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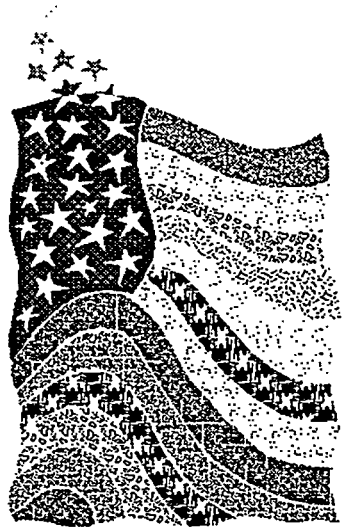

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# Report on Expedited Site Characterization of the Central Nevada Test Area, Nye County, Nevada

Lynn Yuhr, Technos Inc., Miami, FL

J. David Wonder and Albert J. Bevolo,
Ames Laboratory

MASTER

Report Date: September 1997

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Lynn Yuhr, Technos Inc., Miami, FL

J. David Wonder and Albert J. Bevolo, Ames Laboratory, US-DOE

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**Project Summary**

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## ABBREVIATIONS

| | |
|---|---|
| ASE | Accelerated Solvent Extraction |
| CAIP | Corrective Action Investigation Plan |
| CAS | Corrective Action Site |
| CMP | Central Mud Pit |
| CNTA | Central Nevada Test Area |
| COCs | Contaminants of concern |
| DOE | Department of Energy |
| DOE/NV | Department of Energy, Nevada Operations Office |
| EM | Electromagnetic |
| EPA | Environmental Protection Agency |
| ESC | Expedited Site Characterization |
| FLAA | Flame Ionization Atomic Absorption |
| Ft. | Foot/feet |
| GC/FID | Gas Chromatography with flame ionization detection |
| GPS | Differential Global Positioning System |
| IDW | Investigation-derived waste |
| Mg/kg | Milligram(s) per kilogram |
| mS/m | Millisiemens per meter |
| NDEP | Nevada Division of Environmental Protection |
| NV | Nevada |
| PAL | Preliminary Action Levels |
| ppt | parts per thousand |
| QA/QC | Quality Assurance/Quality Control |
| QC | Quality Control |
| TPH | Total petroleum hydrocarbon(s) |
| TRA | Transfer, Reduction and Adjustment |
| USAEC/NV | United Stated Atomic Energy Commission, Nevada |
| UTM | Universal Transverse Mercator |
| vs. | Versus |
| XRF | X-ray fluorescence |

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## 1.0 REPORT ORGANIZATION

This report documents data collection, results, and interpretation of the Expedited Site Characterization (ESC) pilot project conducted from September 1996 to June 1997 at the Central Nevada Test Area (CNTA), Nye County, Nevada.

Characterization activities were limited to surface sites associated with deep well drilling and ancillary operations at or near three emplacement well areas. Environmental issues related to the underground nuclear detonation (Project Faultless) and hydrologic monitoring wells were not addressed as a part of this project. The CNTA was divided into four functional areas for the purpose of this investigation and report. These areas include the vicinity of three emplacement wells (UC-1, UC-3, and UC-4) and one mud waste drilling mud collection location (Central Mud Pit; CMP). Each of these areas contain multiple, potentially contaminated features, identified either from historic information, on-site inspections, or existing data. These individual features are referred to hereafter as "sites".

The project scope of work involved site reconnaissance, establishment of local grid systems, site mapping and surveying, geophysical measurements, and collection and chemical analysis of soil and drilling mud samples. Section 2.0 through Section 4.0 of this report provide essential background information about the site, project, and details of how the ESC method was applied at CNTA. Detailed discussion of the scope of work is provided in Section 5.0, including procedures used and locations and quantities of measurements obtained.

Results and interpretations for each of the four functional areas are discussed separately in Sections 6.0, 7.0, 8.0, and 9.0. These sections provide a chronological presentation of data collected and results obtained, followed by interpretation on a site-by-site basis. Key data is presented in the individual sections. The comprehensive set of data is contained in appendices.

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## 2.0 BACKGROUND

The CNTA was the site of several deep well drilling operations in the late 1960's. One of these wells was the site of a nuclear detonation in 1968. The operations were demobilized from the site in the early 1970's, and some of the site was cleaned up and restored. However waste materials generated by the drilling operations are still present at the site, both on the surface and buried. These materials consist primarily of drilling mud and petroleum- and chromium-based mud additives. Abundant metallic waste is evident around the sites. More complete background information about CNTA can be found in "CNTA Preliminary Site Characterization Report" (DOE/NV, June 1996) and "Summary Report, CNTA Demobilization and Restoration Activities" (USAEC/NV, December 1974).

The CNTA is located north-northeast of Warm Springs, Nye County, NV, in Hot Creek Valley. The site is accessible from U.S. Highway 6 by using unpaved county roads.

CNTA consists of four main areas (Figure 2-1):

- UC-1, which is also referred to as "Ground Zero", is located roughly central to the four areas;
- Central Mud Pit (CMP) is a large bermed disposal area for drilling muds and is located about 1/3 mile east-southeast of UC-1;
- UC-3 contains an abandoned emplacement hole which was never used and is located the furthest south (about 2.75 miles south of UC-1); and
- UC-4 contains also an abandoned emplacement hole which was never used and is located the furthest north (about 3 miles north of UC-1).

Primary targets of the investigation were those previously assigned Corrective Action Site (CAS) numbers in the Corrective Action Investigation Plan (CAIP) dated April 1997. The CASs included in this investigation are listed in Table 2-1. Additional targets were identified and investigated after site walkovers, an aerial fly over, historic and recent aerial photo inspections and field inspection by the field team. These additional sites are listed in Table 2-2.

## Table 2-1: Summary of Corrective Action Sites (CAS)

| Corrective Action Site (CAS) Number | Description | General Location | Actions Taken |
|---|---|---|---|
| **Section 6.0 UC-1** | | | |
| 58-09-04 | Mud Pit/Borrow Area 1B | UC-1 (HTH-1 Well) | locate, map and sample |
| 58-09-05 | Mud Pits (3) 1C, 1D, and 1E | UC-1 Surface GZ | locate, map and sample |
| 58-44-02 | Drilling Mud/Grout Piles (2) | Southeast of UC-1 | locate, map and sample |
| **Section 7.0 CMP** | | | |
| 58-09-01 | Central Mud Pit | East of UC-1 | locate, map and sample |
| 58-09-02 | Mud Pit 1A | Southwest of CMP (58-09-01) | locate, map and sample |
| 58-98-03 | Waste Pile (drums, filters, etc.) | Adjacent to 1A (58-09-02) | locate only |
| 58-07-01 | Decon Facility Pit | West of CMP (58-09-01) | locate only |
| 58-35-01 | Burn Area | West of CMP (58-09-01) | visual inspection only |
| 58-44-01 | Drilling Mud/Grout Piles (2) | West of CMP (58-09-01) | locate, map and sample |
| **Section 8.0 UC-3** | | | |
| 58-09-06 | Mud Pits (5) 3A, 3B, 3C, 3D, and 3E | UC-3 | locate, map and sample |
| 58-10-01 | Shaker Pad Area | Northeast of UC-3 | locate, map and sample |
| 58-99-01 | Protruding Pipes (2) | North of UC-3 were actually found southeast of UC-3) | locate, map and sample |
| 58-44-03 | Drilling Mud/Grout Spill Area | Southeast of UC-3 | locate, map and sample |
| 58-44-04 | Drilling Mud/Grout Spill Area | Southwest of UC-3 | locate, map and sample |
| 58-19-01 | Scrap and Trash Dump | West of UC-3 RTP | locate only |
| 58-98-01 | Waste Pile (drums, filters, etc.) | West of 3A (58-09-06) | locate only |
| 58-98-02 | Waste Pile (drums, filters, etc.) | South of UC-3 | locate only |
| 58-98-04 | Waste Pile (metal, cables, etc.) | Adjacent to (58-44-03) | locate only |
| **Section 9.0 UC-4** | | | |
| 58-09-03 | Mud Pits (5) 4A, 4B, 4C, 4D, and 4E | UC-4 | locate, map and sample |
| 58-10-02 | Shaker Pad Area | North of UC-4 | locate, map and sample |

## Table 2-2: Summary of Other Sites Investigated

| Description | How and When Identified | General Location | Actions Taken |
|---|---|---|---|
| Unknown depression | Identified during aerial photo and field inspection in Phase 2. | About 2,500 ft. south of UC-1 | Located and sampled. |
| Two grout piles | Identified from aerial and field inspection in Phase 1A. | About 250 - 400 ft. northeast of UC-1 | Located, mapped, and sampled as with other grout piles. |
| Shaker pad area/drill cuttings dump | Identified during field inspection in Phase 1A. | UC-1 between Mud Pits 1C and 1D/1E | Located, mapped, and sampled. |
| Drilling mud/cuttings dump area | Identified from field inspection in Phase 1A. | North of UC-3 | Located, mapped, and sampled as with other similar dump areas. |
| Vertical pipes | Identified during site visit (Feb 97) with NDEP. | West of UC-4 | Located, mapped, geophysical survey (no samples). |
| Eastern drainage with shaker pad waste | Identified during field inspection in Phase 1A. | East of UC-4 | Located, mapped, and sampled. |
| Southern drainage with shaker pad waste | Identified during field inspection in Phase 1A. | South of UC-4 | Located, mapped, and sampled. |

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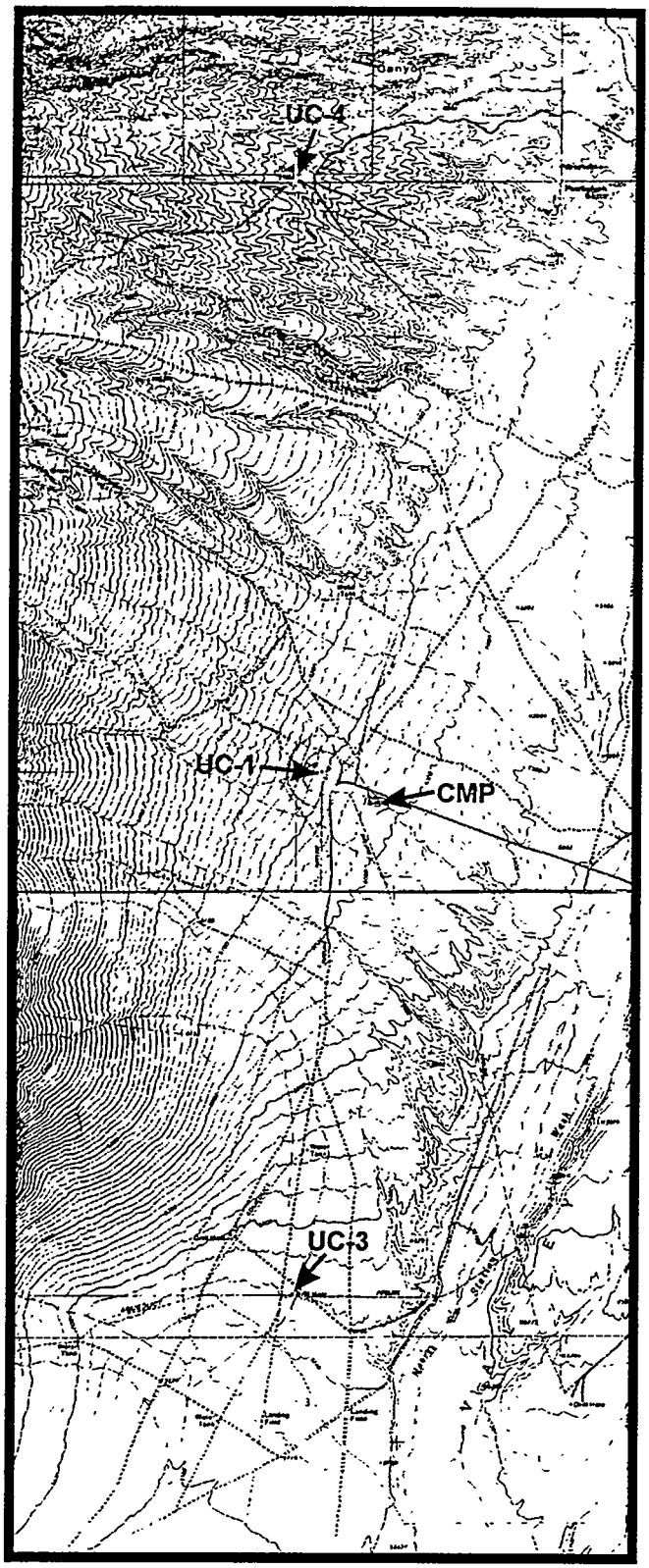
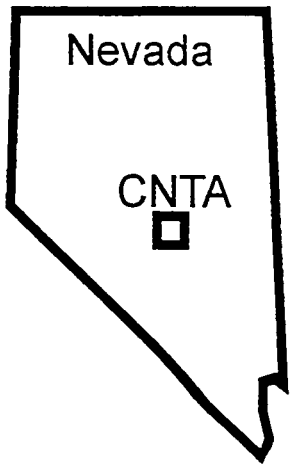
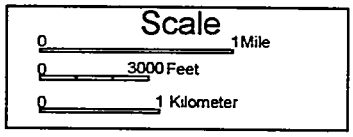



Topographic map from Moores Station SW and Moores Station, Nevada - USGS 7.5' quadrangles




| | | |
|---|---|---|
| ESC Central Nevada Test Area | Site map showing 4 areas of investigation | Figure 2-1 |

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## 3.0 PURPOSE AND SCOPE

An Expedited Site Characterization (ESC) was carried out at the CNTA. This work was completed by a team of professionals which included Ames Laboratory, Technos Inc., McLaren/Hart Environmental Engineering, Inc., and IT Corporation.

