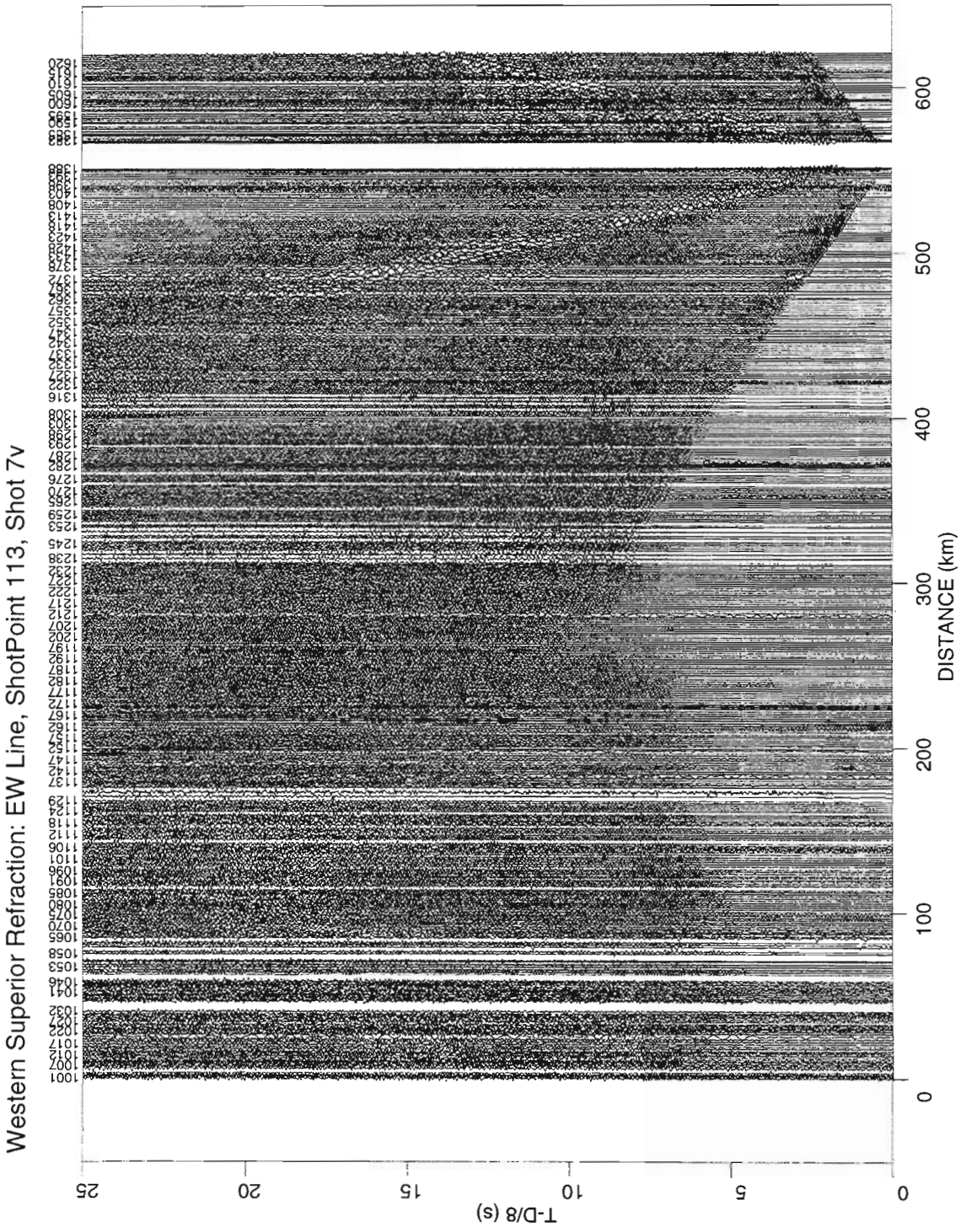


Figure 47: Shot 7v Vertical component

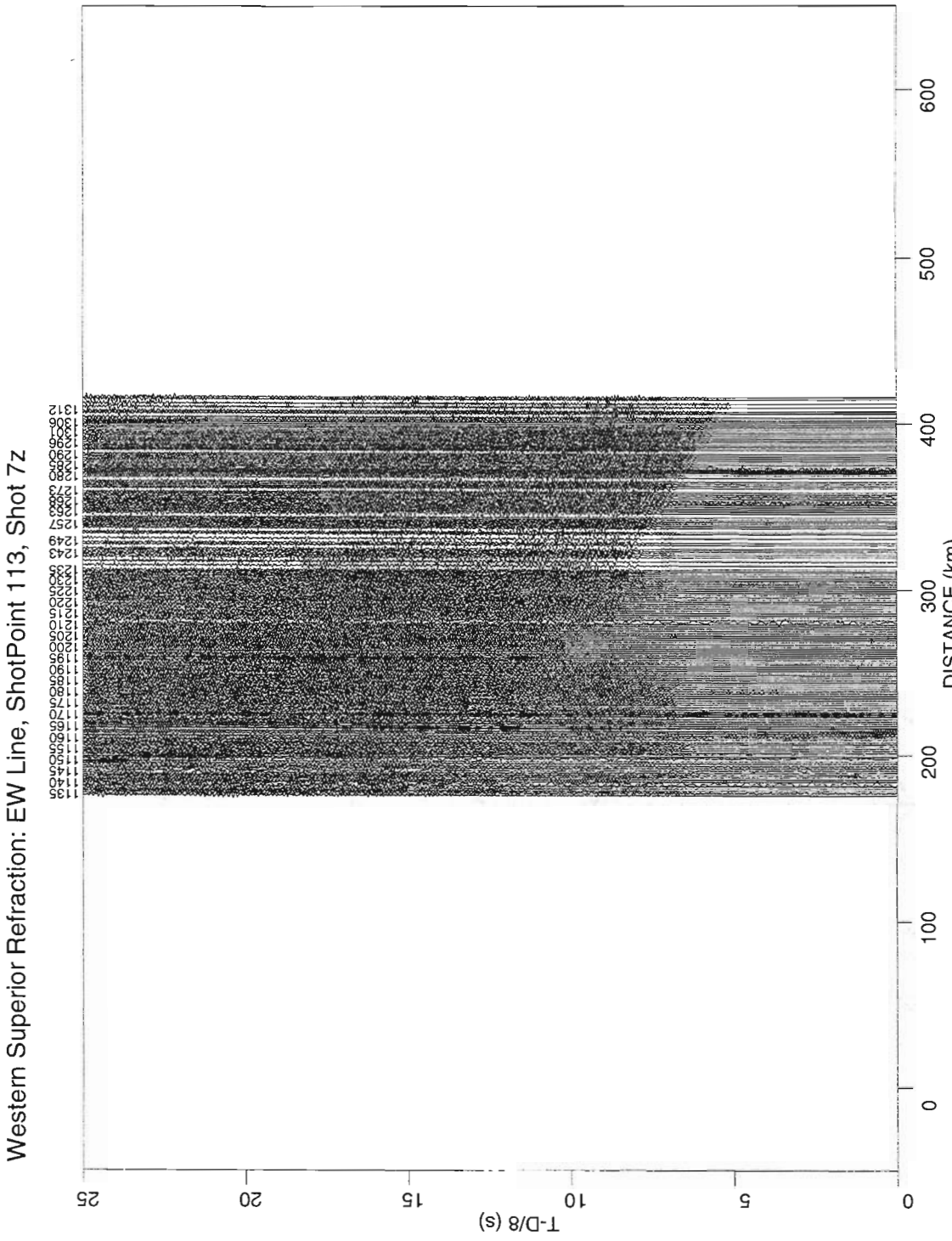


Figure 48: Shot 7z Vertical of ZNE

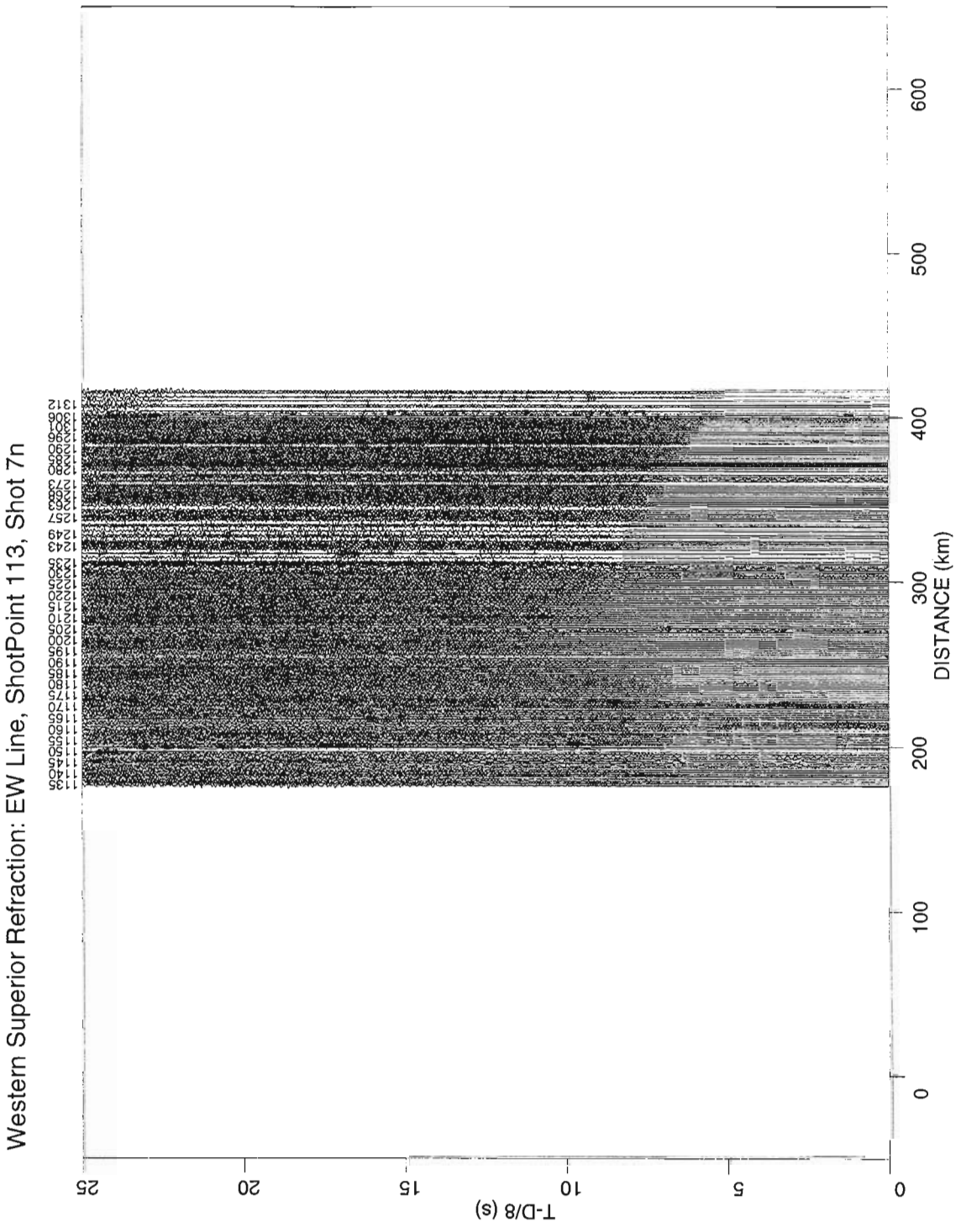


Figure 49: Shot 7n North-South of ZNE

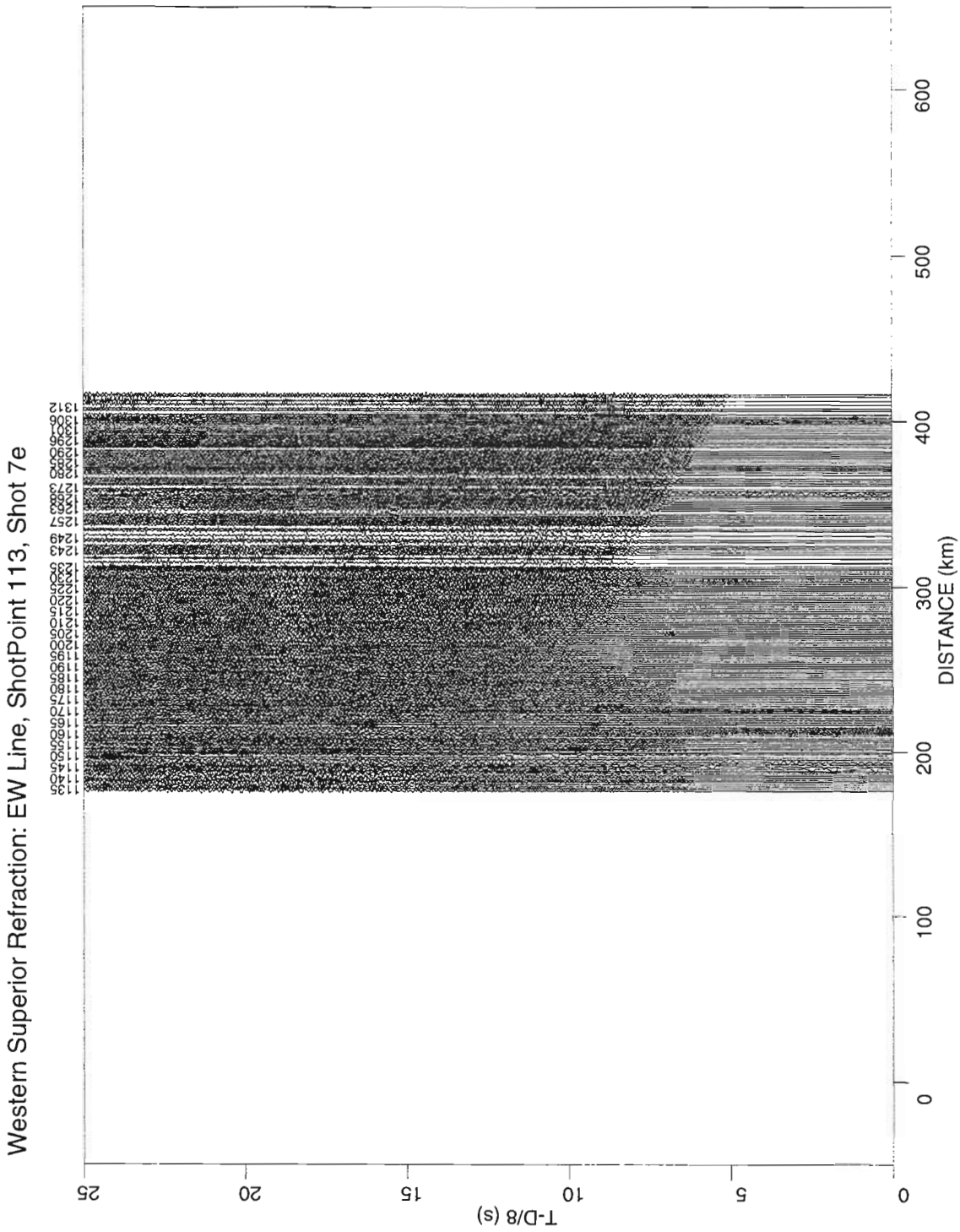


Figure 50: Shot 7e East-West of ZNE

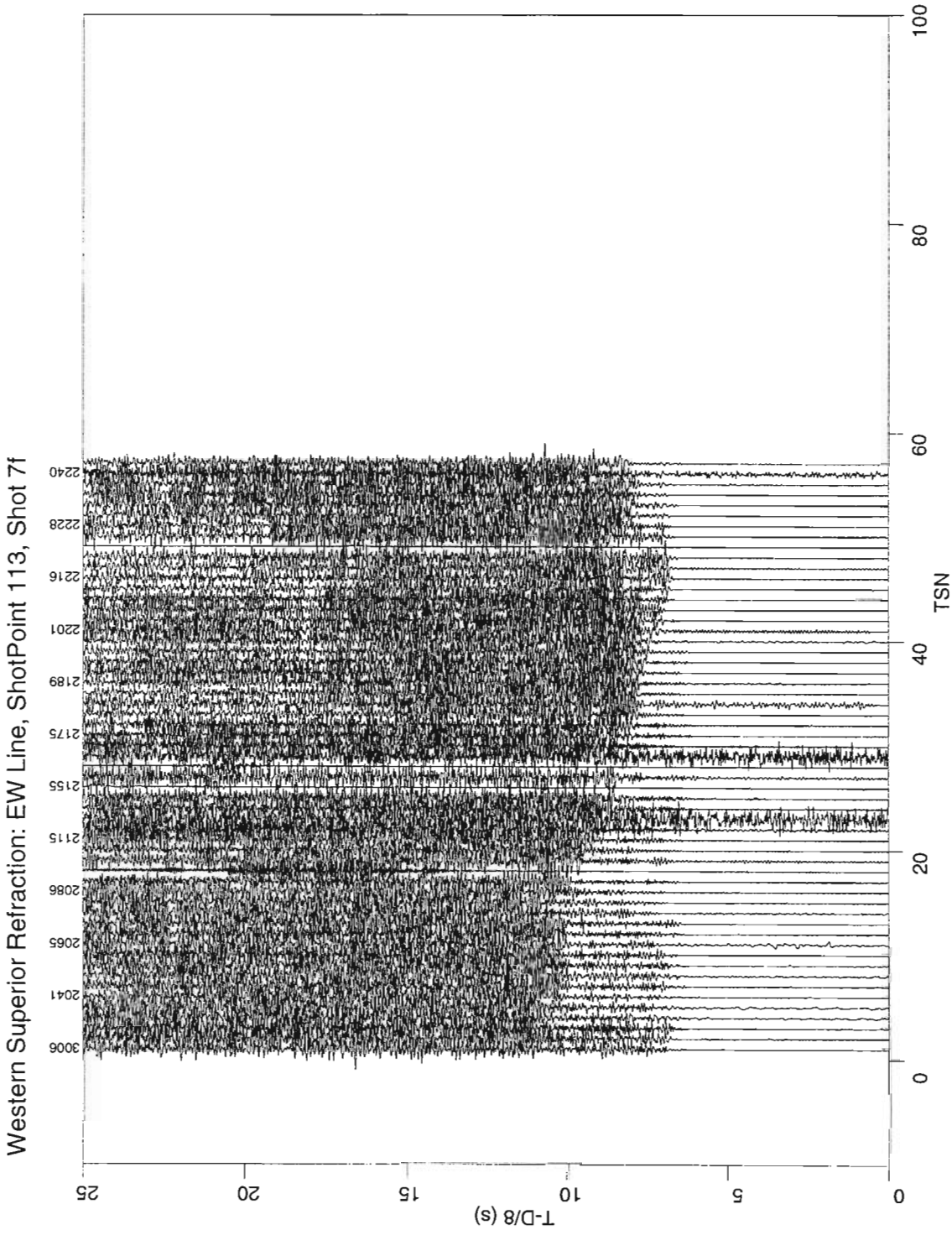


Figure 51: Shot 7f Broadside

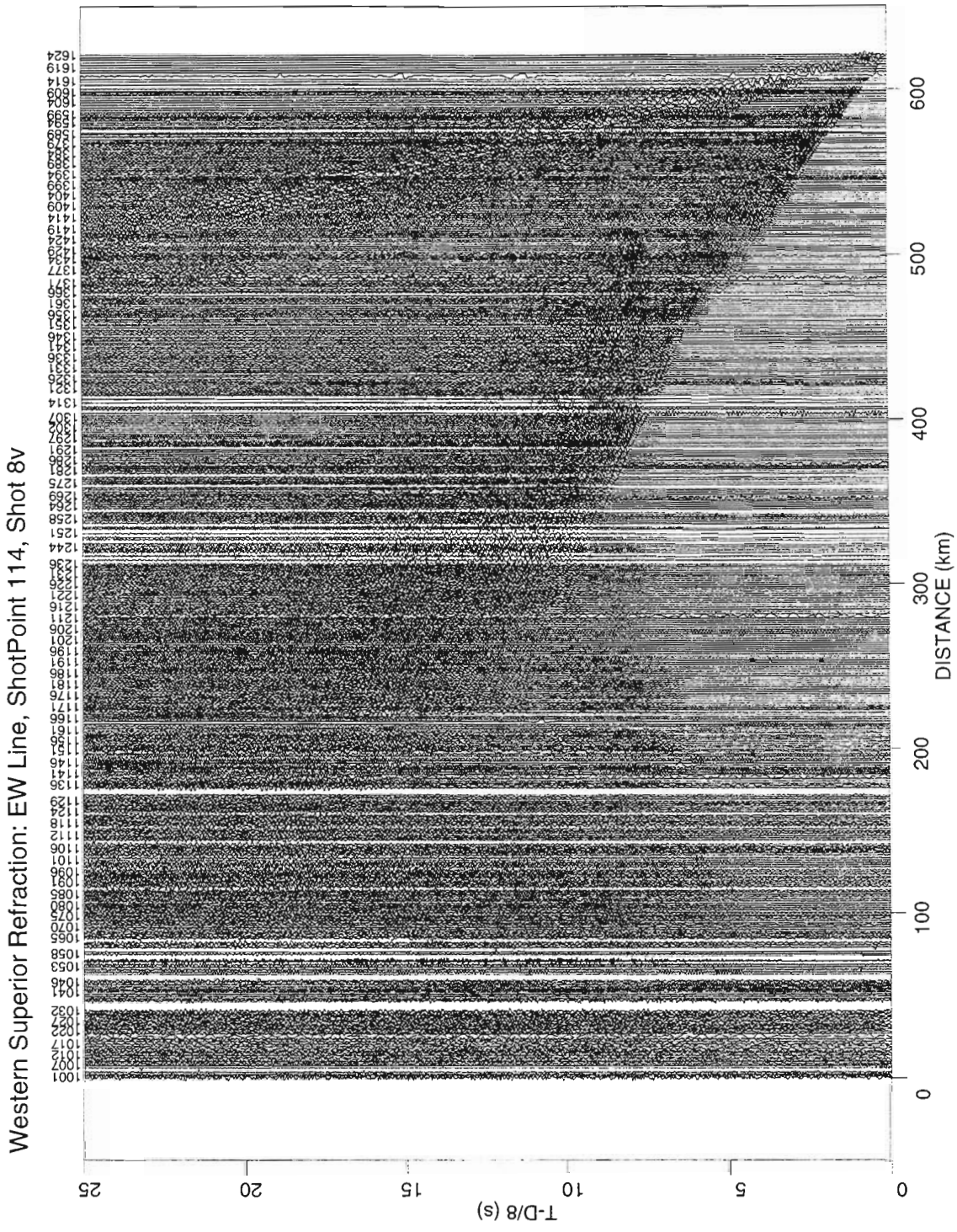


Figure 52: Shot 8v Vertical component

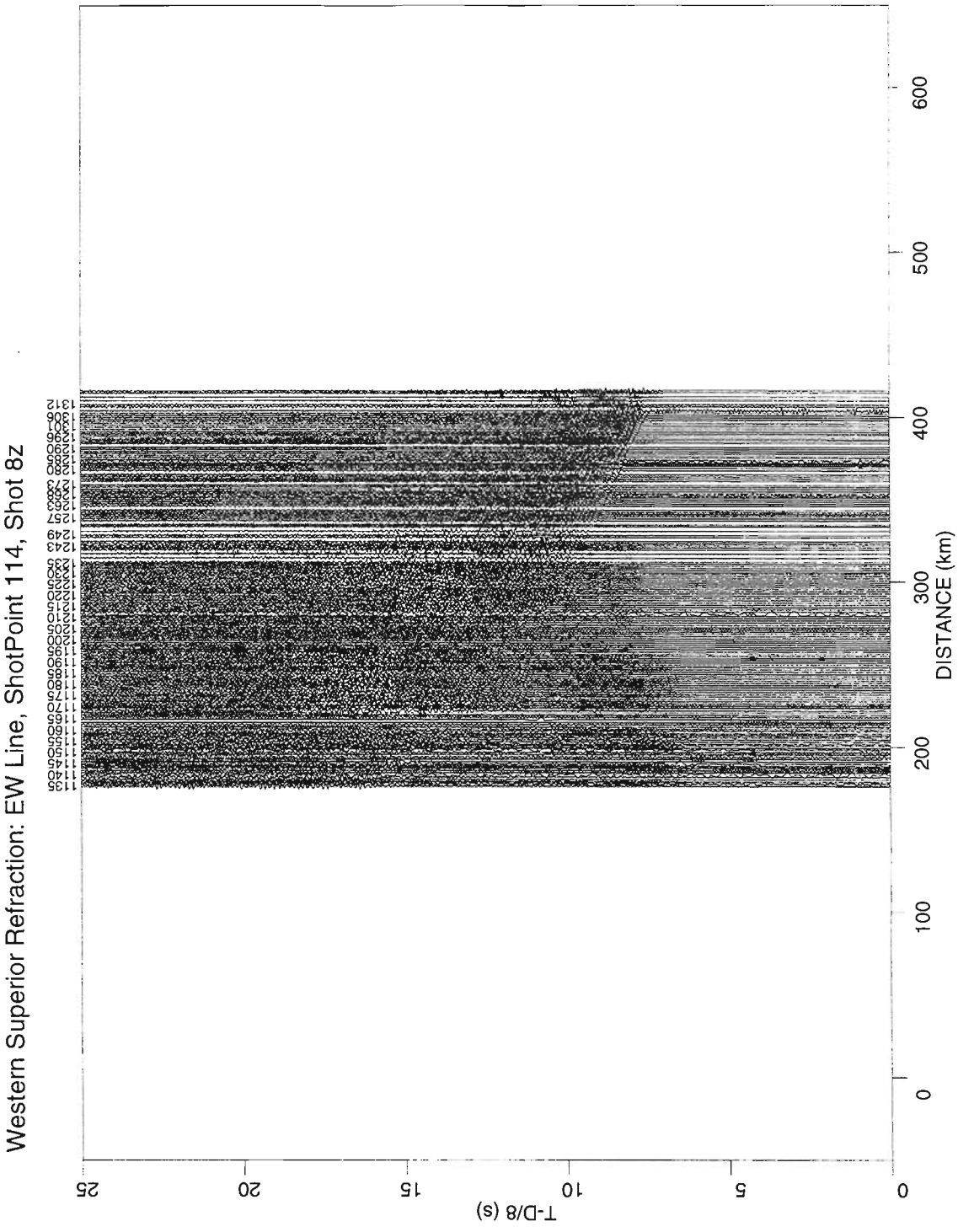


Figure 53: Shot 8z Vertical of ZNE

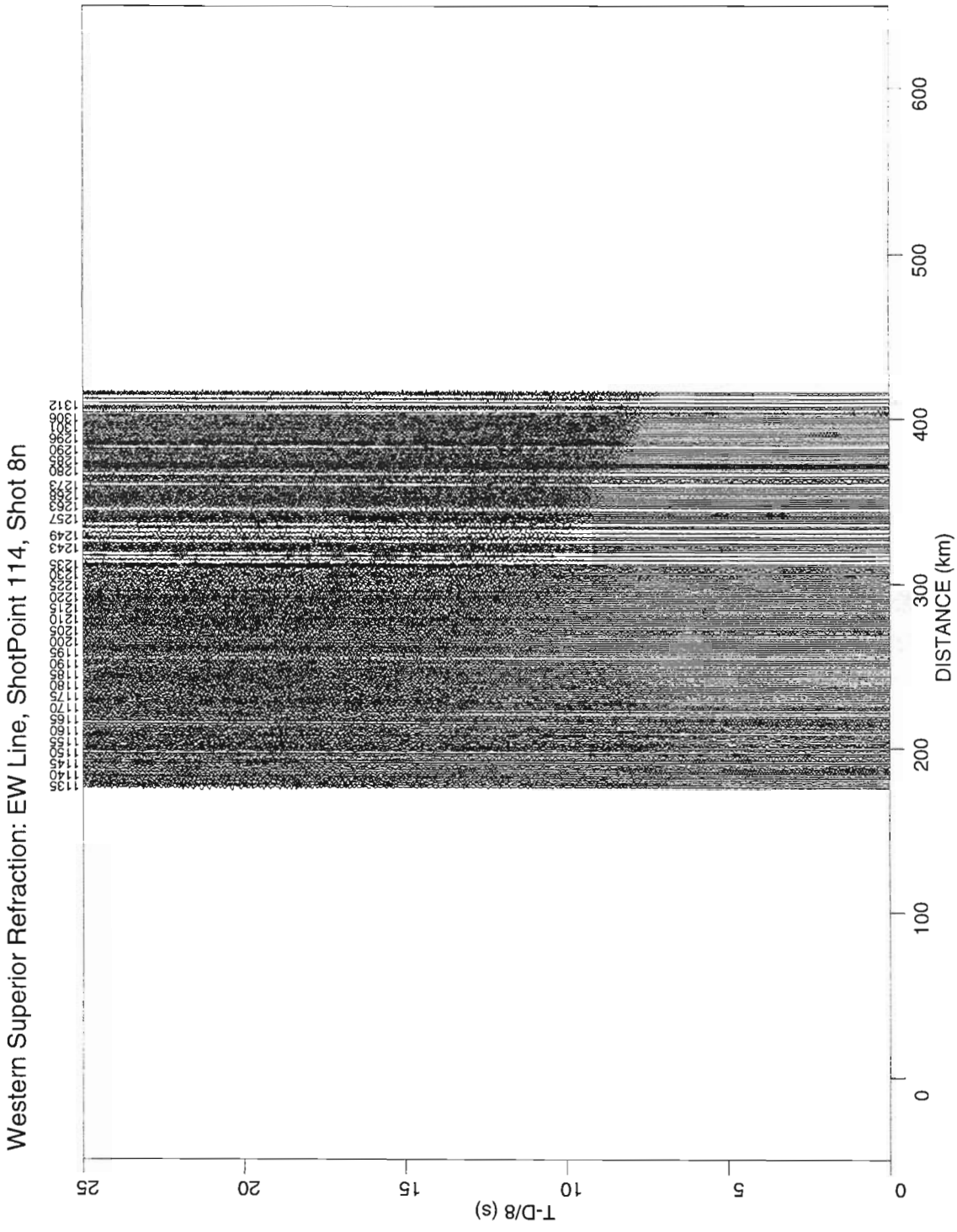


Figure 54: Shot 8n North-South of ZNE

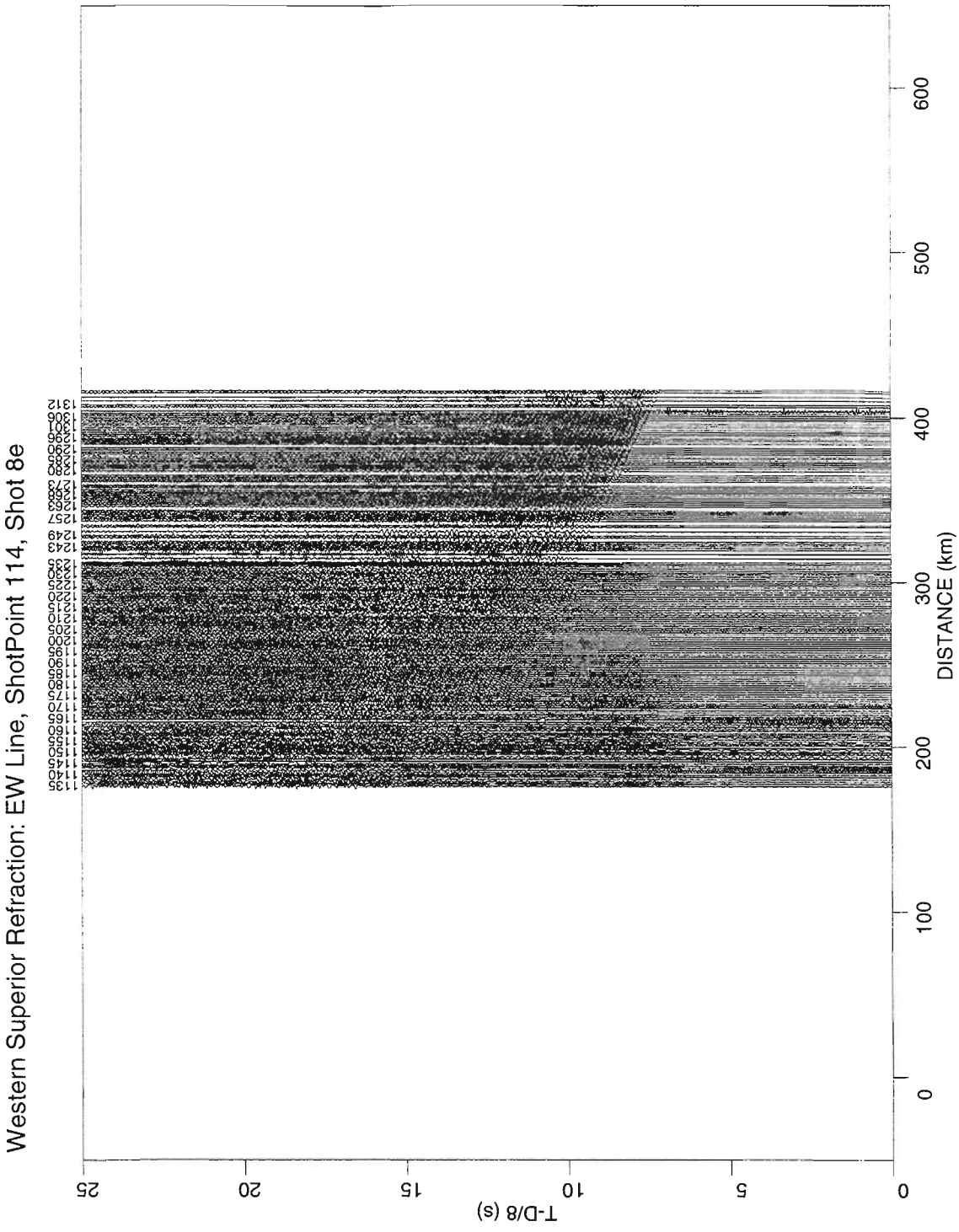


Figure 55: Shot 8e East-West of ZNE

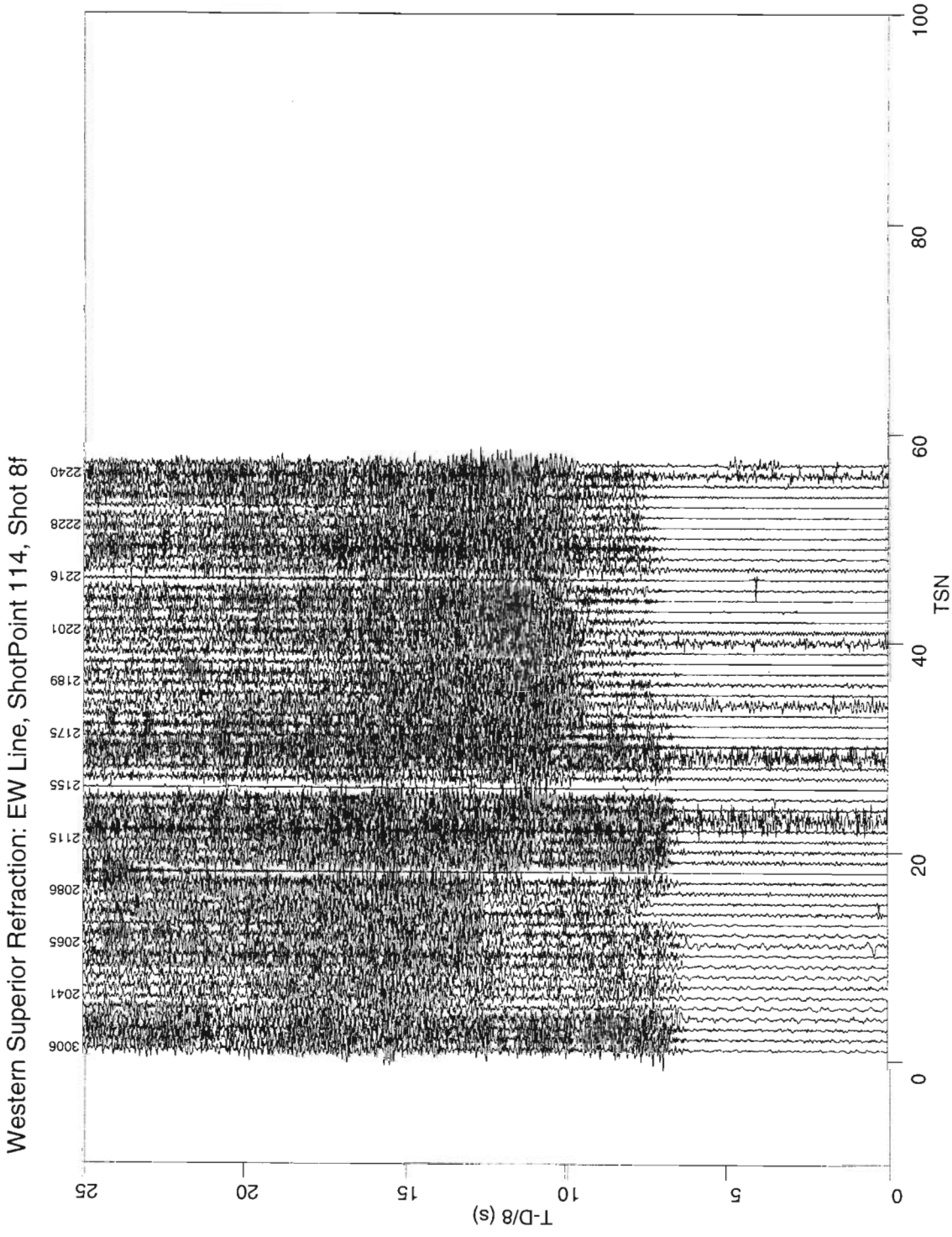


Figure 56: Shot 8f Broadside

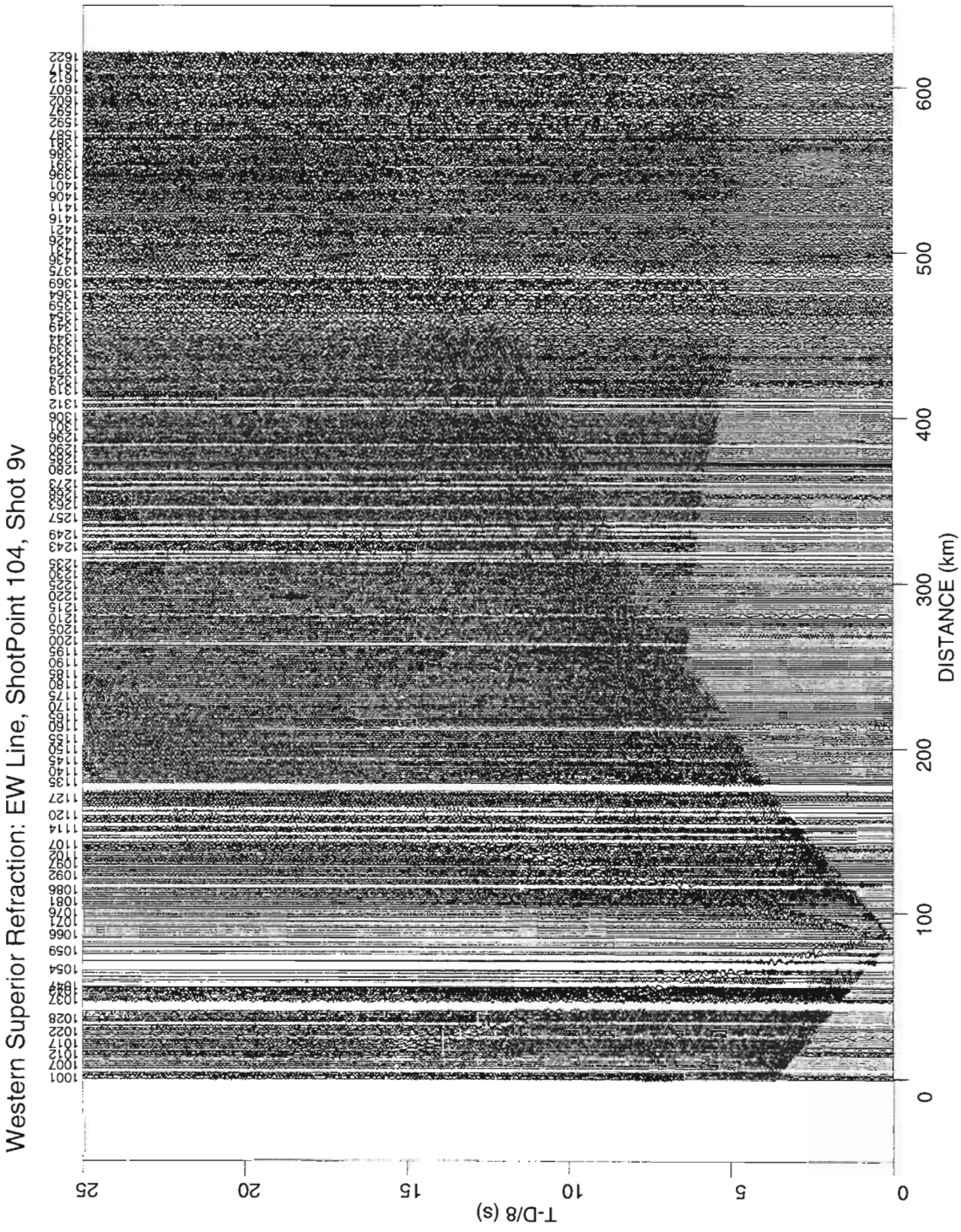