ESC is a process for characterizing contaminated sites which provides cost-effective, timely, high-quality information derived primarily from judgment-based sampling and measurements within the framework of a flexible work plan. ESC focuses on collecting only information required to meet defined characterization objectives and on ensuring that characterization ceases as soon as the objectives are met. The process is carried out by an integrated, multidisciplinary project team in a limited number of field mobilizations. The ESC process operates within the framework of existing regulatory programs.

The primary purposes of the ESC investigation at CNTA were two fold:

- To evaluate previously identified CASs, primarily drilling mud pits and dump areas. This included identifying their lateral and vertical extents and level of contaminants.
- To identify any other potential CASs while on-site and provide a preliminary evaluation of their lateral and vertical extents and levels of contaminants.

Work performed during this ESC project is described in the CAIP dated April 1997. The ESC process and the CNTA CAIP were accepted by the Nevada Division of Environmental Protection (NDEP). Phase 1 work proceeded on an at-risk basis prior to approval of the CAIP.

Field work was completed over a nine-month period from September 1996 to June 1997 in three phases: Phase 1A, 1B, and 2. Each of these phases are described below:

- Phase 1A: The Phase 1A effort focused on the lateral and vertical characterization of the CASs at UC-3 and UC-4. Due to health and safety constraints, sampling was not carried out at UC-1 and the CMP at this time.
- Phase 1B: The Phase 1B effort focused on the lateral and vertical characterization of the CASs at UC-1 and the CMP as well as follow-up characterization at UC-3 and UC-4. Phase 1A and 1B results were used to help guide the soil sampling for chemical characterization of CASs to be completed in Phase 2.
- Phase 2: The Phase 2 effort consisted of soil sampling and chemical characterization of UC-1, the CMP, UC-3, and UC-4 at all CASs and those additional areas of concern which were identified.

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# 4.0 ESC IN THE FIELD

## 4.1 ESC in the Field

One of the key concepts of the ESC process is the active role of senior technical personnel in the field. The ESC core technical team consists of a few individuals with broad expertise in the geosciences and contaminant chemistry. The core team provides a solid technical base from which decisions in the field can be made with confidence.

At CNTA, the core team continually reviewed and interpreted chemical and physical data as it became available and applied this information via instructions to field and laboratory crews as the work progressed. Figure 4-1 illustrates how information from Phase 1A and 1B was used in making decisions for chemical sampling and the sampling criteria which needed to be made by the core team in the field.

## 4.2 Project Objectives

The contaminants of concern (COCs) at all four areas were hexavalent chromium and total petroleum hydrocarbons (TPH), which were directly associated with the drilling muds used at the various CNTA sites. While these chemicals cannot be directly detected using non-invasive and minimally invasive geophysical techniques, the drilling muds they were associated with can be directly detected. The electrical conductivity of the drilling muds (high electrical conductivity due to bentonite) was used as an indicator parameter for geophysically detecting the COCs. This was the basis of the field approach for Phase 1A and 1B.

Surface electromagnetics (non-invasive) and Geoprobe conductivity (minimally invasive) techniques were used to map the lateral and vertical extent of high conductivities due to bentonite associated with drilling muds. This information was used to guide the selection of sampling locations and depths in Phase 2.

## 4.3 Pit Boundaries and Sampling Locations

The objectives of Phase 1A and 1B were to identify the boundaries of mud pits and other uncontrolled waste areas. At the beginning of Phase 2, the corners or selected boundary points for each pit were marked in the field. This was based upon the integration of historical aerial photos, surface geophysical surveys, and field observations.

Prior to field work, it was determined for the purpose of statistical analysis that a minimum of six sampling locations would be used within each mud pit. The six sampling locations were evenly distributed within each pit. The depth of sampling was to include 2-foot (ft.) intervals within the mud, and one 2-ft. interval above the mud (if the mud was buried) and one 2-ft. interval below the mud. Appropriate depth intervals were determined by Geoprobe conductivity logs and/or visual inspection of the soil materials as they were being acquired. If no muds were detected by Geoprobe conductivity logs or by visual inspection at a given mud pit, then sampling would be continuous up to 10 feet (ft.) deep.

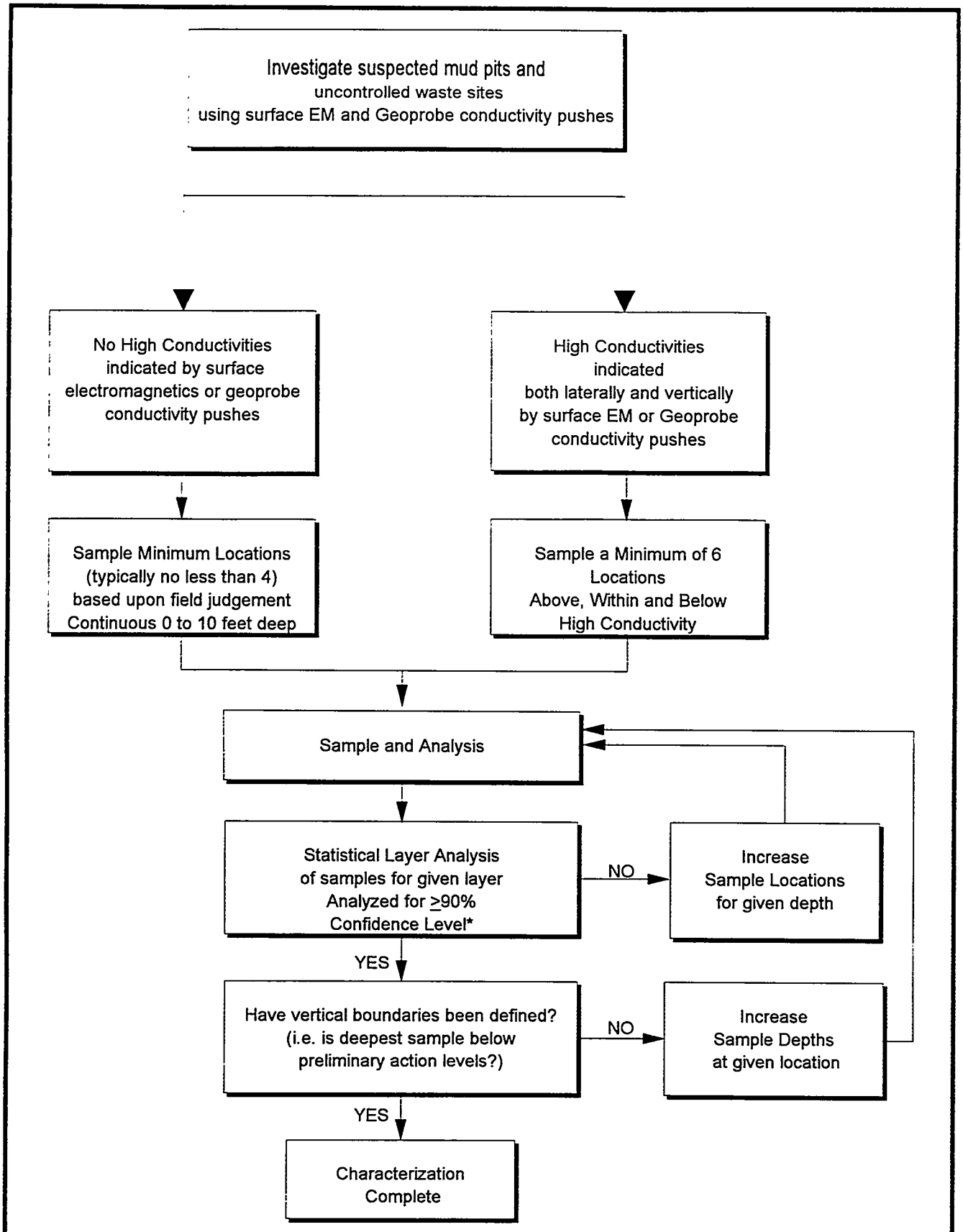
Where areas of uncontrolled wastes were investigated (e.g., shaker pad debris, grout piles, etc.), boundaries were identified by visual inspection and supplemented by surface geophysics to assess muds not visible at the surface. Sampling locations were selected based upon the surface geophysics and/or observations in the field. For these uncontrolled waste areas, the

minimum number of sampling locations was selected based on the size and characteristics of the area. Because most of these features appeared to be surface deposits, the depth of sampling was typically very shallow (on average 6 - 8 ft. deep) but was based upon either Geoprobe conductivity logs and/or visual inspection of the soil materials as they were being acquired.

Once sampling and analysis was completed, three key criteria were used to assess the adequacy of the data. These criteria are:

- Statistical analysis of samples from a given depth. This evaluation determined whether sufficient samples had been acquired at a single depth interval to provide greater than 90% confidence in the determination of the level of contamination in the layer relative to the preliminary action level (PAL).
- Determination of whether the contaminant concentrations from the deepest sample were below PALs. If the deepest samples were above the action level, deeper samples were obtained.
- Confirmation that lateral migration of contaminated material had not occurred in the subsurface.

These criteria had to be met before sampling was considered complete for a given CAS or other area of investigation.




| ESC Central Nevada Test Area | Mud Pit Sampling Decision Tree/Flow Diagram | Figure 4-1 |
|---|---|---|

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## 5.0 TECHNICAL APPROACH

Phase 1A and 1B focused on the shallow subsurface (<20 ft.) characterization of four sites at the CNTA that include UC-1, CMP, UC-3, and UC-4 areas. Non-invasive surface geophysical methods along with Geoprobe push technology were used to define the lateral and vertical boundaries of CASs that include mud pits, shaker pads and shaker pad debris, metallic debris, and vertical pipes.

Based upon the results obtained in Phase 1A and 1B, Phase 2 focused on the soil sampling and chemical analysis of the various CASs and other areas of concern.

A detailed description of the technical approach, field procedures, quality control protocols and resulting data where appropriate is included in Appendices A through H. The following summarizes the field methods that were used during this site investigation:

### 5.1 Survey Grid

During Phase 1A a local reference grid established at each of the four areas (UC-1, CMP, UC-3, and UC-4) and marked by surveyor pin flags. Pin flags were placed on a grid every 40 ft. in the easting and northing directions and were labeled with their coordinates. The grid origin (0E, 0N) reference is in the southwest corner of each site. Some CASs and other areas investigated lie outside of the main survey grids. These are referred to as "outliers", and their locations are tied to the closest site grid.

Geographic coordinates for corner points of the reference grids were established using surveyed in using differential global position system (GPS). GPS coordinates were also obtained at outlier areas outside of the survey grid. A more detailed description of the GPS procedures and the geographic coordinates are included in Appendix A.

### 5.2 Digital Elevations

Surface elevations for each of the grids were acquired with a digital level. The elevation data were sampled at the 40-ft. grid nodes, except where flat terrain allowed for greater sample spacing. Elevations were also acquired at major slope breaks.