Figure 57: Shot 9v Vertical component

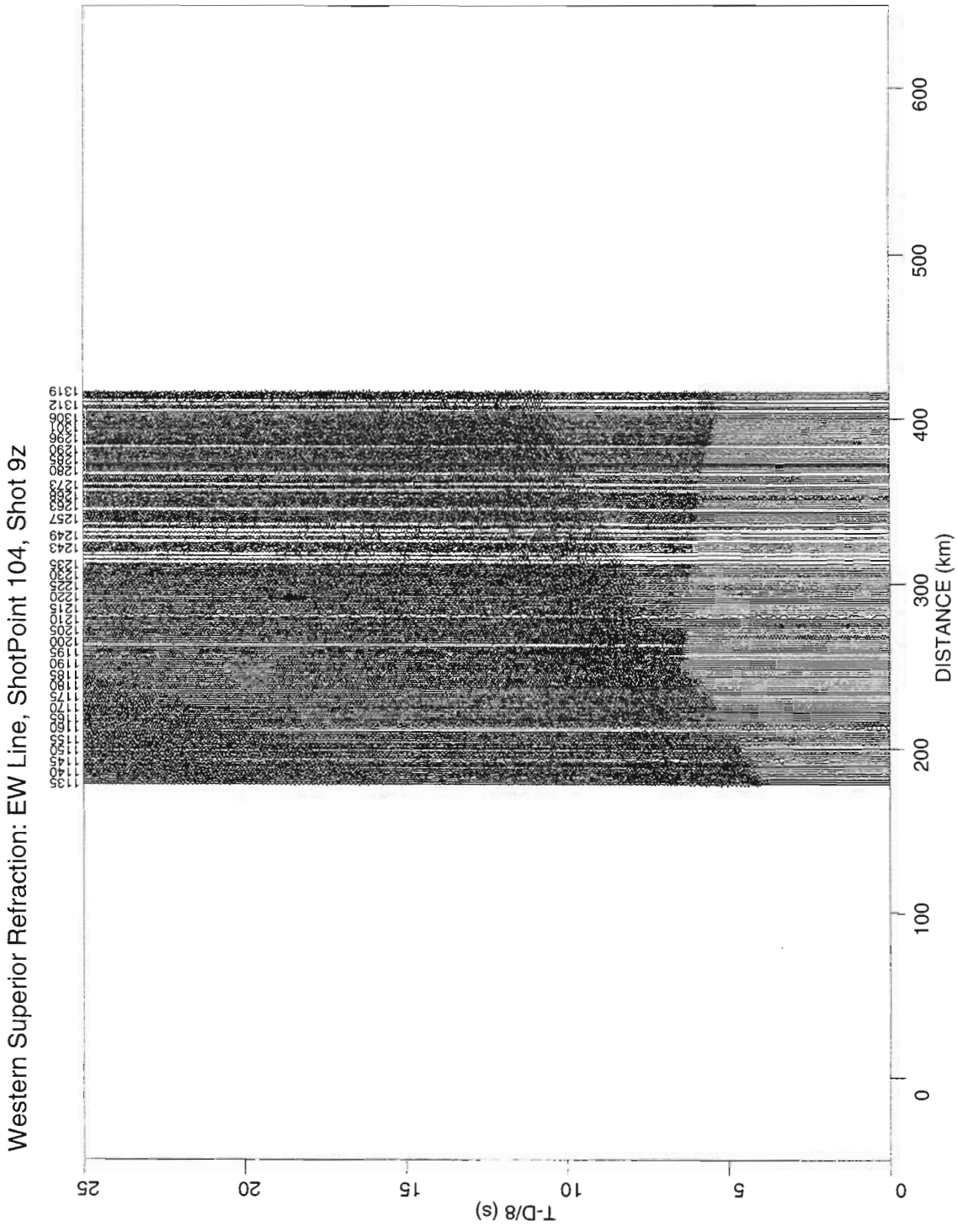


Figure 58: Shot 9z Vertical of ZNE

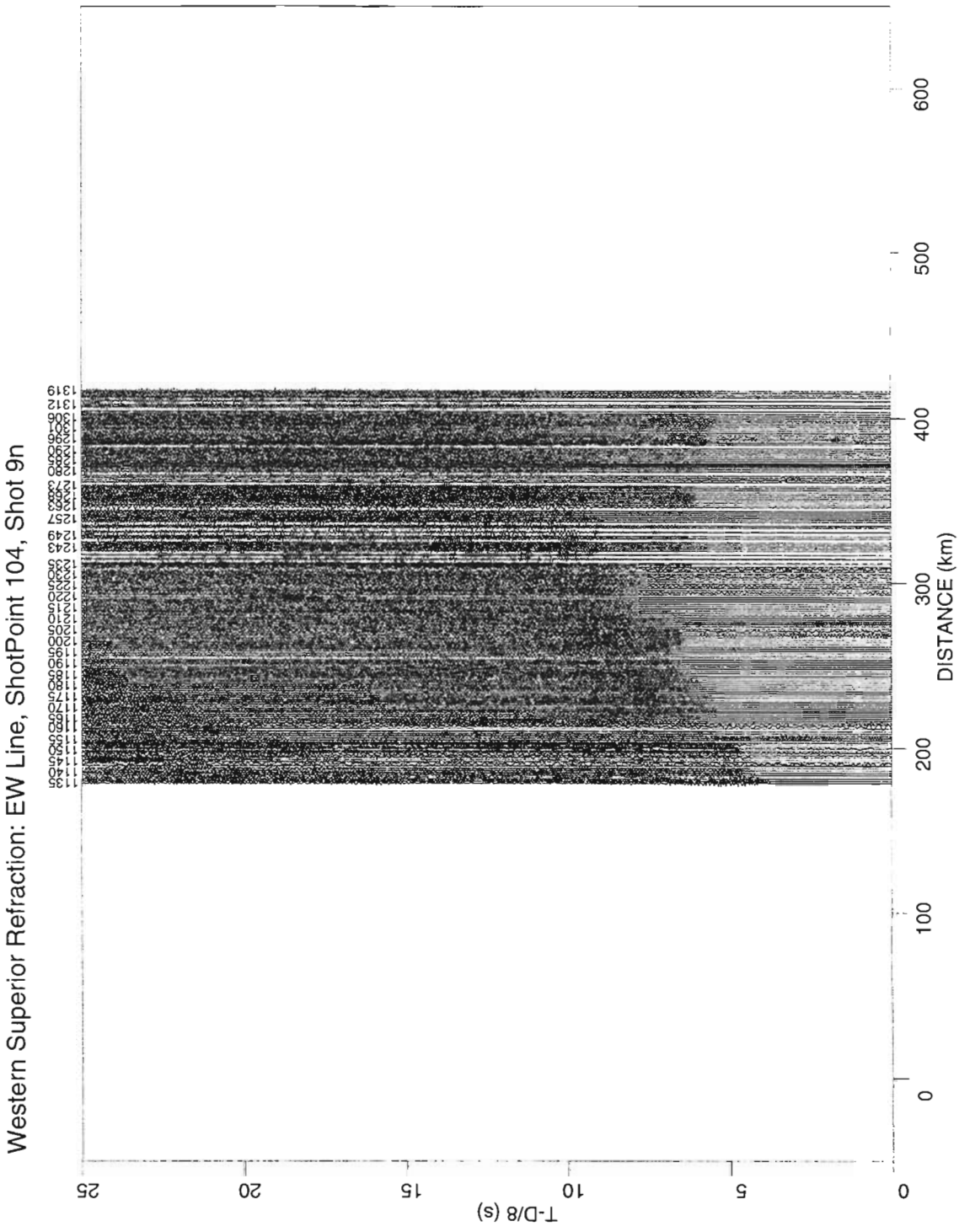


Figure 59: Shot 9n North-South of ZNE

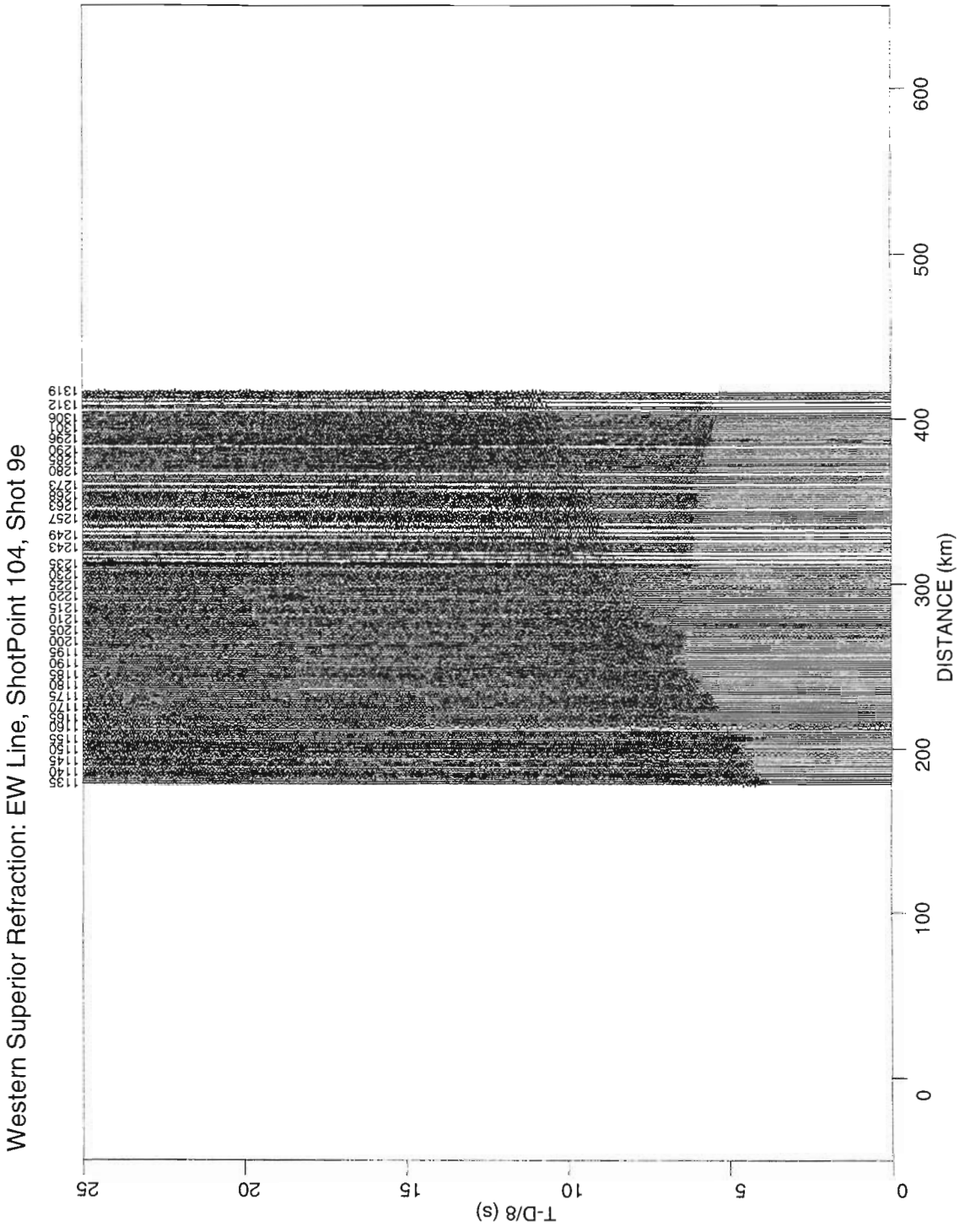


Figure 60: Shot 9e East-West of ZNE

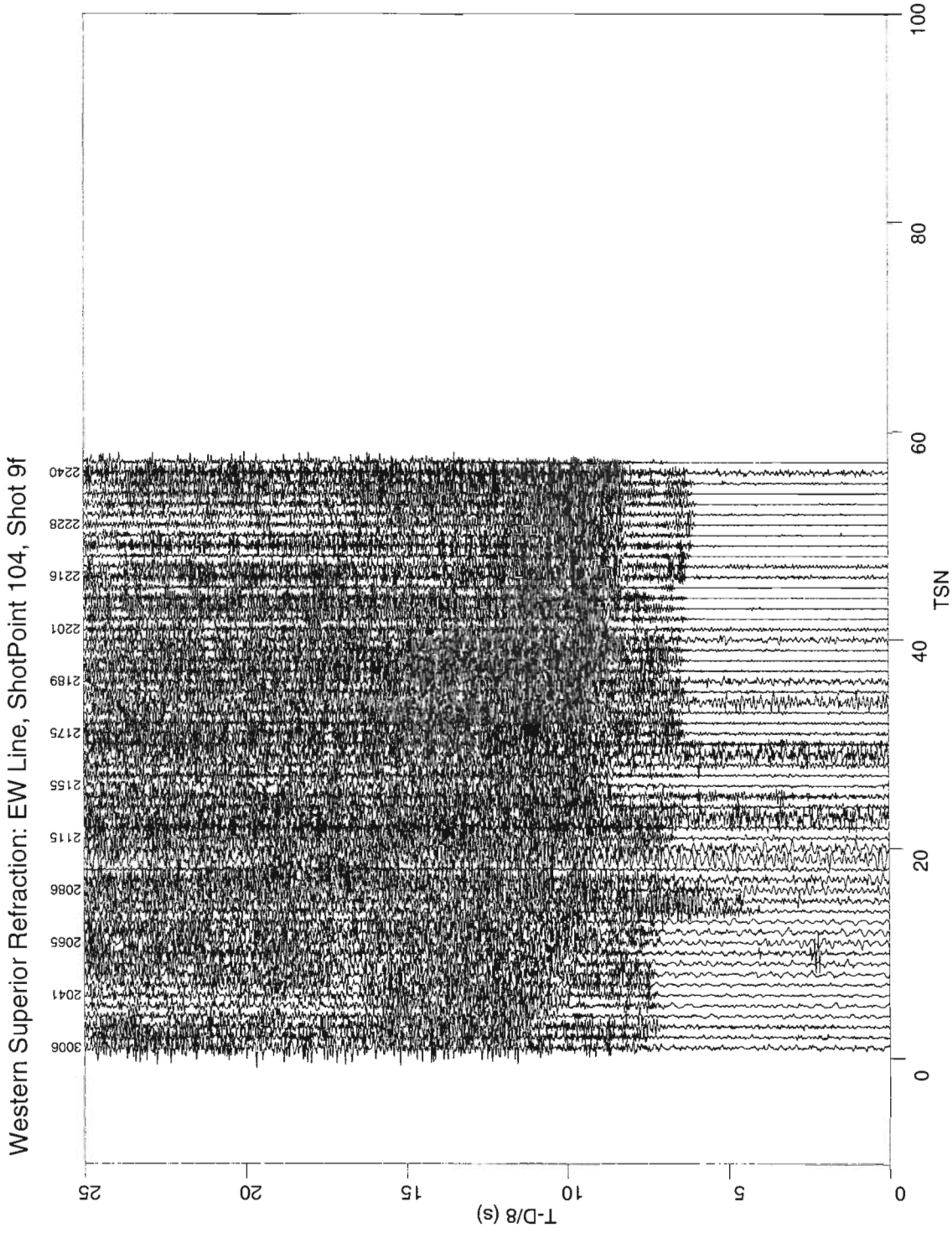


Figure 61: Shot 9f Broadside

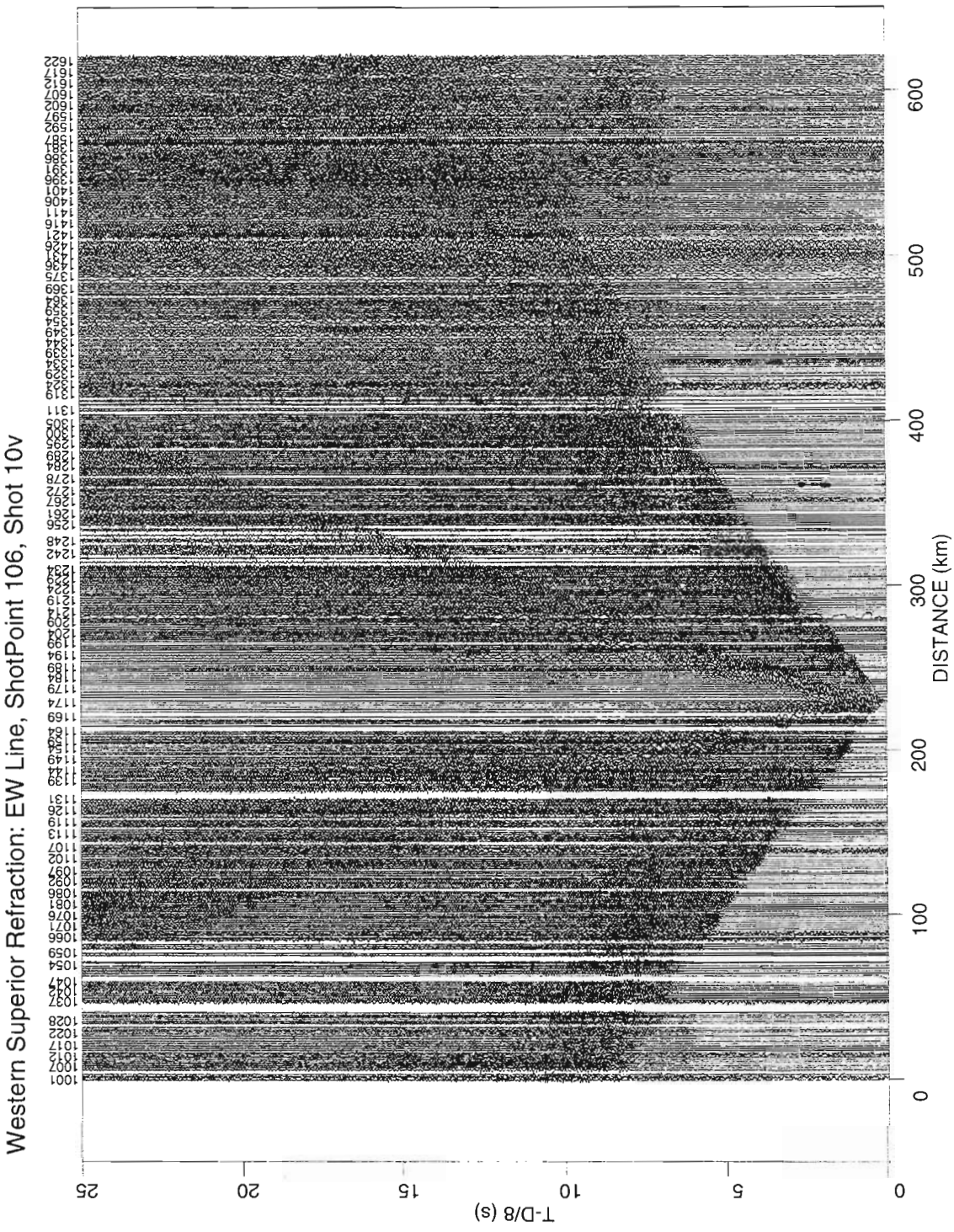


Figure 62: Shot 10v Vertical component

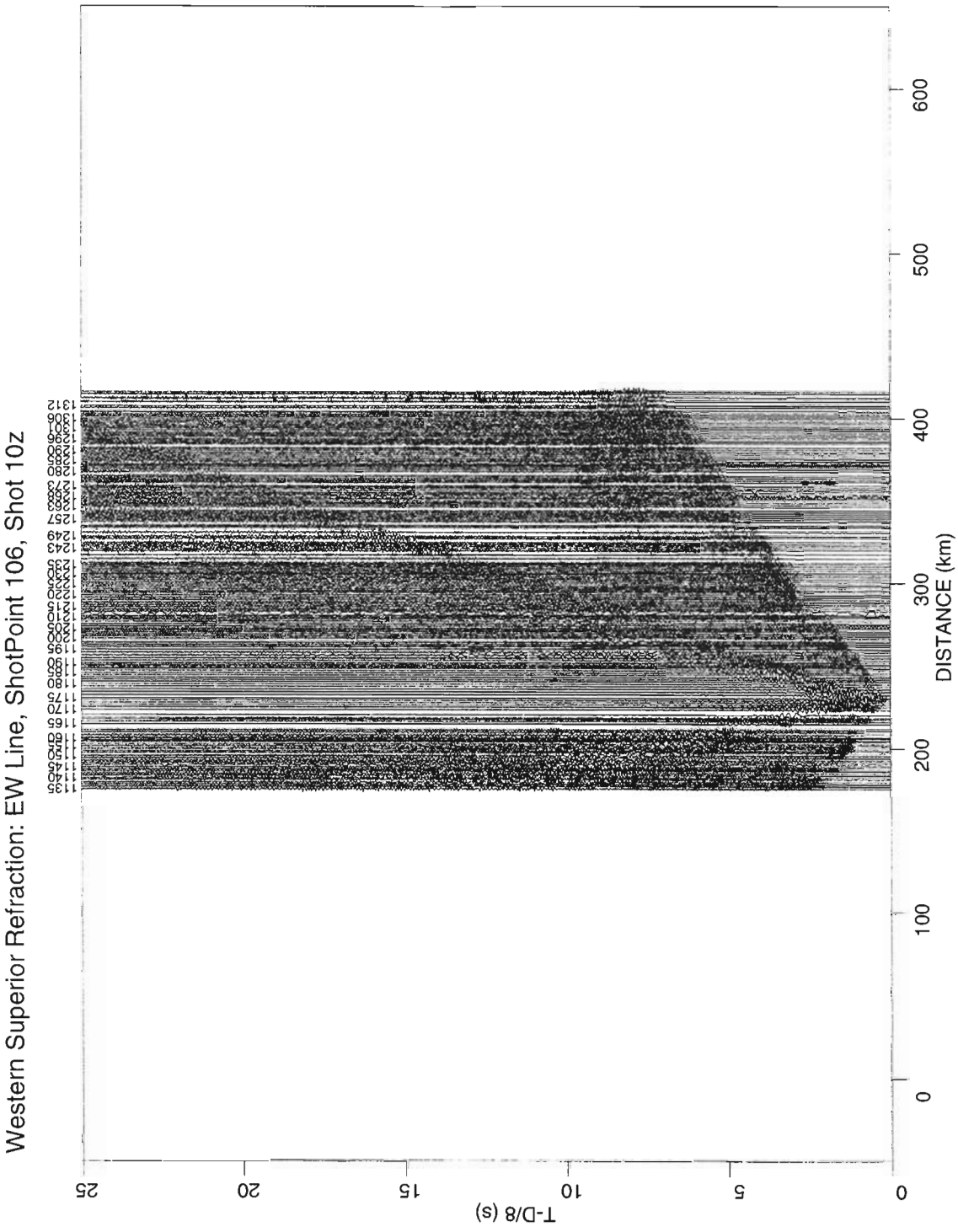


Figure 63: Shot 10z Vertical of ZNE

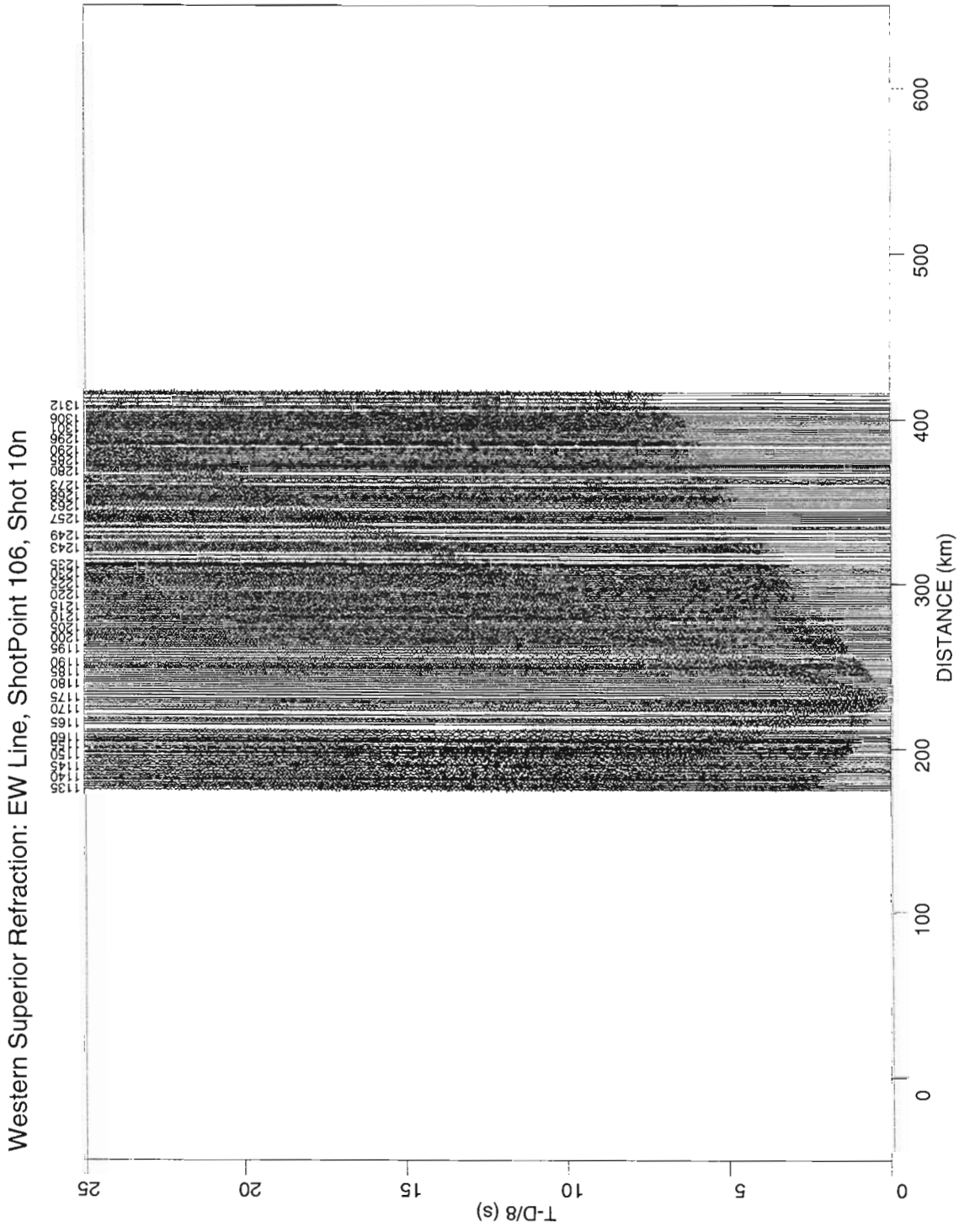


Figure 64: Shot 10n North-South of ZNE

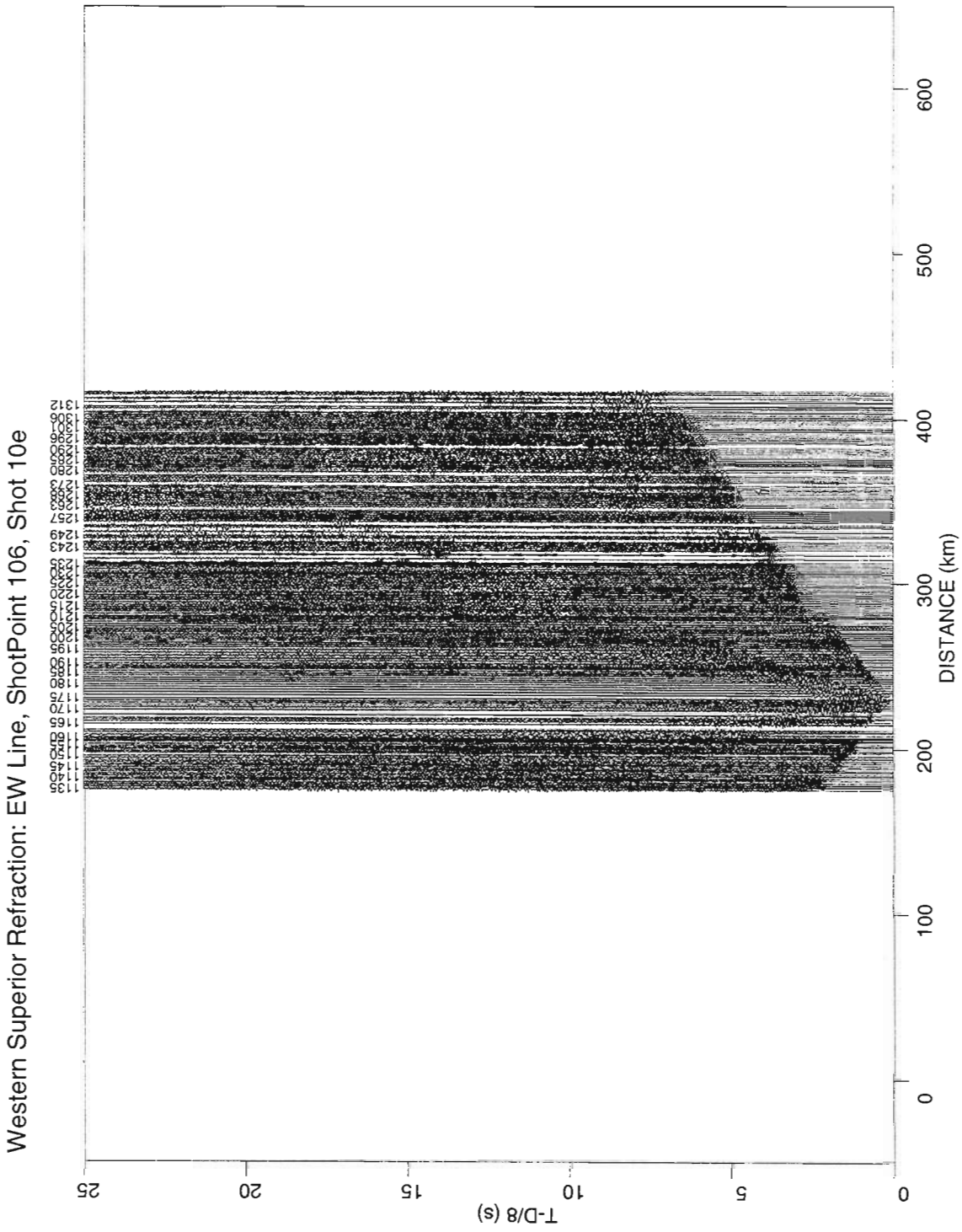


Figure 65: Shot 10e East-West of ZNE

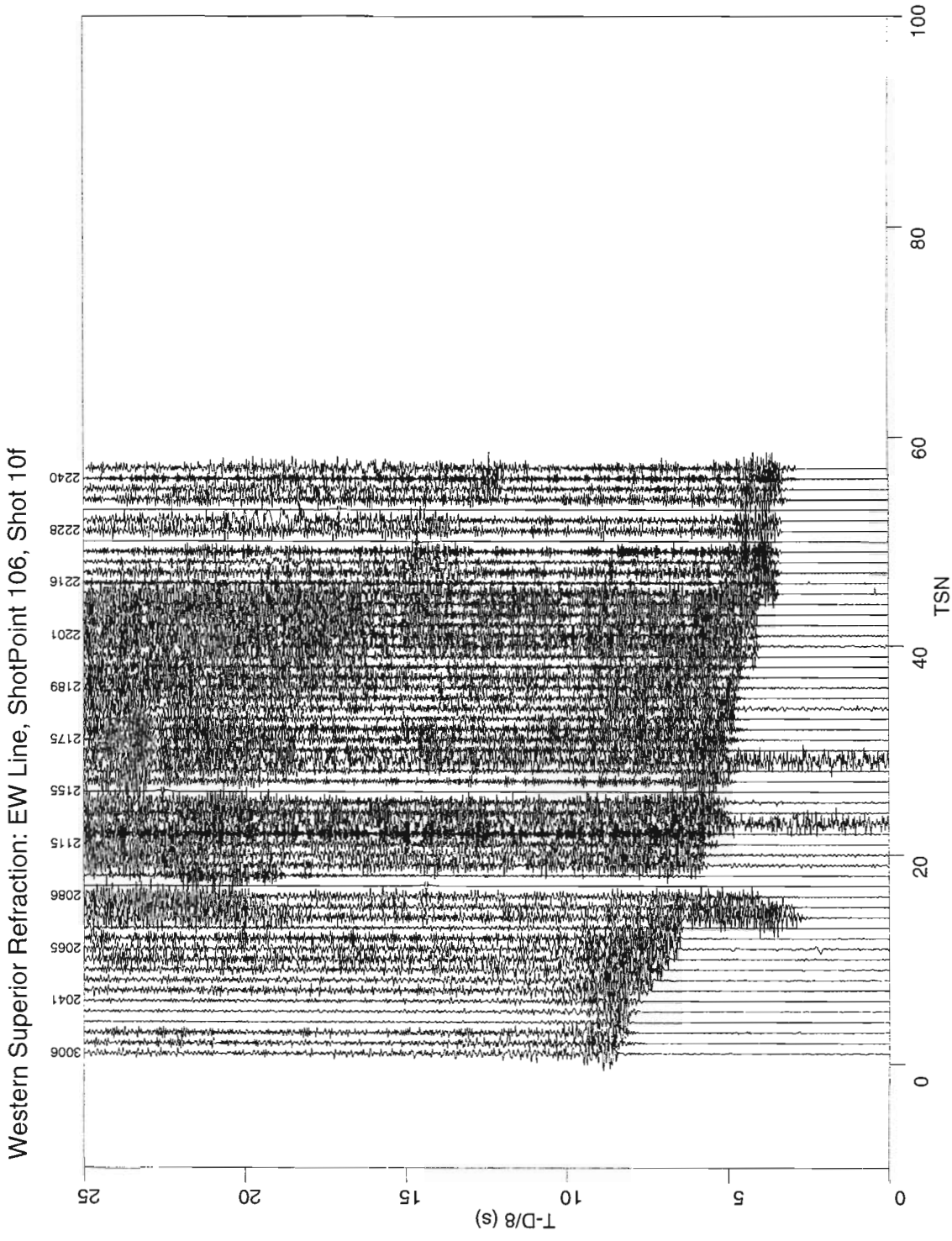


Figure 66: Shot 10f Broadside

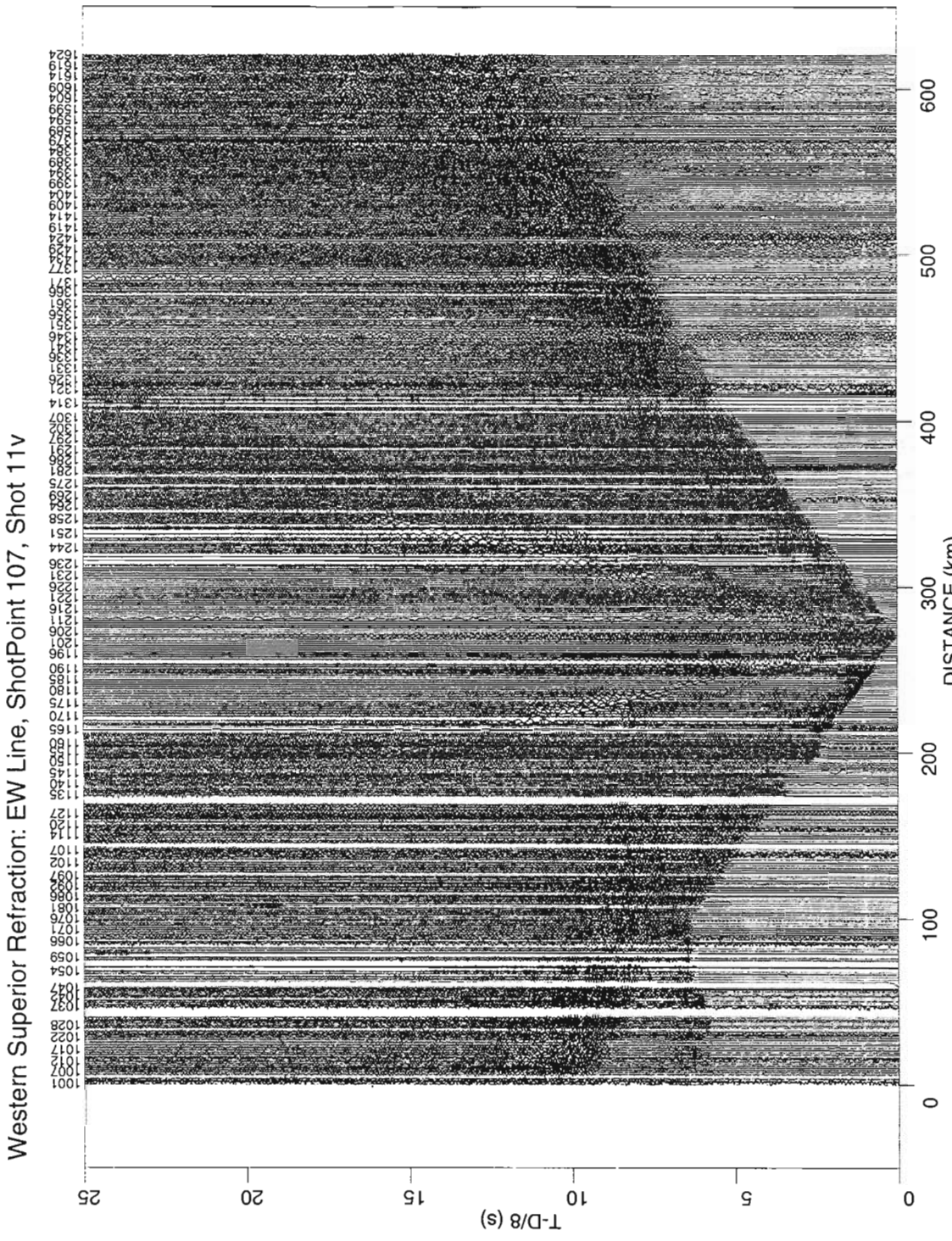


Figure 67: Shot 11v Vertical component

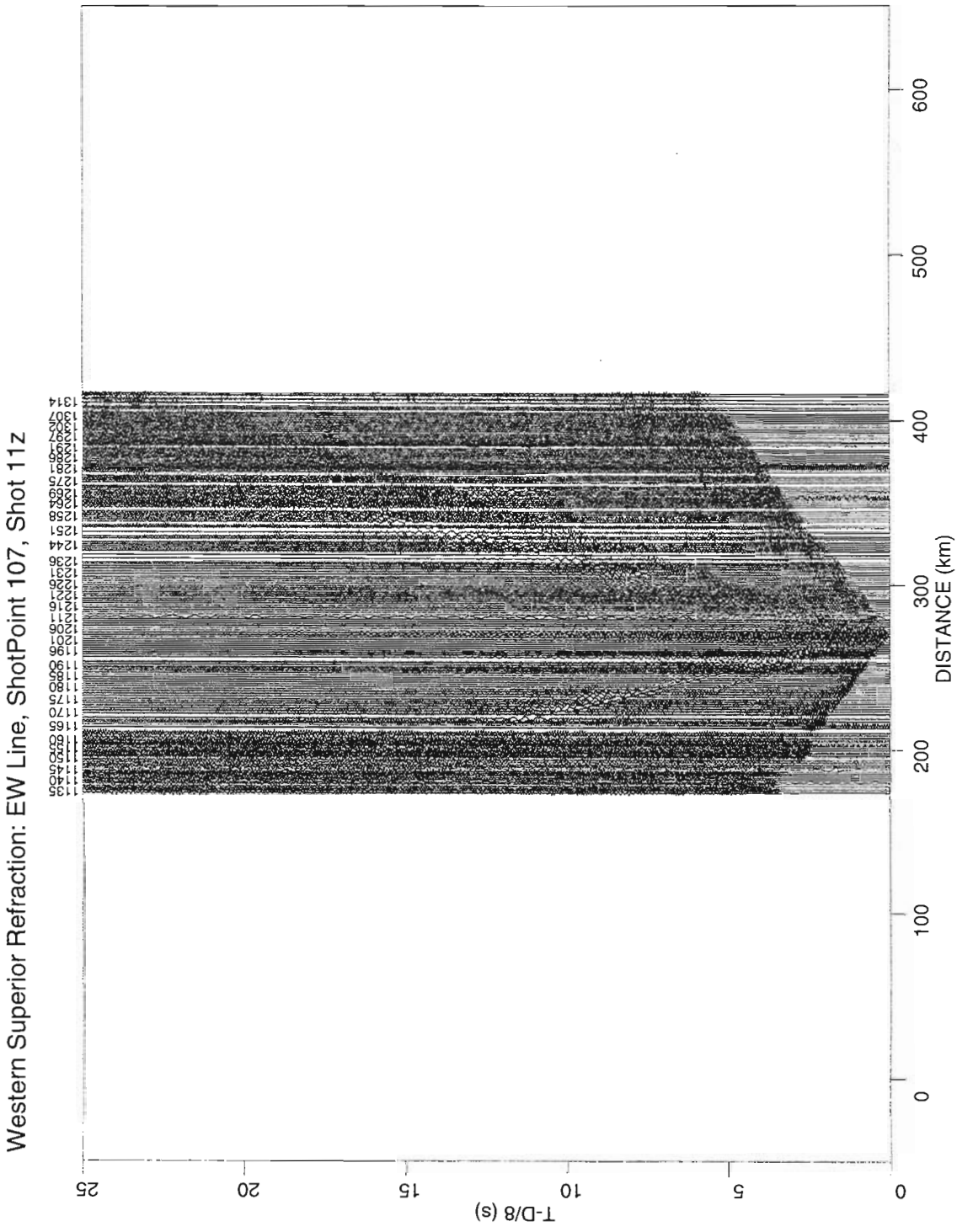