The data were used to create an elevation map for each of the four sites. Interpolated elevations were taken from this map for each of the Geoprobe conductivity logs and chemical sampling locations.

Appendix B contains a detailed description of the field procedures, used to acquire the elevation data and presents a tabular listing of the elevations for each site.

### 5.3 Surface Geophysics

#### 5.3.1 Electromagnetics

Electromagnetic (EM) measurements provide a means of measuring subsurface conductivity which at this site is a function of moisture, clay content, and bentonite. EM31 electromagnetic measurements provide a means to map lateral variations in subsurface electrical conductivity to a depth of approximately 20 ft. This was the primary tool used to map the lateral boundaries of

mud pits. EM31 measurements also provides in-phase data, which defines lateral boundaries of metallic objects. The digital data was acquired continuously along parallel profile lines spaced 20 ft. apart. EM31 measurements were made at all four sites.

EM38 electromagnetic measurements provide a means to map lateral variations in subsurface electrical conductivity to a depth of approximately 5 ft. The digital data were acquired continuously along parallel profile lines within the CMP and along selected lines at UC-3 and UC-4.

Appendix C contains a detailed description of the field procedures, processing, and results. In addition, this appendix documents our quality control (QC) procedures and resulting data.

5.3.2 Resistivity Soundings

DC Resistivity soundings provide a means of obtaining vertical stratification information due to changes in electrical resistivity. The soundings produce apparent resistivity values as a function of depth which are related to the electrical properties of subsurface materials. Three resistivity soundings were acquired within the CMP to estimate the vertical extent of the mud.

Appendix D contains a detailed description of the field procedures, processing, and results.

5.3.3 Magnetometer/Metal Detector Pipe Locator

A magnetometer and a metal detector pipe locator were used at the various sites to aid in detecting the presence of potential buried tanks and to map pipelines. These instruments were used in support of the EM31 measurements at selected sites for very specific objectives.

Both instruments were used in a sweeping search mode over localized areas of interest. Data were not recorded, however, the coordinates of areas showing a response were recorded in a field notebook or field map.

## 5.4 Geoprobe Conductivity Logs

A Geoprobe system with Wenner and "button" dipole conductivity probes was used to obtain vertical electrical conductivity logs at all four sites using minimally invasive push technology. The purpose of the Geoprobe conductivity logs was to identify the vertical details and vertical extent of the higher conductivity muds.

Appendix E contains a detailed description of the field procedures, processing, and a tabular summary of data acquired. In addition, this appendix contains plots of all Geoprobe conductivity logs.

## 5.5 Sample Collection

Sampling for chemical analysis was carried out using two Geoprobe crews and two sample processing crews. Each sample processing crew consisted of a technician and a geologist. The soil samples were obtained by the Geoprobe crews using either a 2-ft. or a 4-ft. direct-push sampling device, extending both above and below known mud or contaminant layers. Samples were collected directly into acetate sleeves by the sampling devices.

Upon removal from the sampler, the sample sleeves were screened for radiological contaminants by the field team health and safety representative. The sleeves were then split open, and geologic descriptions were obtained from each 2-ft. interval by the geologist. If the soil core was to be chemically analyzed, rocks and plant matter were removed from the sample and the contents of the sleeve were thoroughly mixed/homogenized by hand. Samples were then bottled, labeled, and sent, under strict chain-of-custody procedures, to the on-site laboratory. Soil cores which were not to analyzed chemically were disposed of appropriately along with other investigation-derived waste (IDW).

Appendix F contains a detailed description of the field procedures, processing, and results. In addition, this appendix contains a description of the quality assurance/quality control (QA/QC) and chain-of-custody procedures used for this project.

Various strategies were employed for the soil sampling depending upon the nature of the area. In particular, engineered structures containing contaminated media (mud pits) were sampled by a different strategy than areas of uncontrolled dumping or stockpiling (shaker pads and "spill" areas).

Sampling locations within mud pits generally followed a predetermined procedure, and the results were used for statistical analysis. Additional samples were collected in some cases in association with certain pits if erosion of the pit material was evident or if refusal of the sampling devices was encountered.

Sampling of uncontrolled areas was judgmental in nature. The strategy of judgmental sampling depended on the ESC team's understanding and specific observations of the particular CAS. In general, however, initial samples were collected in areas believed to contain the highest concentration of drilling mud with respect to drill cuttings or grout, which presumably contain lower levels of the contaminants of concern, or the thickest accumulation of material. Following analysis of initial samples, additional samples may have been collected to determine the quantity of material above the PAL or to confirm the inferred lateral or vertical extent of contamination.

### 5.6 Chemical Analysis

Soil samples were initially analyzed in an on-site laboratory for total and hexavalent chromium and TPH as diesel and motor oil. PALs for these contaminants are given in Table 5-1.

Sample extraction for TPH analysis was performed using EPA Method 3545, Accelerated Solvent Extraction (ASE). This extraction procedure used elevated temperatures and pressures to achieve analyte recoveries equivalent to those from soxhlet and sonication extraction in significantly less time and with smaller quantities of solvent. TPH analysis was conducted according to modified EPA Method 8015 [gas chromatography with flame ionization detection (GC/FID)].

The X-ray fluorescence (XRF) was employed as the primary method of total chromium analysis due to the relative easy of sample preparation and speed of the analysis. The correlation between XRF results and Flame Ionization Atomic Absorption (FLAA) results was documented by the ESC team while characterization work proceeded in the field (see Chromium Analysis section below).

The primary method for total chromium analysis was by XRF spectrometry. Samples were prepared by mechanical grinding, drying, and sieving. Following the correlation study, approximately 5% of the samples were analyzed in parallel by EPA Methods 3051 and 7191 FLAA spectrometry]. Sample preparation for FLAA analysis was by microwave digestion.

Hexavalent chromium sample preparation was conducted using alkaline digestion by EPA Method 3060A, and analysis was performed by EPA Method 7196A (visible light spectrophotometry).

**Table 5-1: Preliminary Action Levels**

| Chemical of Concern | Preliminary Action Level | Source |
|---|---|---|
| Trivalent Chromium | 78,000 milligrams per kilogram (mg/kg) | EPA generic soil screening level |
| Hexavalent Chromium | 390 milligrams per kilogram (mg/kg) | EPA generic soil screening level |
| TPH (diesel and/or motor oil) | 100 milligrams per kilogram (mg/kg) | NDEP regulatory action level |

Appendix G contains a more detailed description of the field procedures, processing, and results. In addition, this appendix contains a description of the QA/QC and chain-of-custody procedures used for this project.

5.6.1 Chromium Analysis

Due to the very high PAL for total chromium, hexavalent chromium was the species of primary concern. Chromium analysis was conducted by first determining total chromium using XRF and FLAA spectrometry. If the total chromium concentration was determined to be above the action level for hexavalent chromium, then that sample was also analyzed for hexavalent chromium.

Early in the chemical analysis it was discovered that another constituent was present in addition to and often instead of, diesel. It was determined in the field that this constituent was motor oil, which then was added to the list of analytes.

*5.6.1.1 XRF/FLAA Correlation Study*

All soil samples from the first set of locations were split and separately analyzed by FLAA and XRF for total chromium. The purpose of these measurements was to test whether the correlation coefficient between these two data sets was equal to or higher than 0.95, so that the faster and cheaper XRF could be used to measure total chromium. If sufficient correlation was found, the FLAA would be used for only 5% of total number of samples.

A minimum of 24 samples were required by the CAIP. The CMP was the first area sampled. Because of shallow refusals in the CMP only 20 soil samples were available. An additional seven samples were taken from Pits 4A, 4B, and 4E to form the first batch of samples for the correlation study. These samples were all taken on 5/12/97 to 5/14/97. The initial XRF and FLAA data are shown in Appendix G, along with all of the remaining paired FLAA/XRF data and supporting data analysis.

Using statistical analysis software, the correlation coefficient, slope, slope error, intercept along XRF axis and intercept error were calculated. From this analysis, it demonstrated that the XRF data is higher than the FLAA data for XRF values below approximately 100 mg/kg and above 200 mg/kg. The correlation coefficient for this data set is 0.9813. This result allowed for the use of the XRF as the primary method for total chromium analysis.

The correlation coefficient was re-evaluated whenever a new batch of paired FLAA/XRF data became available. The coefficient never dropped below 0.978. A total of 69 pairs were taken during the investigation. The final correlation coefficient was 0.9782.

*5.6.1.2 Hexavalent Chromium*

The CAIP was written such that any sample with a value of total chromium above 300 mg/kg would also be analyzed for hexavalent chromium. This cut-off value was chosen so that if all of the chromium was hexavalent, any value close to but still below the 390 mg/kg PAL would be measured by the definitive hexavalent chromium method.

As work proceeded, it became clear that the percentage of hexavalent chromium in the total chromium of the sample was always less than 3%. The raw hexavalent vs. total chromium data, tables, and figures are contained in Appendix G. These data indicate that for XRF values below about 1,500 mg/kg, the hexavalent chromium measurements are non-detects. It was decided by the core team in the field that measurements of total chromium below 1,200 mg/kg would not always be followed by a hexavalent chromium measurement.

5.6.2 TPH Analysis

Diesel fuel was initially believed to be the only petroleum contaminant at the site. However, during the first day of sample collection and analysis, a second set petroleum peaks was observed on the chromatographs by the laboratory analysts. The second contaminant was interpreted to be motor oil. A determination was made by the core team in the field that all subsequent TPH analysis would include motor oil. The sum of the results of the two TPH analyses were used for comparison to the PAL and in statistical evaluations.

**5.7 Statistical Layer Analysis**

A statistical approach was used to determine which depth intervals or layers inside individual mud pits and shaker pad areas were above the action level at the 90% confidence level for either total TPH or hexavalent chromium. In general, six locations inside each mud pit were selected for sampling at 2-ft. depth intervals.

The irregular or unknown shape and slope of the shaker pad areas made application of the statistical test questionable. The shaker pad at UC-1 was assumed to be directly south of the UC-1 emplacement hole, although no historical documents confirm this. The suspected area also exhibits a steep slope. The shaker pad area at UC-3 is not visible at the surface and was filled and graded prior to demobilization of drilling operations in the late 1960's. The shaker pad area at UC-4 is visible but is comprised of several tiers of pooled runoff in a ravine.

The statistical test is described in detail in the CAIP and gave two results: "$n_d$", the minimum number of samples required to make a statistically valid decision, and "A", the amount by which

a given layer was above or below the action level, taking into account the standard deviation of the measurements in the layer and the false positive/false negative rates allowed. The values used in the TPH test were total TPH (diesel + motor oil). The values used in the chromium test were hexavalent chromium, if available. If a hexavalent chromium value was not available, the total chromium value was used as a "worst case scenario" for hexavalent chromium. If both XRF and FLAA values for total chromium were available for a given sample, the higher of the two was used.

If $n_d$ was less than or equal to the actual number of samples measured for the given layer, then a statistically valid decision regarding clean versus (vs.) contaminated could be made. In practice, contaminated layers often had high $n_d$ values even after six samples were analyzed. In such cases, the affected layer was declared to be above the action level. Rarely was the A value so small that additional sampling was indicated.

A summary of the results of the statistical tests are given in the following sections specific to the four areas of the CNTA. Complete data, a more detailed description of the processing procedures using Excel spreadsheets, results, and QA/QC procedures is contained in Appendix H. A review of the data shows that no layer was determined to be above the hexavalent chromium action level, while a significant number of layers are above the TPH action level. Therefore, the following sections of this report focus on the TPH results only.

## 6.0 UC-1 AREA

### 6.1 Background

UC-1 surface ground zero is located at NV state plane coordinates 629000E, 1414340N (UTM coordinates: Zone 11, 568296E, 4276280N) at an elevation of approximately 6,100 ft. The UC-1 site is thought to contain:

- One area identified by early characterization work as a mud pit/borrow area (CAS #58-09-04/Pit 1B) in the area of well HTH-1 about 2,500 ft. south of UC-1;
- Three mud pits (CAS #58-09-05/Pits 1C, 1D, 1E) located east and south of surface ground zero;
- Some shaker pad waste between Pits 1C, 1D, and 1E;
- Two grout piles, approximately 50 and 275 ft., south of the UC-1 grid (CAS #58-44-02);
- Two grout piles, approximately 250 and 400 ft., northeast of the UC-1 grid; and
- A localized surface depression approximately 3,200 ft. south of UC-1.

Figure 6-1 shows the estimated location of Mud Pits 1C, 1D, and 1E. Pit 1B (CAS #58-09-04) is located on Figure 6-3 with the other outliers due to its distance from the site.

### 6.2 Data Acquired

#### 6.2.1 Survey Grid

The survey grid was established over a rectangular area of 880 x 800 ft. (Figure 6-1). The extent of the grid was selected to include all of the mud pits and key features at the site. Aerial photos, existing drawings (primarily from the CAIP), and on-site observations were used to select the boundaries of the grid. It was not feasible to include some outlying features within the grid.

All field observations and measurements are referenced to the grid northing and easting coordinates in feet. Coordinates given in the following text refer to this local grid system. Local grid coordinates were translated into UTM coordinates during field operations for compatibility with existing DOE databases. See Appendix A for a table of control points for UC-1 site.

#### 6.2.2 On-Site Observations

Figure 6-1 shows the observed locations of site features relative to the grid established at the site. The suspected positions of the mud pits and shaker pad debris shown in Figure 6-1 and other figures are based upon the CAIP drawings and aerial photos of this site. The survey grid extends eastward to the perimeter road and includes berms to the south and west. The emplacement well (surface ground zero) is located at UC-1 local grid coordinate 360E, 400N. A grate-covered, recessed well is located at 430E, 700N. Fault scarps cross the southeastern portion of the grid, and may extend to the southwest. Light colored material, possibly shaker discharge, was observed in the eastern portion of the grid, draining to the east along the inner fault scarp.

6.2.3 Digital Elevations

Digital elevation data were acquired over the entire grid generally at 40-ft. sample spacings for a total of 504 stations. Figure 6-2 shows the elevation map for UC-1. Elevations at UC-1 range from 6,075.2 to 6,132.7 and average 6,100.5 ft. Details regarding elevation data collection are given in Appendix B.

6.2.4 Surface Geophysics

**EM31**

EM31 conductivity and in-phase (metal) data were acquired over six areas (Figure 6-3). These six areas included:

- The site grid along parallel lines oriented north-south with a line separation of 20 ft., which covers Mud Pits 1C, 1D, 1E, and the shaker pad debris.
- Two perpendicular profile lines (UC1R5E and UC1R5N) centered at well HTH-1, the location proposed in the CAIP for Pit 1B (CAS #58-09-04), located 2,600 ft. south of the grid.
- A single EM31 profile line over each of the two small grout piles south of the site grid and referred to as UC1R3 and UC1R4.
- A single EM31 profile line over each of the two small grout piles northeast of the site grid and referred to as UC1R1 and UC1R2.

Appendix C contains a more detailed description of the electromagnetic field procedures used and plots of all off-site profile lines.

6.2.5 Geoprobe Conductivity Logs

Geoprobe conductivity logs were acquired at fourteen (14) locations within the grid. Locations are shown in Figure 6-4 and are labeled sequentially UC1-GC01 through UC1-GC14. Plots of all conductivity logs are included in Appendix E.

6.2.6 Chemical Sampling and Analysis

Figure 6-5 shows all chemical sampling locations in the UC-1 area. Locations within the mud pits were selected in accordance with the CAIP. Additional locations outside the pits were sampled to confirm the lateral extent of the drilling muds. Sample locations in areas of uncontrolled disposal of drill cuttings and/or drilling mud and grout sample locations were selected based upon geophysical data and/or visual observations. Figure 6-6 shows all the chemical sampling locations for the sites which lie outside the UC-1 grid. All samples were analyzed in the on-site laboratories for TPH and chromium concentrations.

## 6.3 Interpretation

The EM31 conductivity and in-phase (metal) data are contoured and presented in Figures 6-7 and 6-8. Background terrain conductivities for UC-1 are 6 - 10 mS/m. Two large conductivity and in-phase (metal) anomalies are the result of the metal casing at ground zero (360E, 400N) and the recessed well-head and metal grate north of ground zero (430E, 700N).

Two small in-phase (metal) anomalies are located to the south of UC-1. South of ground zero, a line of discontinuous conductivity and in-phase (metal) anomalies indicates the presence of subsurface metallic objects extending from 420E, 350N to 340E, 140N (Figures 6-7 and 6-8). The remaining portions of the UC-1 grid are relatively free of in-phase (metal) anomalies.

The conductivity data do not indicate the clear presence of remnant mud pits at UC-1. It is possible that the mud pits were cleaned out and backfilled during restoration activities. It is also possible that the features observed on historic aerial photos were not actually mud pits. The feature designated Mud Pit 1E lies within the observed shaker pad debris area, but does not show a large electromagnetic (EM) conductivity anomaly, with values only slightly higher than background conductivities. Mud Pits 1C and 1D show background conductivities, except for an isolated anomaly due to scrap metal at 530E, 530N.

Due to the lack of electrically conductivity muds to define their locations, the pit locations (1C, 1D, and 1E) were estimated from historical aerial photography and field observations.

### 6.3.1 Mud Pit 1B

The two perpendicular EM31 lines centered at well HTH-1 (UC1R5) show conductivity values below 12 mS/m and no in-phase (metal) anomalies except for the well casing itself. The lack of conductivity anomalies and surface discoloration suggests that this area does not contain drilling mud and probably was not actually a mud pit. The configuration of the area and the location of HTH-1 at its center suggests that it is actually a borrow area created to facilitate setup of a rig for drilling of HTH-1. No conductivity logs were completed in this area.

Six chemical sampling locations are located in and around Mud Pit 1B (see Appendix F for a table listing sampling coordinates and Figure 6-5 for locations). Samples were obtained from 0 - 2, 2 - 4, and 4 - 6 ft. deep at most locations. Refusal of the direct-push equipment was encountered a very shallow depths in several locations. Neither TPH nor hexavalent chromium were detected above PALs in any samples.

### 6.3.2 Mud Pit 1C

Mud Pit 1C is located just south of the UC-1 emplacement well approximately centered on coordinates 550E, 250N. EM31 data show no significant anomalies within this area, indicating a lack of significant quantities of mud.

Two Geoprobe conductivity logs (UC1-GC03 and UC1-GC04) are located directly within Mud Pit 1C. Both logs indicate variable conductivities to a depth of 20 ft., but average about 10 mS/m, which clearly represents background conditions. These subtle variations in conductivity are likely due to natural silts and clays or variations in moisture content.

Six chemical sampling locations were located in and around Mud Pit 1C (see Appendix F for a table listing coordinates and Figure 6-5 for locations). Samples were obtained from 0 - 2, 2 - 4, 4 - 6, 6 - 8, and 8 - 10 ft. deep. Neither TPH or hexavalent chromium were detected above PALs in any samples.

### 6.3.3 Mud Pit 1D

Mud Pit 1D is located just east of the UC-1 emplacement well approximately centered on coordinates 600E, 500N. EM31 data show no significant anomalies within this area, indicating a lack of significant quantities of mud.

Two Geoprobe conductivity logs (UC1-GC05 and UC1-GC11) are located directly within Mud Pit 1D. Both logs indicate variable conductivities to a depth of 20 ft., but average about 10 mS/m which clearly represents background conditions. These subtle variations in conductivity are likely due to natural silts and clays or variations in moisture content.

Six chemical sampling locations are located in and around Mud Pit 1D (see Appendix F for a table listing coordinates and Figure 6-5 for locations). Samples were obtained from 0 - 2, 2 - 4, 4 - 6, 6 - 8, and 8 - 10 ft. deep. Neither TPH or hexavalent chromium were detected above PALs in any samples.

### 6.3.4 Mud Pit 1E

Mud Pit 1E is located just east of the UC-1 emplacement well approximately centered on coordinates 760E, 440N. A slight increase in EM31 conductivity in the vicinity of Pit 1E may correlate with visible shaker pad debris on the surface.

One Geoprobe conductivity log (UC1-GC10) is located at the edge of Mud Pit 1E. Figure 6-9 compares Log UC1-GC10 within 1E and Log UC1-GC09 outside to the east of Mud Pit 1E. Log UC1-GC10 very clearly indicates the presence of high conductivity material (up to 900 mS/m) from 0 - 3 and 10.5 - 12 ft. deep. All other depths in Log UC1-GC10 indicate background conductivities, similar to Log UC1-GC09.

Eight chemical sampling points were located in and around Mud Pit 1E (see Appendix F for a table listing coordinates and Figure 6-5 for locations). Samples were obtained from 0 - 2, 2 - 4, 4 - 6, 6 - 8, and 8 - 10 ft. deep, with one location (U1E7) extending to 10 -12 ft. deep for the purpose of sampling the conductivity anomaly at that depth in Log UC1-GC10.

Hexavalent chromium was not detected above the PAL at any sampling locations. Figure 6-10 graphically shows the results of the analysis with depth for TPH. Chemical analysis of the samples show that only the shallow soils at locations U1E1, U1E2, and U1E3 have TPH levels above the PAL. The statistical test also showed that the top 4 ft. of the mud pit are above the action level. The 4 - 6 ft. layer was determined to be well below the action level. Table 6-1 contains a summary of chemical results and statistical tests for samples from the UC-1 area which contained TPH data above the PAL.

Due to the presence of a berm that encloses the shaker pad debris area and Pit 1E, these high TPH values may be associated with erosion of material from the visible shaker pad debris rather than the presence of an actual mud pit.

### 6.3.5 Shaker Pad Debris

An area with slightly elevated conductivity values 2 - 4 mS/m higher than background is centered at 610E, 410N. The anomaly follows the observed location of light-colored material that may be shaker pad debris. While no shaker pad was previously identified at this site, the shaker pad debris observed at the surface is similar to that observed at UC-3 and UC-4. The anomaly is bounded by a fault scarp to the south, and extends to the east along the natural drainage.

One Geoprobe conductivity log (UC1-GC12) is located within the shaker pad debris. Figure 6-11 compares Log UC1-GC12 with Logs UC1-GC11 and UC1-GC14, to the north and south, respectively. All three logs indicate background conductivities with only subtle increases. These subtle increases are likely due to variations in natural silts and clays or moisture content of the soils.

Seven chemical sampling locations are located in and around the area of shaker pad debris (see Appendix F for a table listing coordinates and Figure 6-5 for locations). Samples were obtained from depths of 0 - 2, 2 - 4, and 4 - 6 ft. Hexavalent chromium was not detected above PALs at any sampling locations. Figure 6-12 graphically show the results of the analysis with depth for TPH.

Chemical analysis of the samples show that only the shallow soils, 0 - 2 ft. deep, at locations U1S1, U1S2, U1S3, and U1S4 have TPH concentrations above the PAL. In addition, location U1S1 had increased TPH levels from 2 - 4 ft. As a result of these values, both the 0 - 2 ft. and 2 - 4 ft. layers were determined to be above the action level using the statistical test.

Three additional sample locations were used to determine the extent of the contaminated soil. U1S5 was located directly to the west of the debris, U1S6 was located to the southeast, and U1S7 was located directly down slope from the debris at the breach in the berm. All samples from these locations were found to contain TPH well below the PAL. The debris is bounded on the north by Pit 1D and 1E. Table 6-1 contains a summary of chemical results and statistical tests for samples from the UC-1 area which contained TPH data above the PAL.

### 6.3.6 Outliers (Off-Grid Features)

EM31 profiles were acquired at four outlying areas (profile line numbers UC1R1-UC1R4). This included two grout piles to the north of the grid (UC1R1 and UC1R2) and two grout piles to the south of the grid (UC1R3 and UC1R4). The northern grout piles were not identified prior to Phase 1A of this investigation. The southern grout piles are identified as CAS #58-44-02. The profiles over all four small grout piles (UC1R1-UC1R4) show no in-phase (metal) or conductivity response above background, and probably do not contain drilling mud. The conductivity values for these four profiles range from 5 - 8 mS/m, which is representative of background conditions.

No Geoprobe conductivity logs were completed at the four grout piles, due to the indurated nature of some of these materials and the interpretation that they are surface deposits. Chemical sampling was attempted at the southeastern grout pile (UC1R4). Two surface grab samples were acquired. Neither sample indicated any hexavalent chromium or TPH above the PALs.