Figure 68: Shot 11z Vertical of ZNE

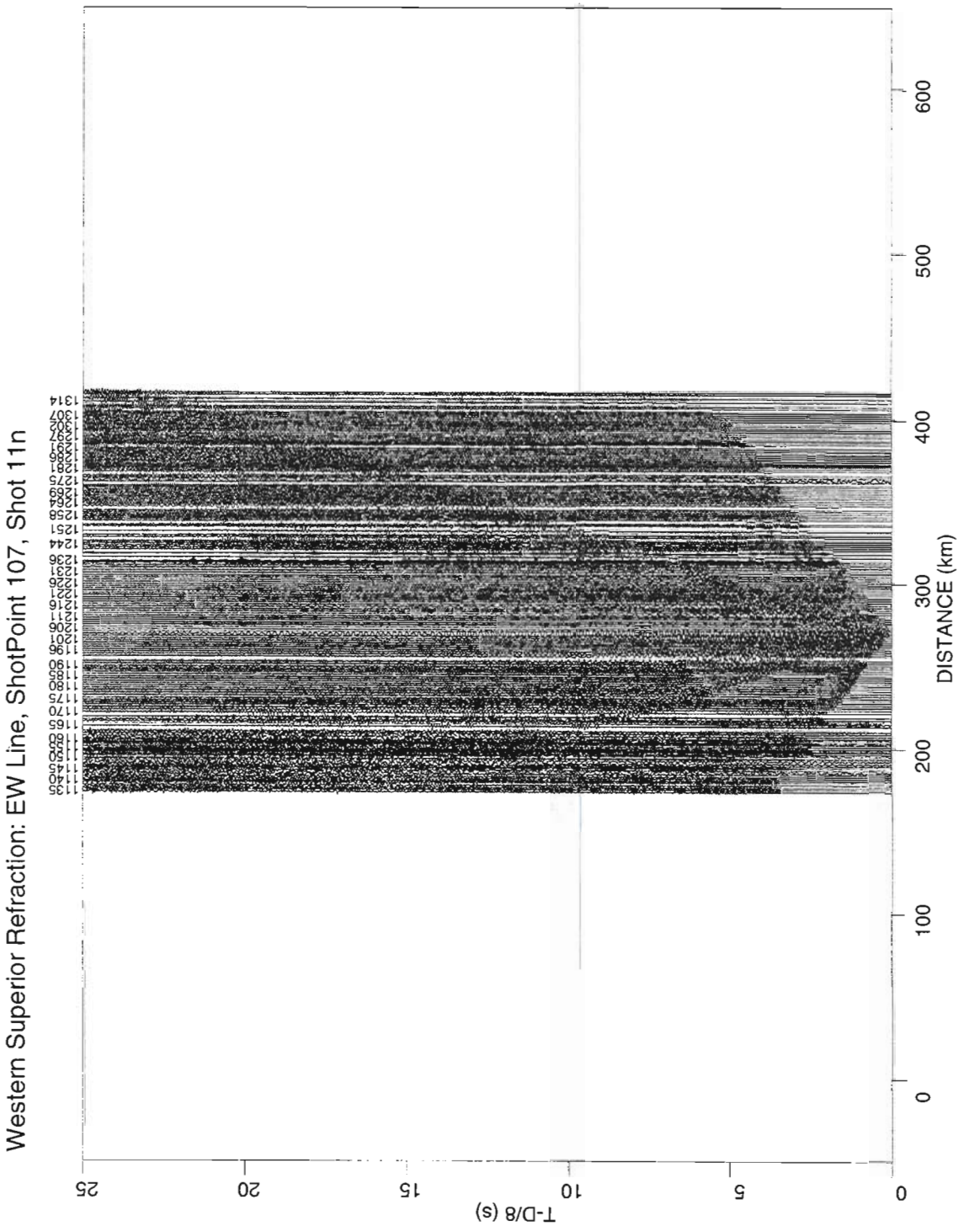


Figure 69: Shot 11n North-South of ZNE

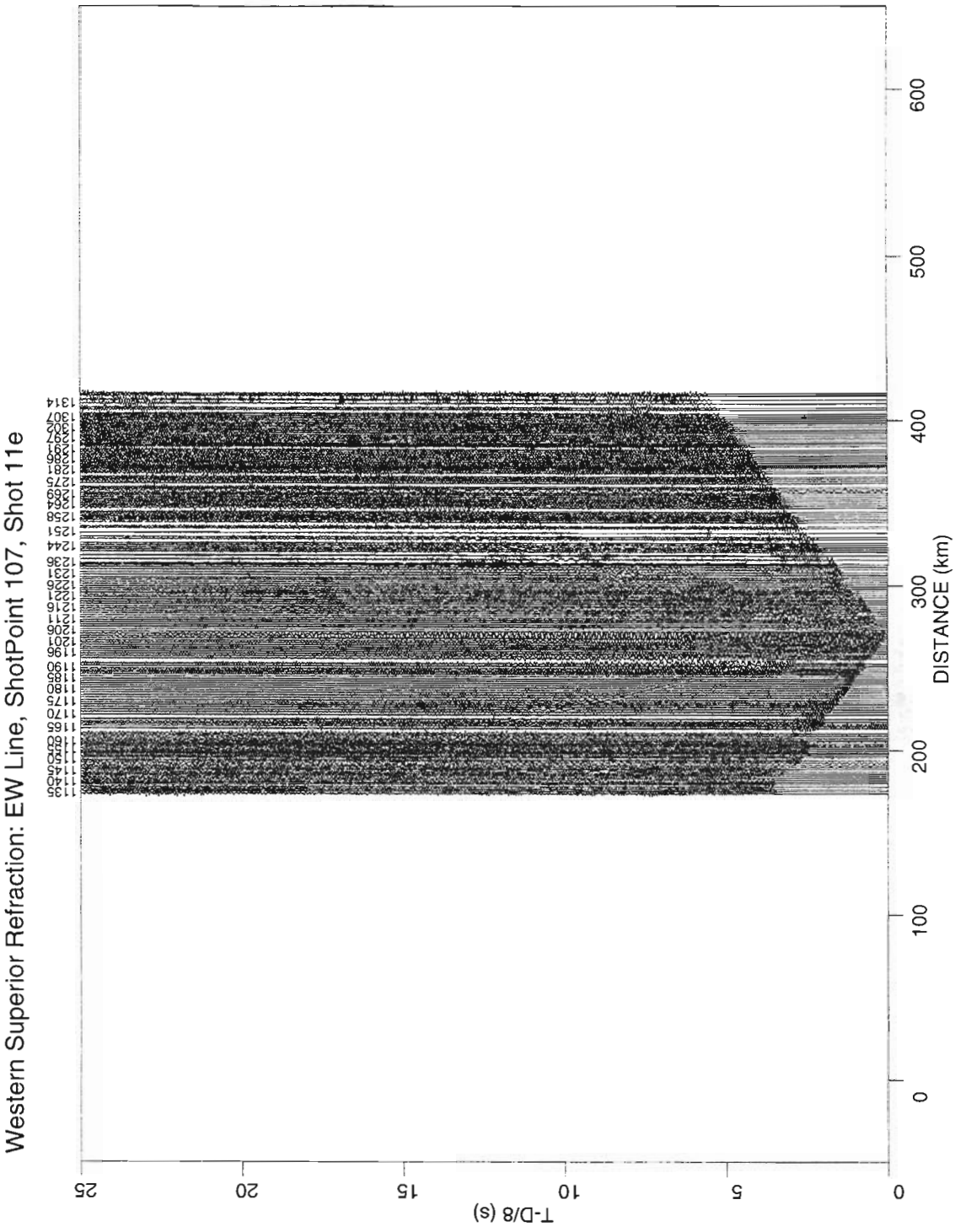


Figure 70: Shot 11e East-West of ZNE

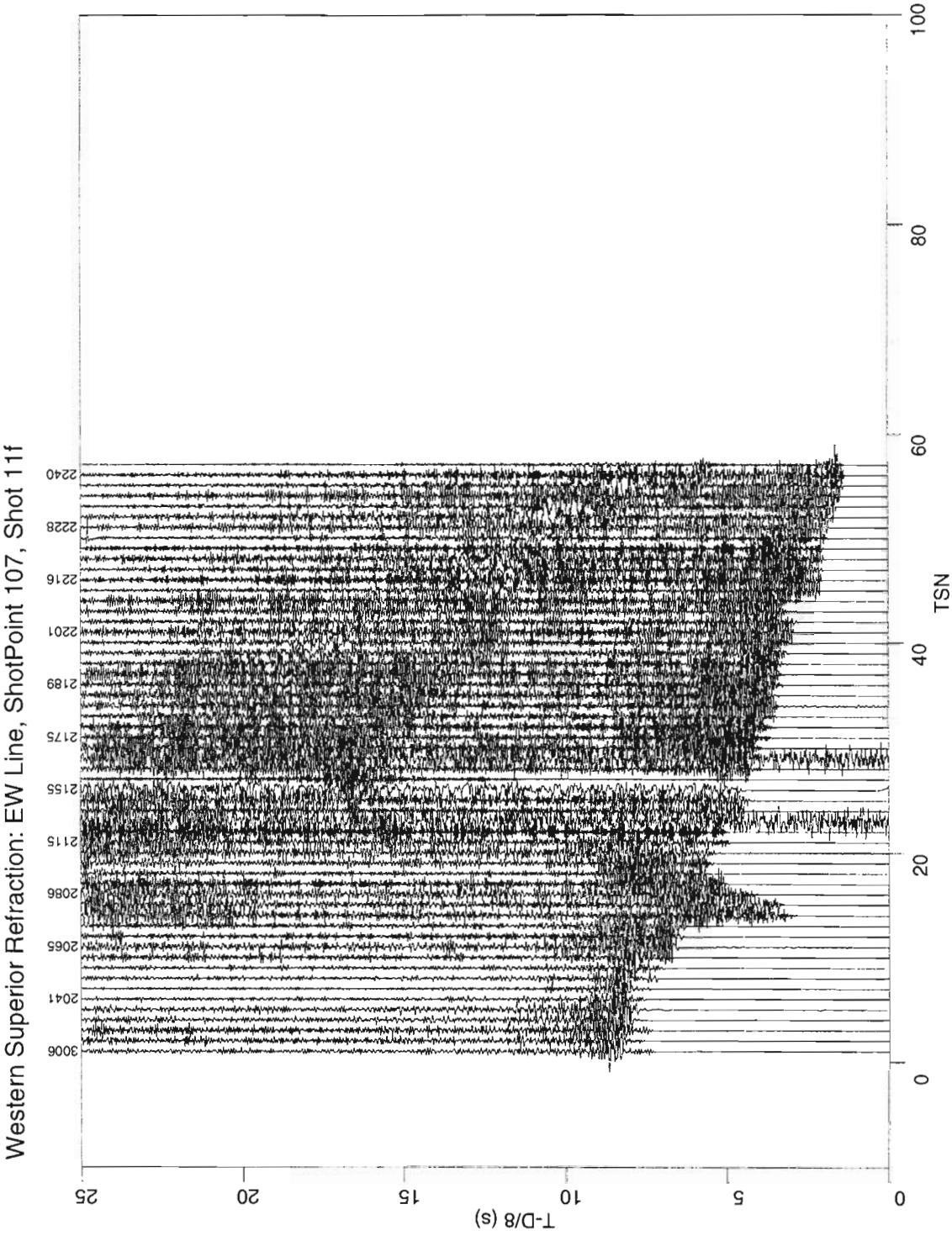


Figure 71: Shot 11f Broadside

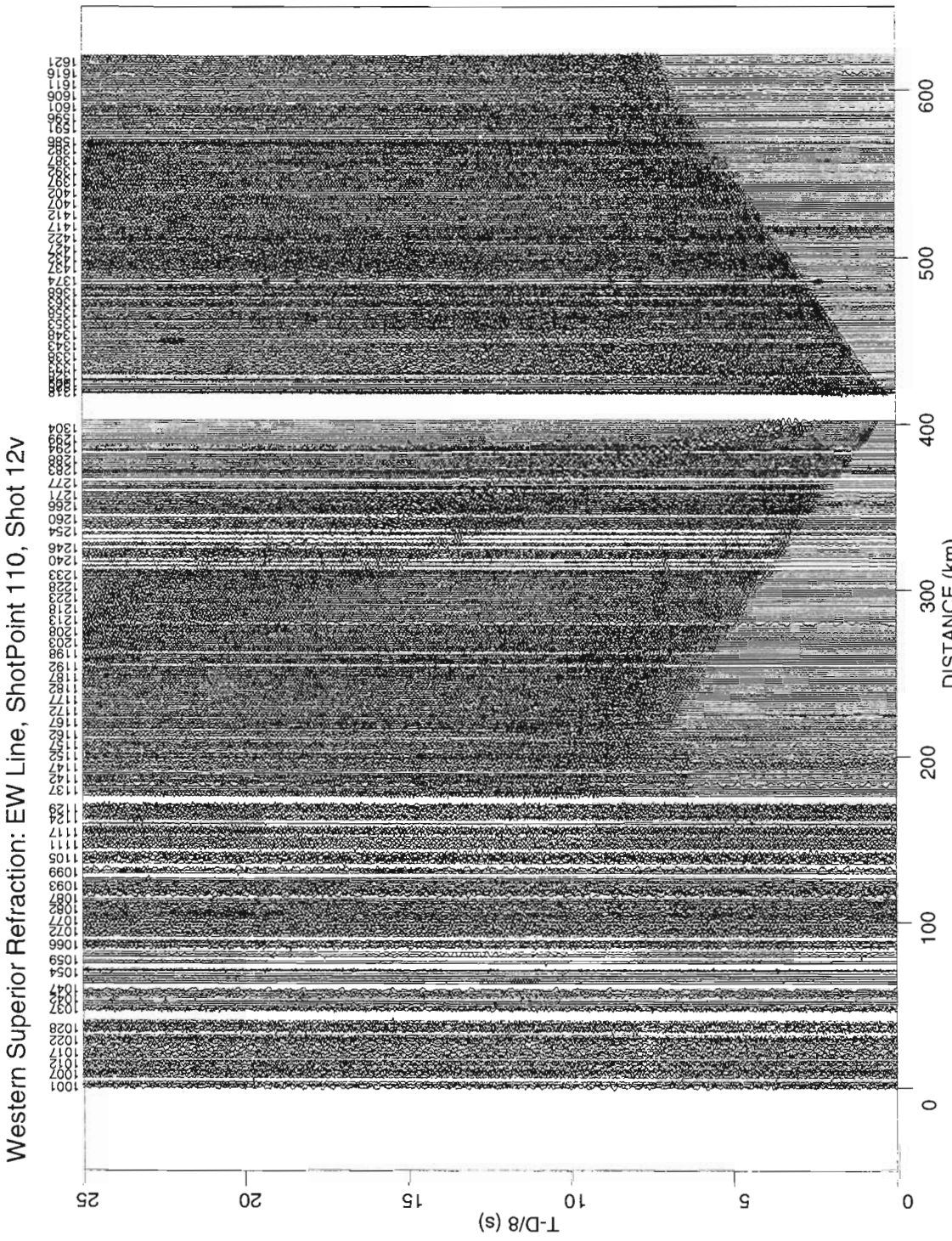


Figure 72: Shot 12v Vertical component

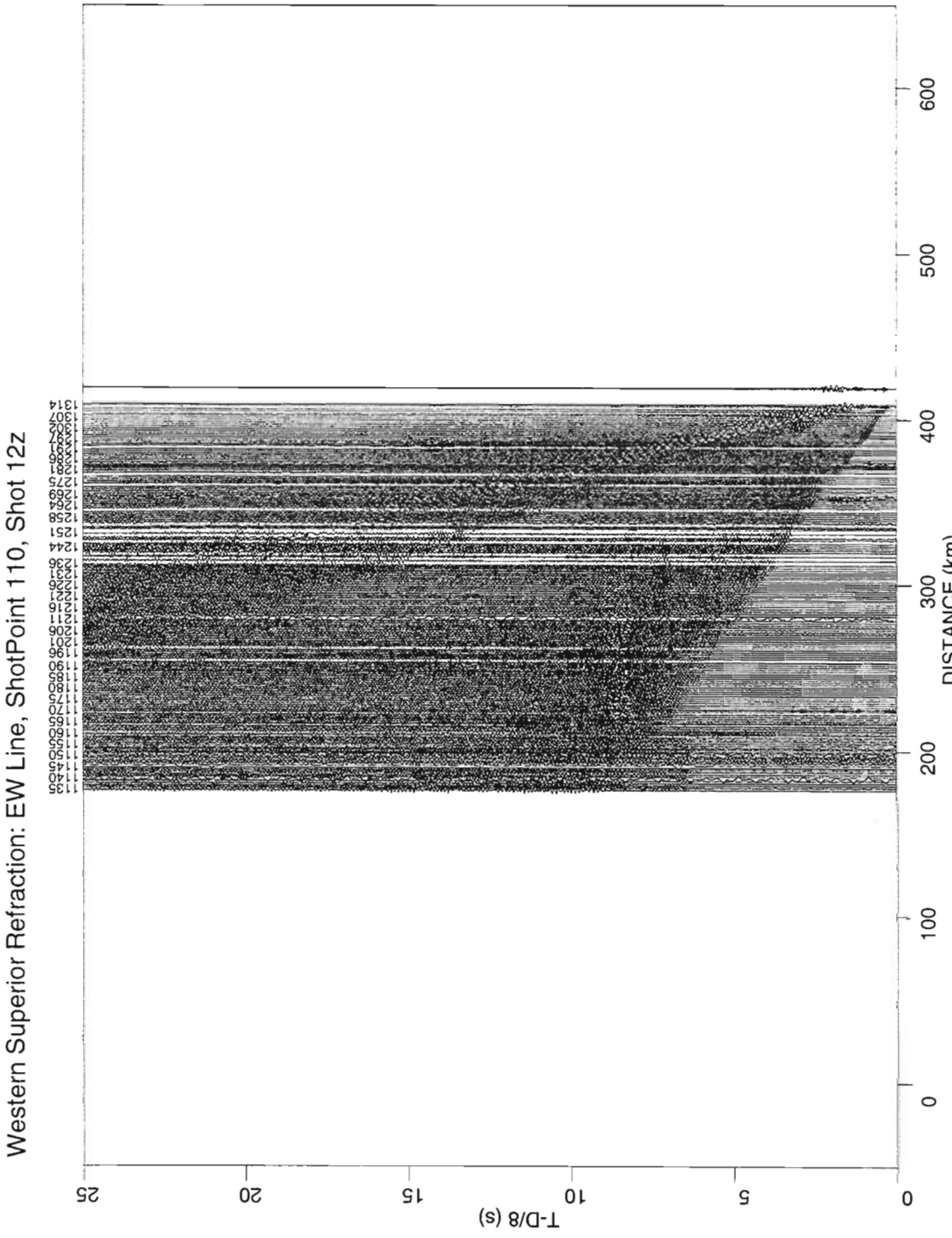


Figure 73: Shot 12z Vertical of ZNE

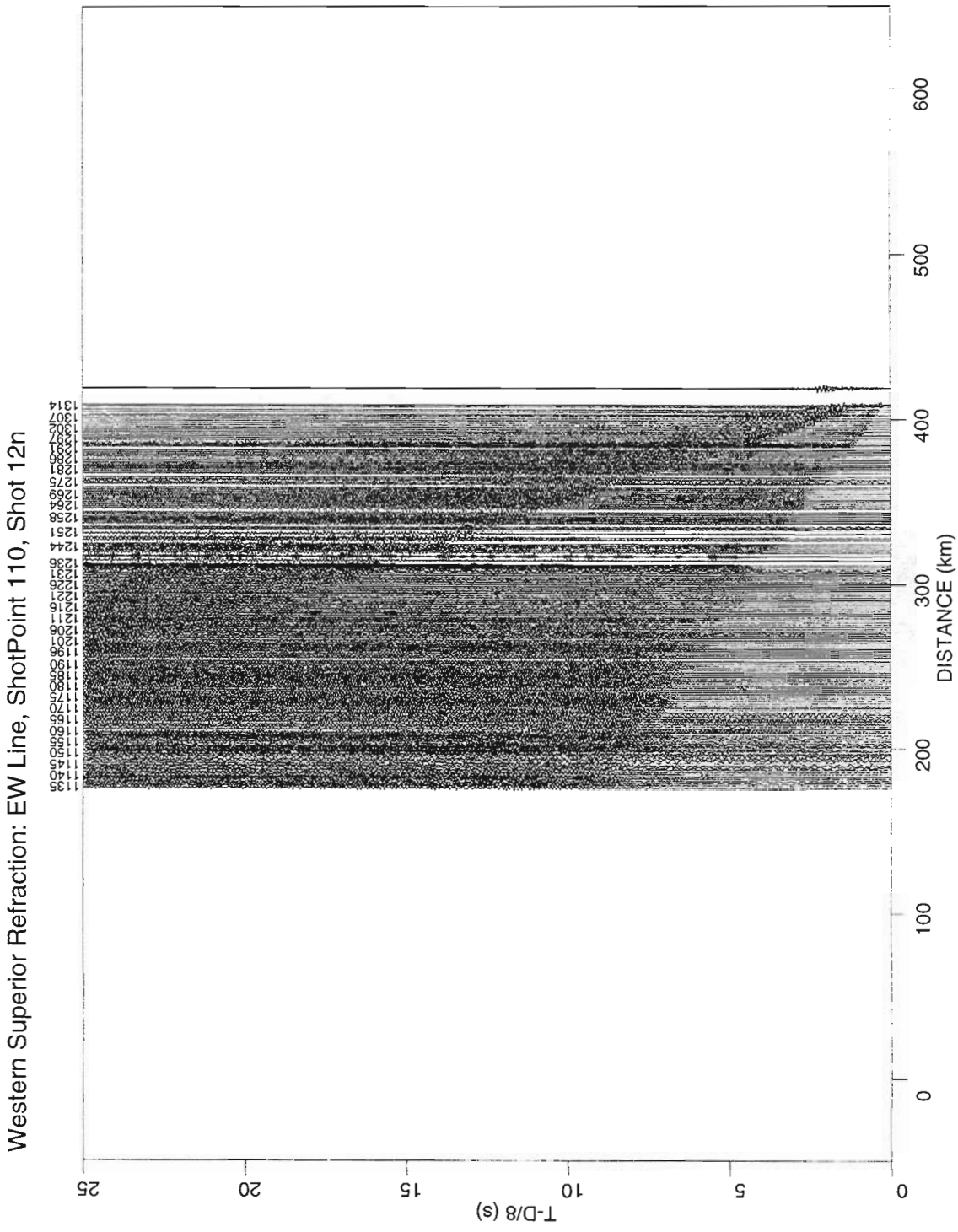


Figure 74: Shot 12n North-South of ZNE

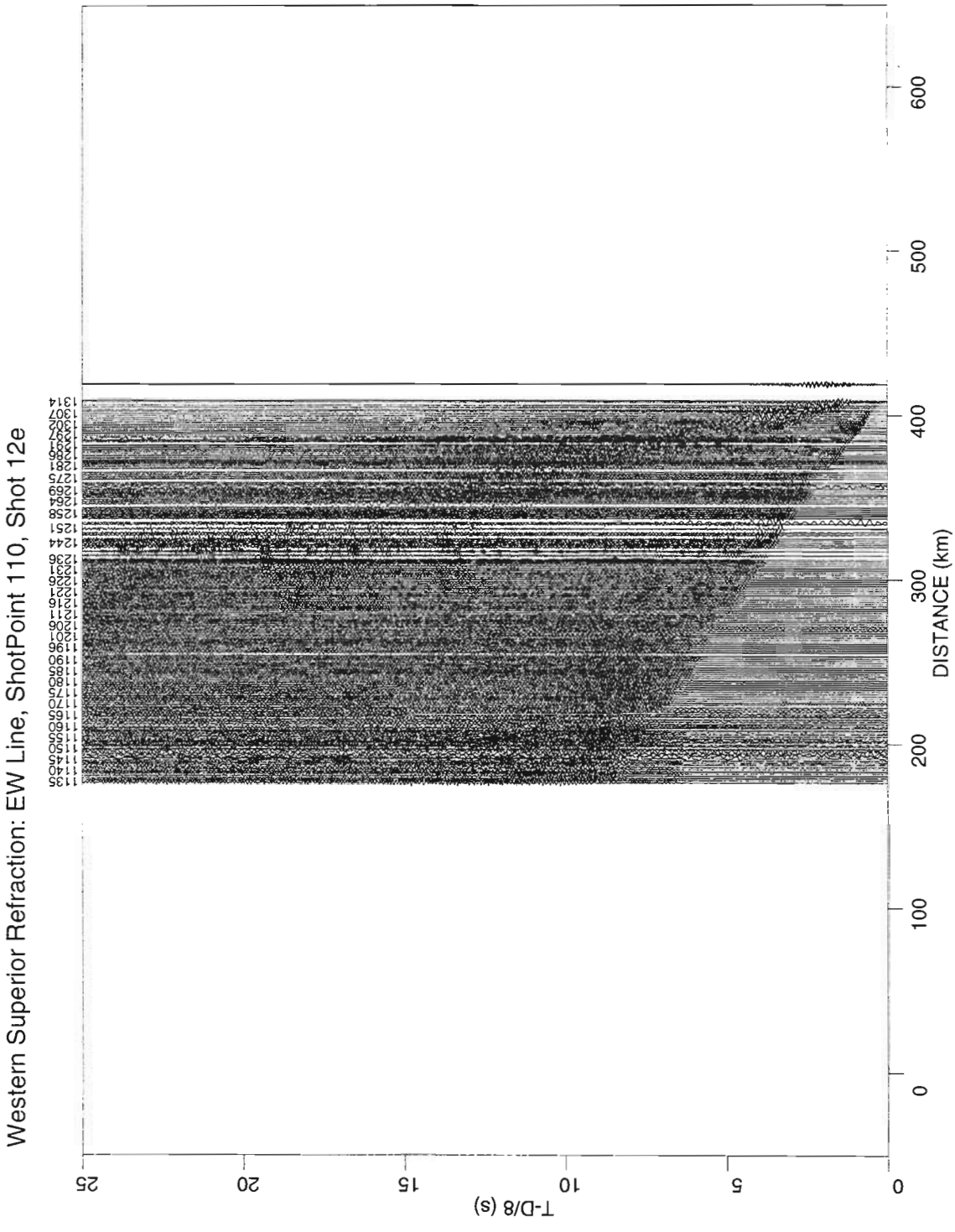


Figure 75: Shot 12e East-West of ZNE

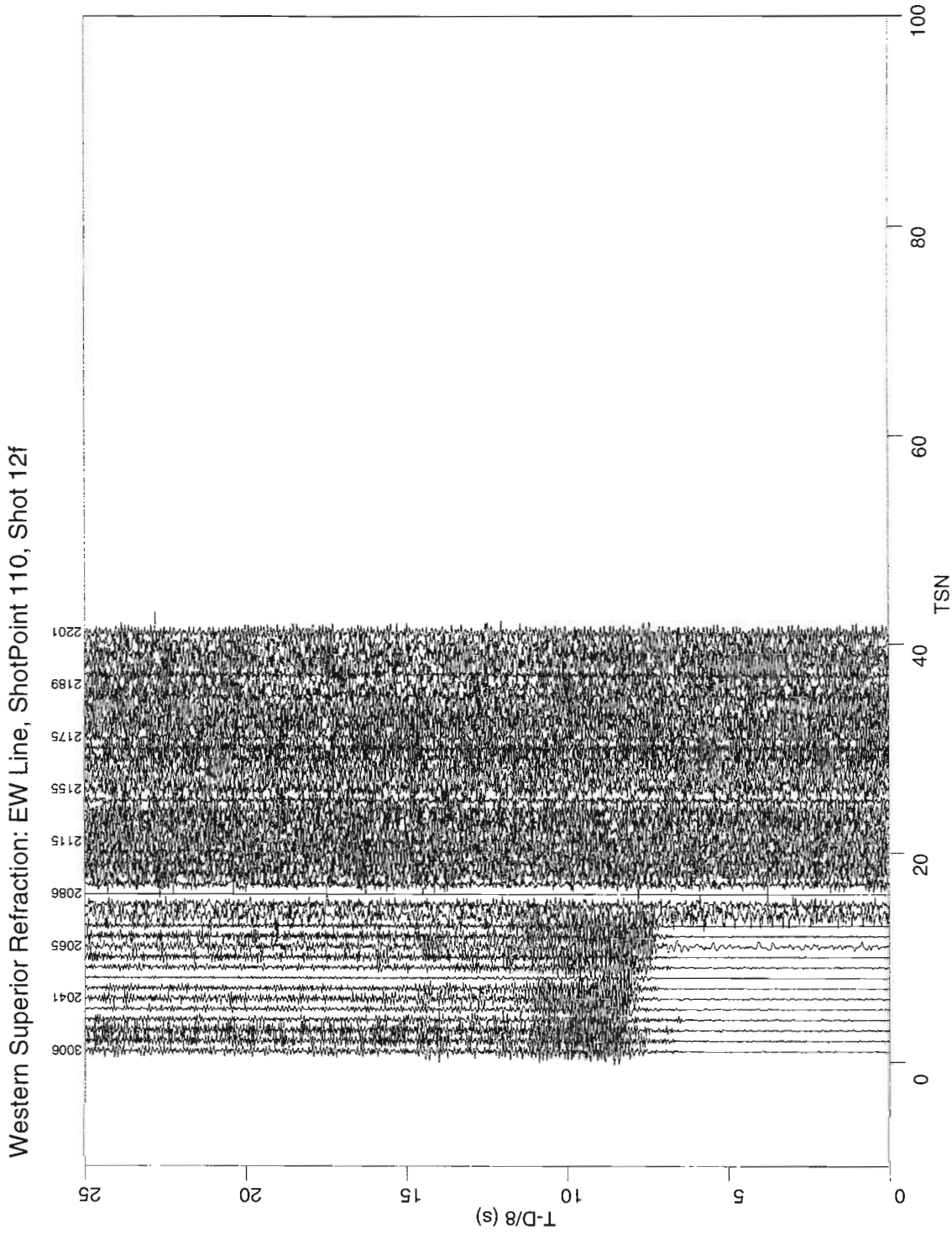


Figure 76: Shot 12f Broadside

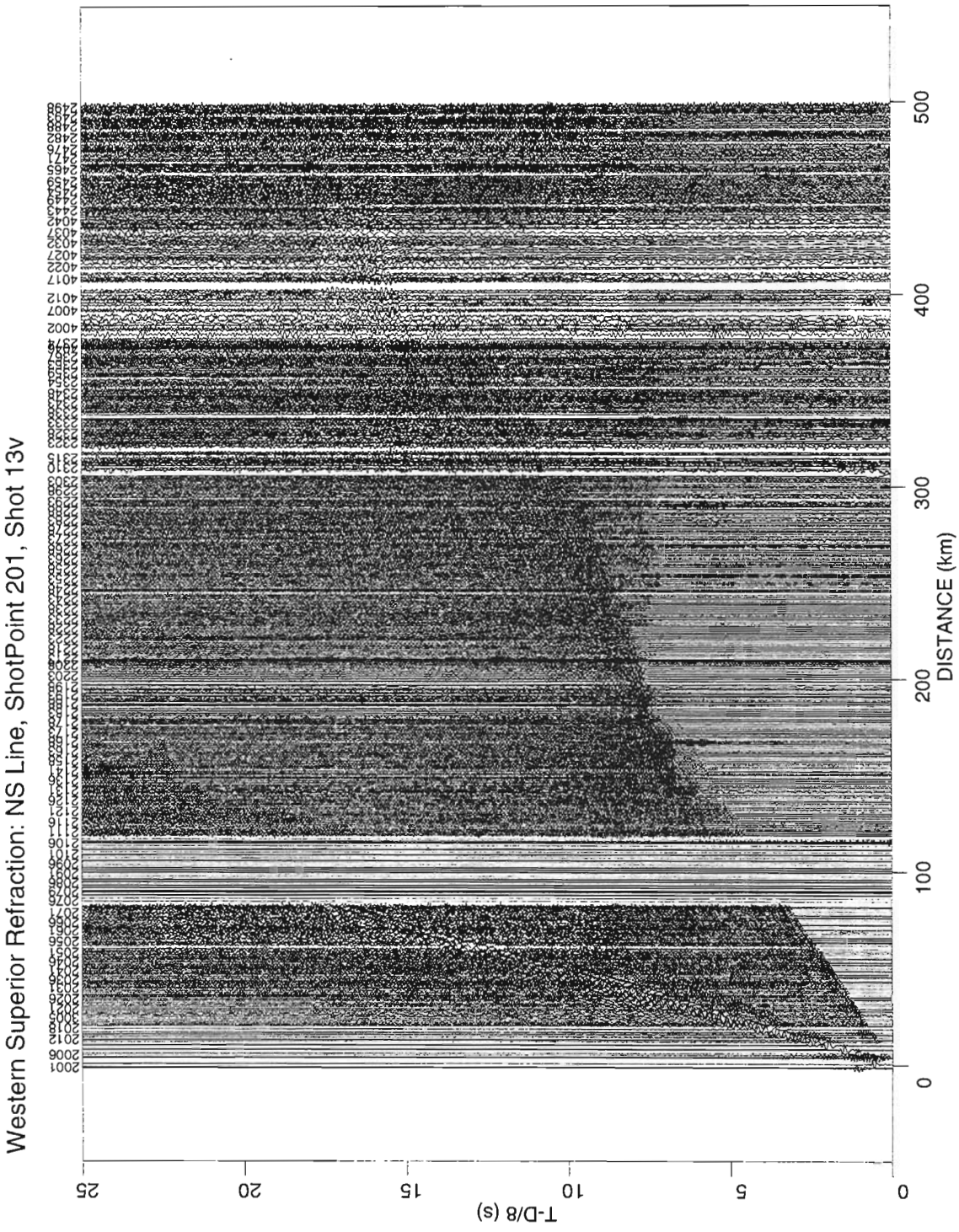


Figure 77: Shot 13v Vertical component

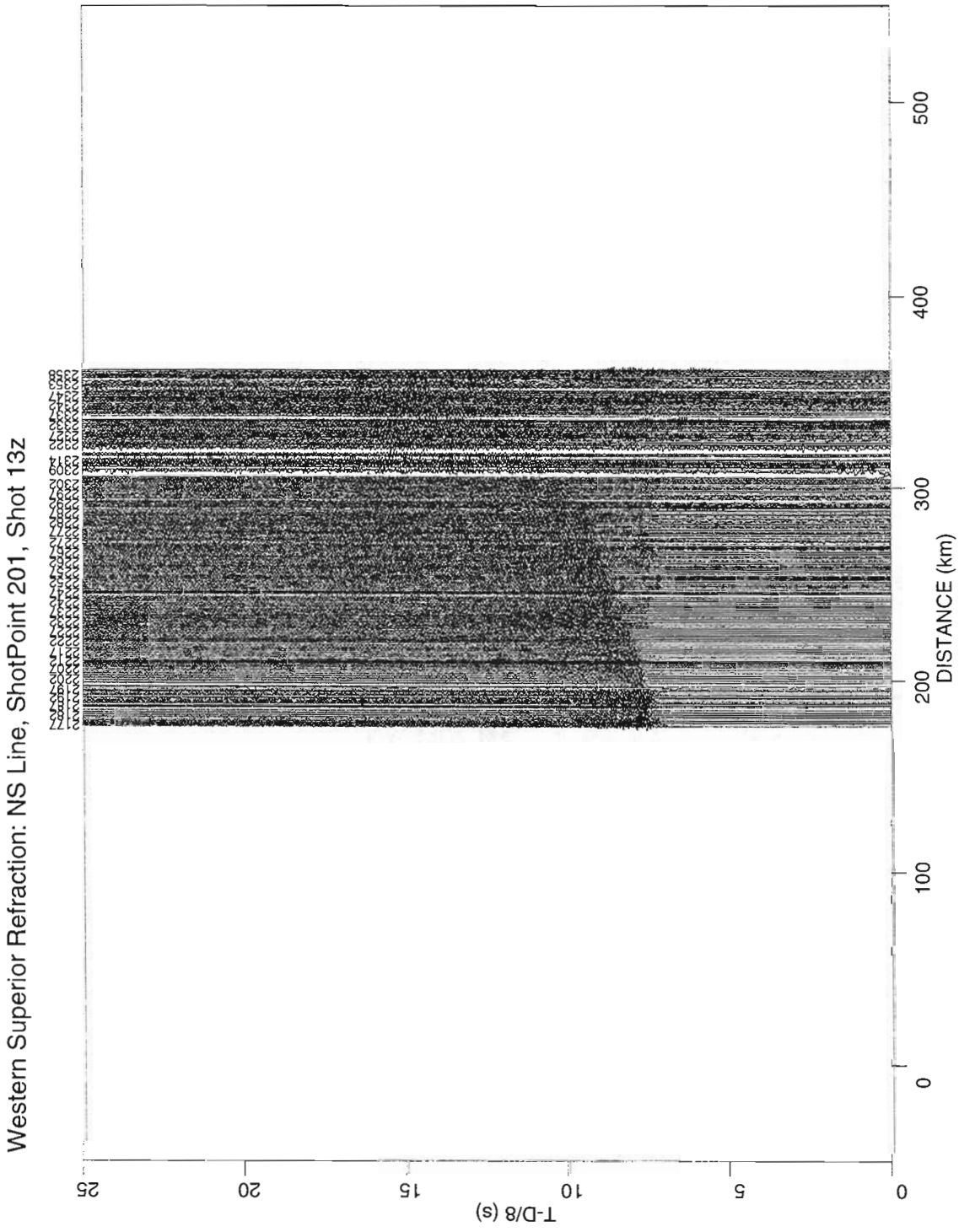


Figure 78: Shot 13z Vertical of ZNE

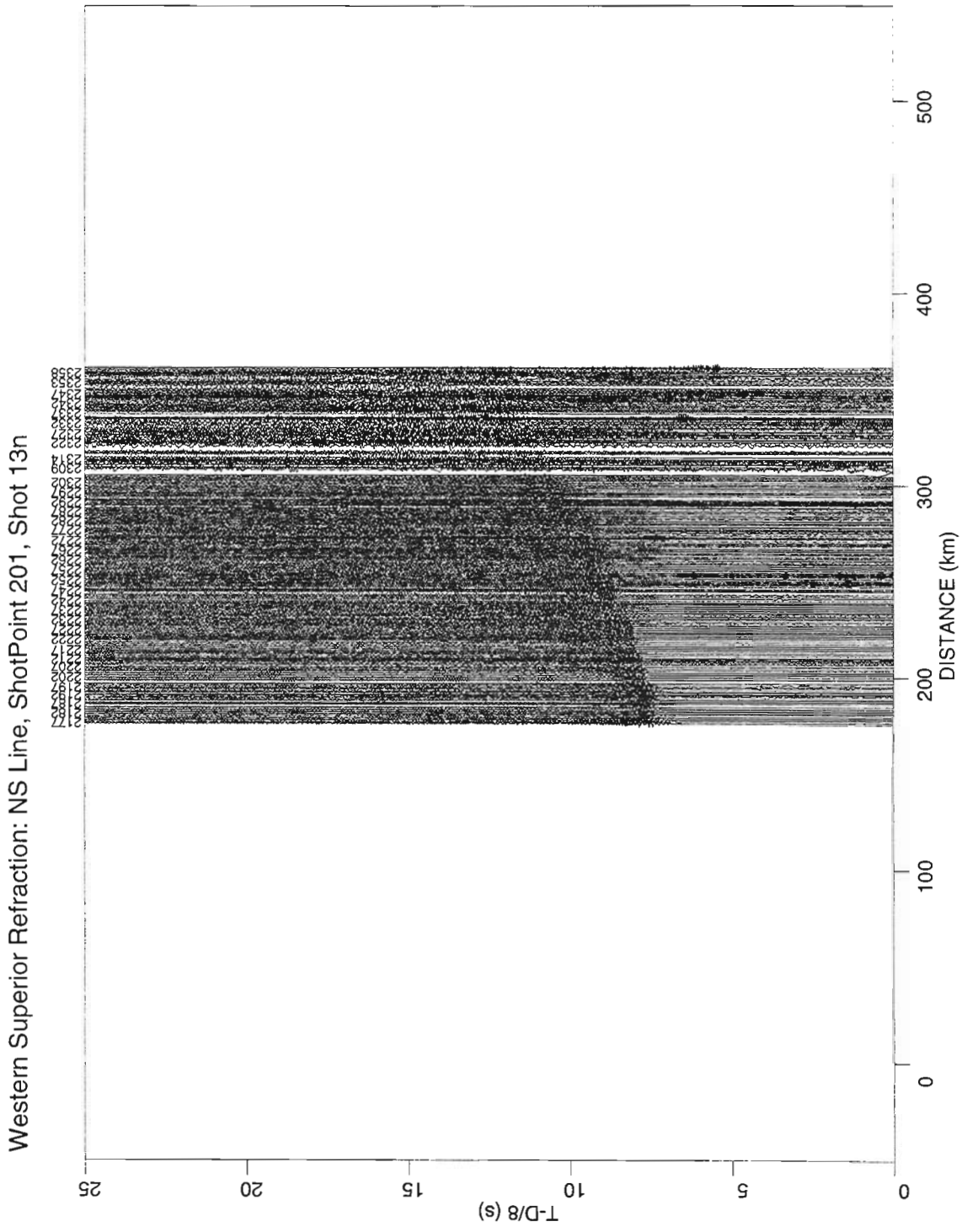


Figure 79: Shot 13n North-South of ZNE

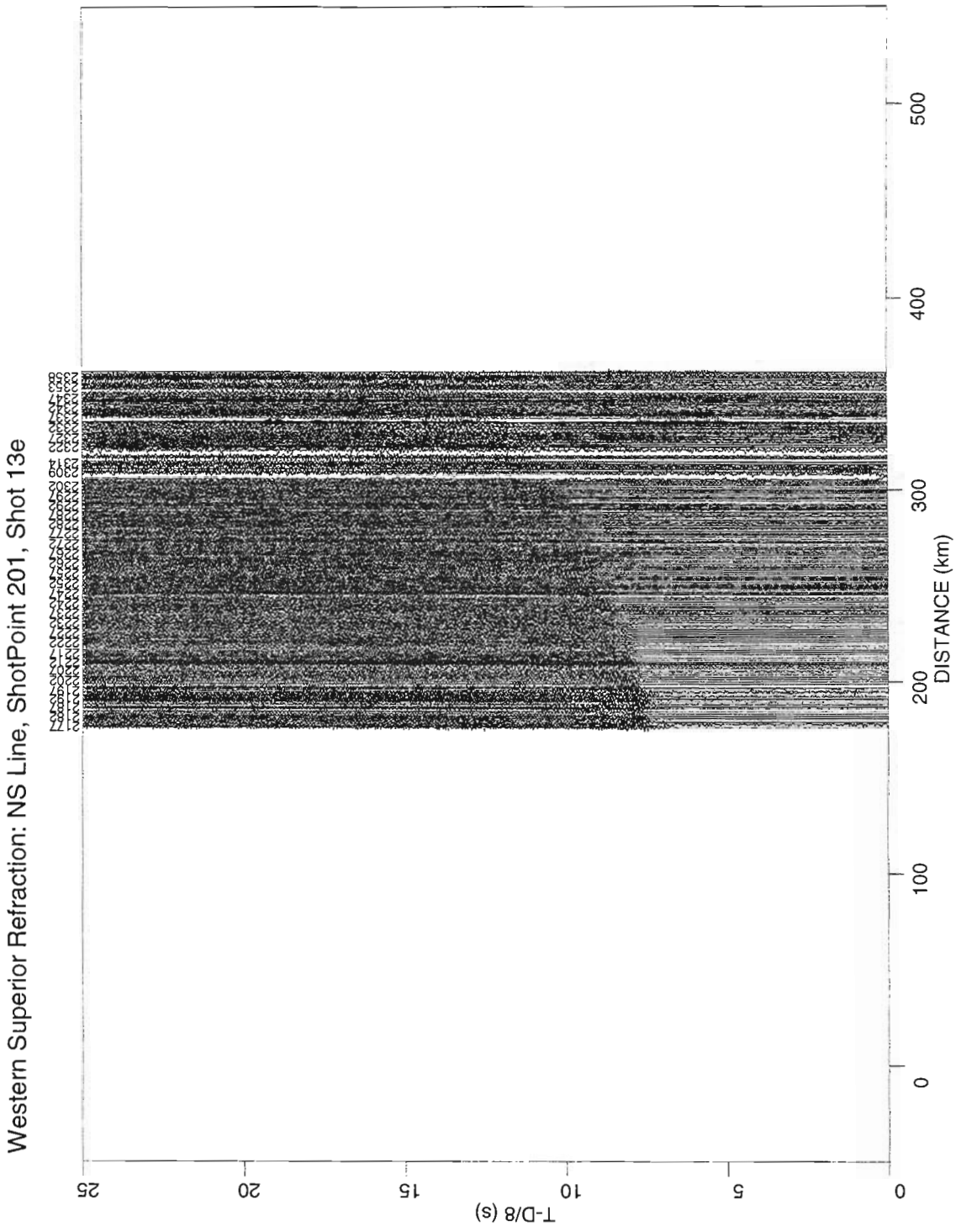


Figure 80: Shot 13e East-West of ZNE

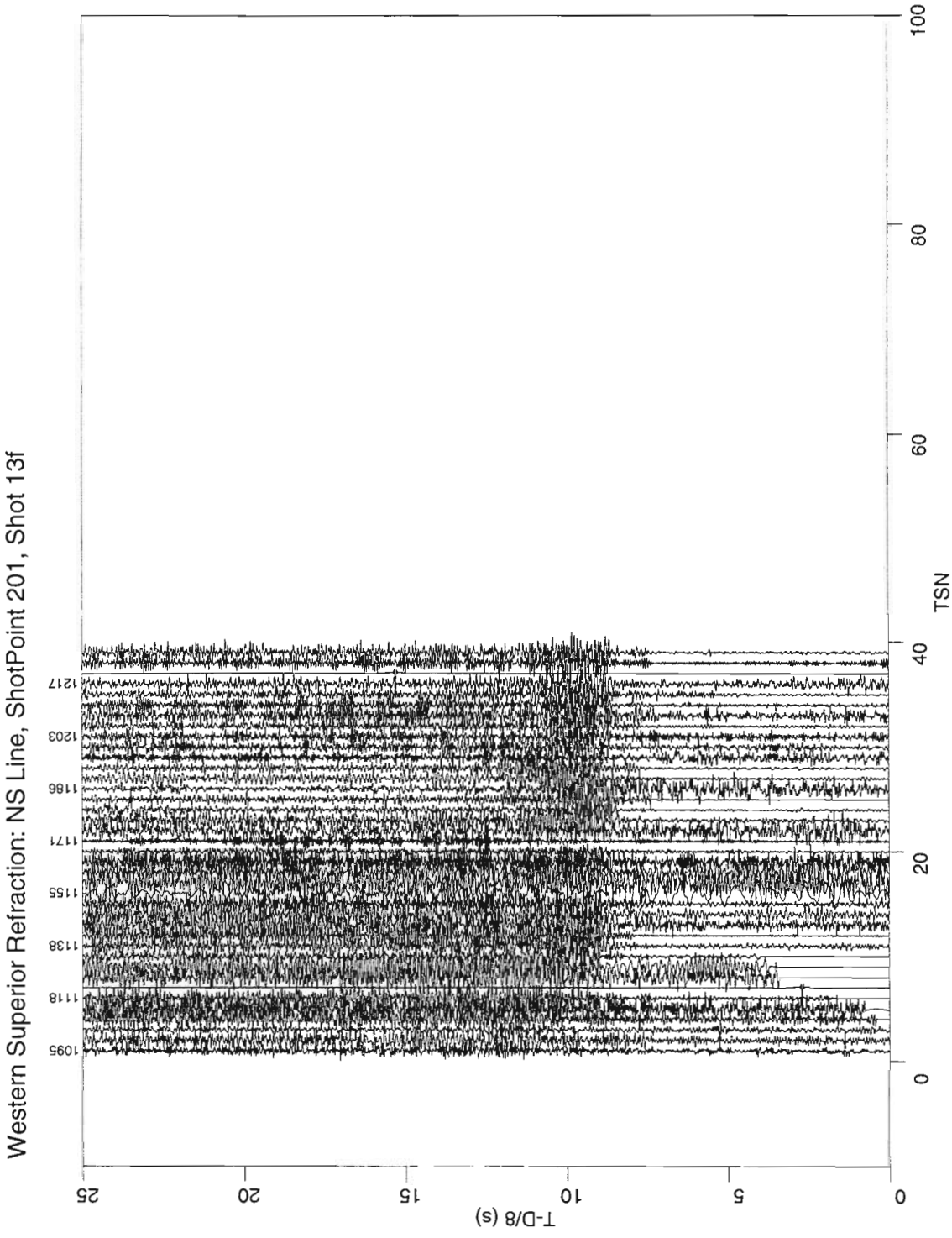


Figure 81: Shot 13f Broadside

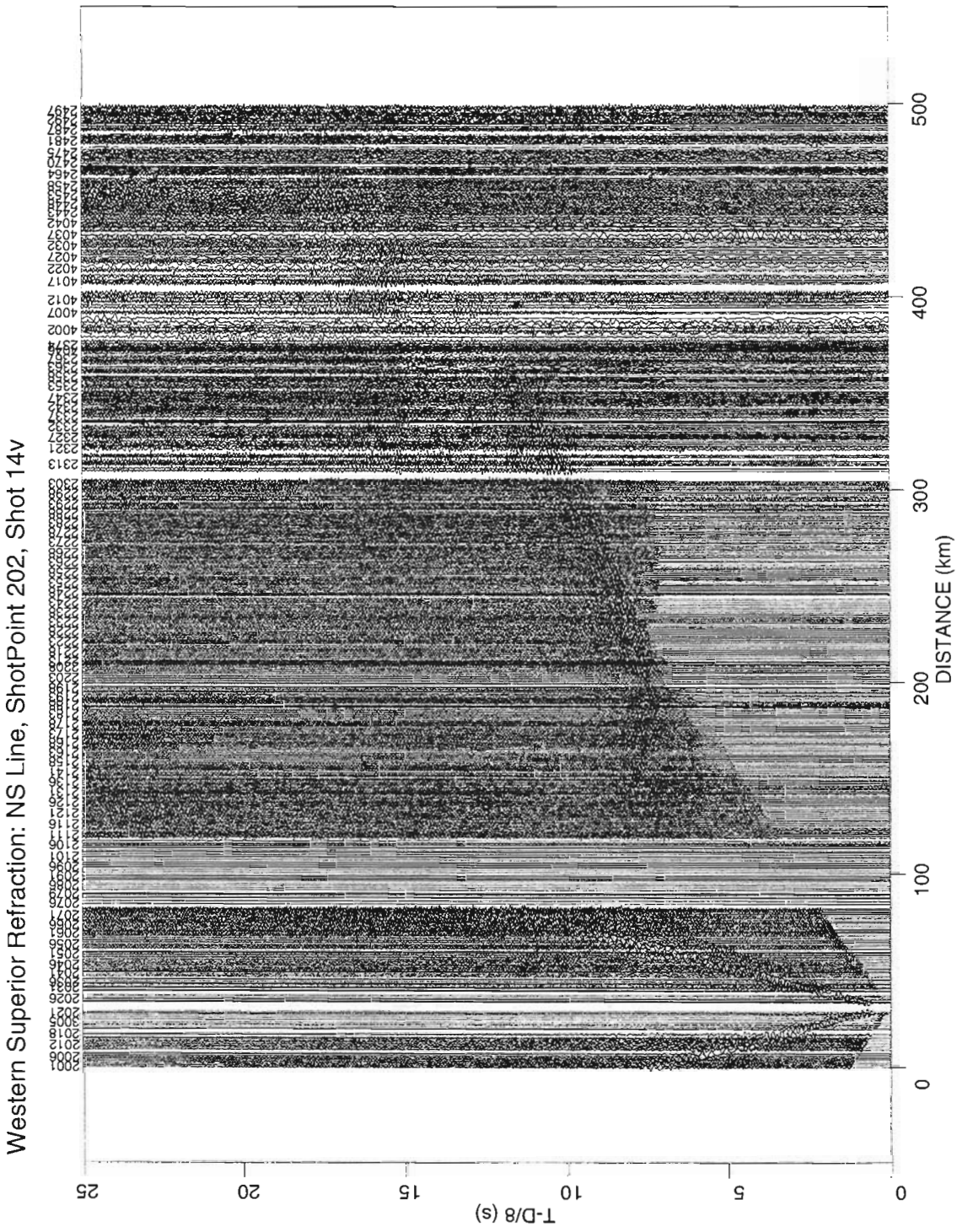


Figure 82: Shot 14v Vertical component

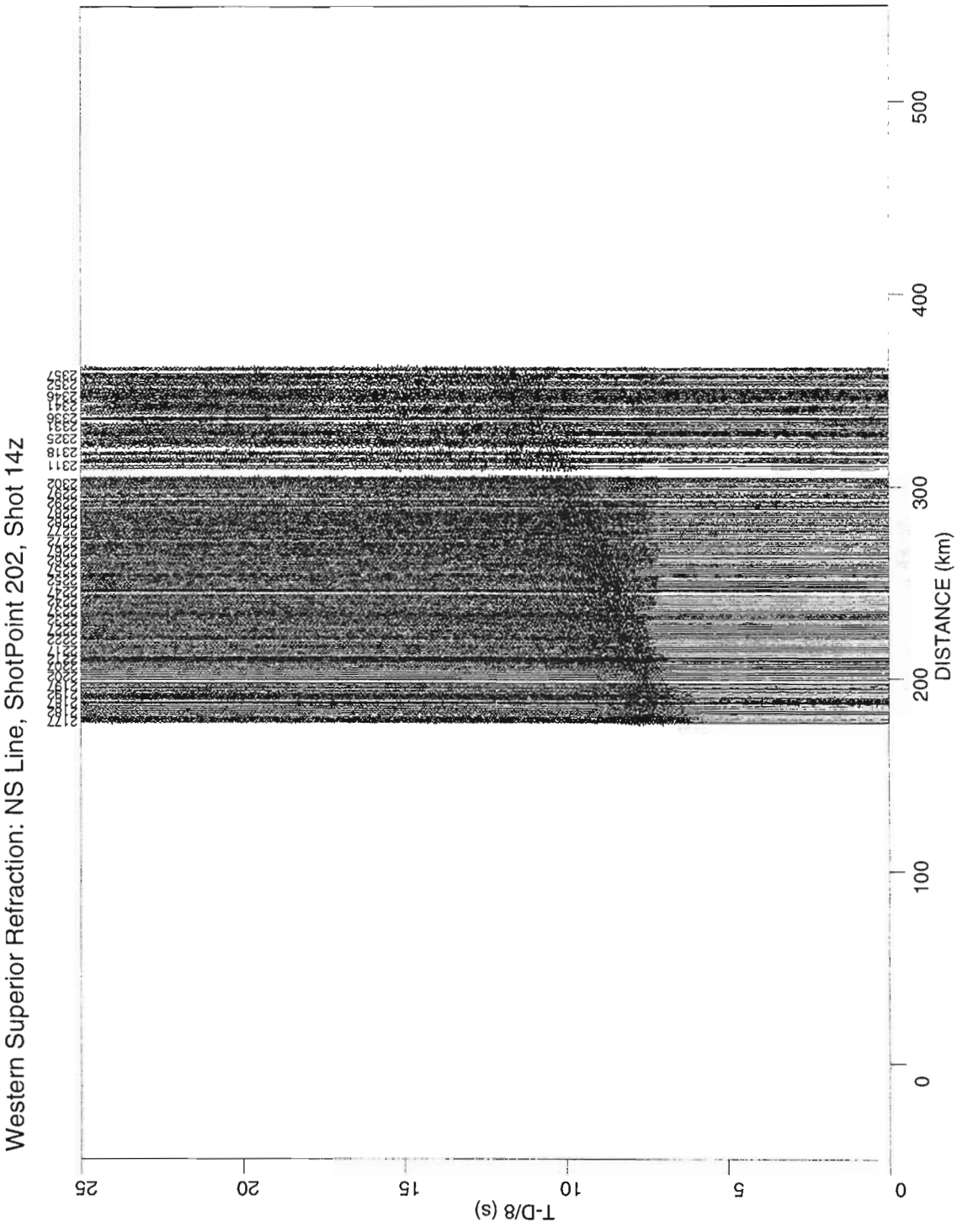


Figure 83: Shot 14z Vertical of ZNE

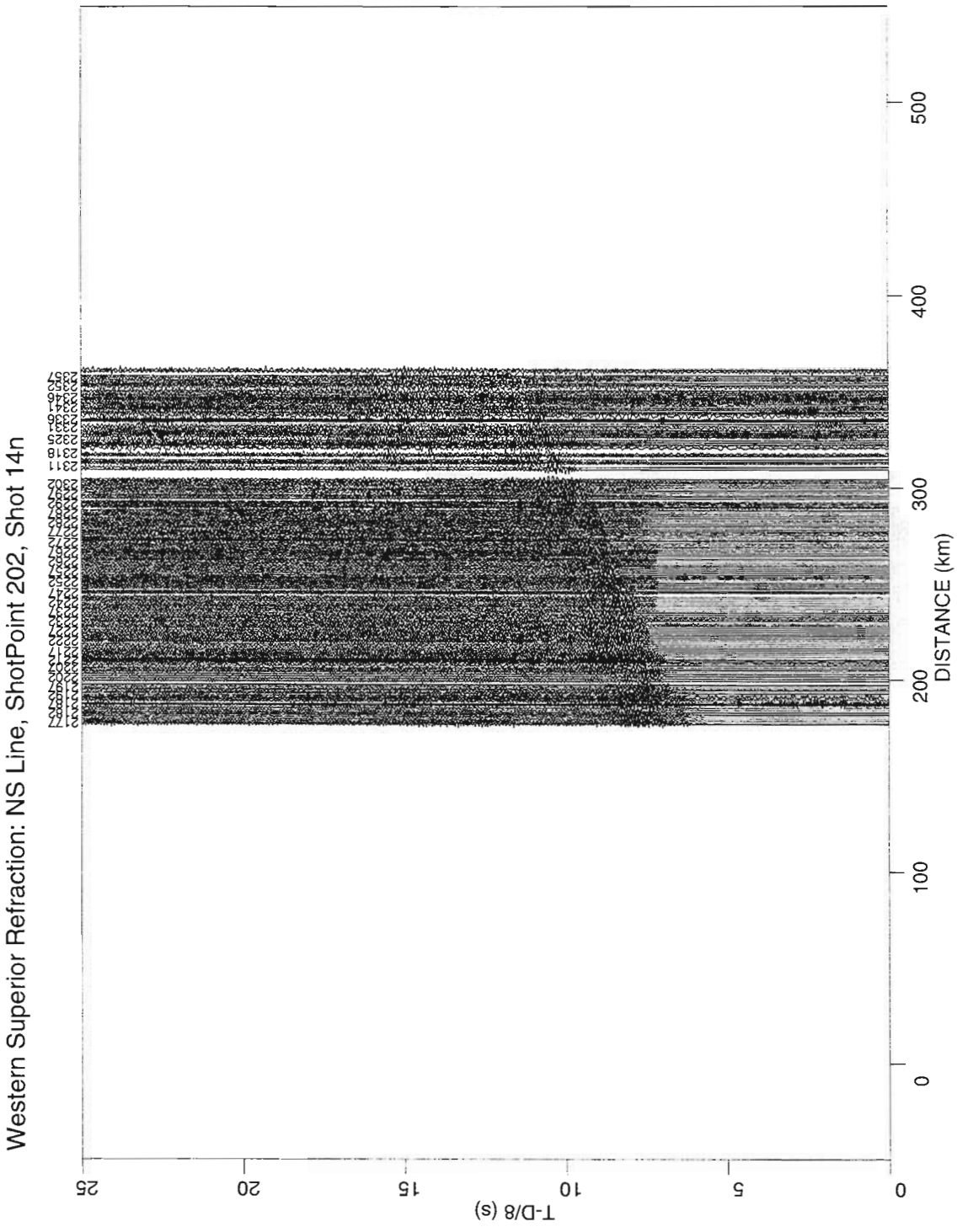


Figure 84: Shot 14n North-South of ZNE

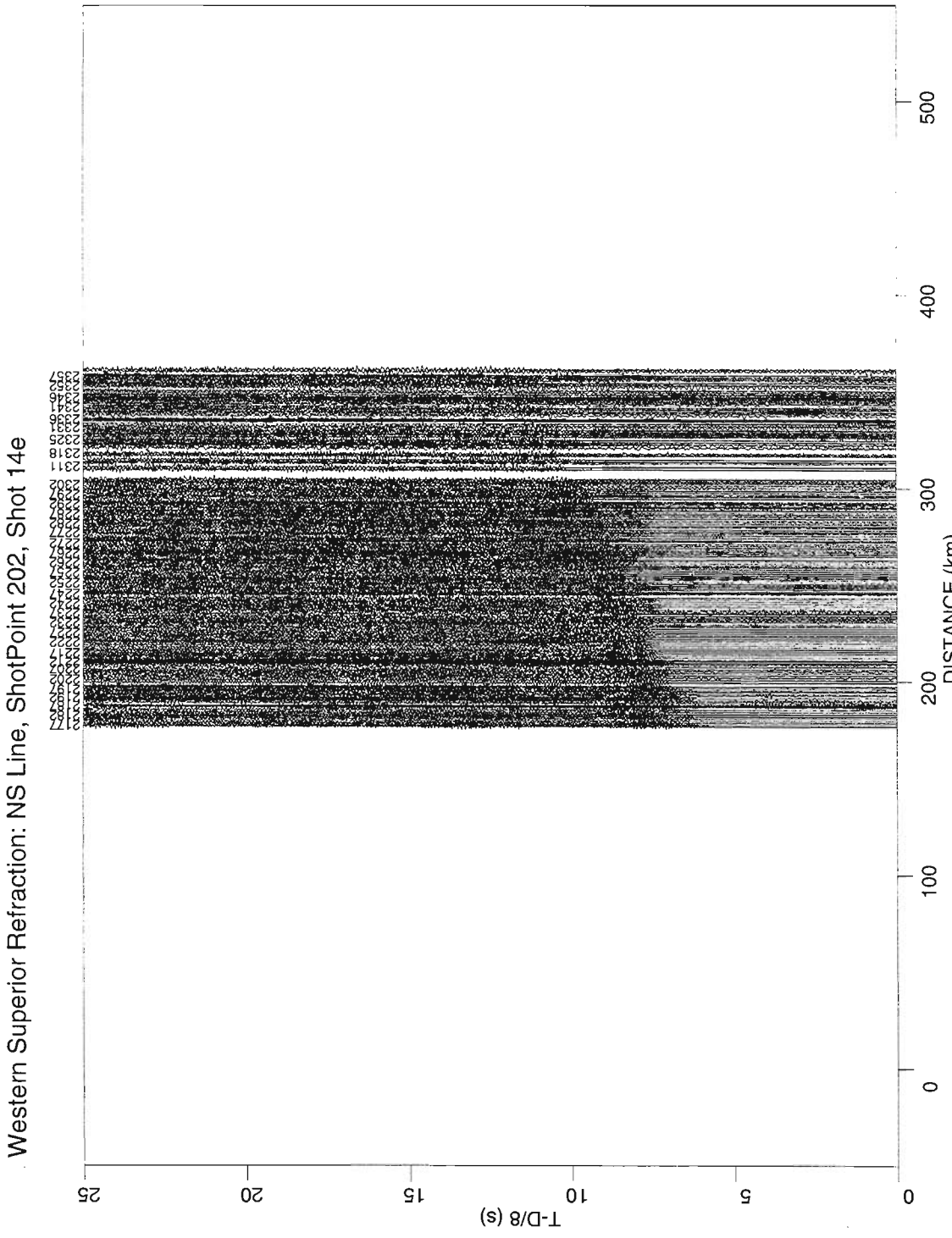


Figure 85: Shot 14e East-West of ZNE

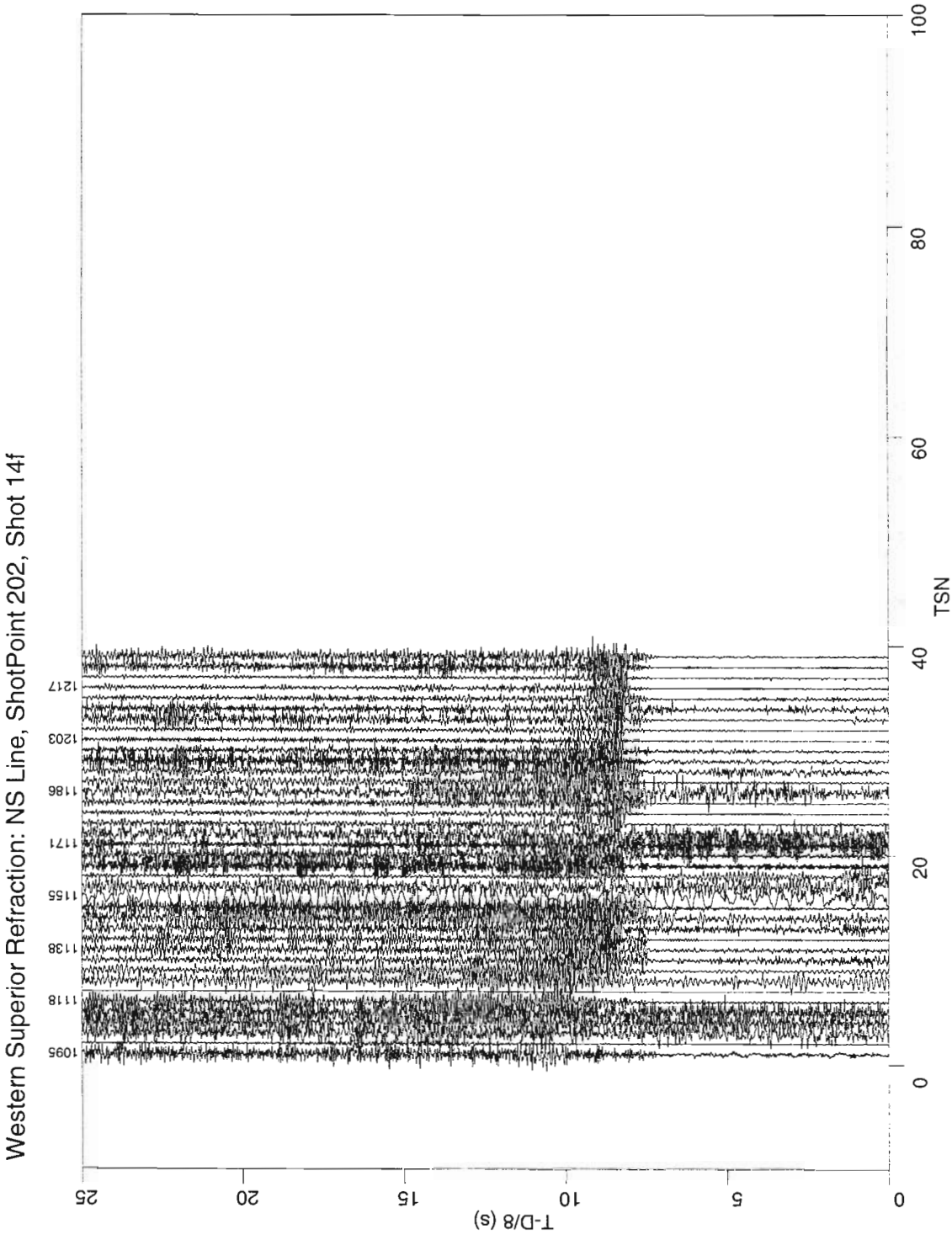


Figure 86: Shot 14f Broadside

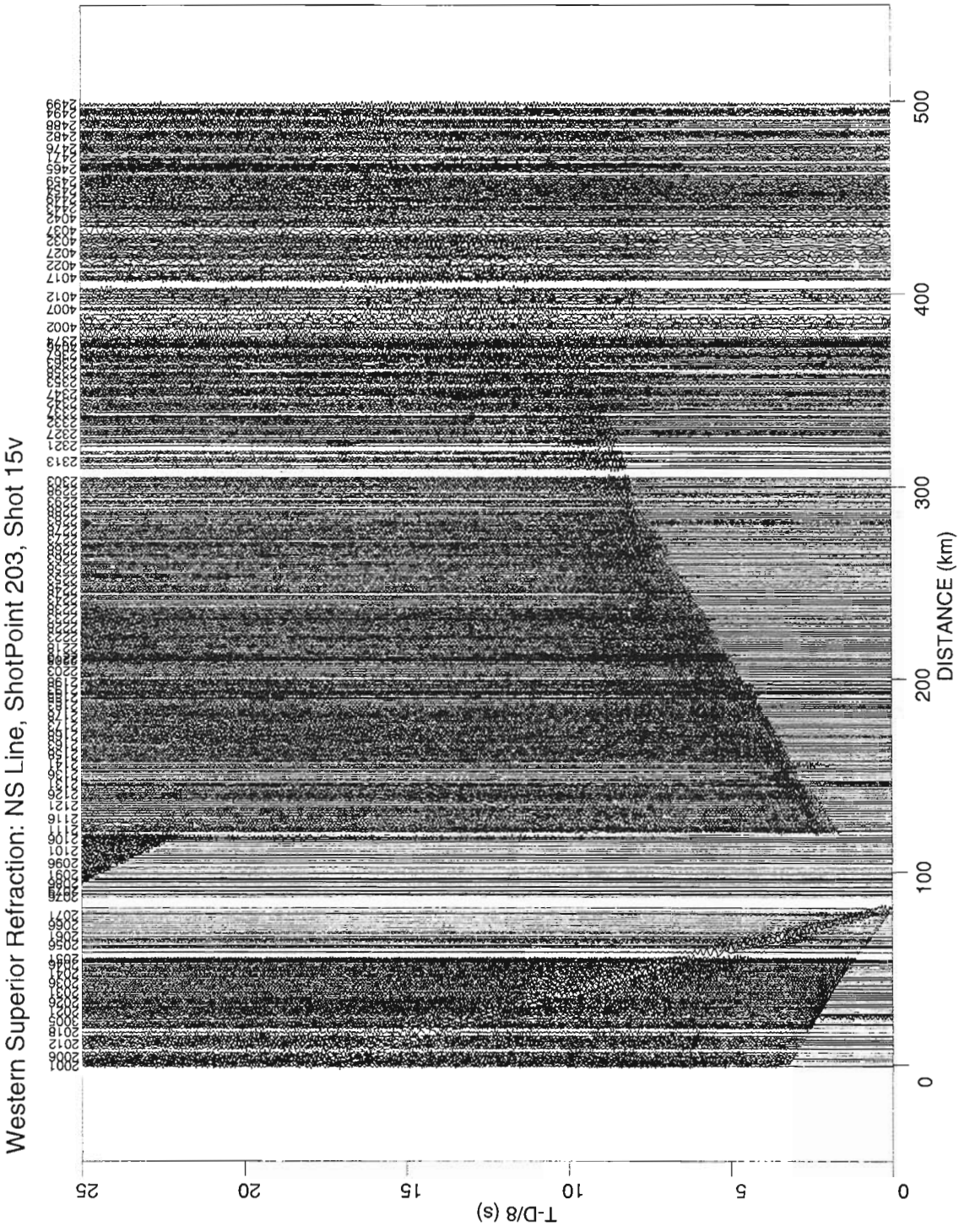


Figure 87: Shot 15v Vertical component

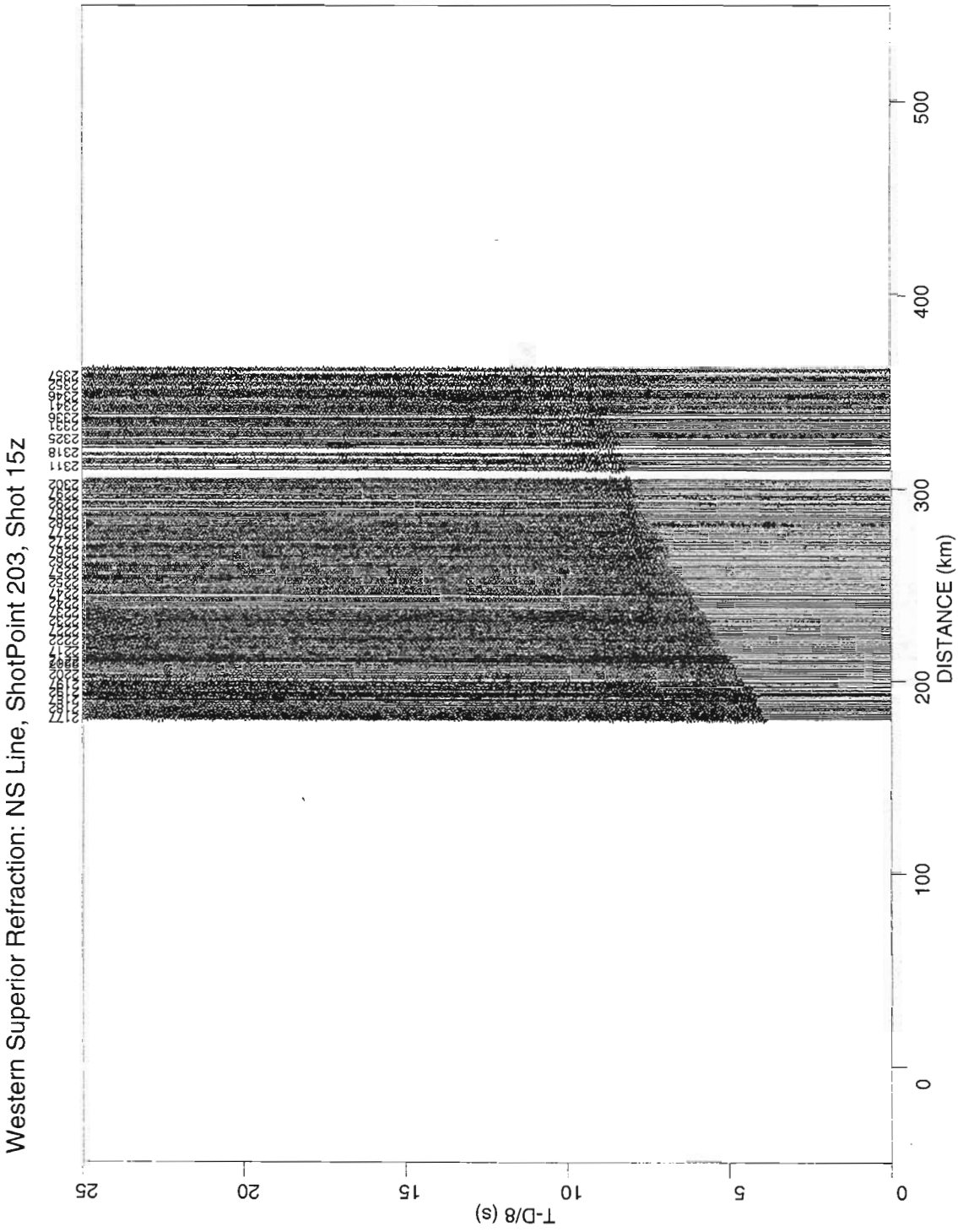


Figure 88: Shot 15z Vertical of ZNE

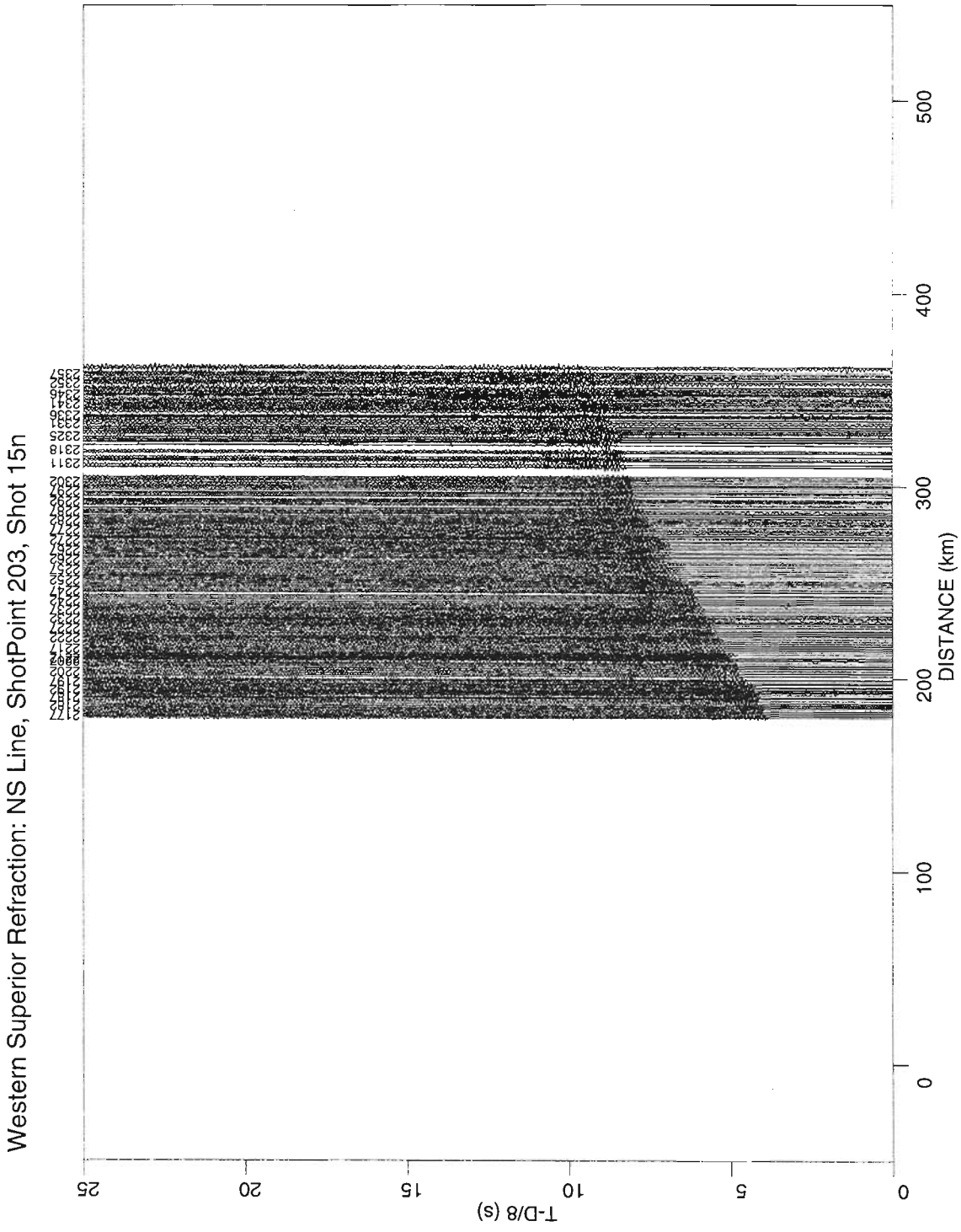