6.3.7 Surface Depression

A rectangular feature approximately 2,500 ft. south of UC-1 was discovered on a high-altitude aerial photo of the CNTA during Phase 2 field work. The feature appeared to be a the convergence of several local roads used at some time in the past and since abandoned. The area is also easily visible in oblique aerial photography of the CMP area taken when the CNTA was an active site. Upon field inspection, the feature was found to be a man-made depression approximately 3 - 5 ft. deep alongside the road leading south from the UC-1 area. A second, less obvious depression is located directly west of the first.

No Geoprobe conductivity logs were completed at this location, as it was discovered during Phase 2 after all Geoprobe conductivity work had been concluded. Initially, three locations within this feature were sampled. Elevated TPH in a sample from 0 - 2 ft. led to the collection of samples from two additional (see Appendix F for a table listing coordinates and Figure 6-5 for locations).

Samples were obtained from 0 - 8 ft. at location U1Y1 and U1Y2, while 0 - 6 ft. were obtained at locations U1Y3, U1Y4, and U1Y5. Hexavalent chromium was not detected above PALs at any sampling location. Chemical analysis of the samples show that only the shallow soils at location U1Y1 contains TPH above the PAL between 0 - 2 ft. deep (Figure 6-13).

No statistical test was performed on these samples because it is not believed to be a mud pit or mud/cuttings disposal area. Table 6-1 contains a summary of chemical results and statistical tests for samples from the UC-1 area which contained TPH data above the PAL.

## 6.4 Summary of Features

Table 6-2 summarizes the CASs and other site features investigated at UC-1. The table lists the investigation methods used for each feature and their significance as well as the depth interval at which samples have values above the PALs.

Of the areas investigated at UC-1, only two areas (Mud Pit 1E and shaker pad debris) within the main grid have values of TPH above PALs. High levels of TPH were not found below 4 ft. at these locations. One ample (0 - 2 ft. deep) from the surface depression also shows TPH levels above PALs for TPH.

## Table 6-1: Summary of TPH Analyses and Statistical Tests at UC-1

Pit 1E

| Depth | U1E1 | U1E2 | U1E3 | U1E4 | U1E5 | U1E6 | U1E7 | $N_d$ | A | U1E8 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 272 | 605 | 632 | 17.6 | 51.9 | 50.1 | | 19 | 342 | 19.2 |
| 2-4' | 15.1 | 587 | 323 | 22.9 | 21.1 | 37.8 | | 81 | 211 | 17.8 |
| 4-6' | 15.5 | 13.1 | 12.7 | 11.9 | 12.6 | 11.5 | | 1 | -86 | 15 |
| 10-12' | | | | | | | 13.9 | | | |

Shaker Pad Area

| Depth | U1S1 | U1S2 | U1S3 | U1S4 | $N_d$ | A | U1S5 | U1S6 | U1S7 |
|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 4500 | 2146 | 1640 | 203.4 | 6 | 3485 | 16.6 | 41.5 | 24.5 |
| 2-4' | 2223 | 16.6 | 14.1 | 16.5 | 37 | 1371 | 13.6 | 13.4 | 13.4 |
| 4-6' | 75.2 | 23.9 | 15.6 | 14.1 | 2 | -44 | 20 | 14.1 | 13.2 |

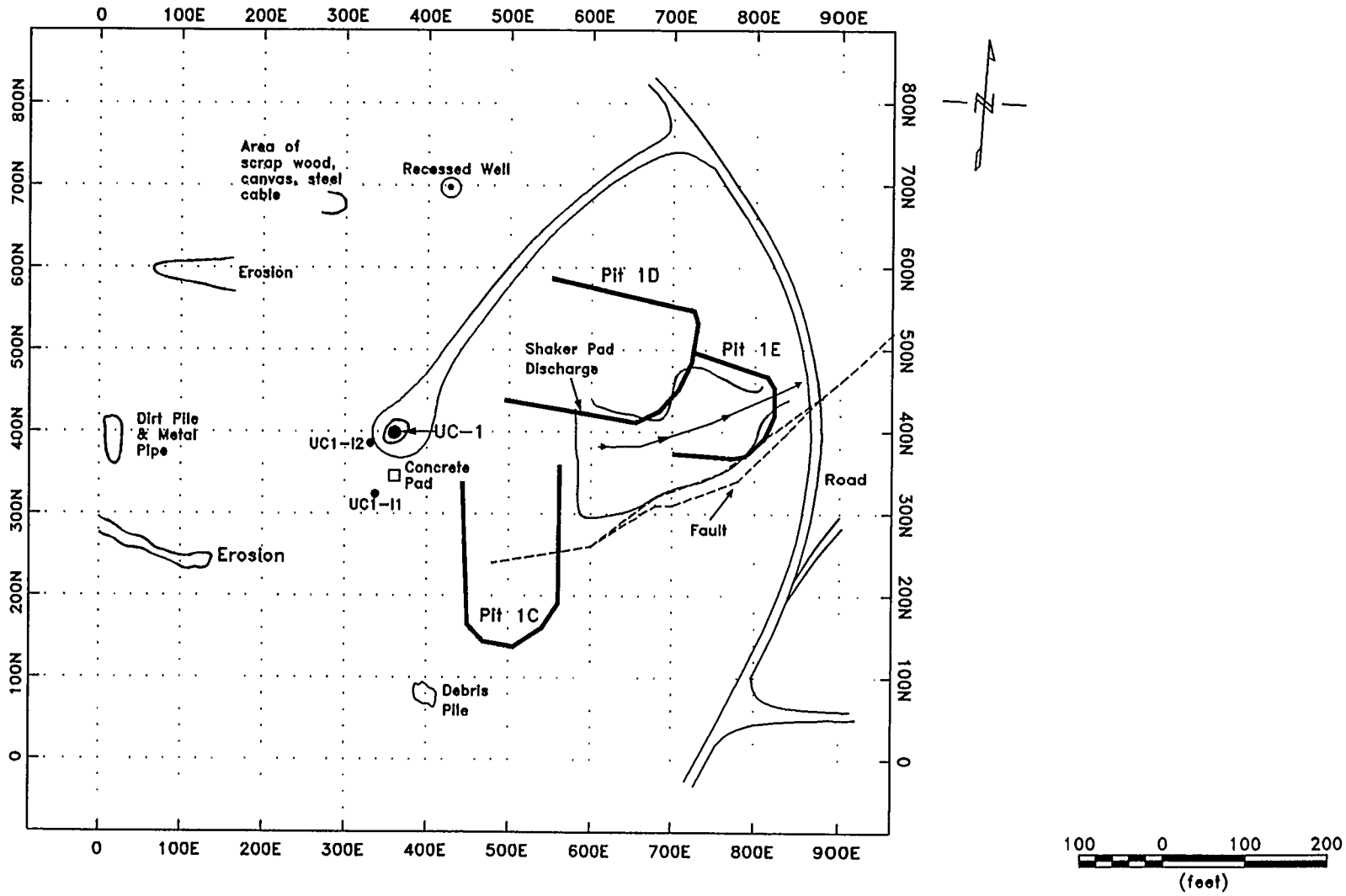
Surface Depression

| Depth | U1Y1 | U1Y2 | U1Y3 | U1Y4 | U1Y5 |
|---|---|---|---|---|---|
| 0-2' | 197.2 | 82.7 | 21.1 | 77.3 | 51.9 |
| 2-4' | 13.5 | 14 | 18.5 | 13.6 | 13.7 |
| 4-6' | 13.4 | 13.6 | 13.4 | 13.6 | 13.7 |
| 6-8' | 13.4 | 13.4 | | | |

NOTE:
Analytical results are given in milligrams per kilogram (mg/kg).
Statistical results (shaded) are for data listed to the left of the results.
"$N_d$" represents number of sample required to satisfy statistical test.
"A" represents amount by which given depth interval exceeds preliminary action level (PAL).
An empty cell indicates that no sample was analyzed.
All UC-1 area sample locations and mud pit layers not listed above are below the PAL for TPH and chromium.

## Table 6-2: Summary of Features at UC-1

| Site Feature | CAS Number | Location | Observations | GPS | EM31 Conductivity (mS/m) | Geoprobe Conductivity | Chemical Sampling |
|---|---|---|---|---|---|---|---|
| Pit 1B | 58-09-04 | At well HTH-1, 2,500 ft. south of UC-1 | cleared, flat area of well | ends of EM profiles | two lines background | NA | 6 locations; 15 depth intervals <PAL |
| Pit 1C | 58-09-05 | Within Grid | not obvious at surface; identity as a pit uncertain | 4 corners of site grid | background within site grid | Profiles GC03 and GC04 background | 6 locations; 31 depth intervals <PAL |
| Pit 1D | 58-09-05 | Within Grid | not obvious at surface; identity as a pit uncertain | 4 corners of site grid | background within site grid | Profiles GC05 and GC11 background | 6 locations; 30 depth intervals <PAL |
| Pit 1E | 58-09-05 | Within Grid | not obvious at surface; identity as a pit uncertain | 4 corners of site grid | 8 - 12 mS/m within site grid | Profile GC10 elevated near surface and 10 - 12 ft. | 8 locations; 22 depth intervals; increased TPH 0-4 ft. at 3 locations |
| Shaker Pad Debris | not assigned | Within Grid | light colored material at surface along drainage | 4 corners of site grid | 8 - 12 mS/m within site grid | Profile GC12 background to slightly above | 7 locations; 21 depth intervals; increased TPH 0-2 ft. at 4 locations |
| 2 Grout Piles S of Grid | 58-44-02 | South of Grid | hardened grout mound at surface | center of EM profiles | one profile line at each site background | NA | 4 locations; grab samples all <PAL |
| 2 Grout Piles NE of Grid | not assigned | Northeast of Grid | hardened grout mound at surface | center of EM profiles | one profile line at each site background | NA | NA not sampled |
| Unknown Depression | not assigned | Outlier 3,200 ft. to South | two shallow man-made depressions | NA | NA | NA | 5 locations; 17 depth intervals; increase TPH 0 - 2 ft. at 1 location |




| | | |
|---|---|---|
| ESC<br>Central Nevada<br>Test Area | Site features shown relative<br>to the UC-1 survey grid | Figure 6-1 |

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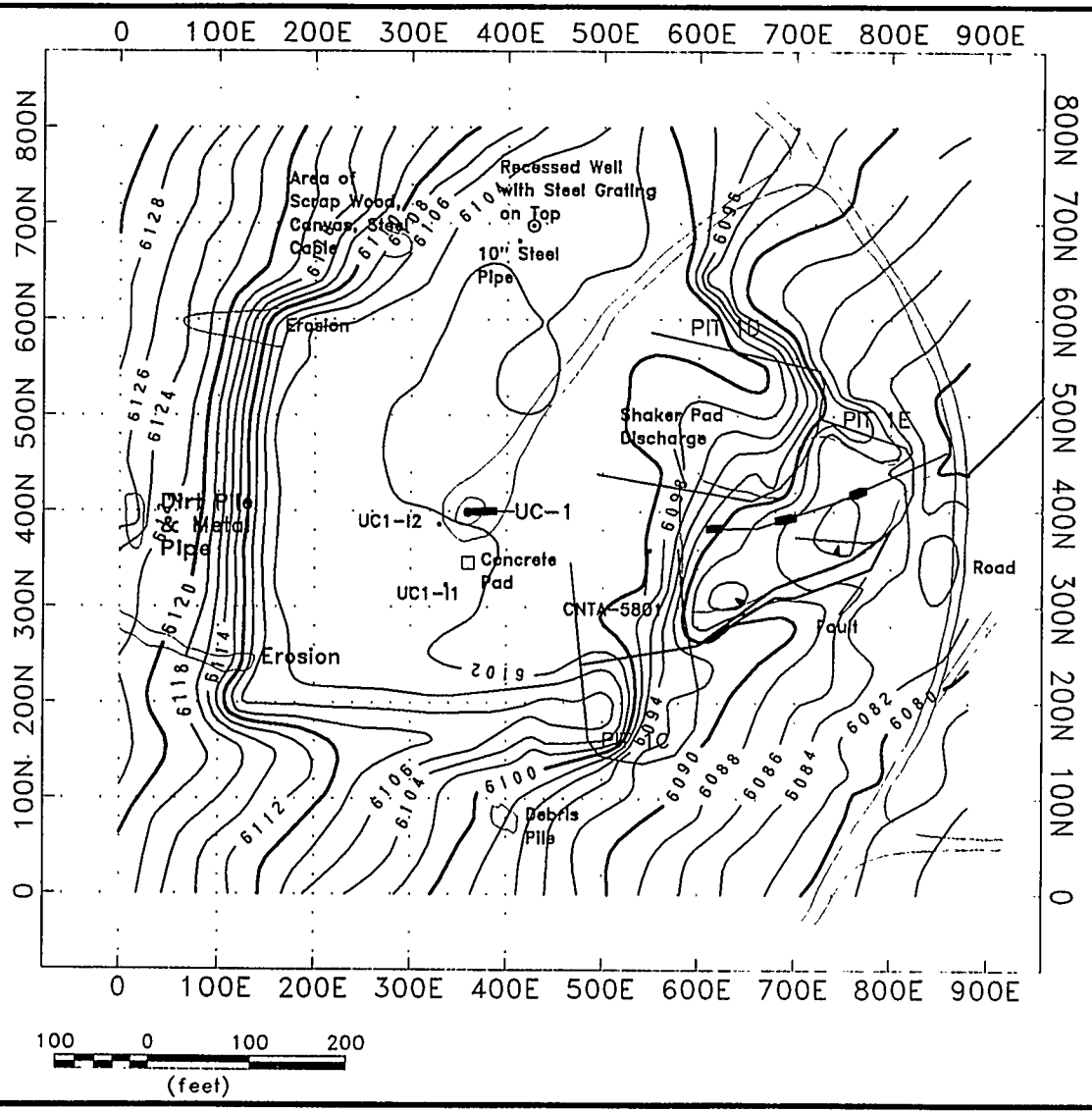