Figure 89: Shot 15n North-South of ZNE

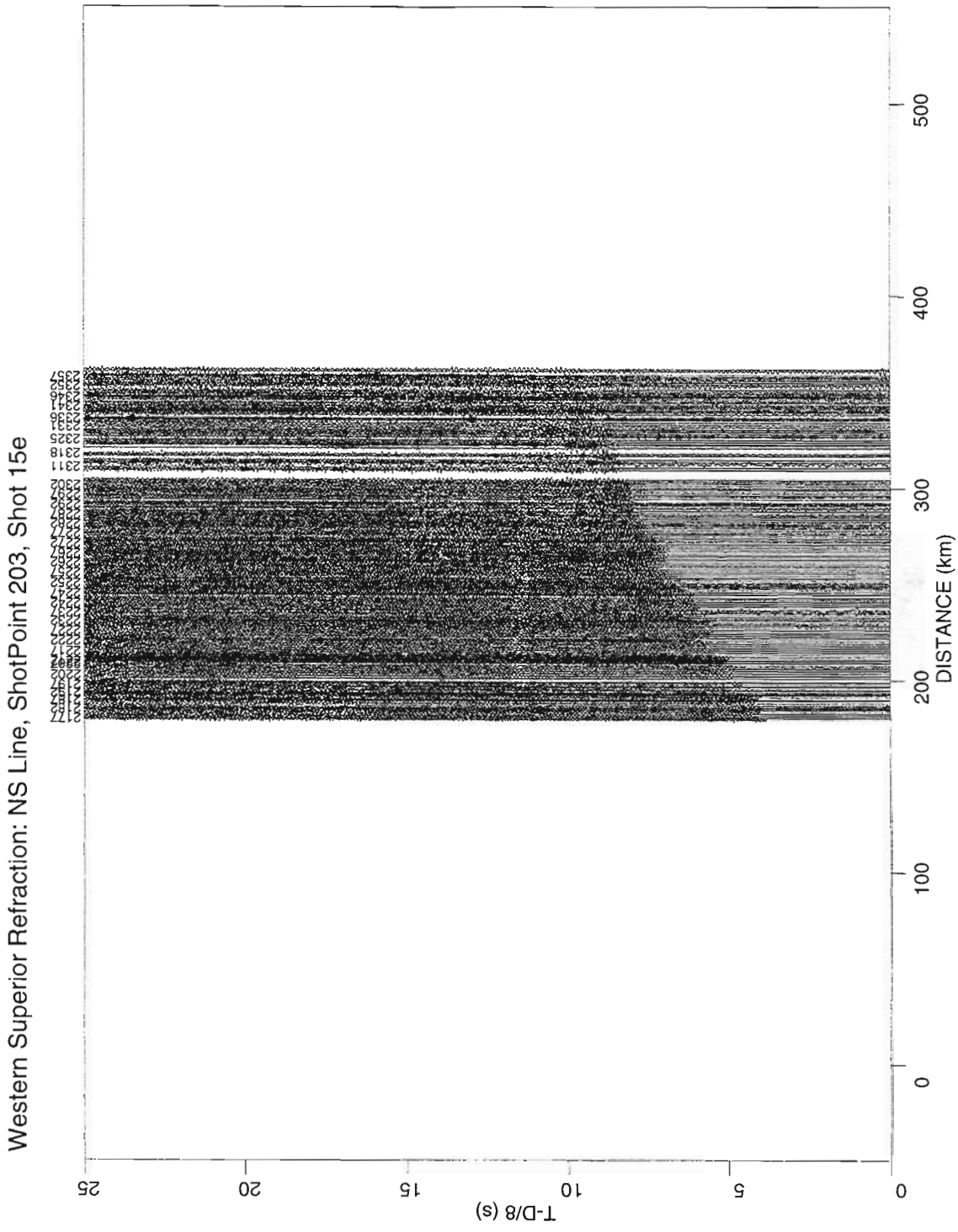


Figure 90: Shot 15e East-West of ZNE

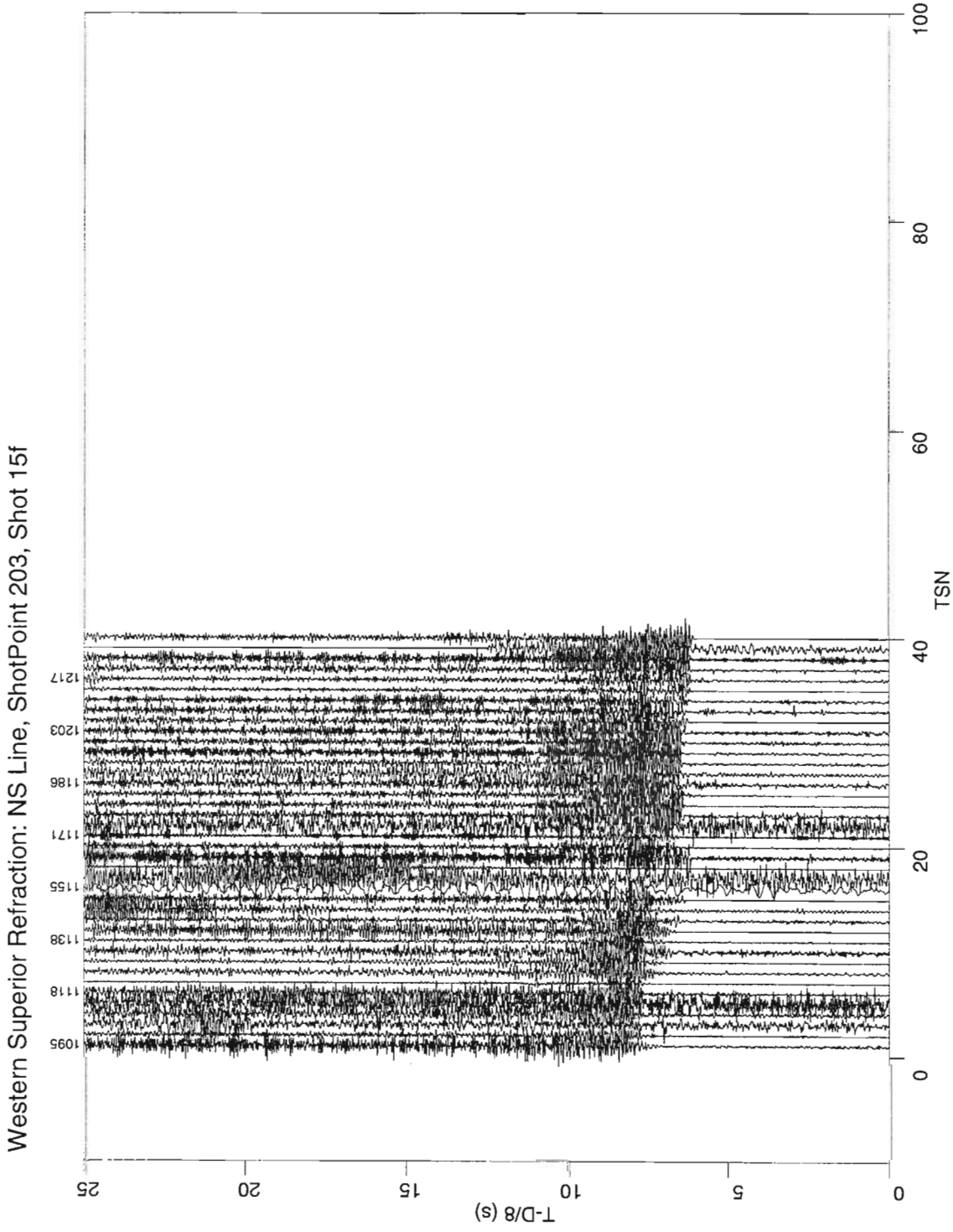


Figure 91: Shot 15f Broadside

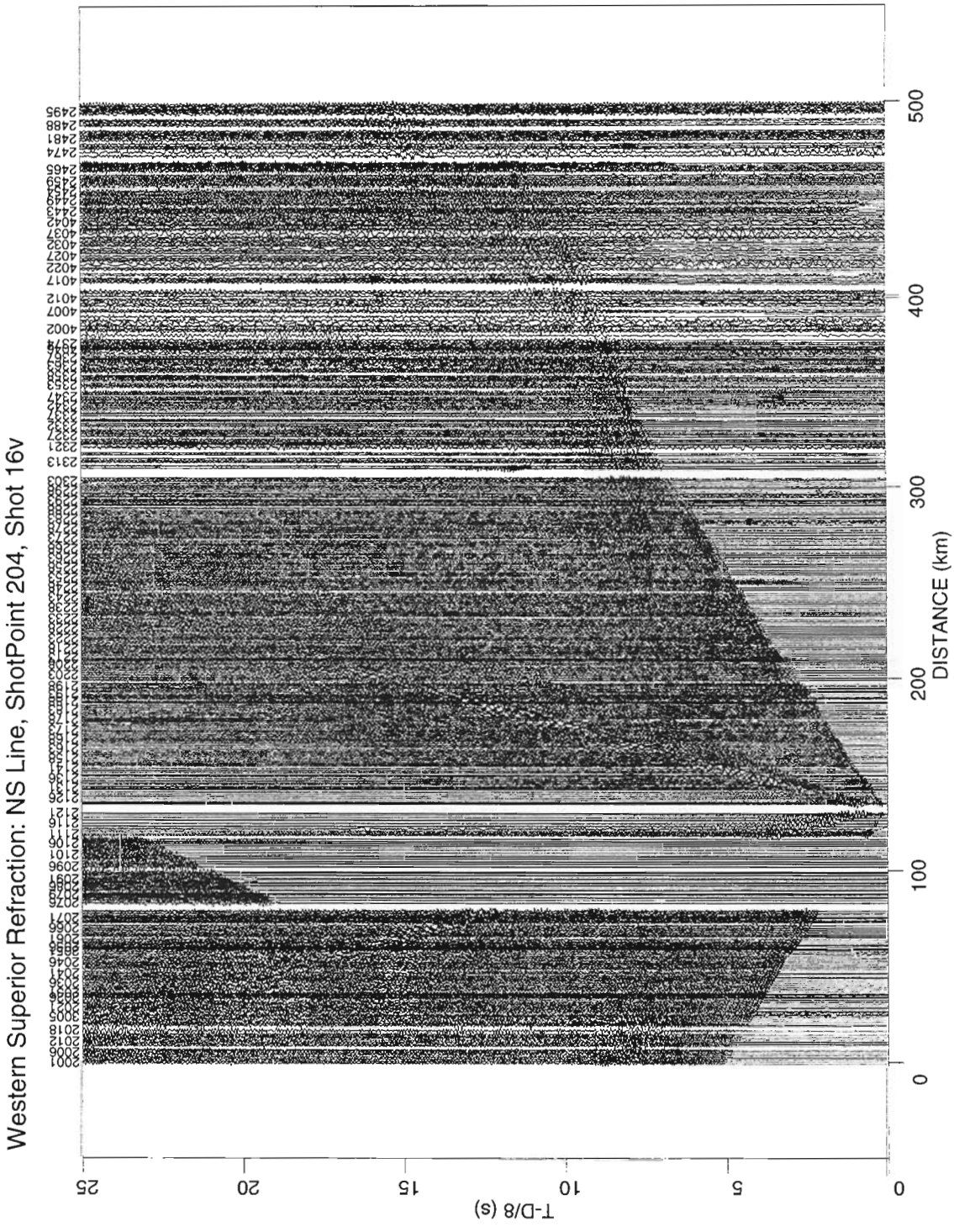


Figure 92: Shot 16v Vertical component

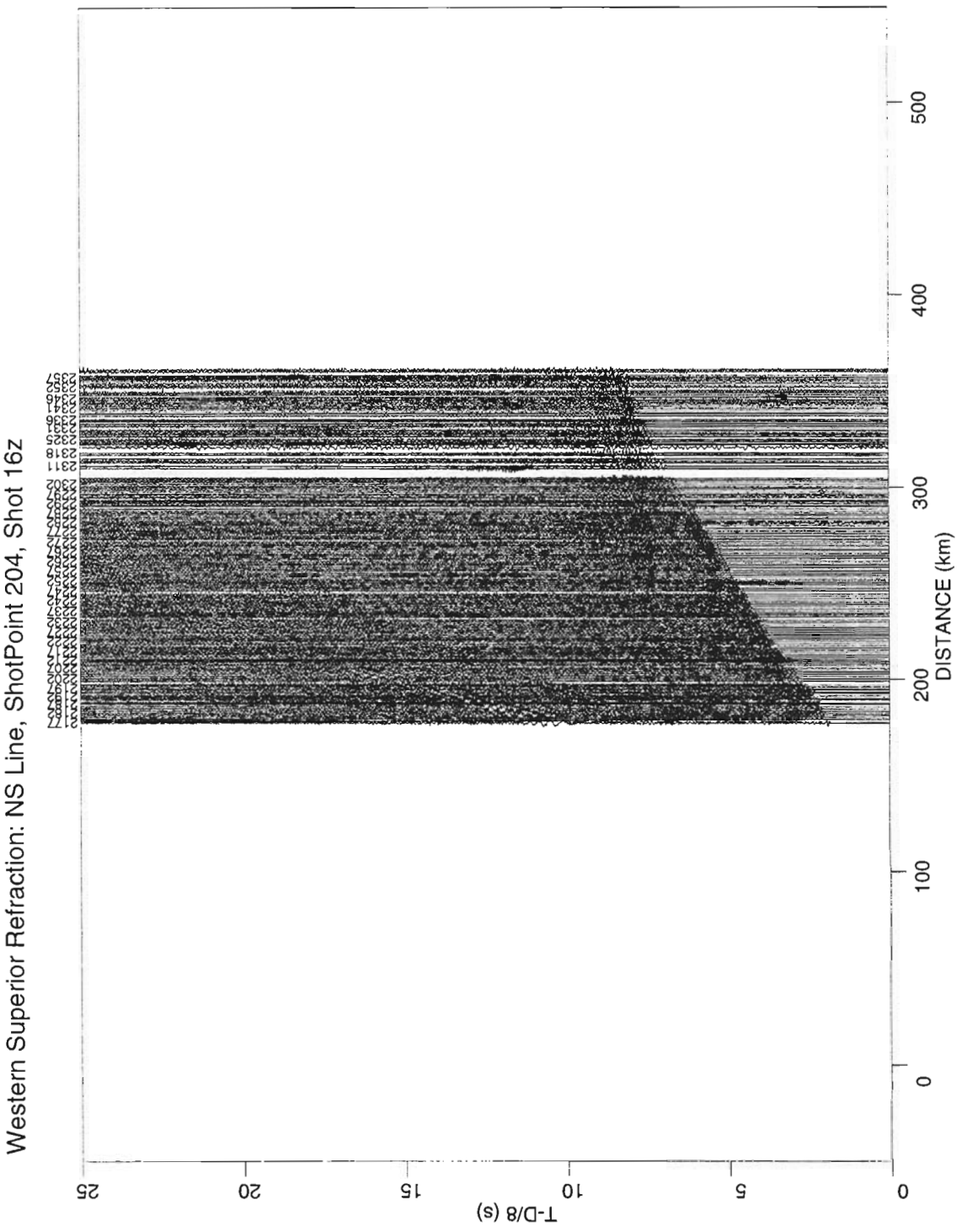


Figure 93: Shot 16z Vertical of ZNE

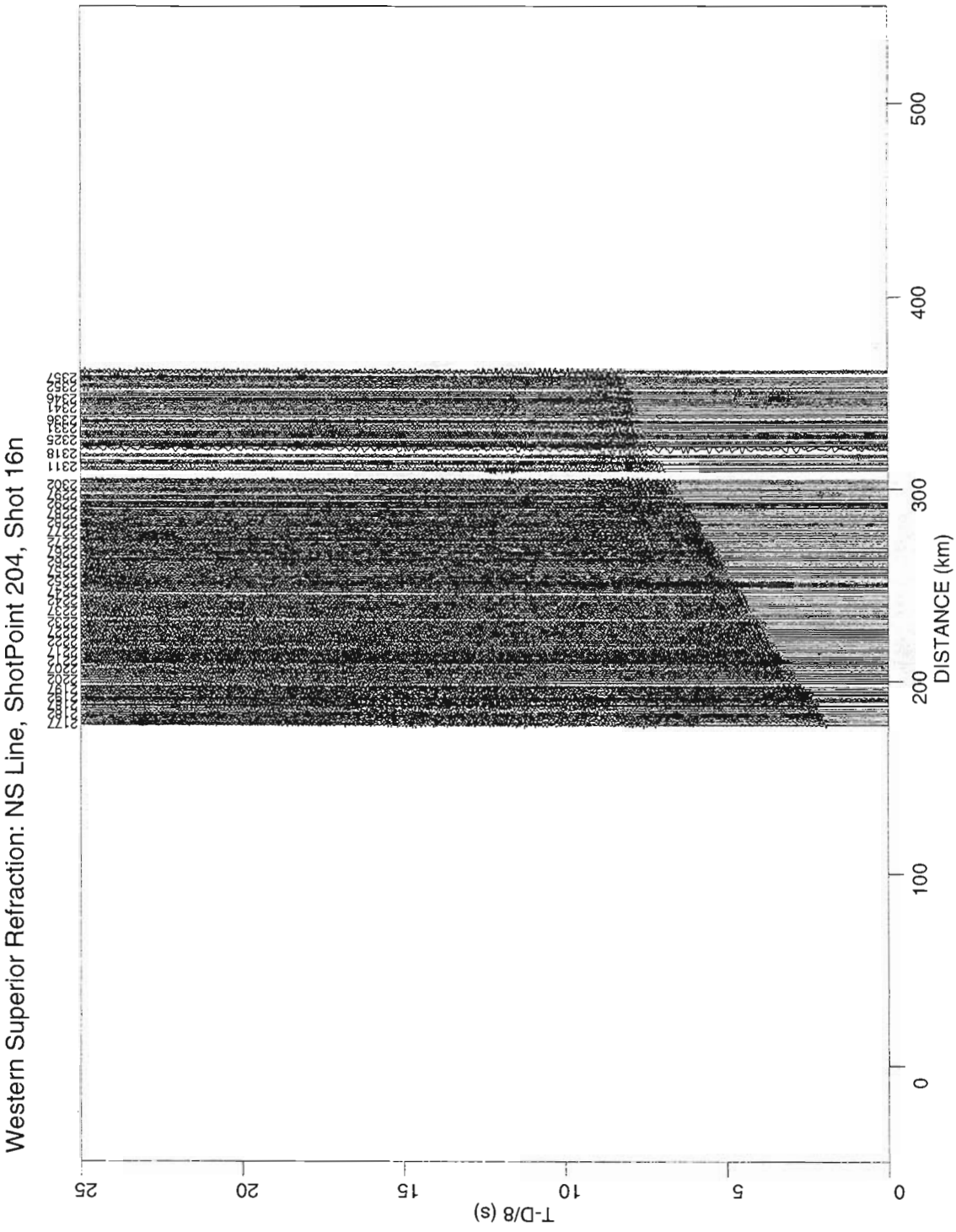


Figure 94: Shot 16n North-South of ZNE

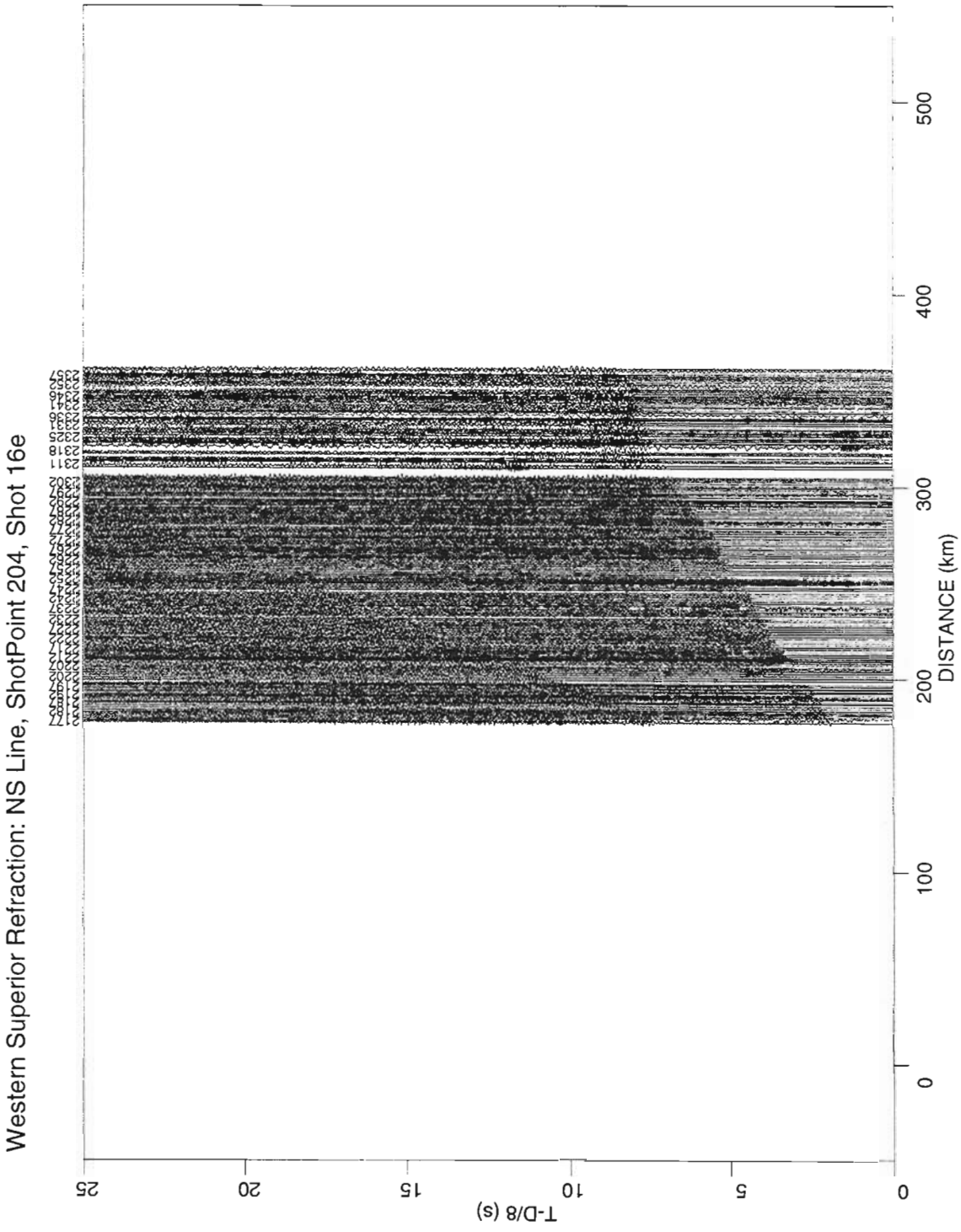


Figure 95: Shot 16e East-West of ZNE

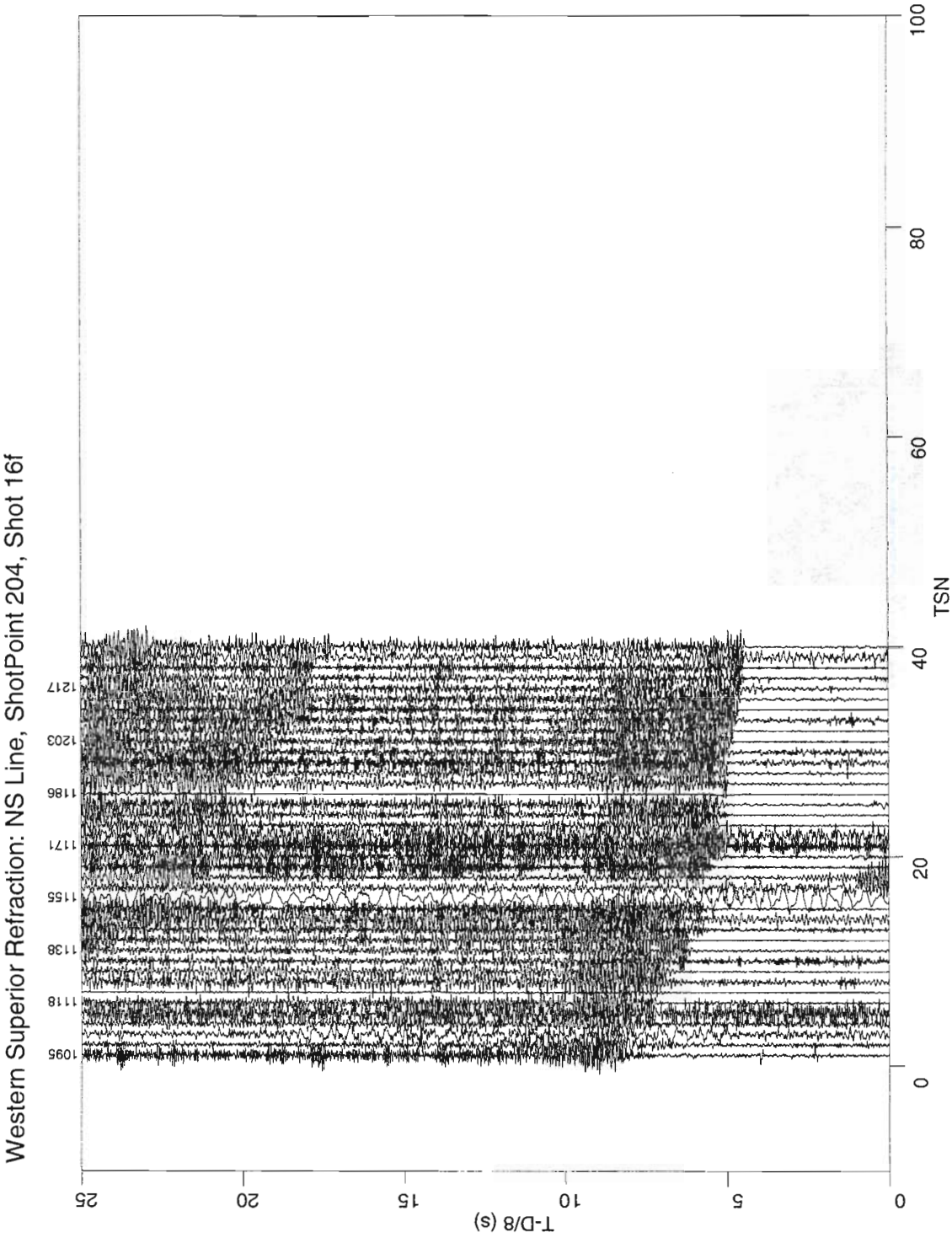


Figure 96: Shot 16f Broadside

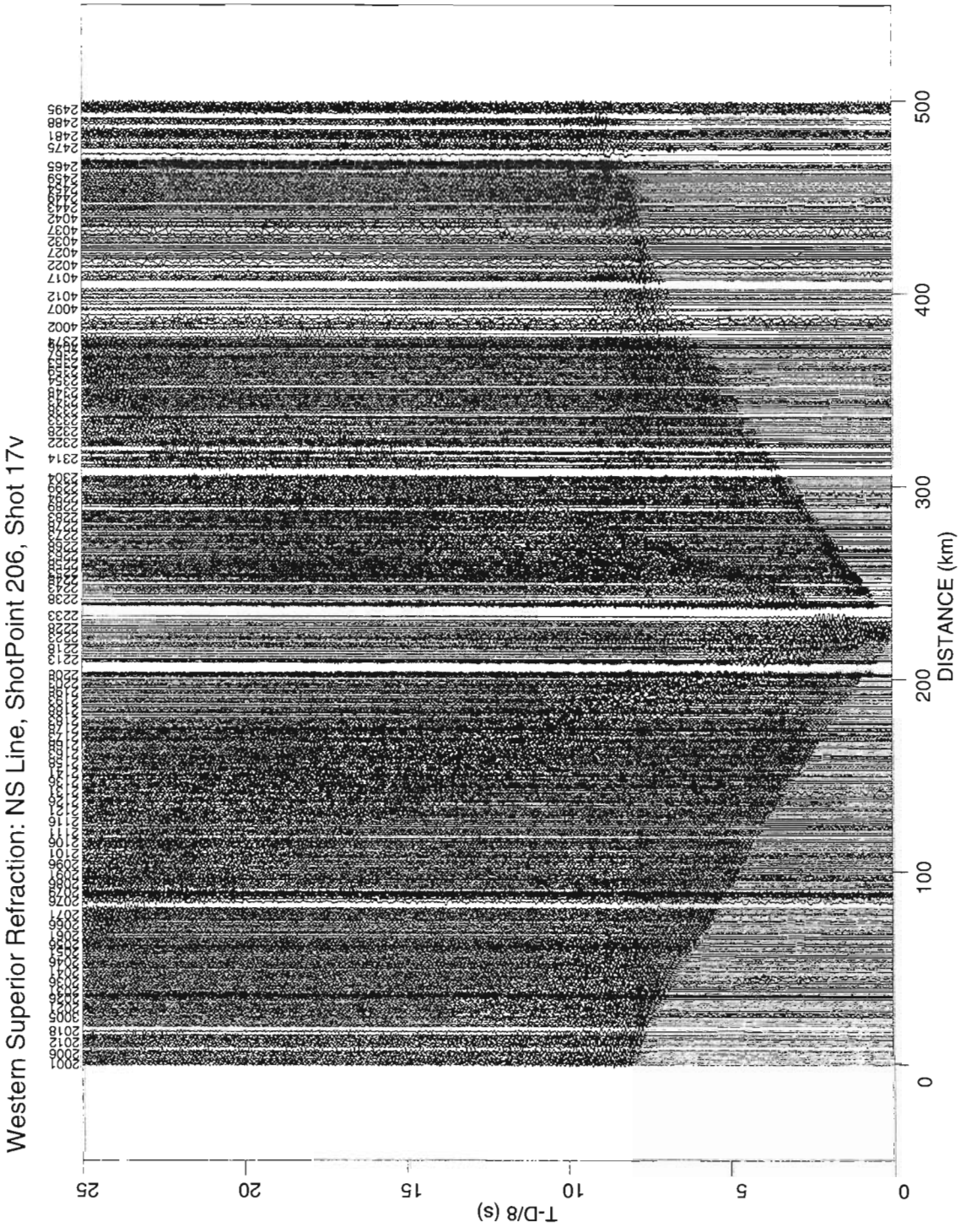


Figure 97: Shot 17v Vertical component

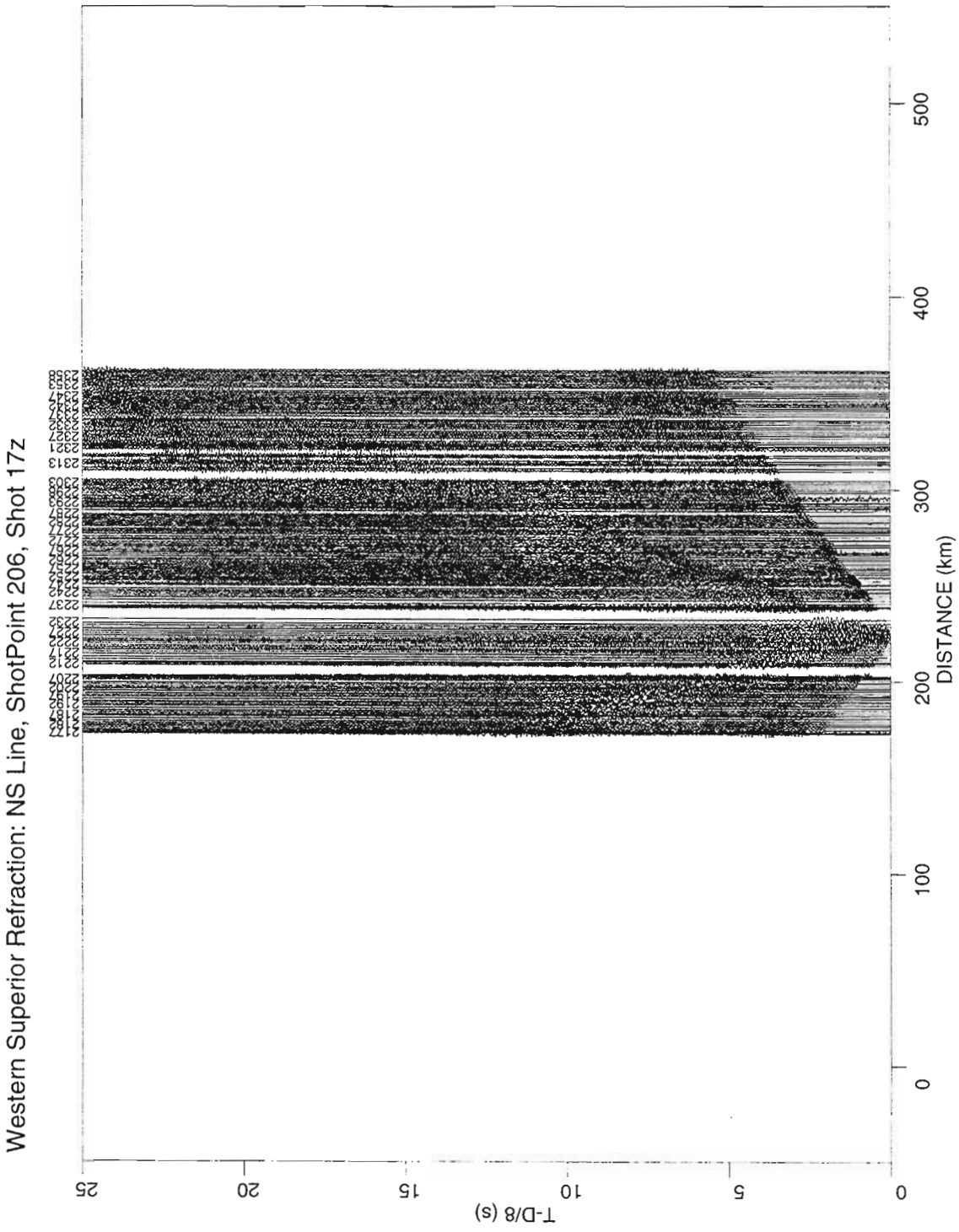


Figure 98: Shot 17z Vertical of ZNE

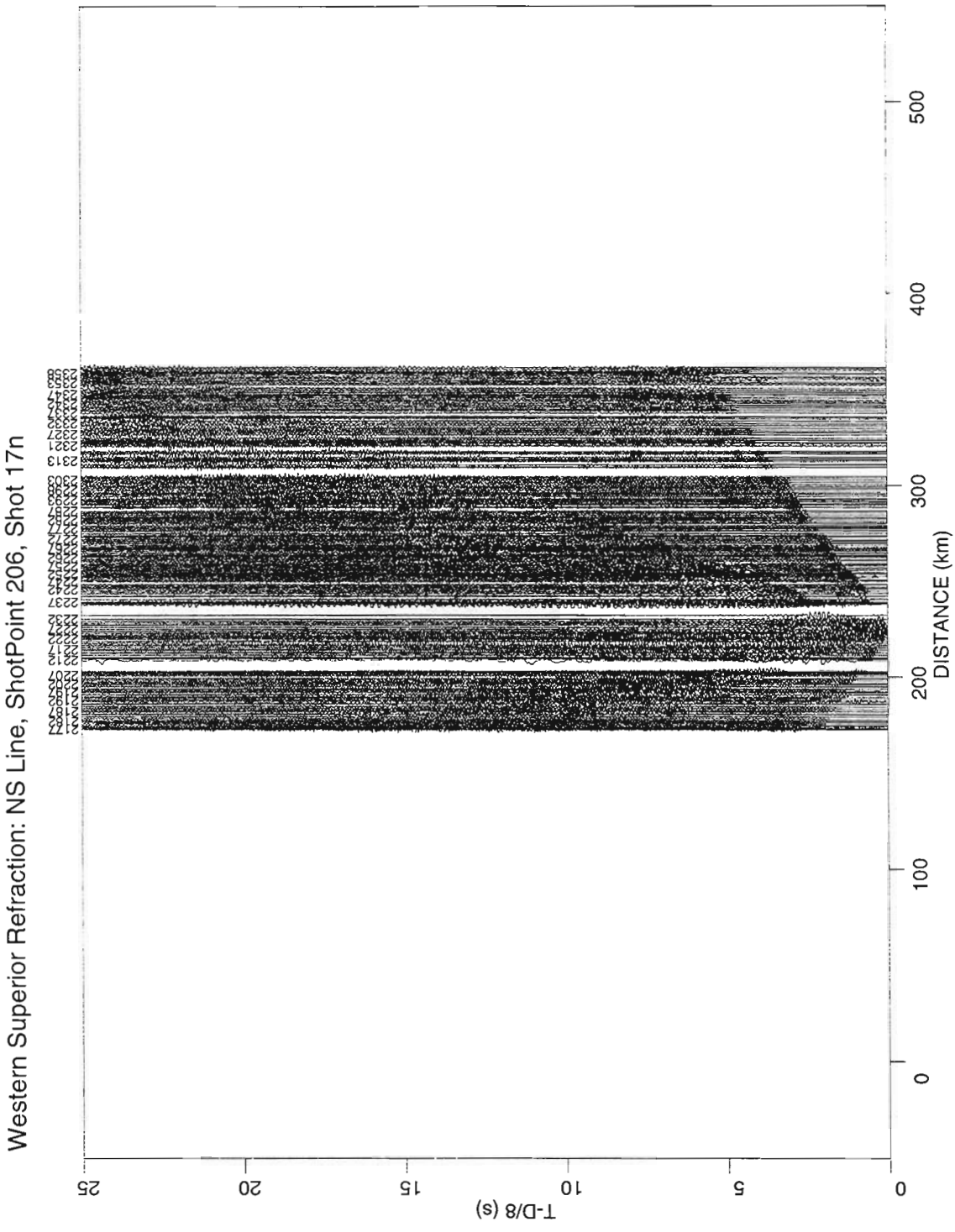


Figure 99: Shot 17n North-South of ZNE

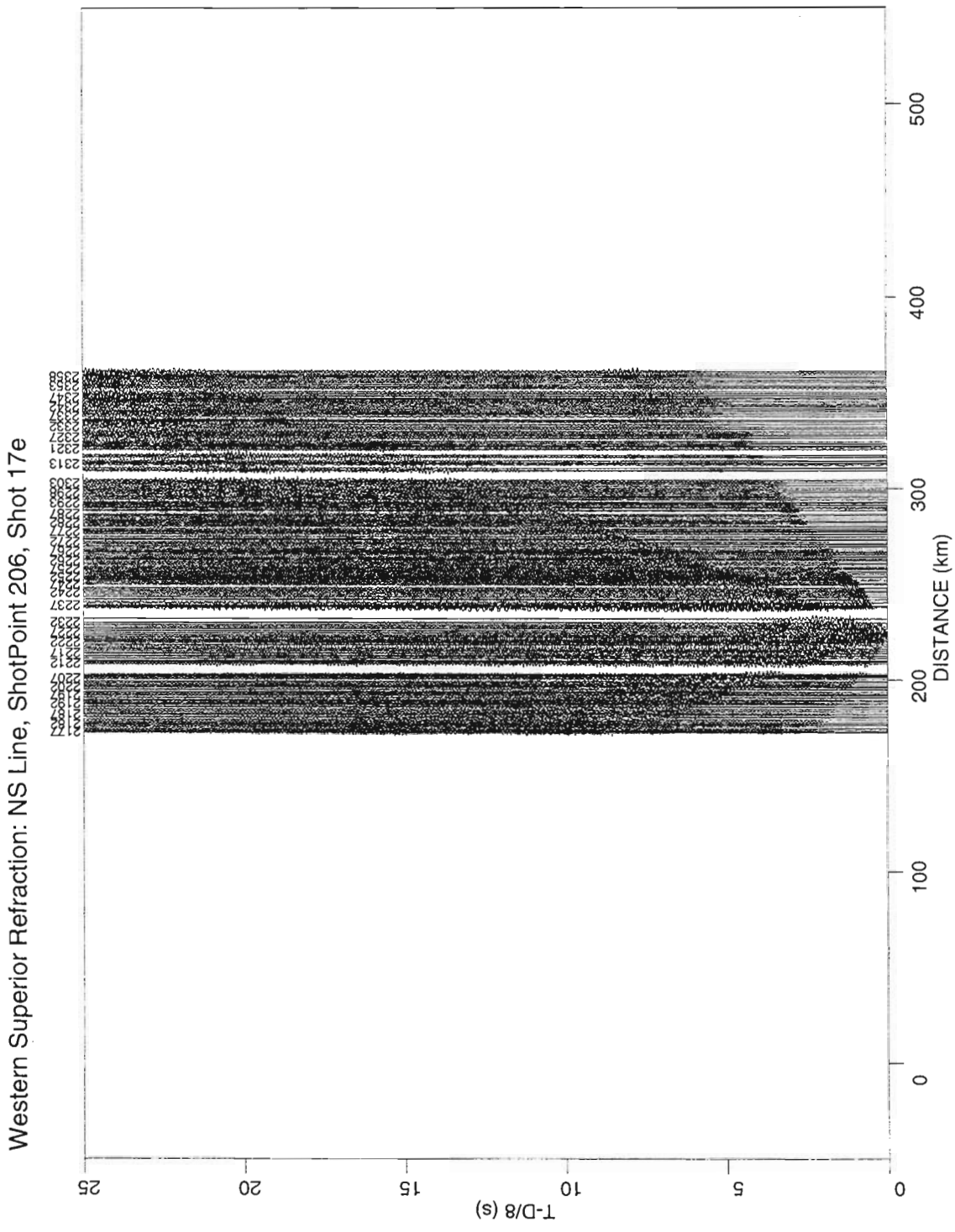


Figure 100: Shot 17e East-West of ZNE

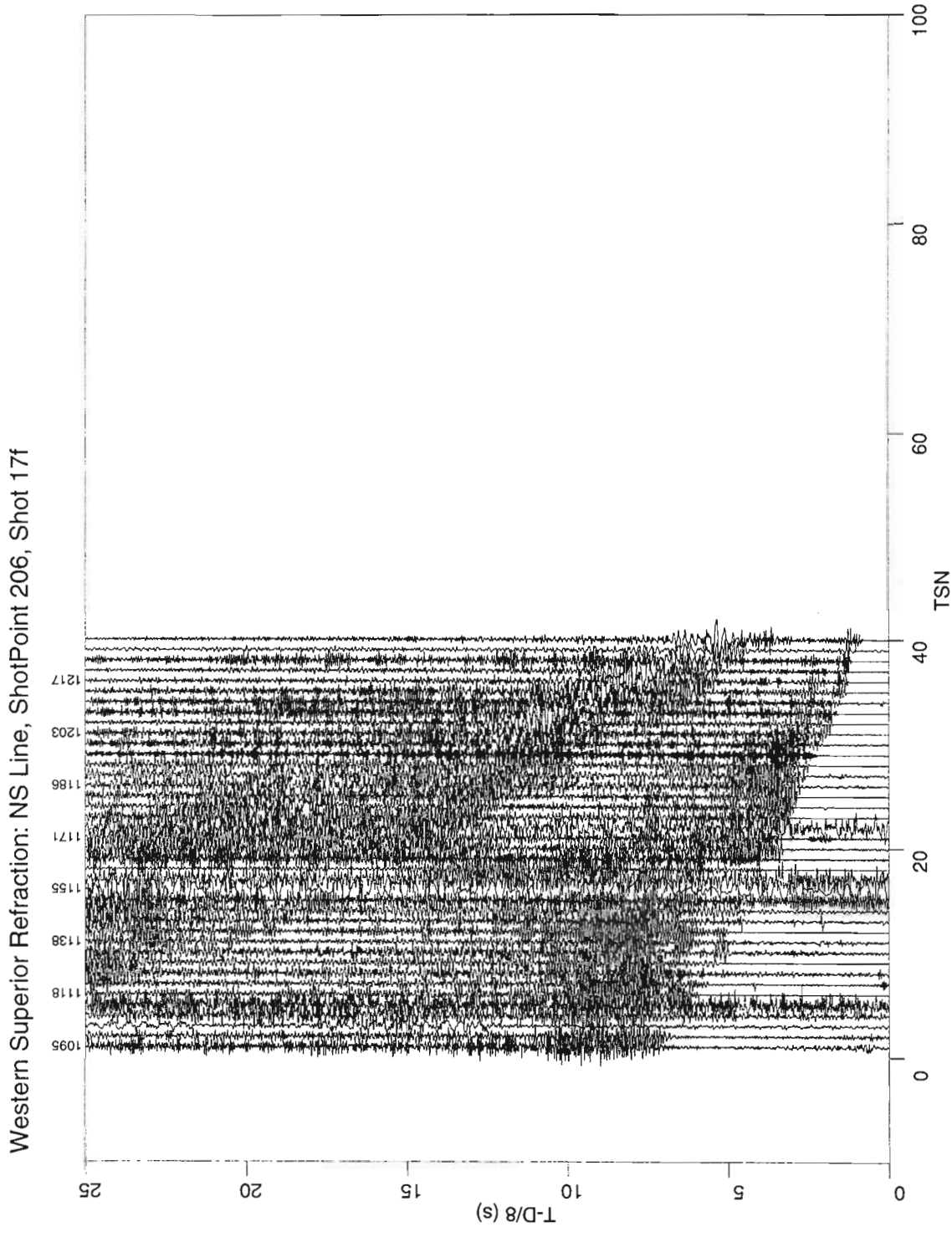


Figure 101: Shot 17f Broadside

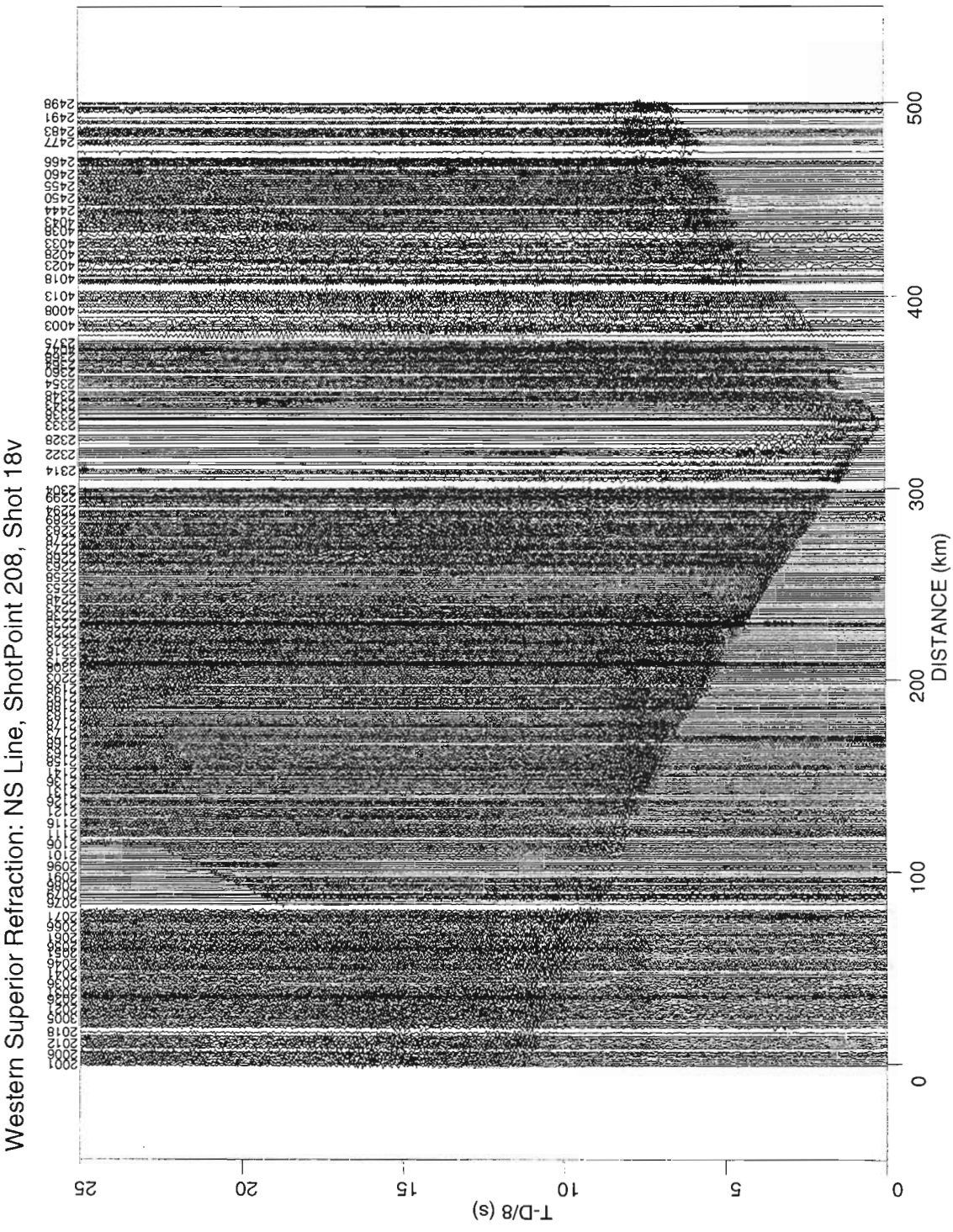


Figure 102: Shot 18v Vertical component

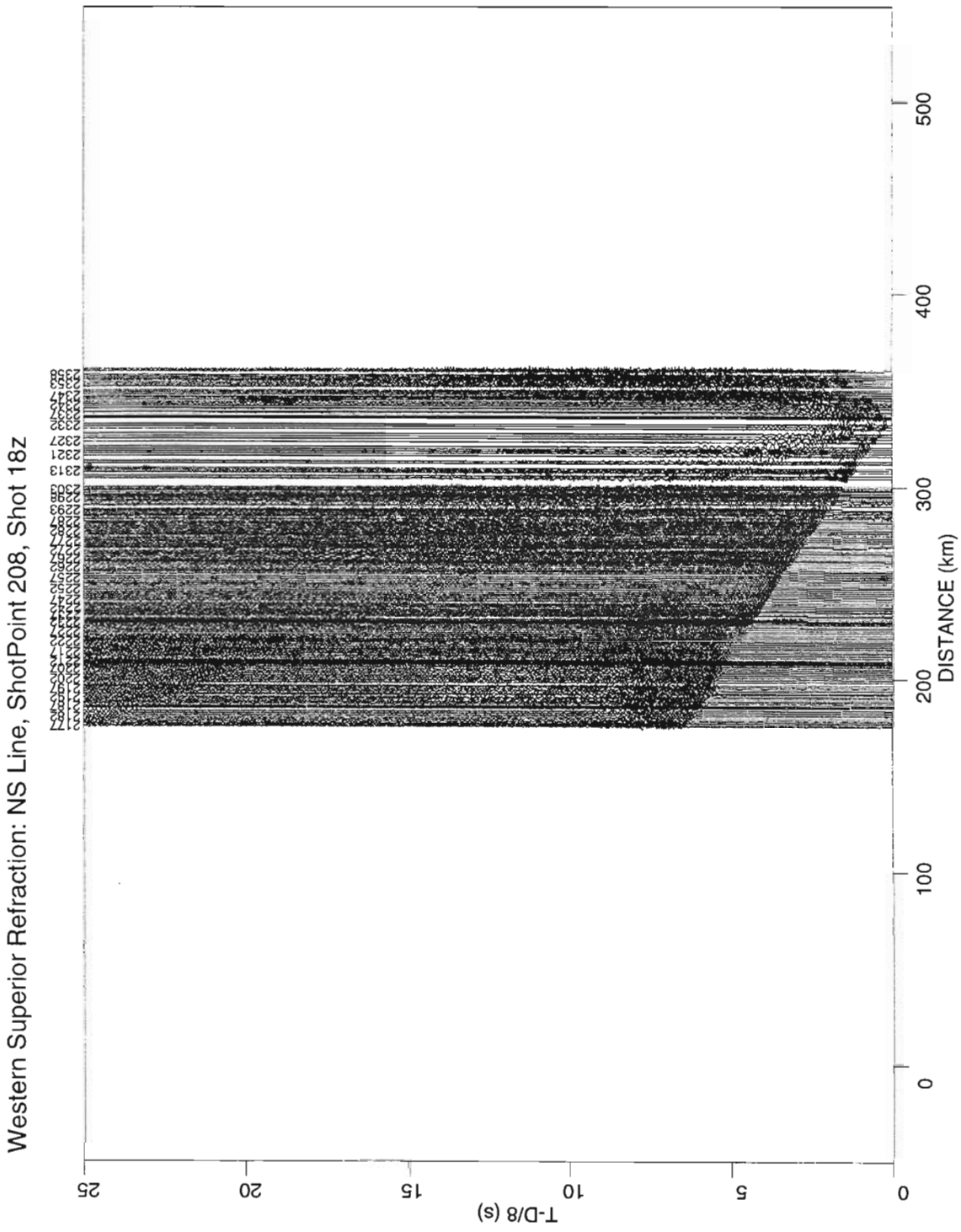


Figure 103: Shot 18z Vertical of ZNE

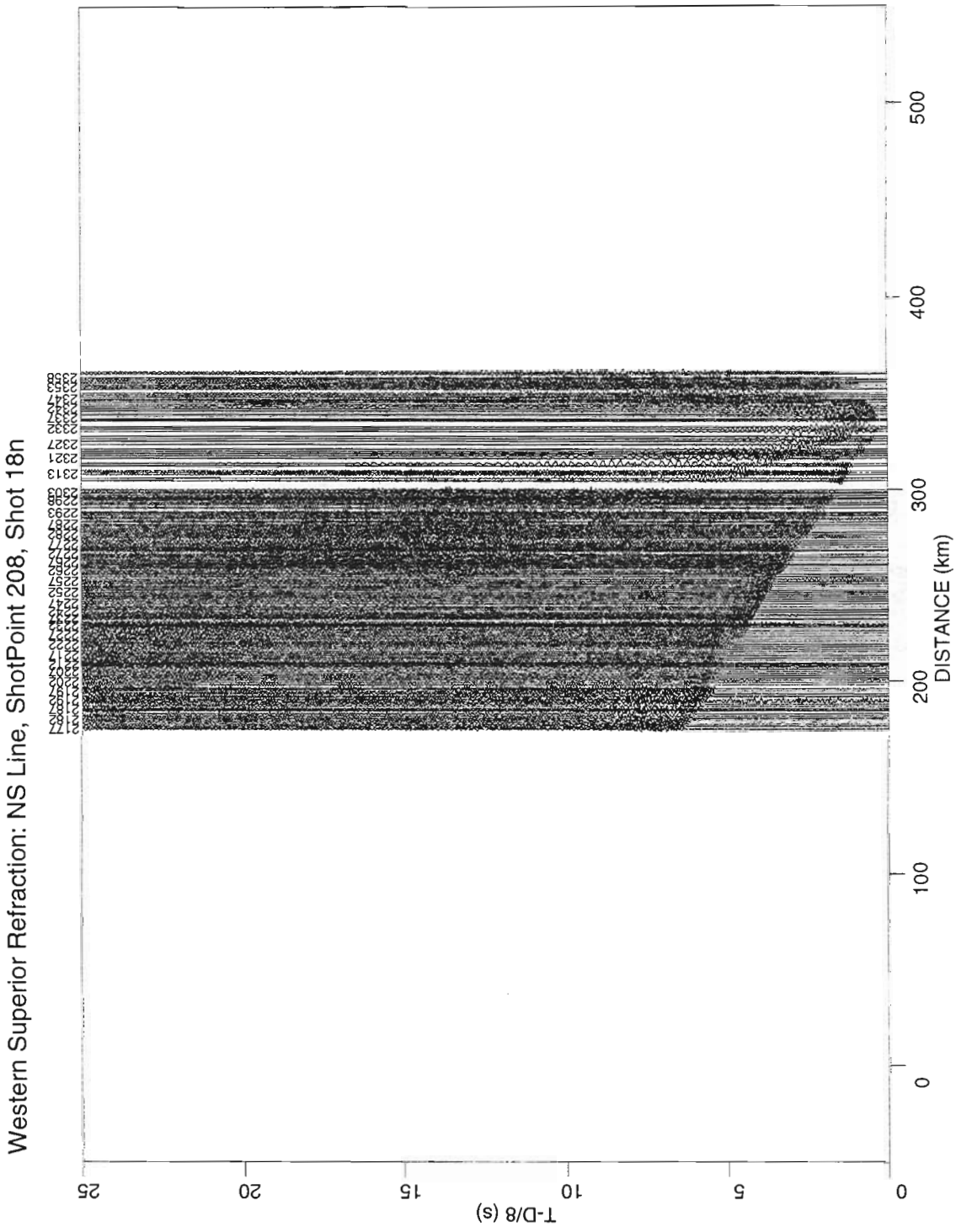


Figure 104: Shot 18n North-South of ZNE

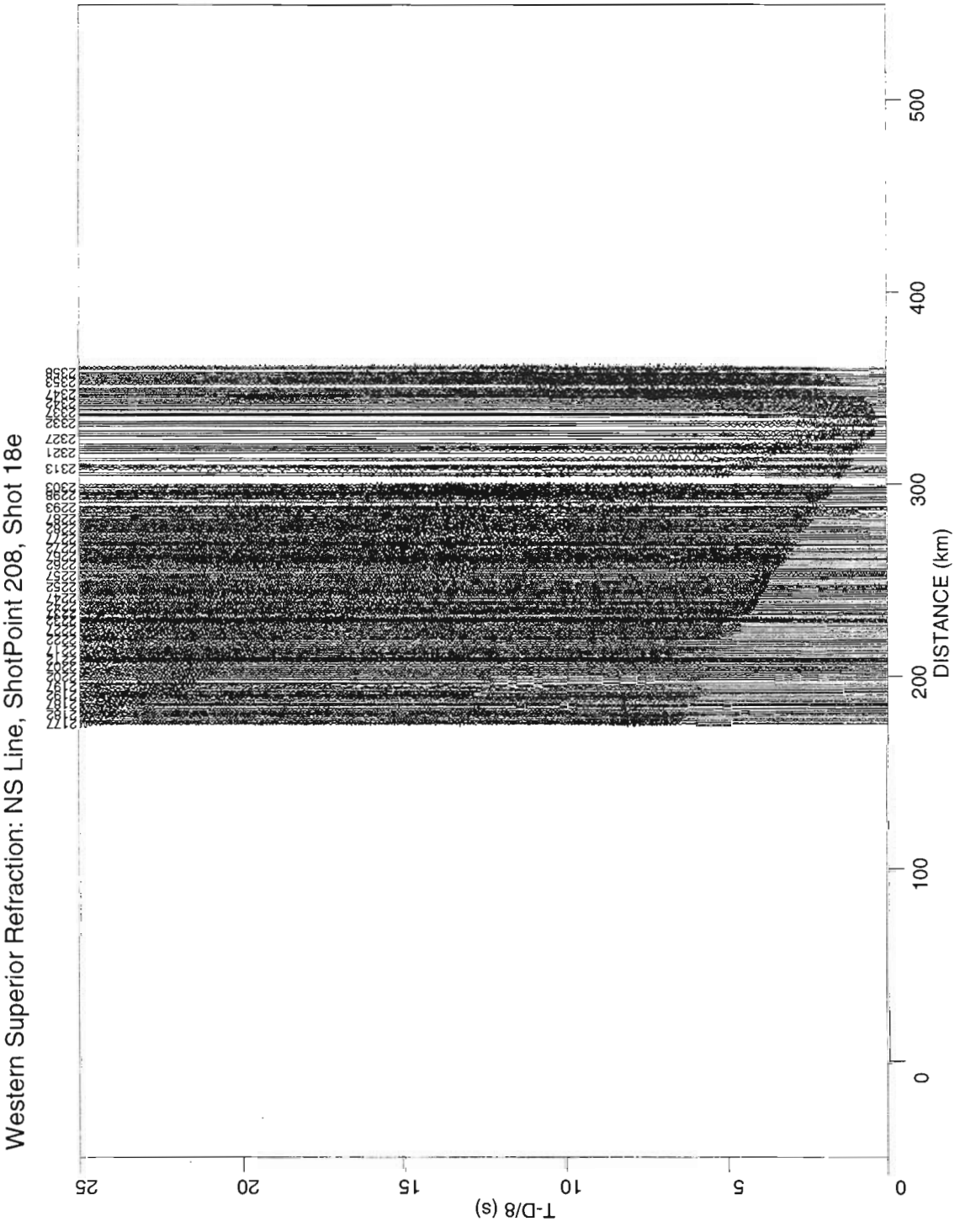


Figure 105: Shot 18e East-West of ZNE

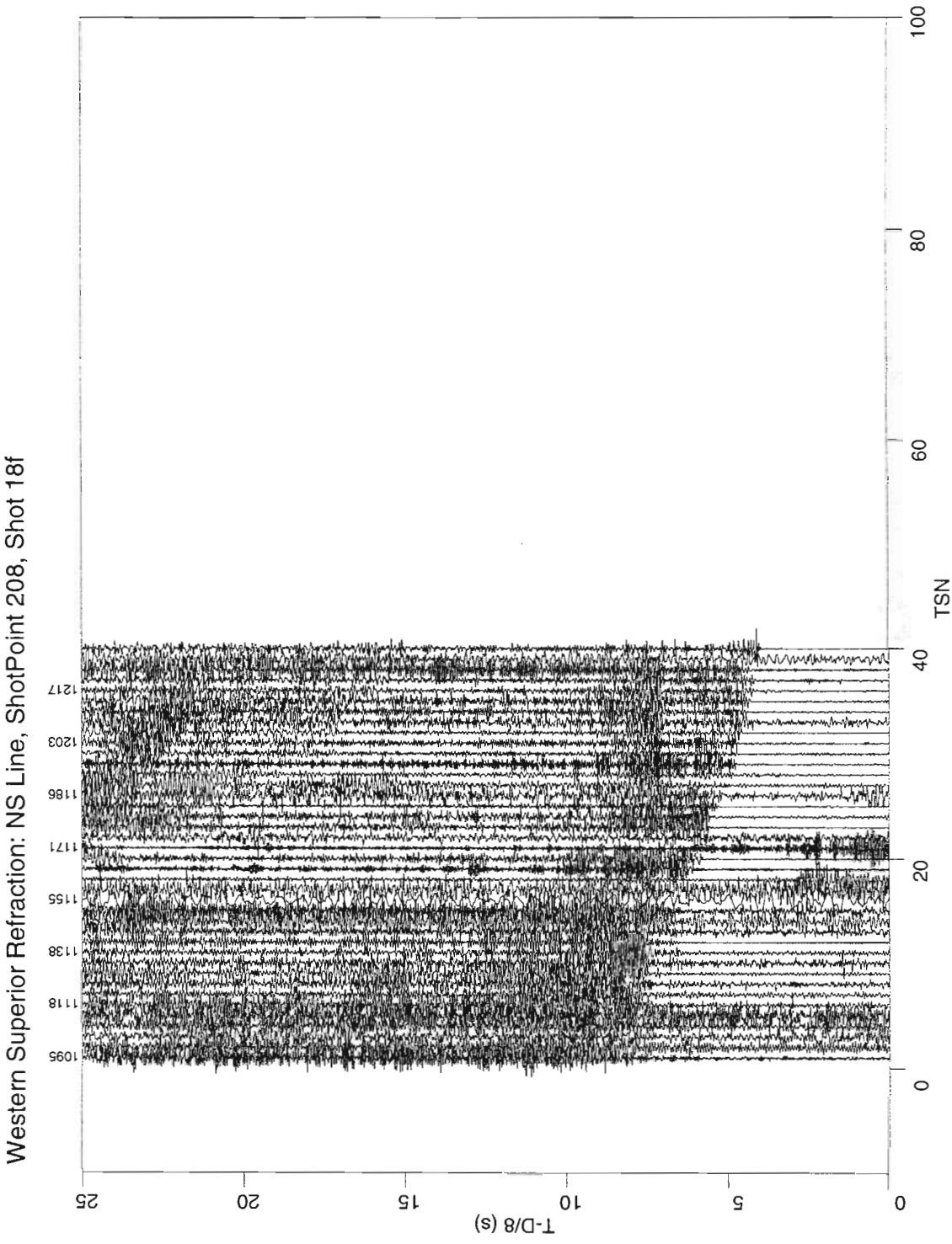


Figure 106: Shot 18f Broadside

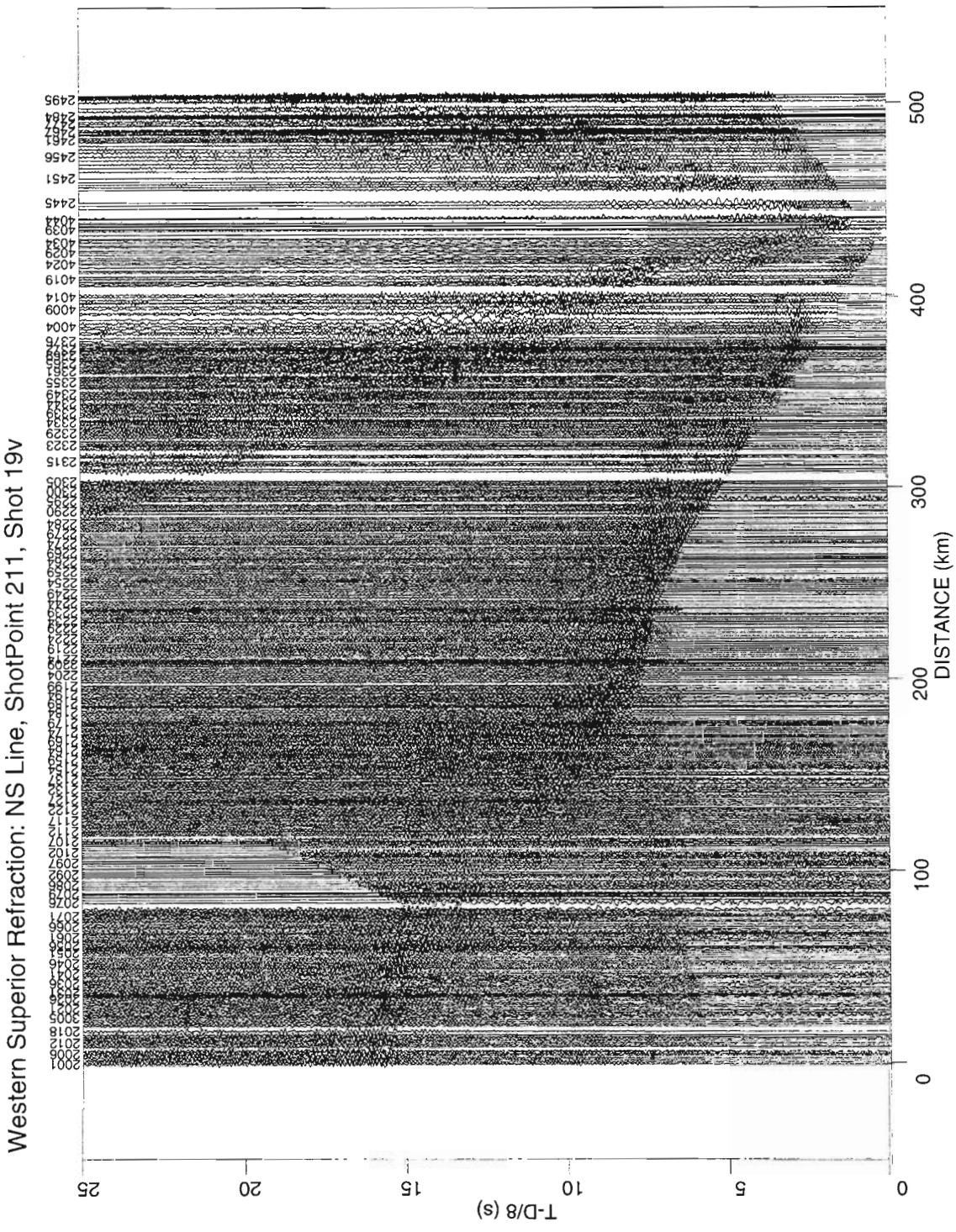


Figure 107: Shot 19v Vertical component

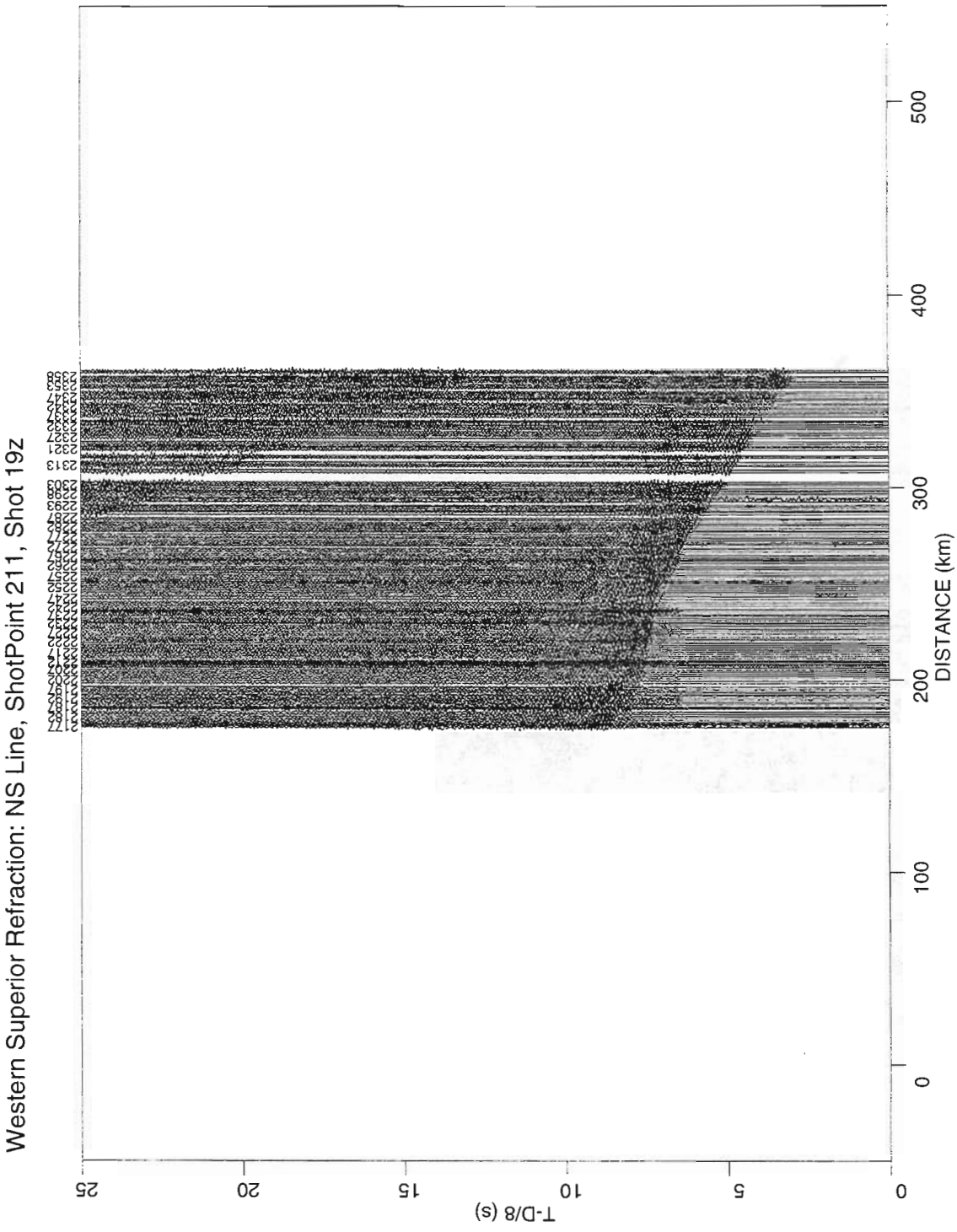


Figure 108: Shot 19z Vertical of ZNE

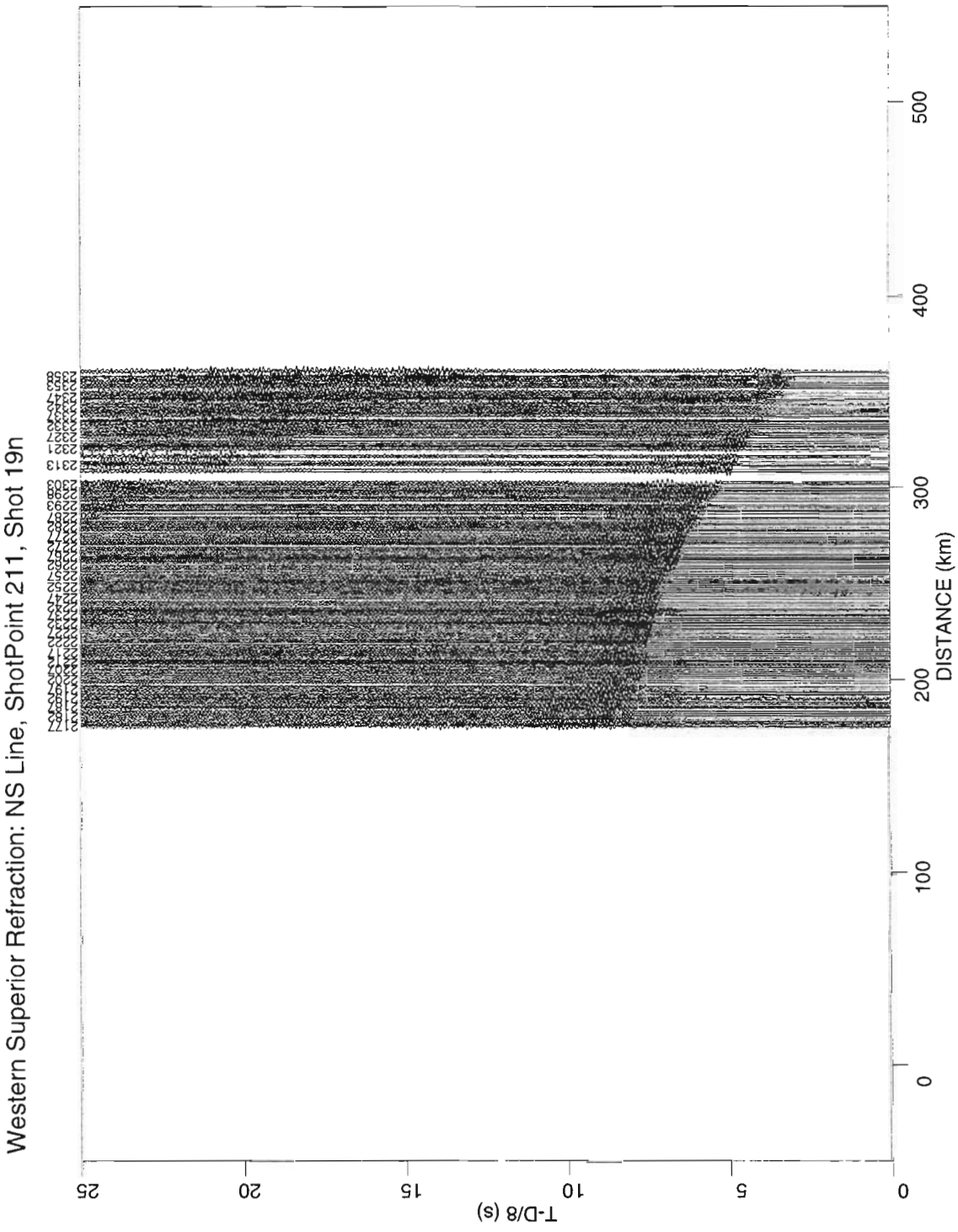


Figure 109: Shot 19n North-South of ZNE

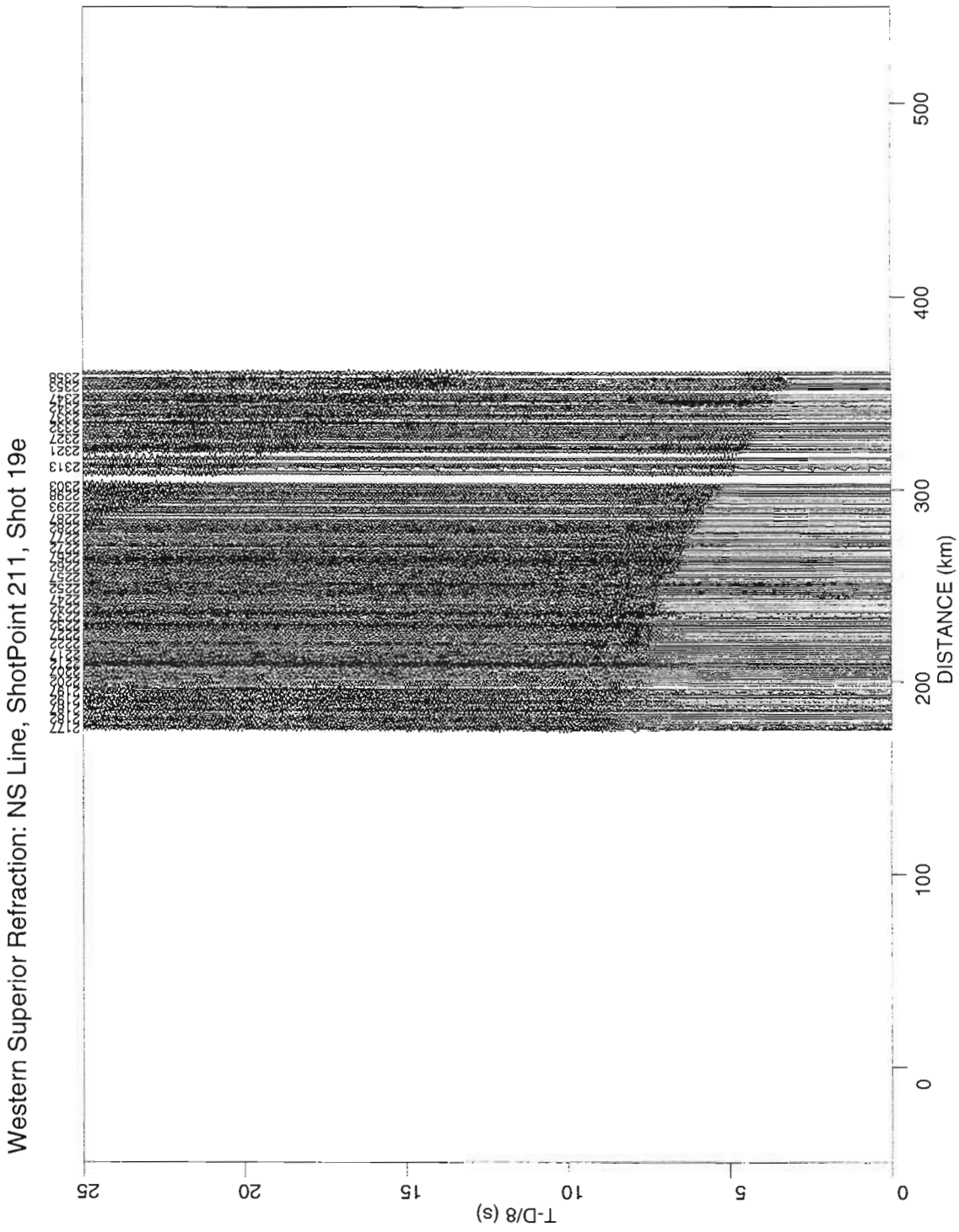


Figure 110: Shot 19e East-West of ZNE