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| ESC Central Nevada Test Area | Surface elevation data | Figure 6-2 |

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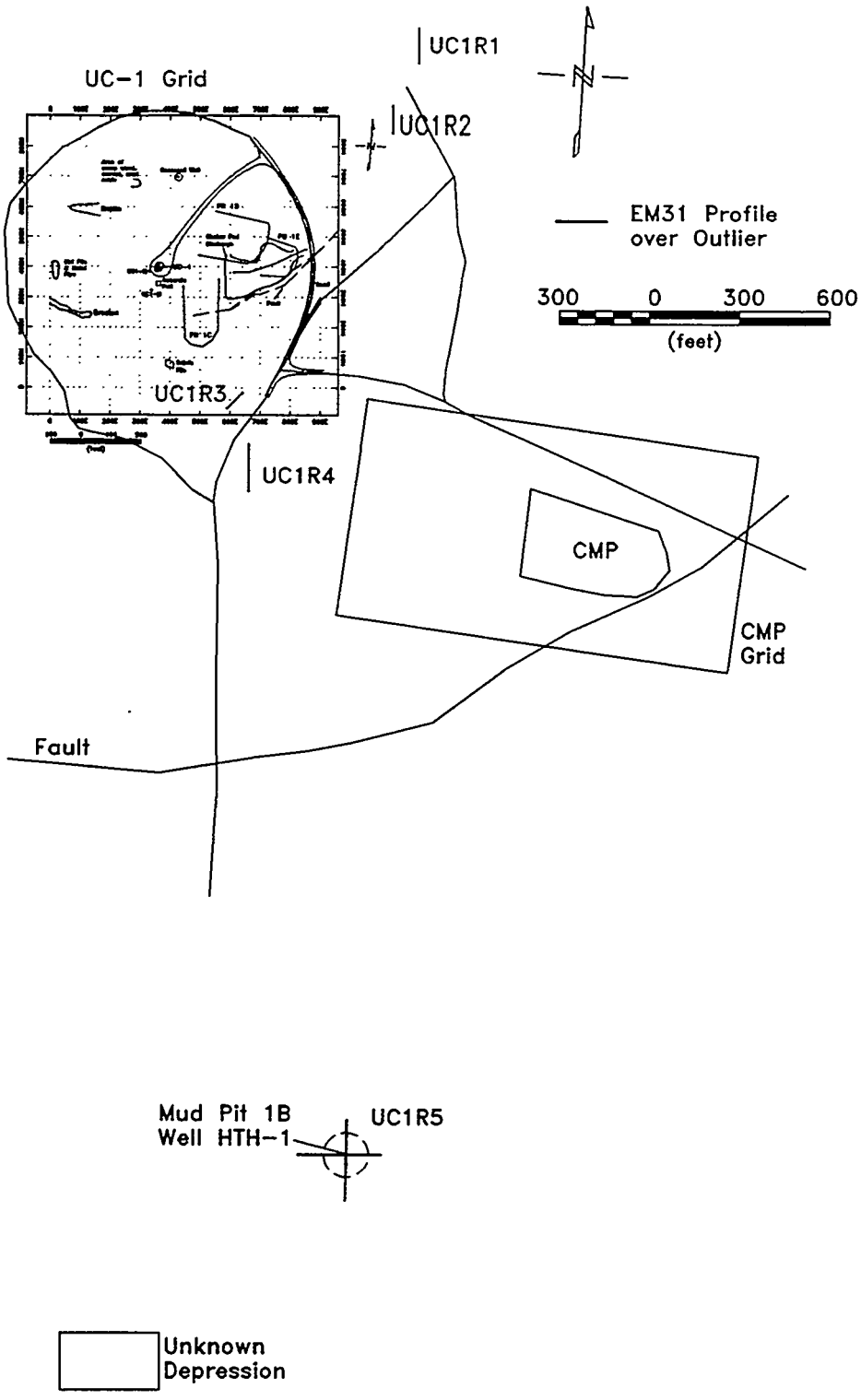


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| ESC<br>Central Nevada<br>Test Area | EM31 outlier locations<br>relative to the UC-1 survey grid | Figure 6-3 |

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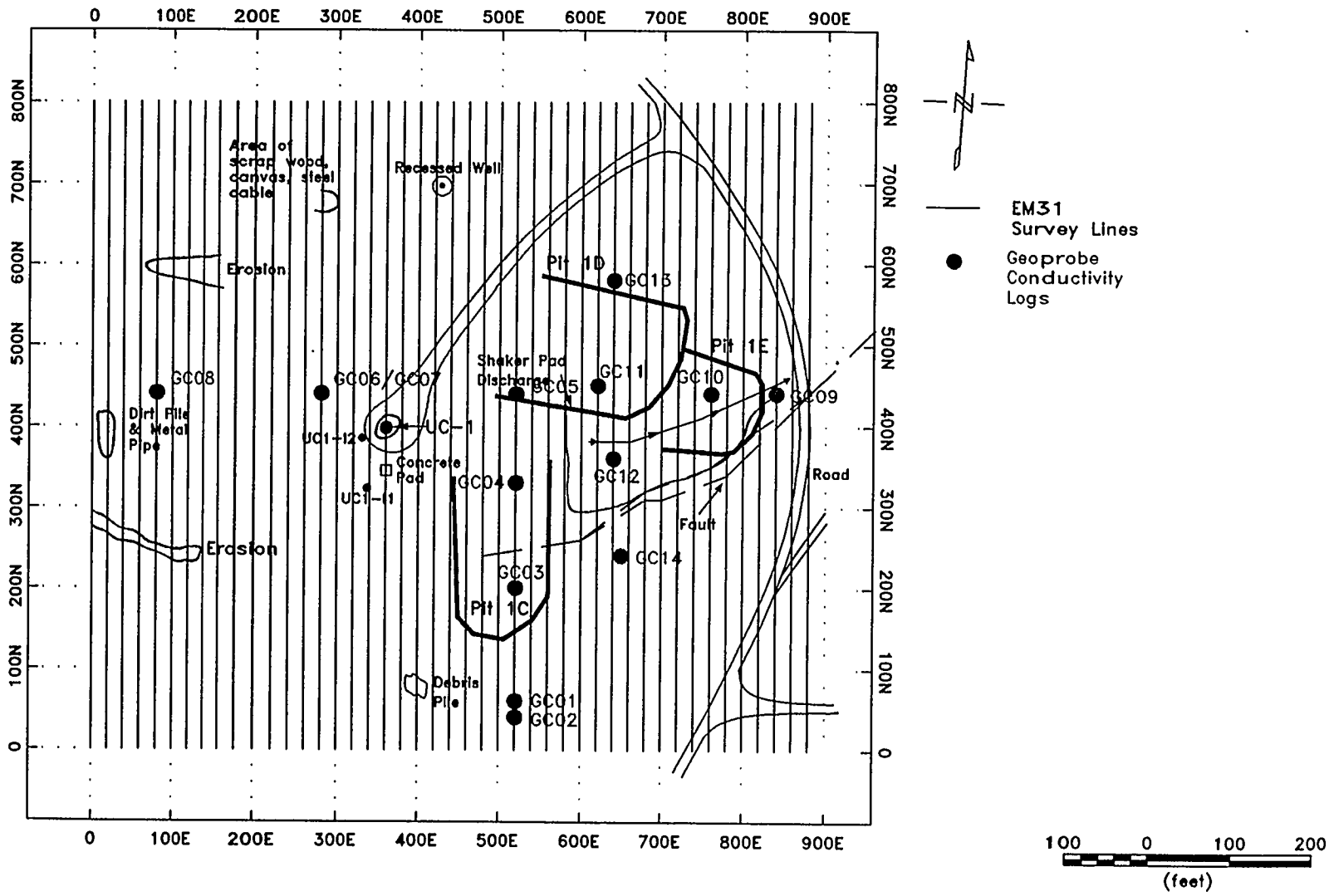


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| ESC<br>Central Nevada<br>Test Area | EM and Geoprobe measurement locations within the UC-1 survey grid | Figure 6-4 |

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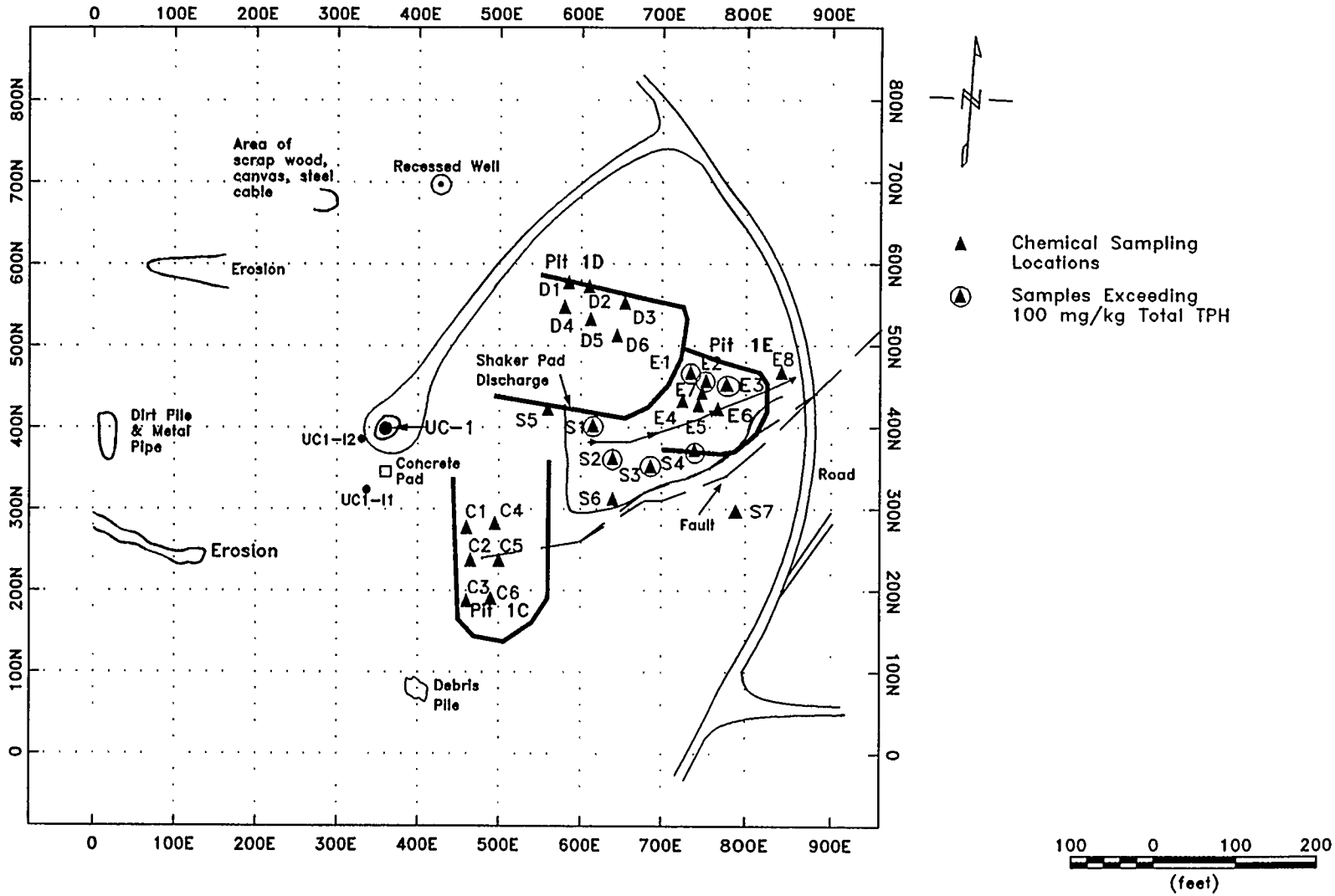