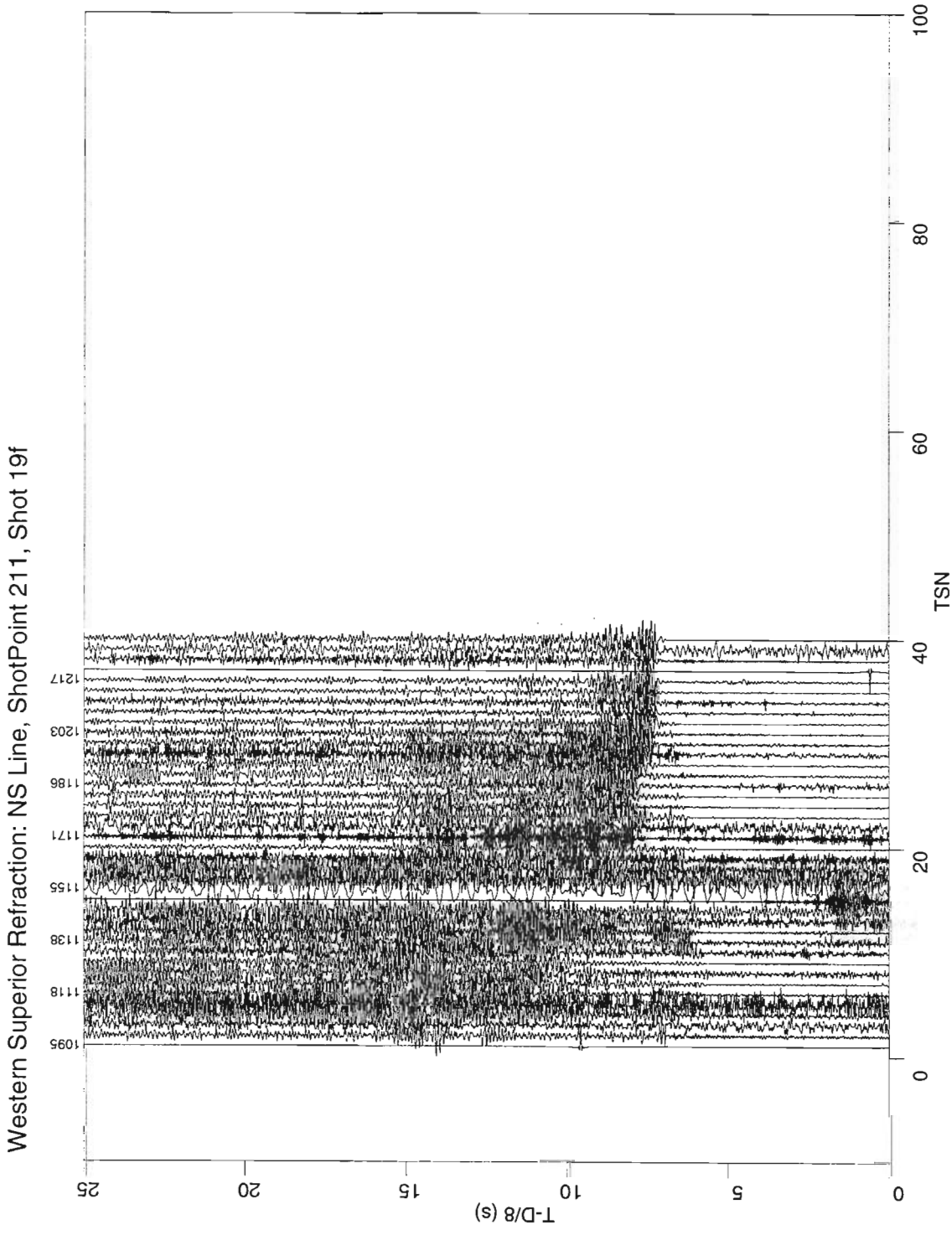


Figure 111: Shot 19f Broadside

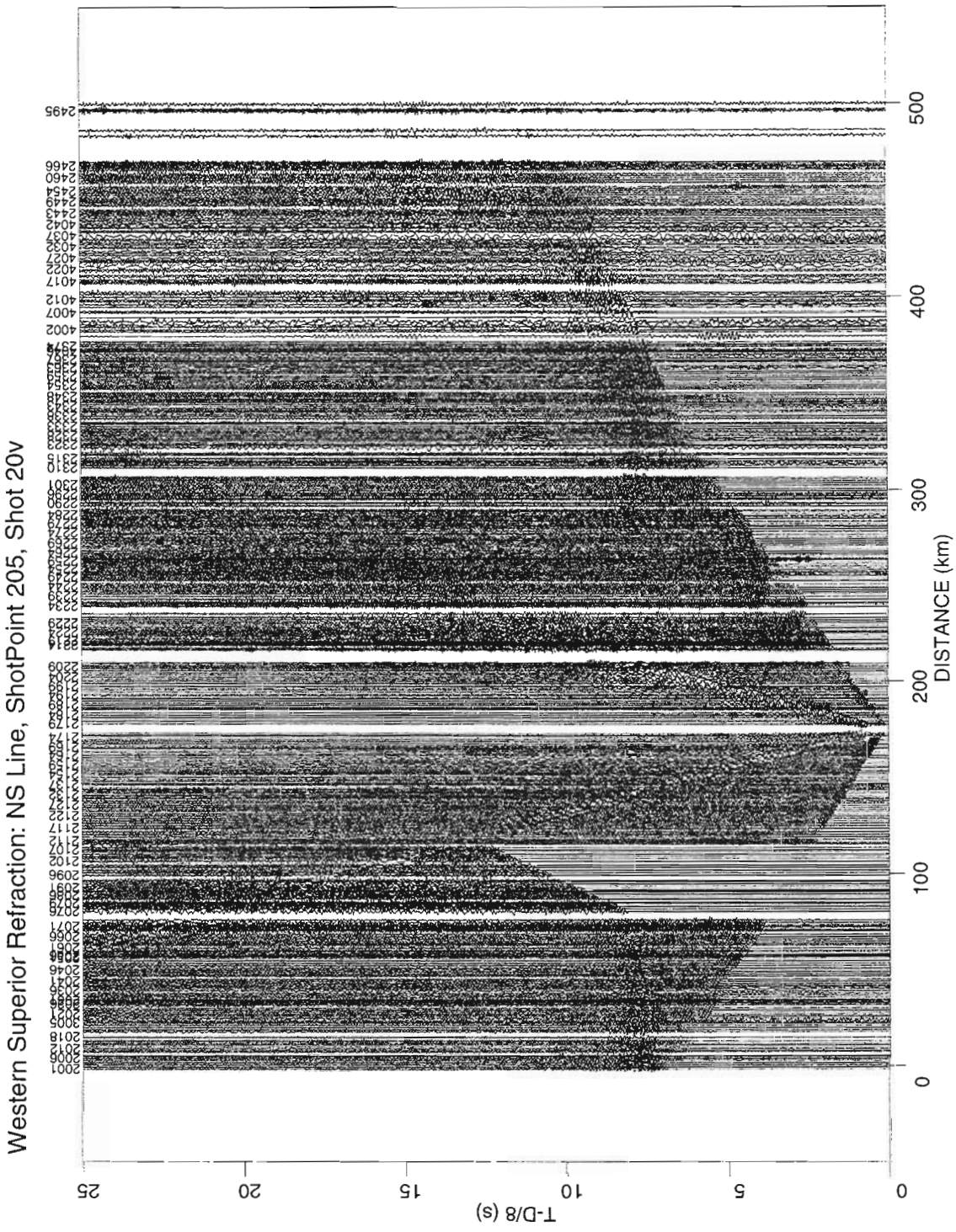


Figure 112: Shot 20v Vertical component

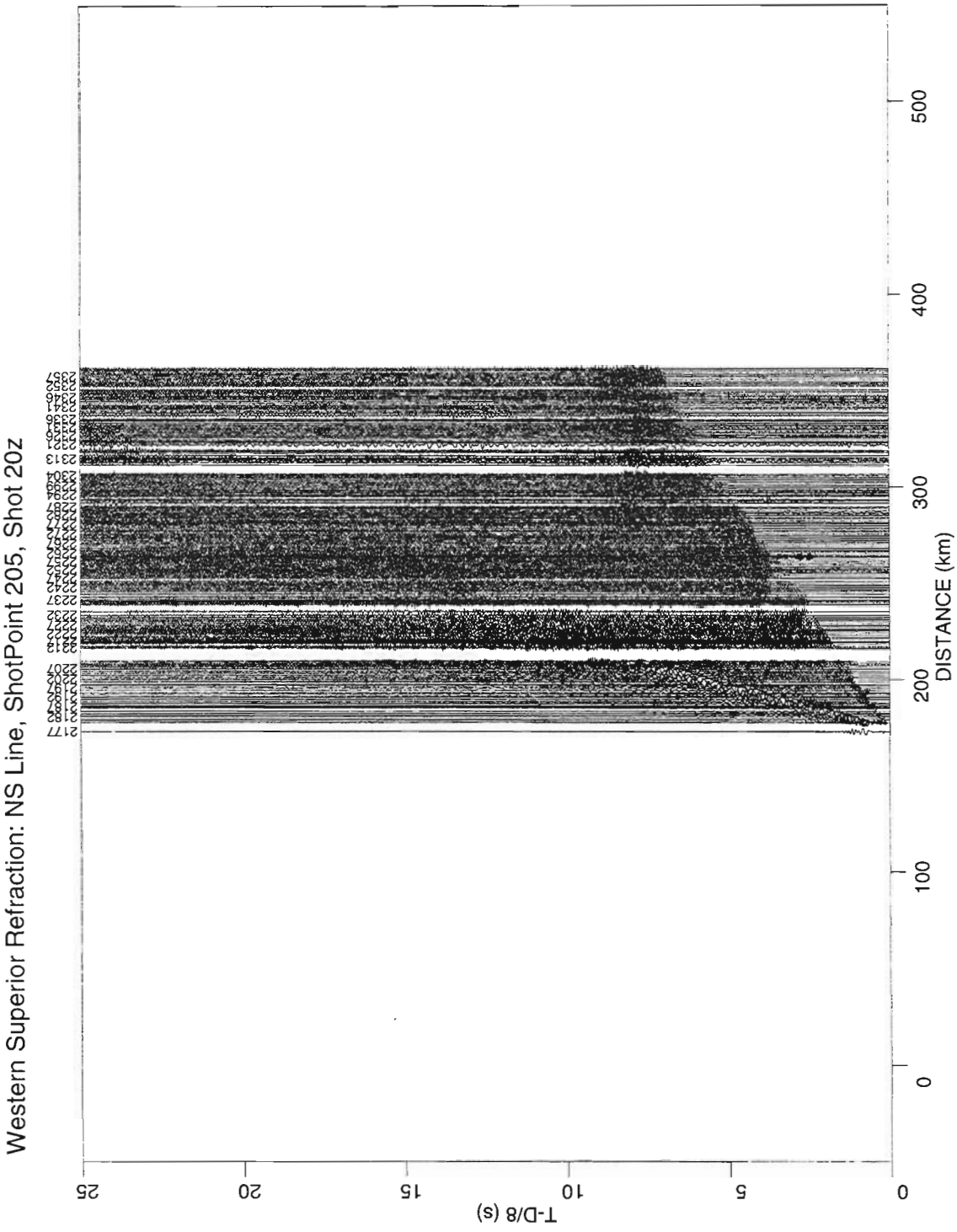


Figure 113: Shot 20z Vertical of ZNE

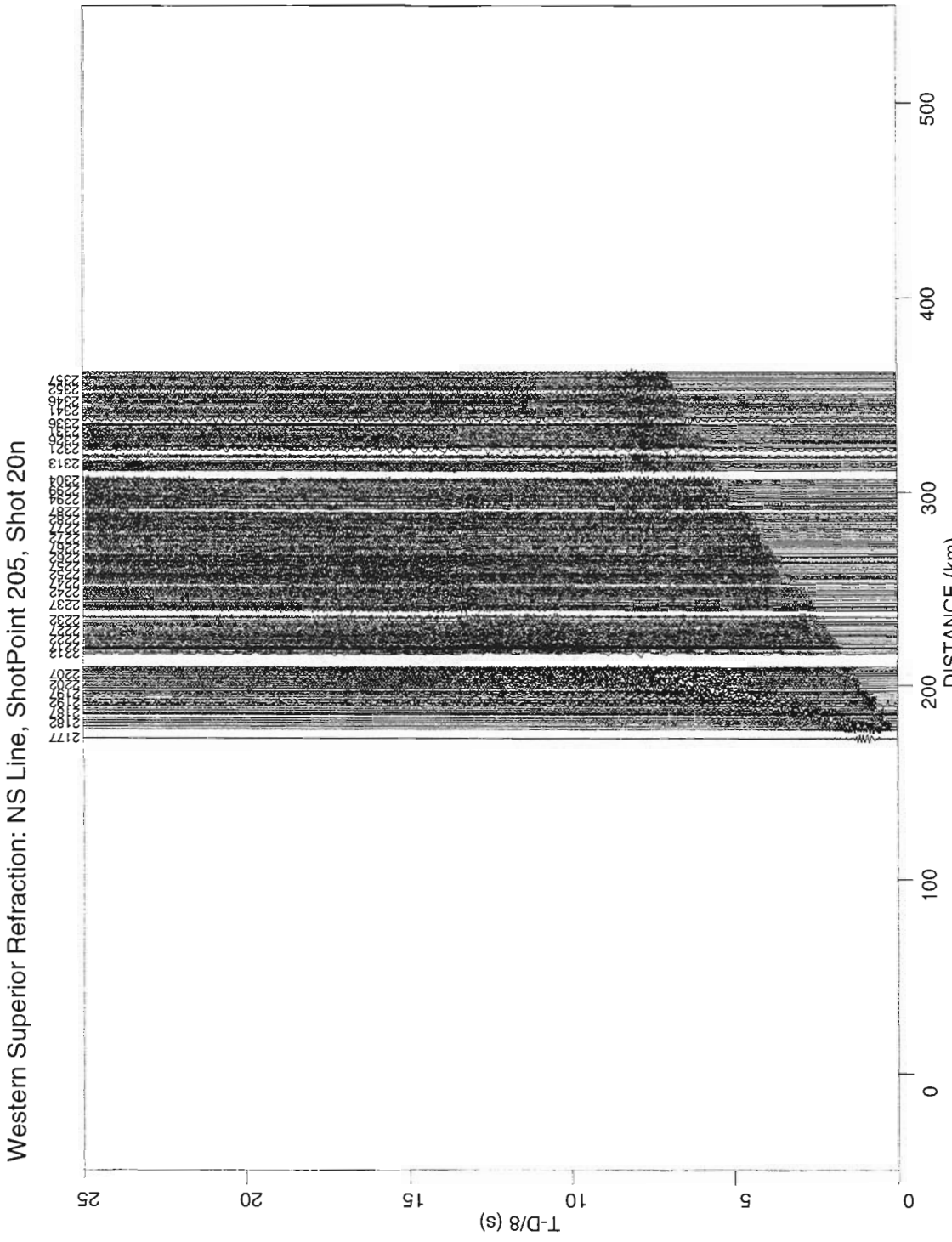


Figure 114: Shot 20n North-South of ZNE

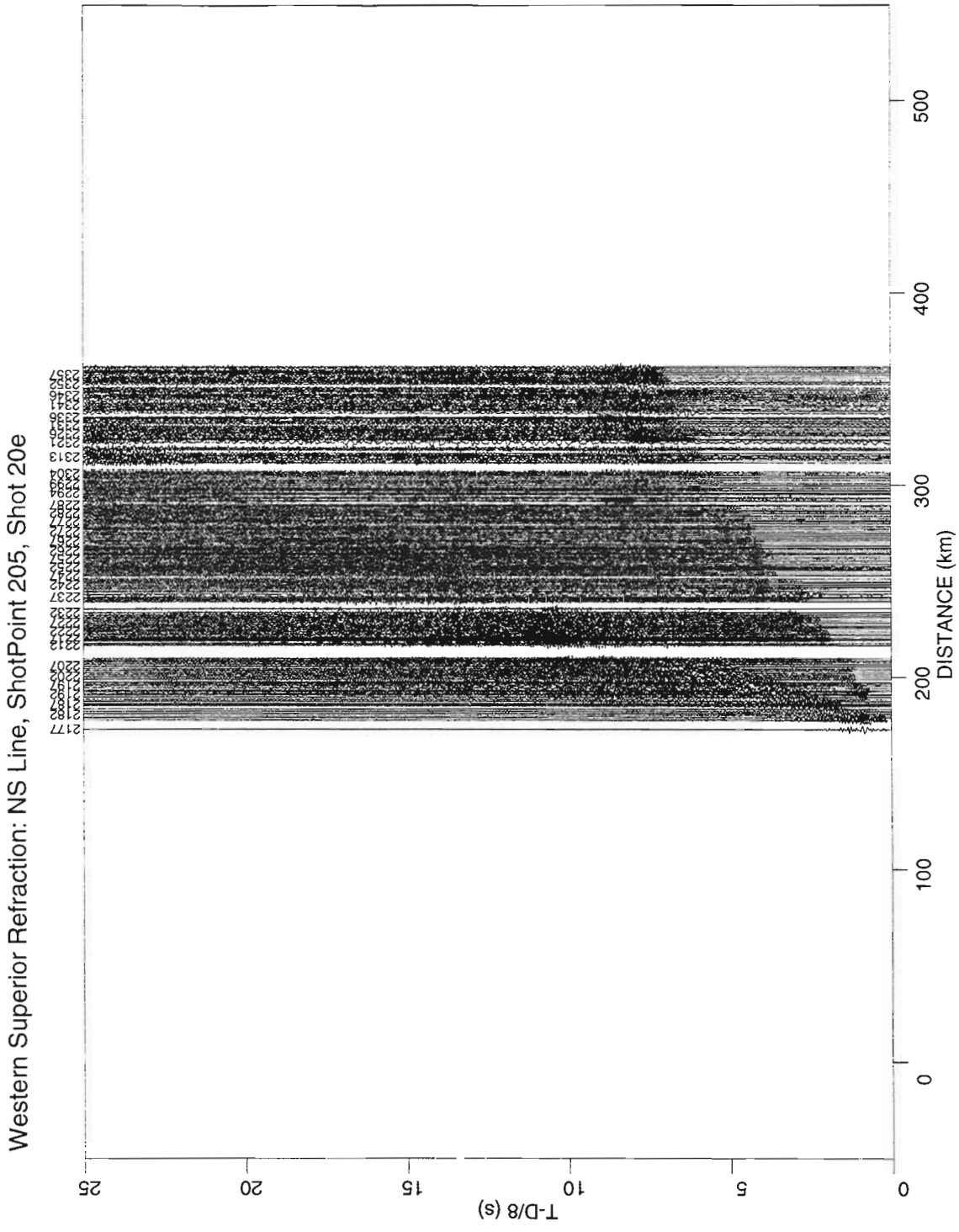


Figure 115: Shot 20e East-West of ZNE

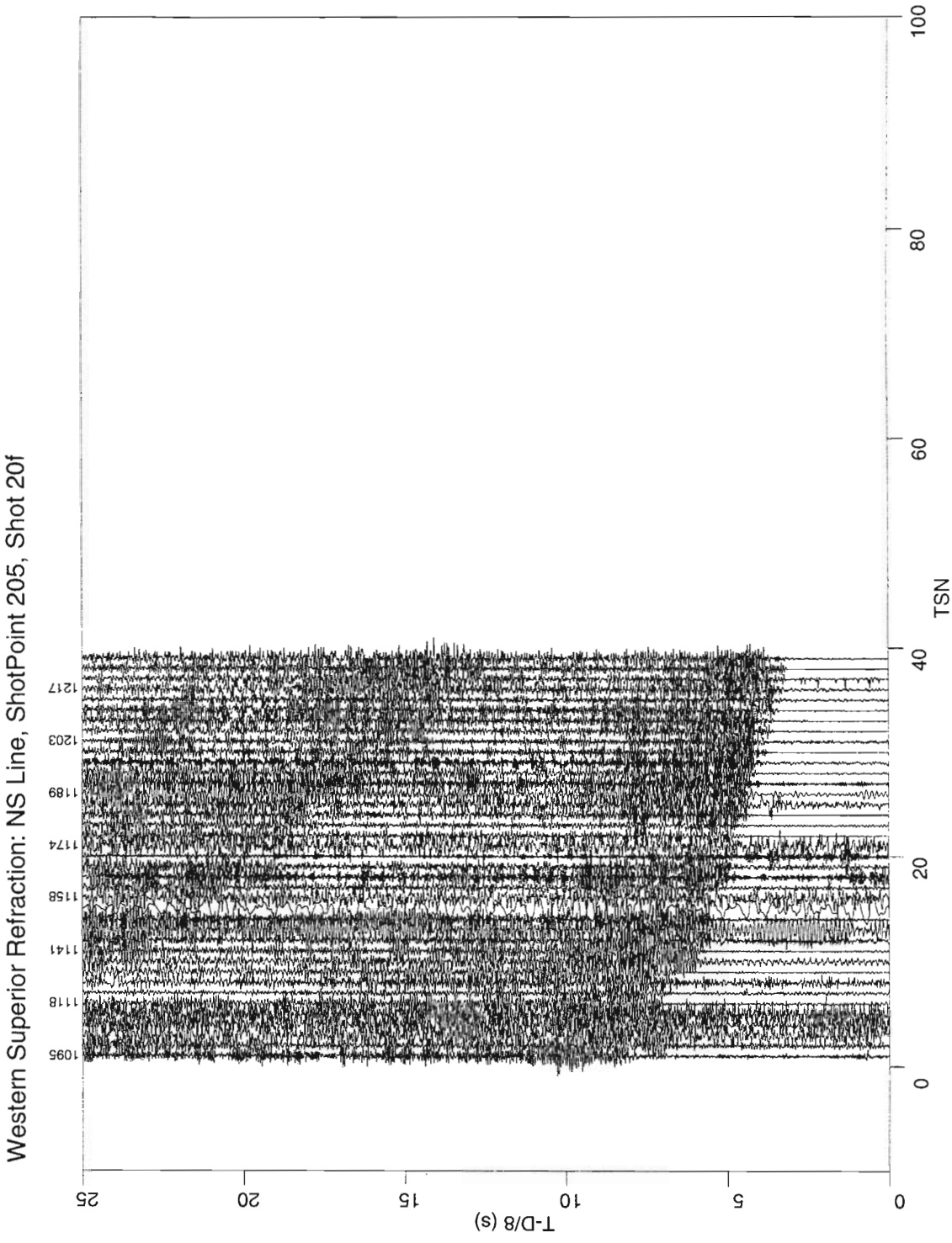


Figure 116: Shot 20f Broadside

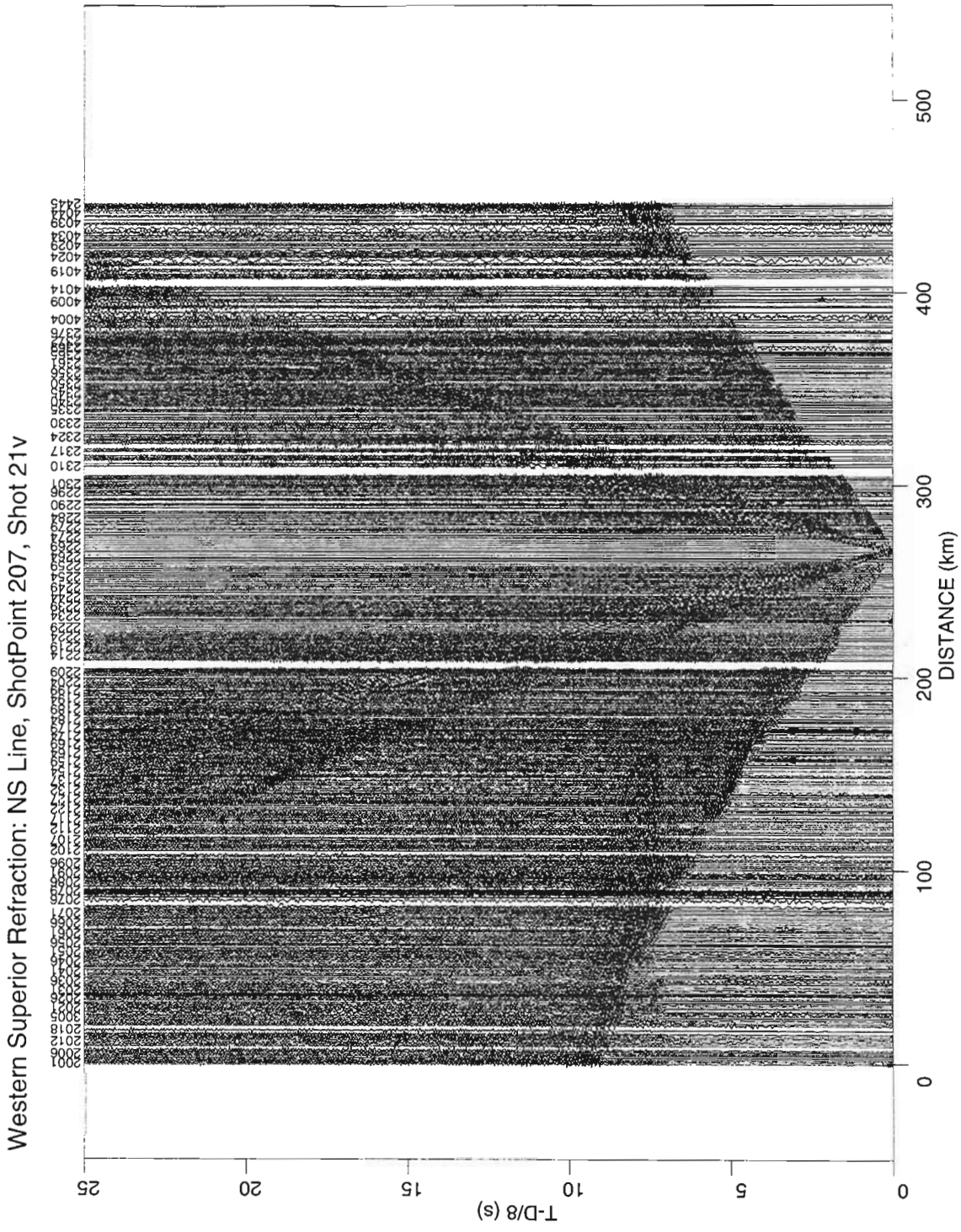


Figure 117: Shot 21v Vertical component

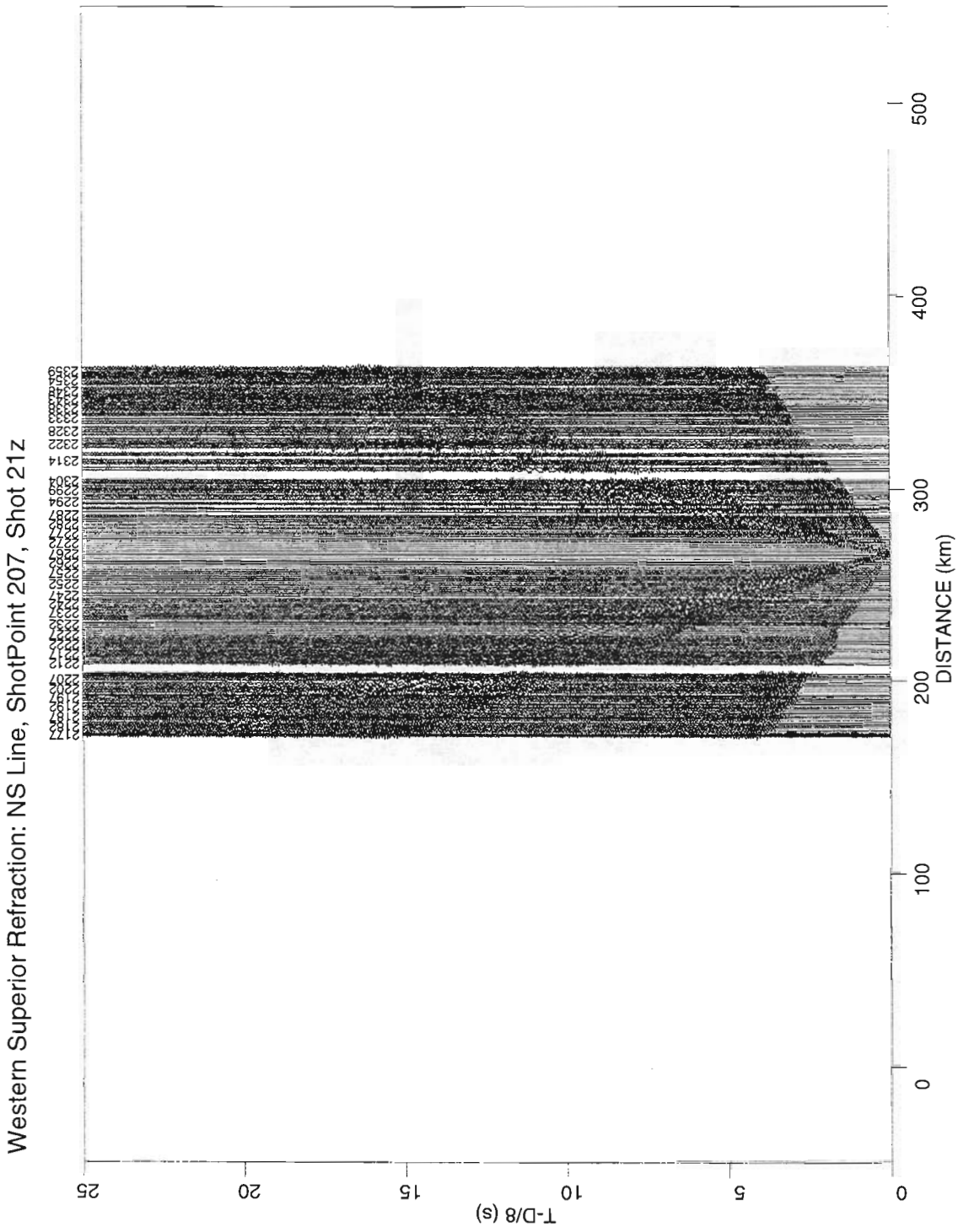


Figure 118: Shot 21z Vertical of ZNE

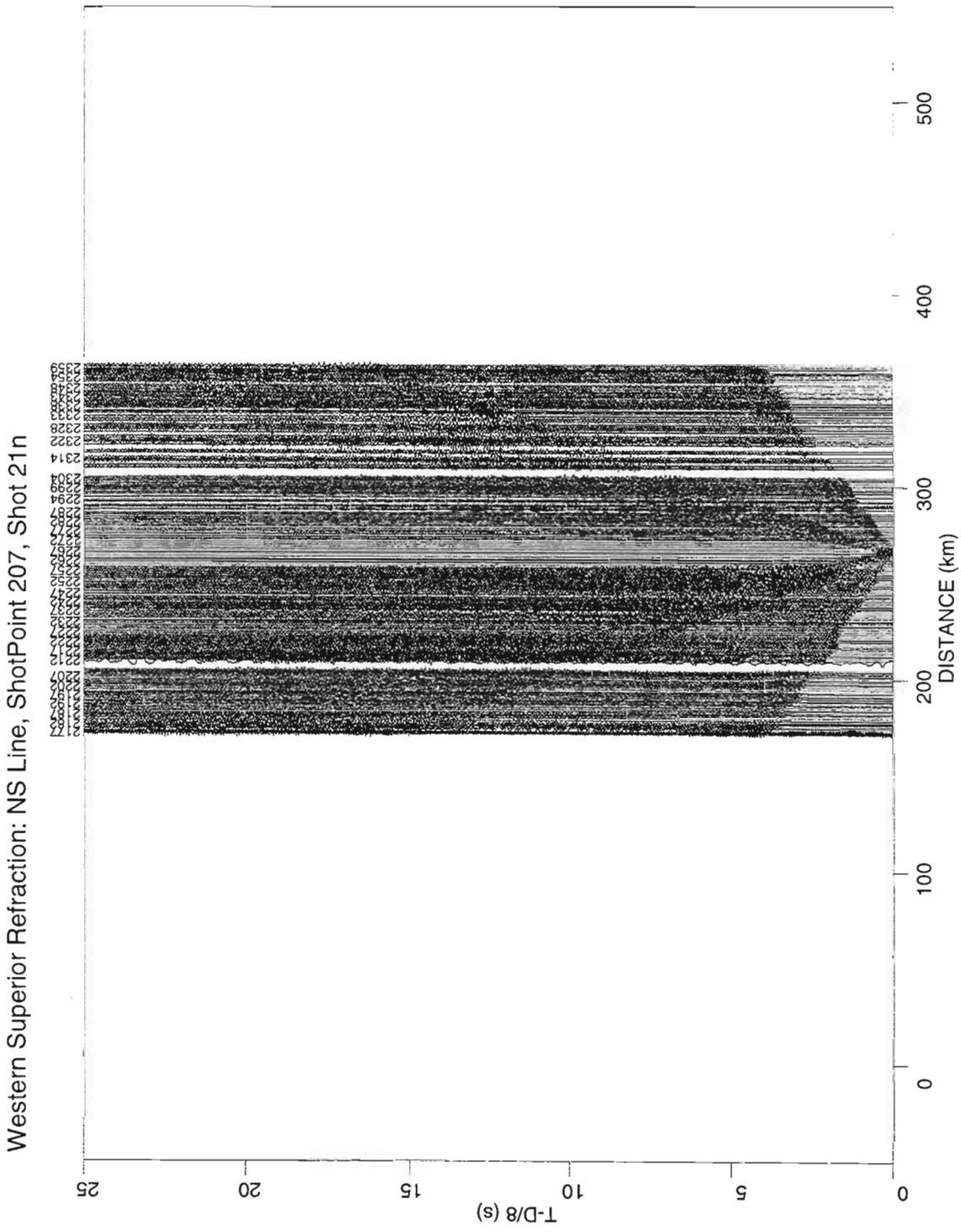


Figure 119: Shot 21n North-South of ZNE

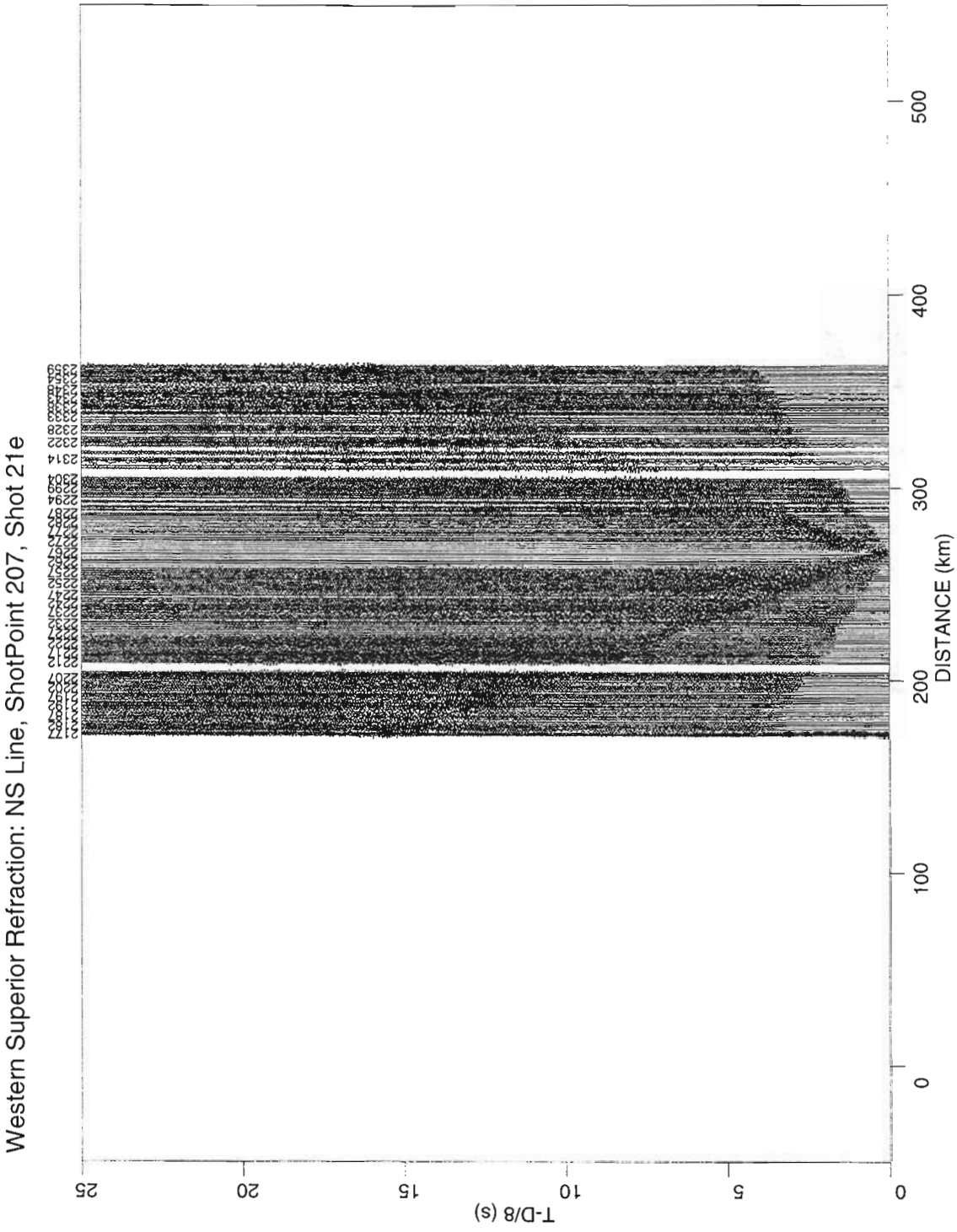


Figure 120: Shot 21e East-West of ZNE

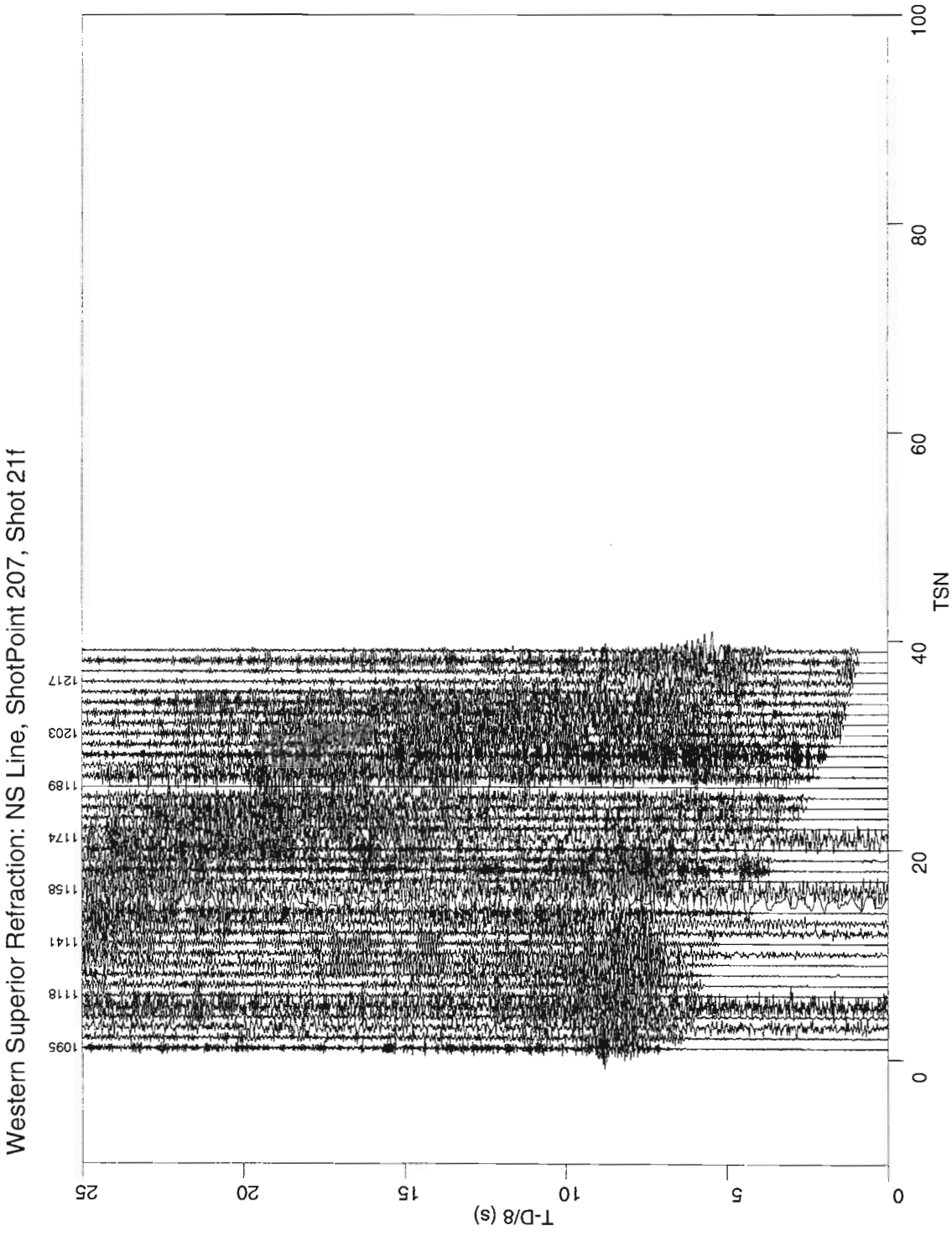