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| ESC<br>Central Nevada<br>Test Area | Chemical sampling locations within the UC-1 survey grid | Figure 6-5 |

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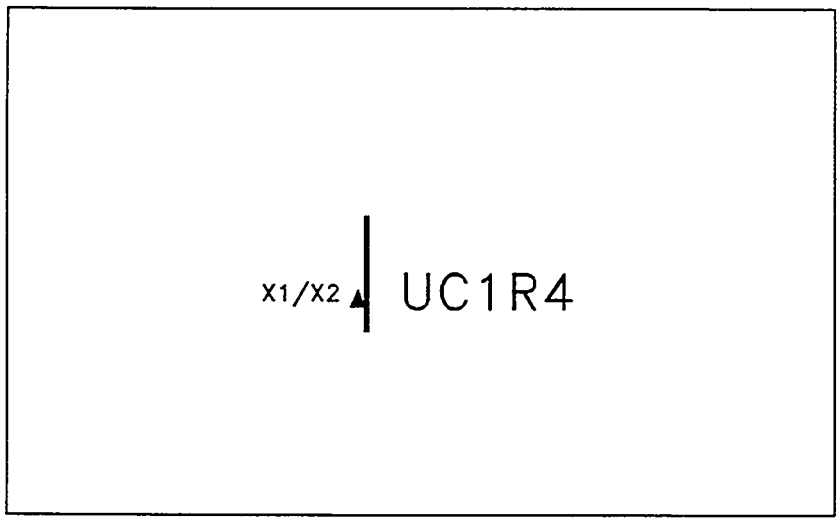
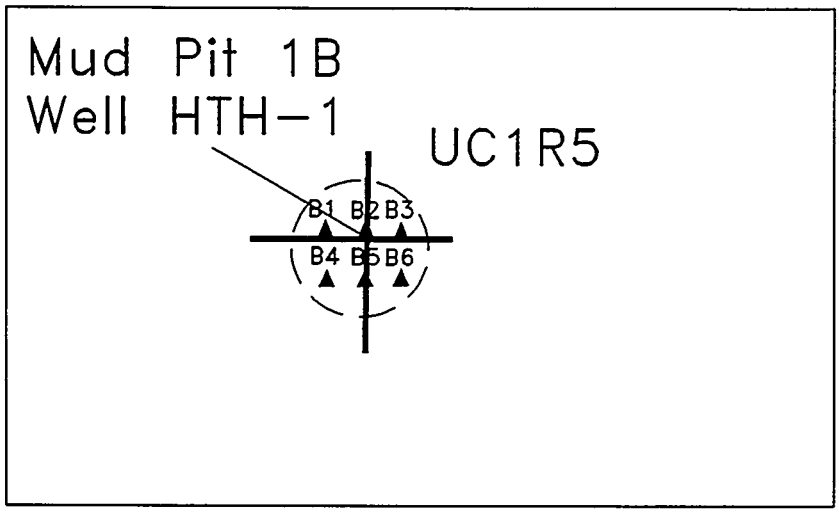
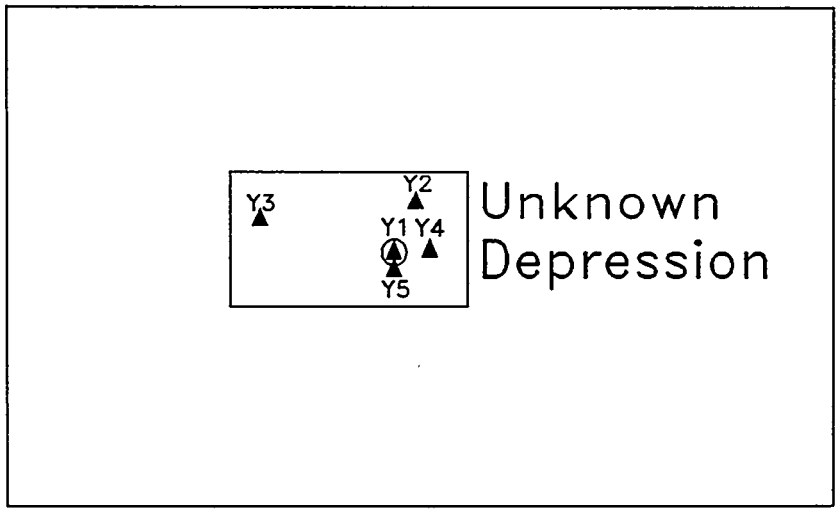



▲ Chemical Sampling Locations at Outliers (relative postions of outliers not to scale)

Ⓐ Samples Exceeding 100 mg/kg Total TPH

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| ESC<br>Central Nevada<br>Test Area | Chemical sampling locations<br>at UC-1 outliers | Figure 6-6 |

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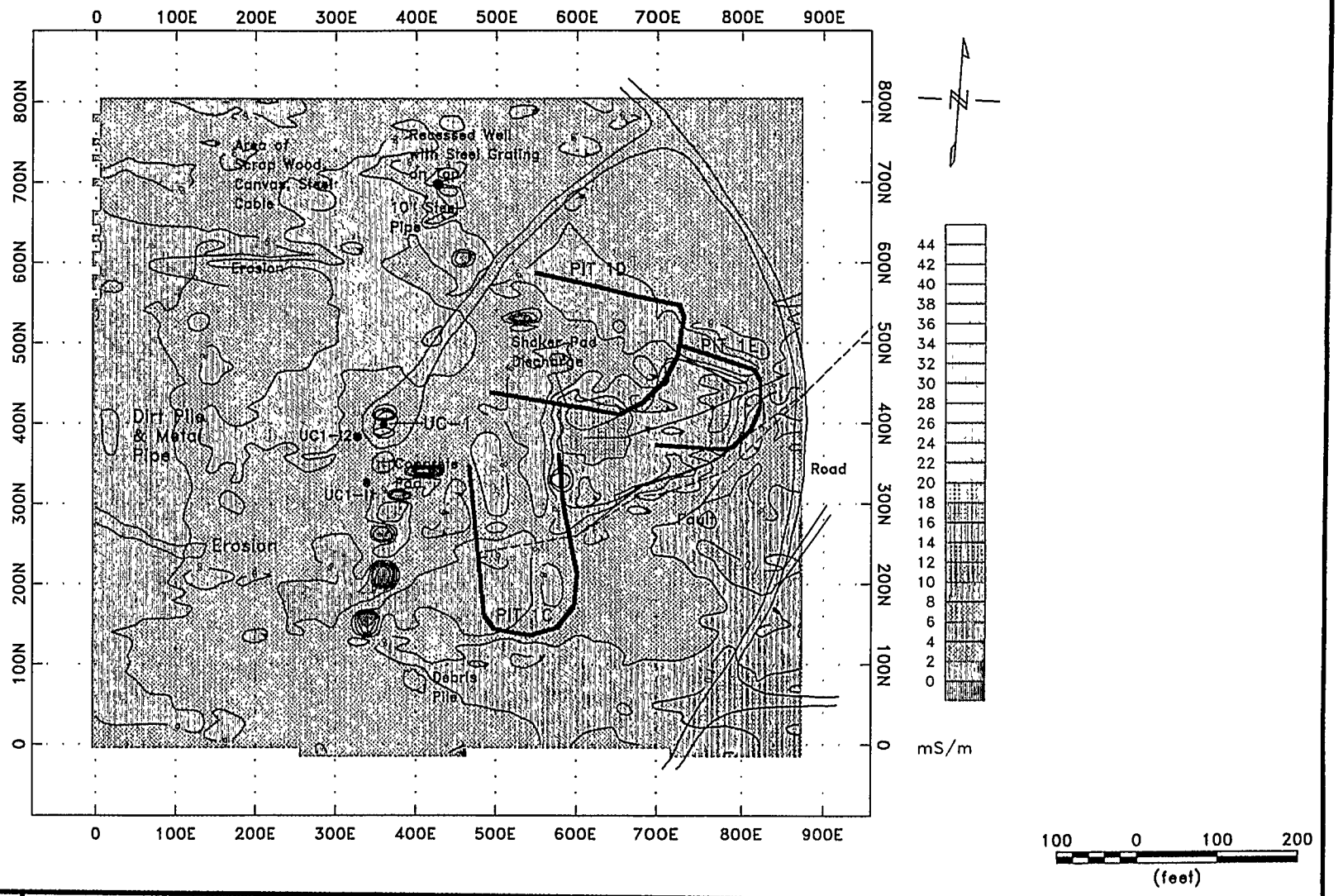


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| ESC<br>Central Nevada<br>Test Area | EM31 conductivity contour map of UC-1 | Figure 6-7 |

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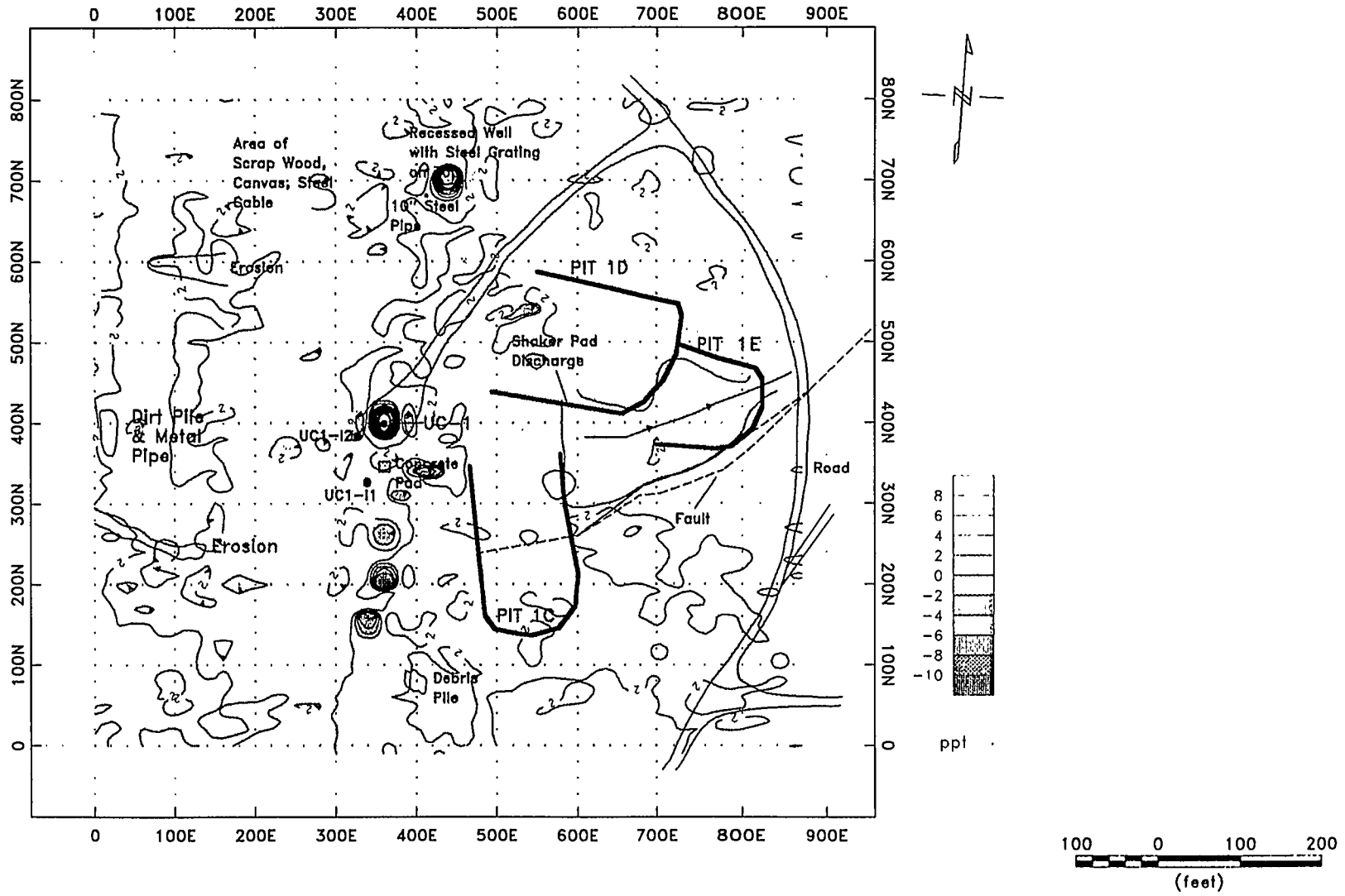