Figure 121: Shot 21f Broadside

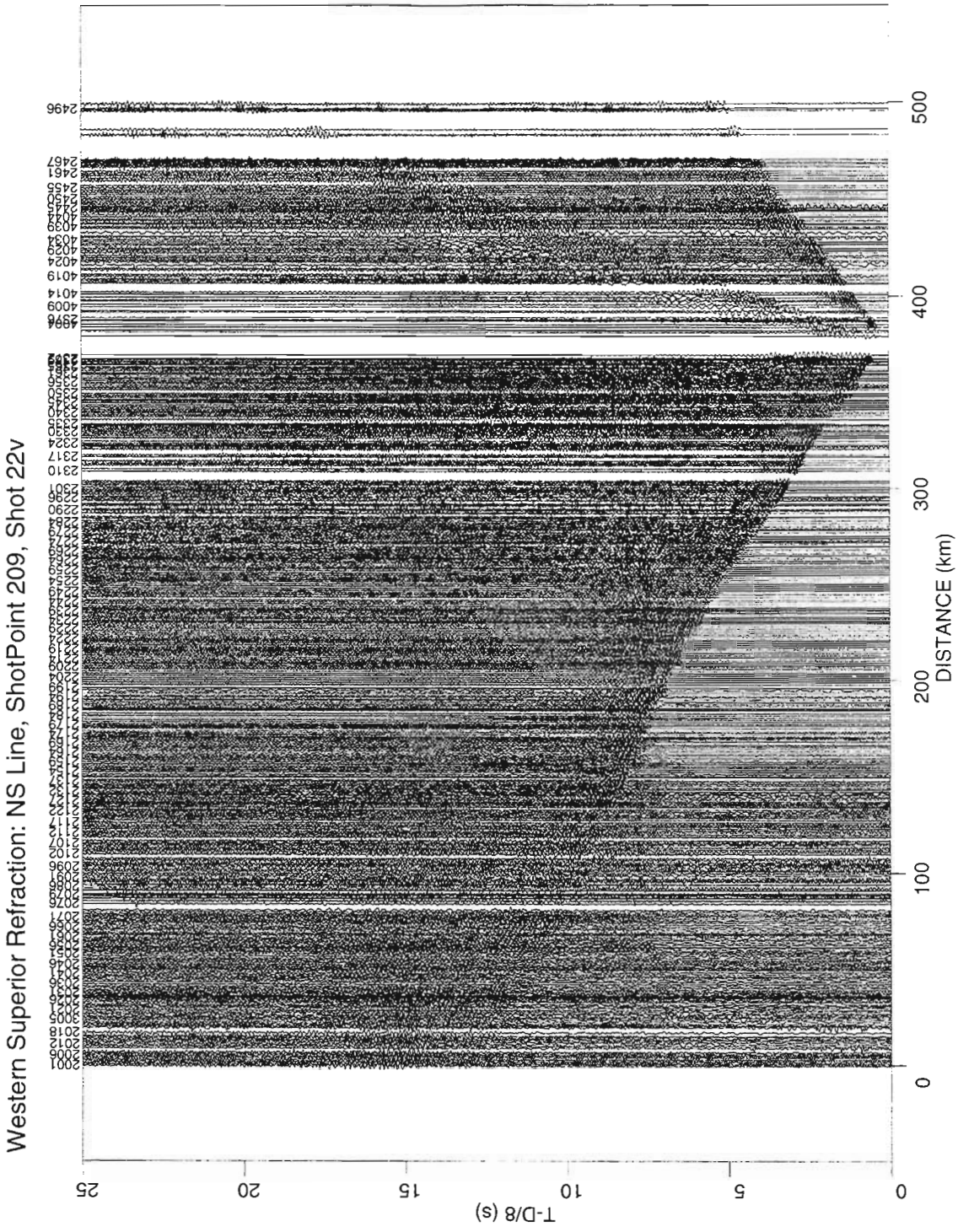


Figure 122: Shot 22v Vertical component

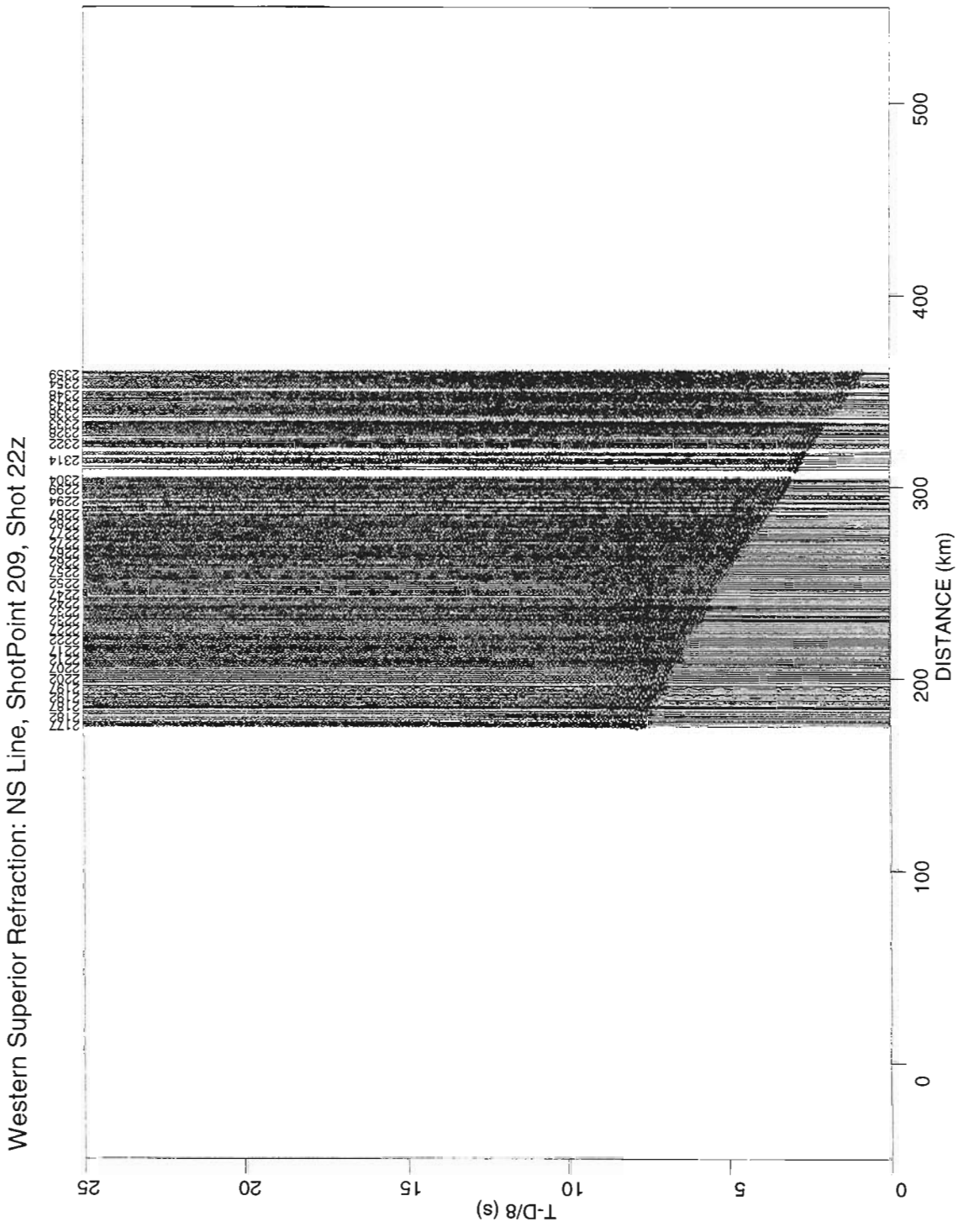


Figure 123: Shot 22z Vertical of ZNE

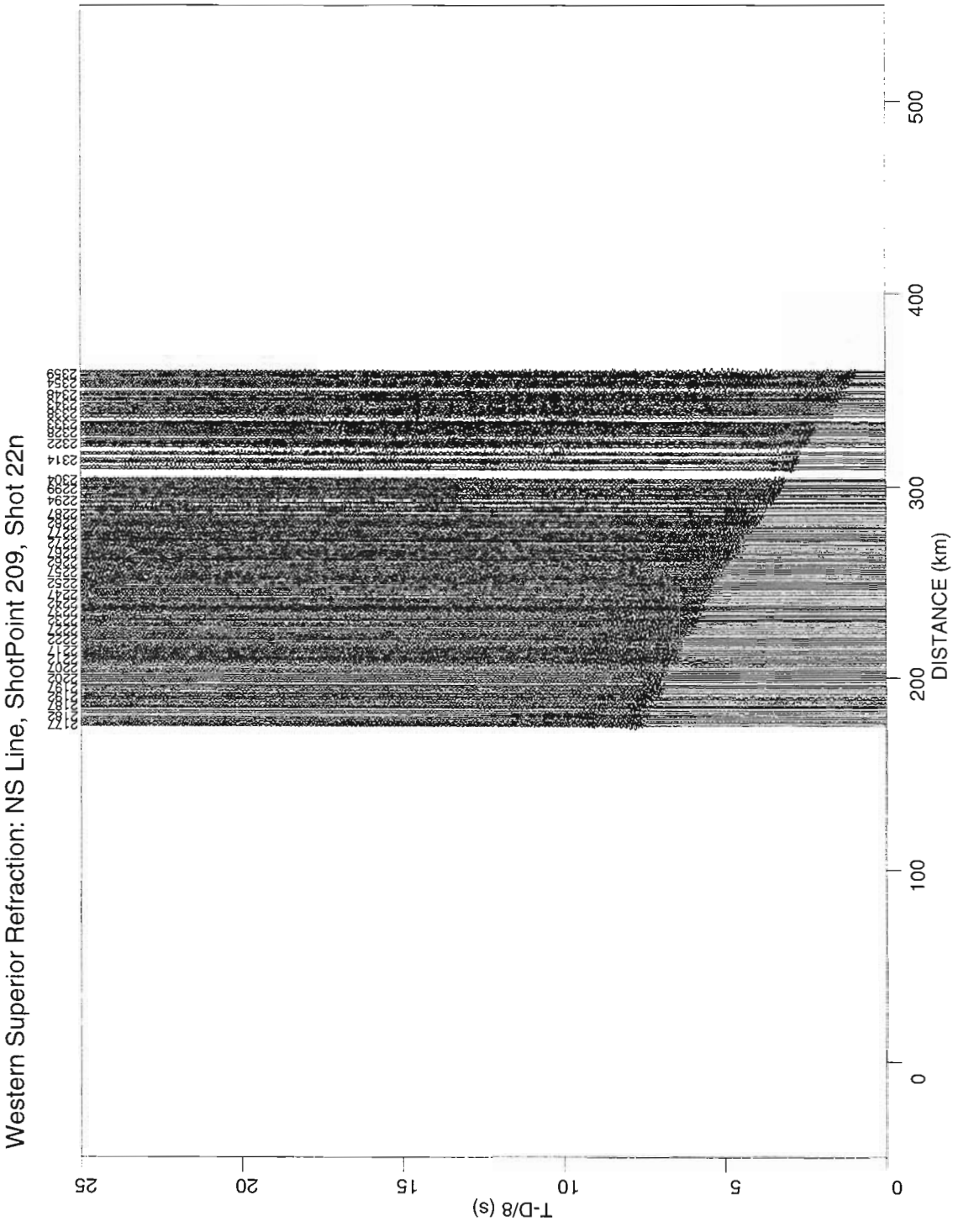


Figure 124: Shot 22n North-South of ZNE

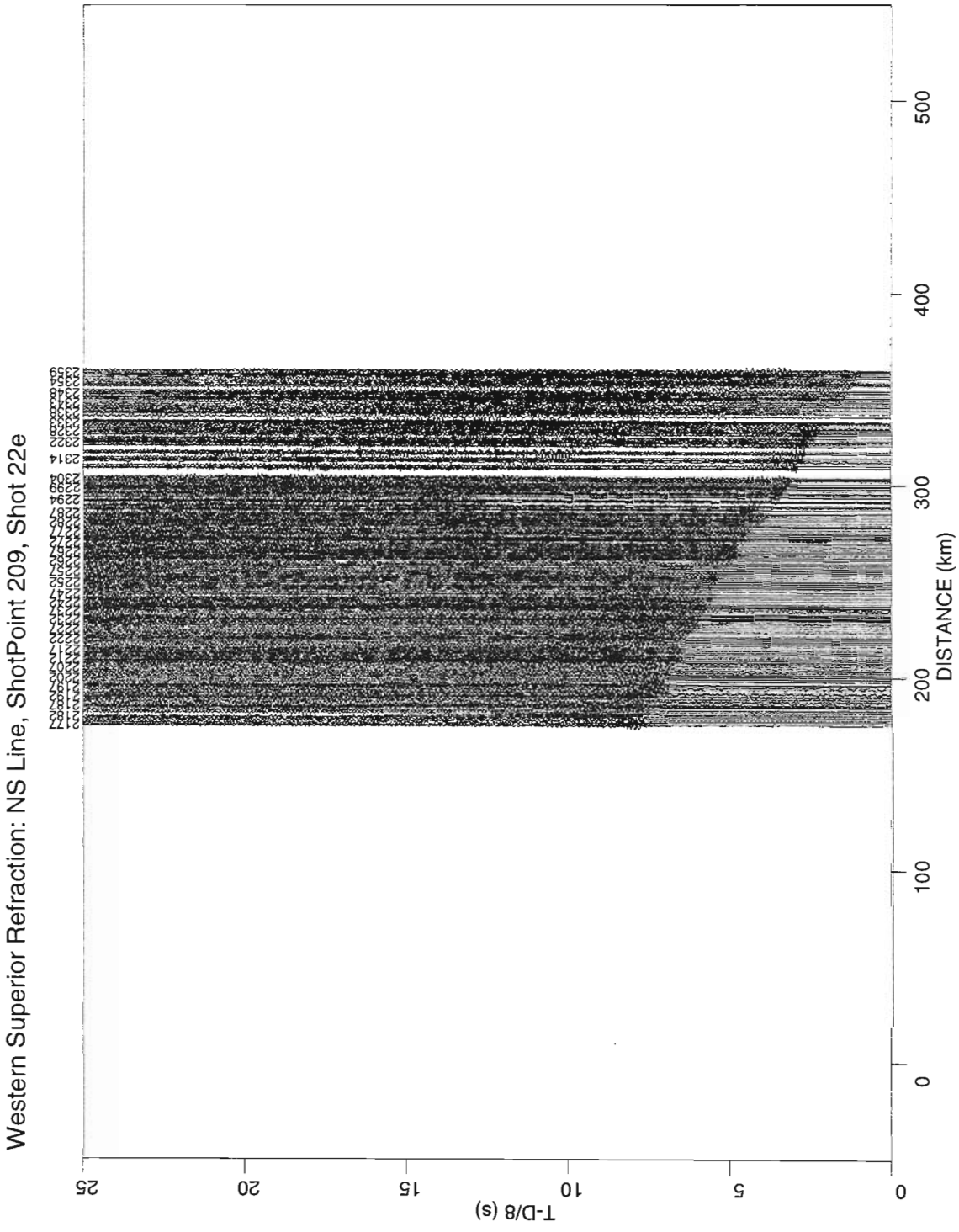


Figure 125: Shot 22e East-West of ZNE

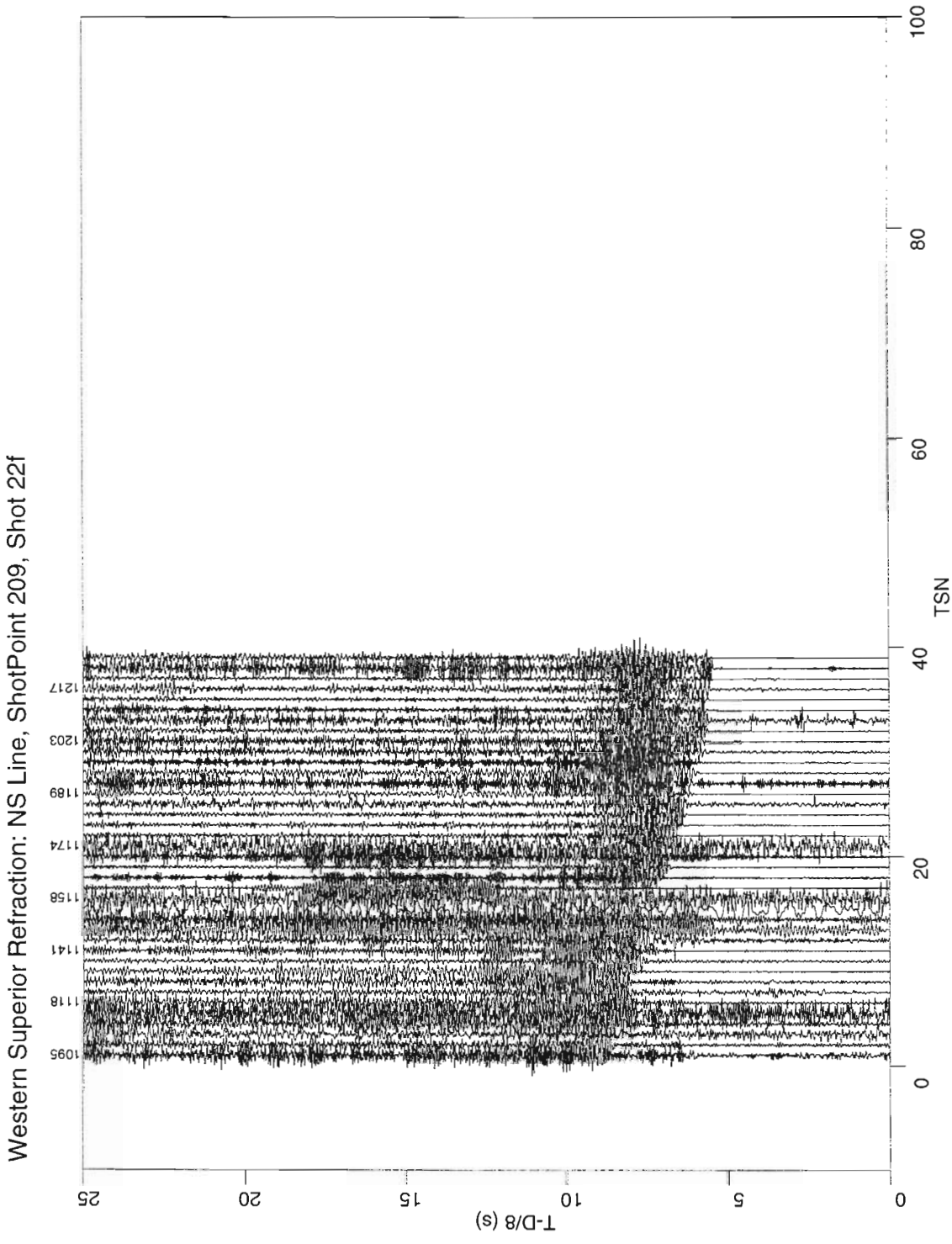


Figure 126: Shot 22f Broadside

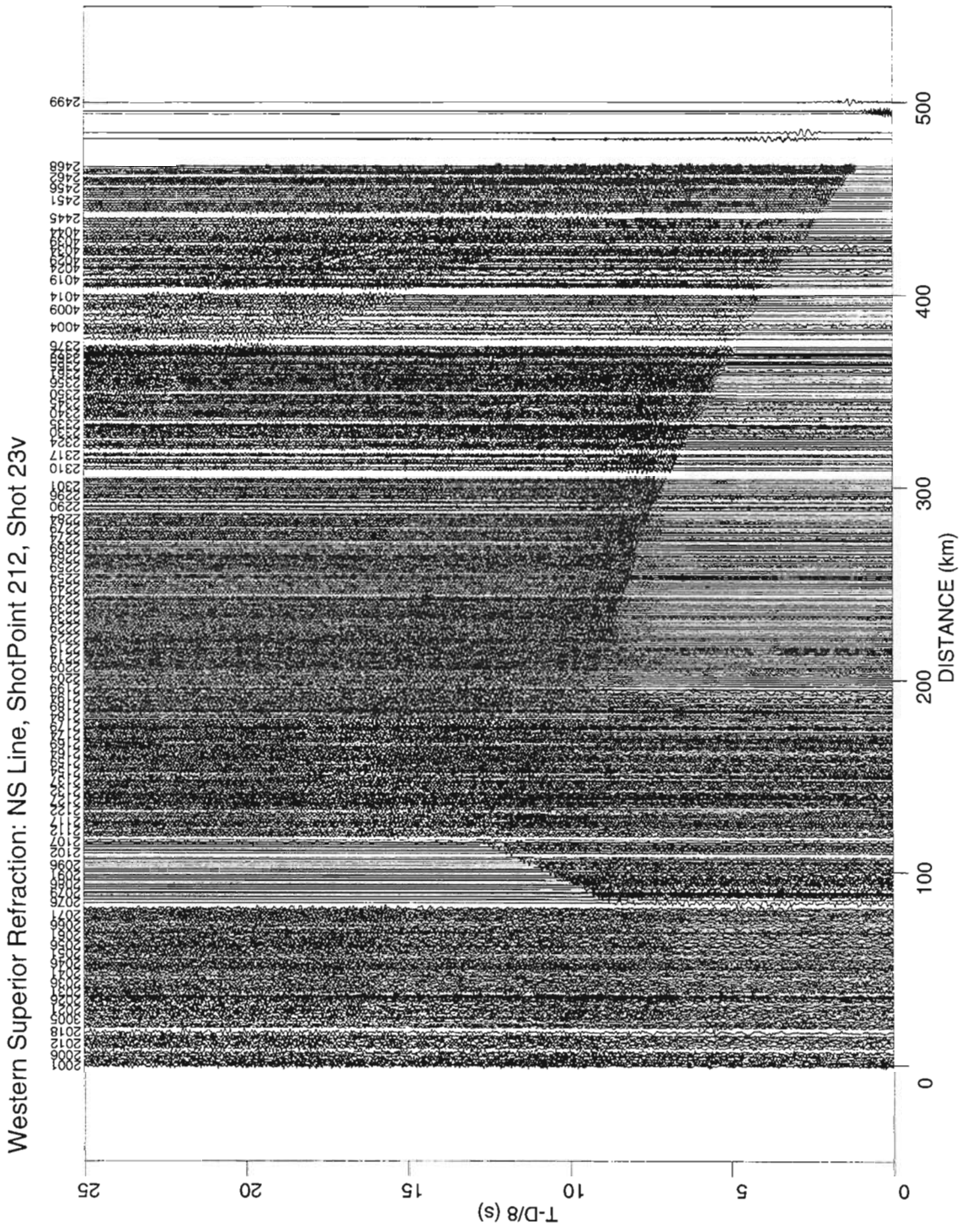


Figure 127: Shot 23v Vertical component

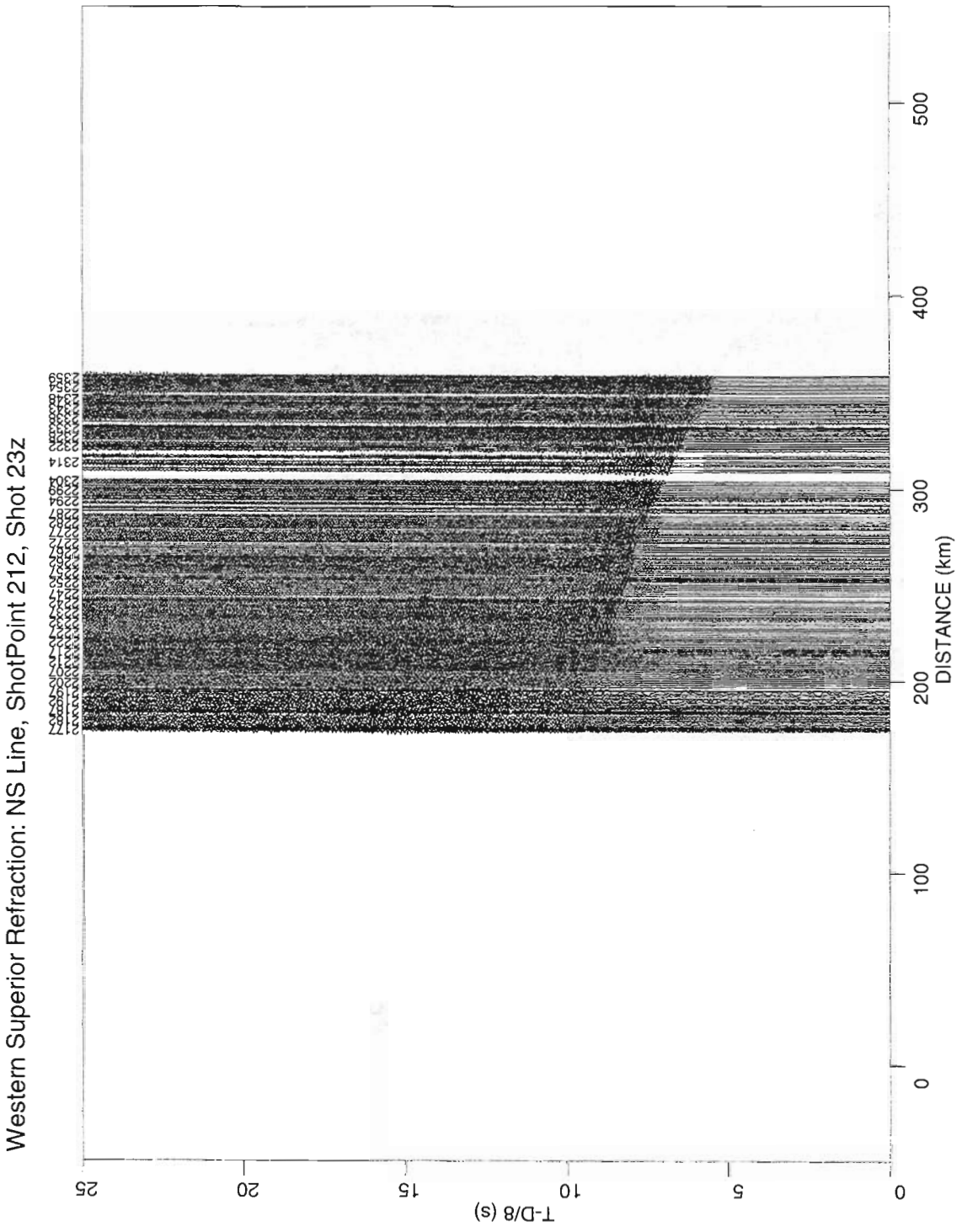


Figure 128: Shot 23z Vertical of ZNE

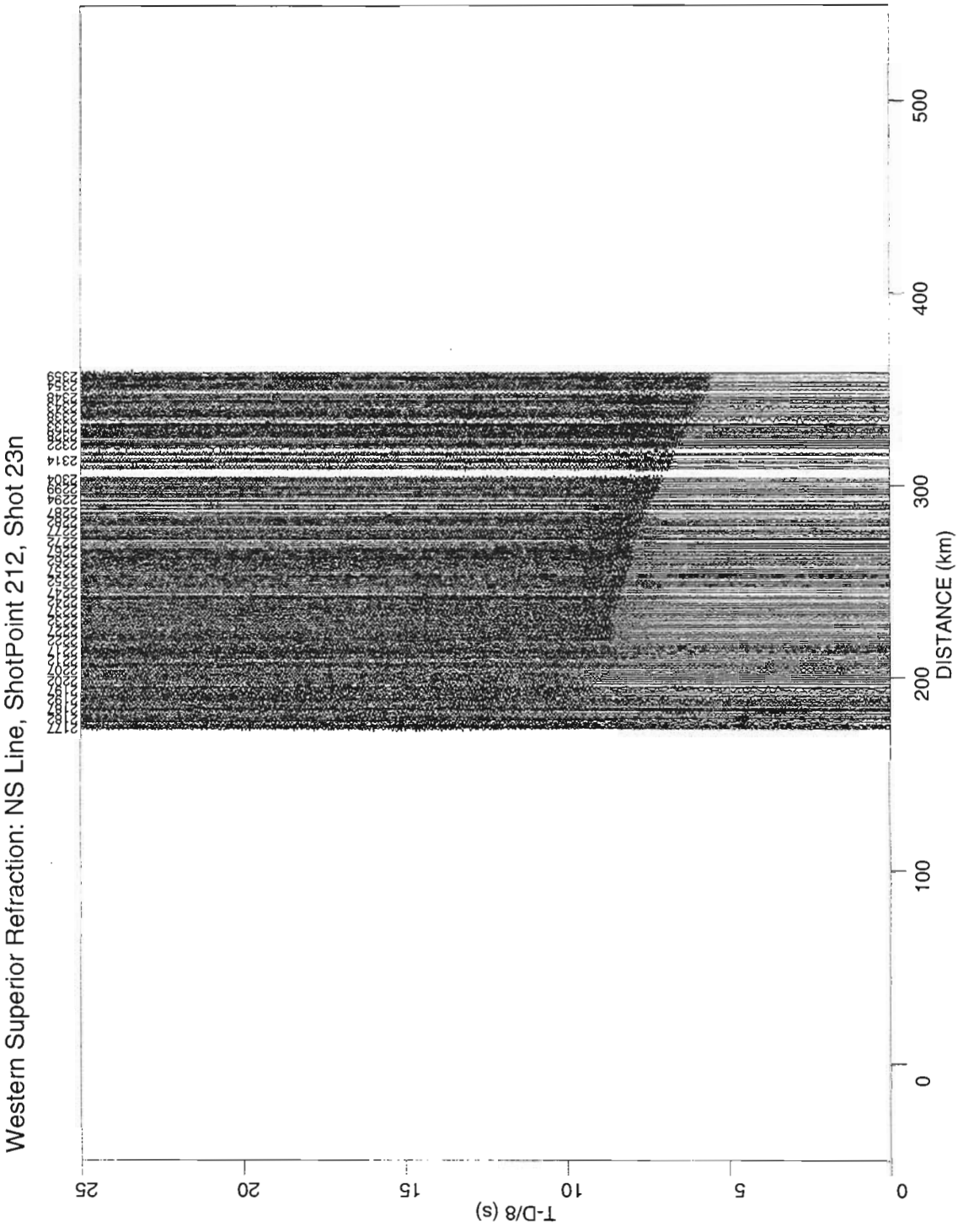


Figure 129: Shot 23n North-South of ZNE

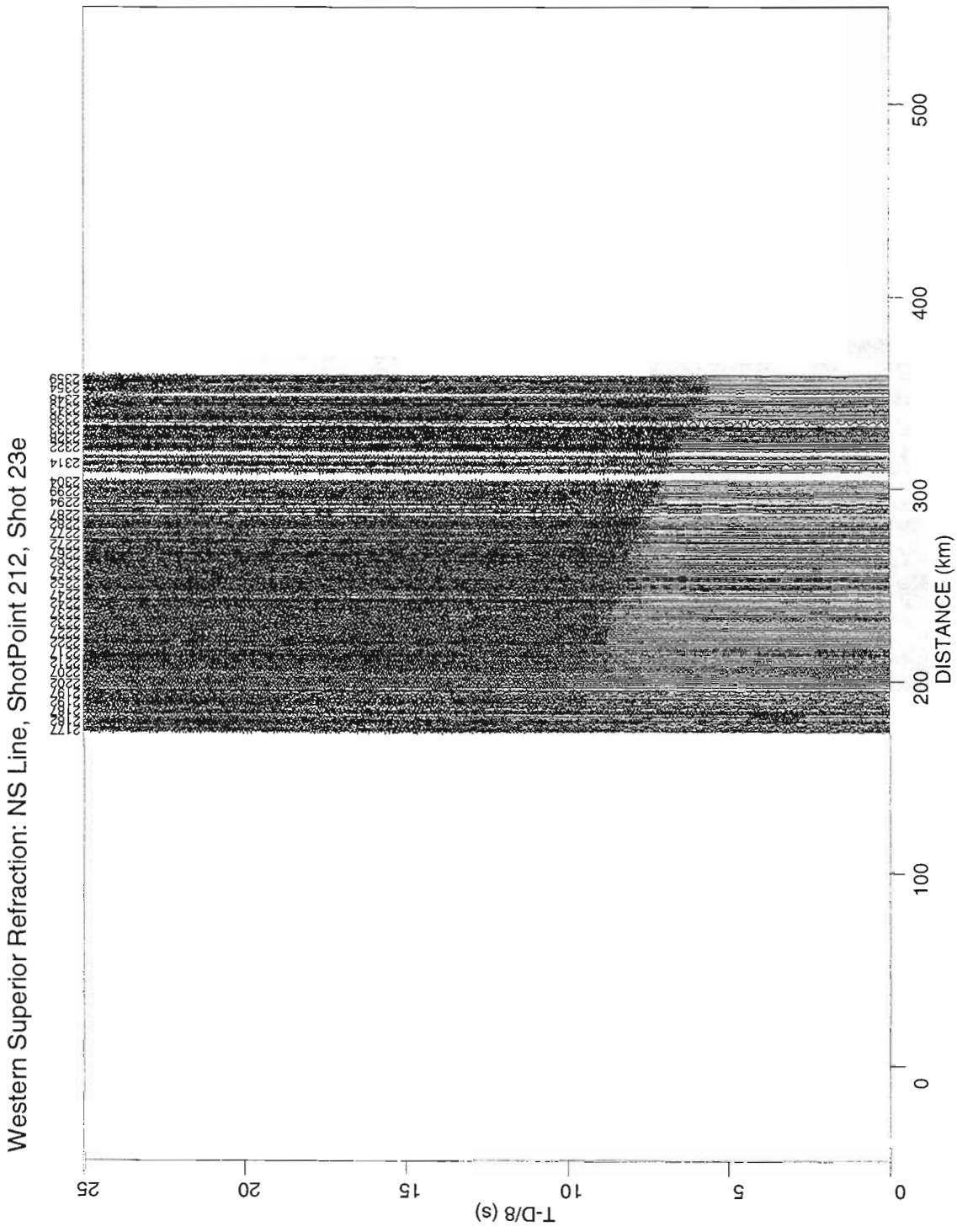


Figure 130: Shot 23e East-West of ZNE

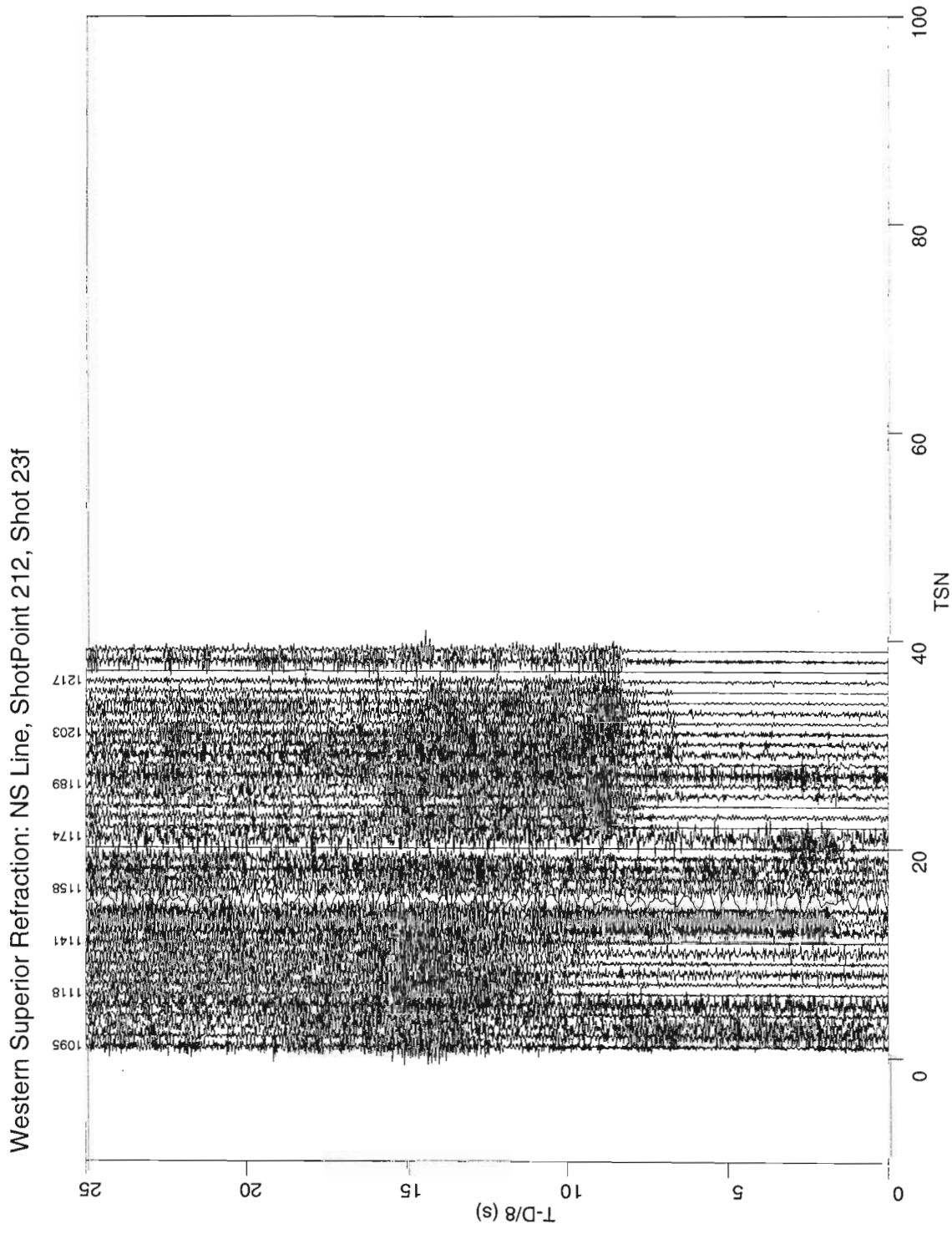


Figure 131: Shot 23f Broadside