| ESC Central Nevada Test Area | EM31 in-phase (metal) contour map of UC-1 | Figure 6-8 |
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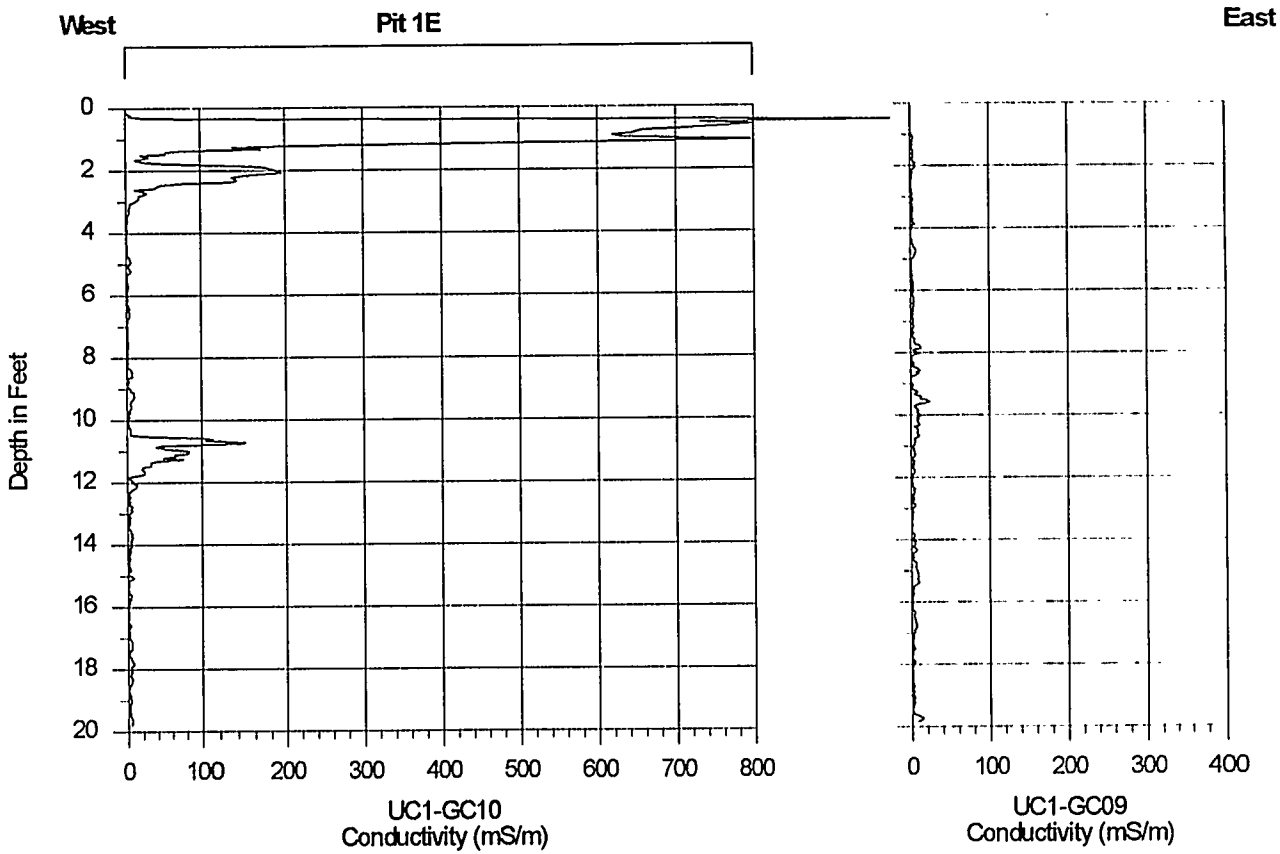


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| ESC<br>Central Nevada<br>Test Area | Mud Pit 1E cross section with<br>Geoprobe conductivity logs UC1–GC10 and UC1–GC9 | Figure 6–9 |

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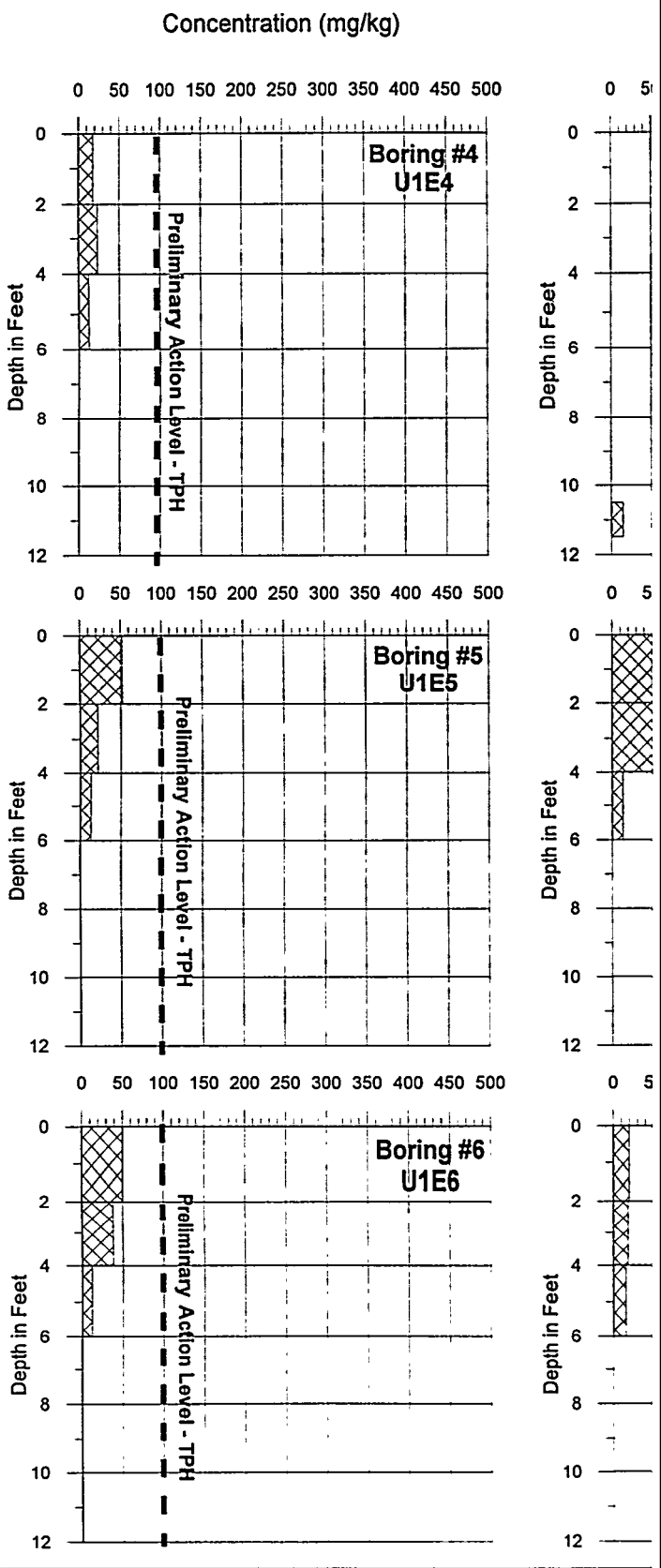
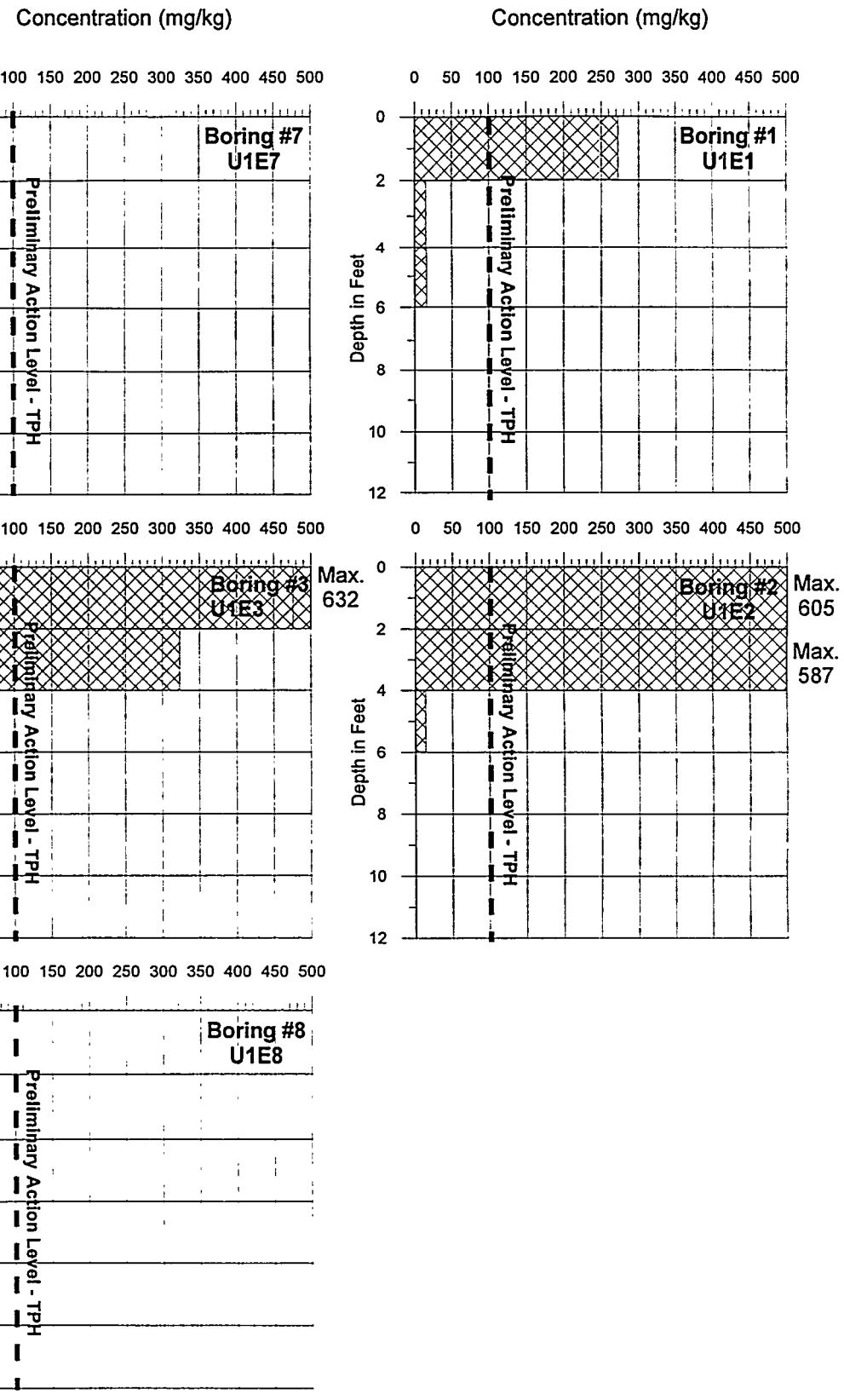


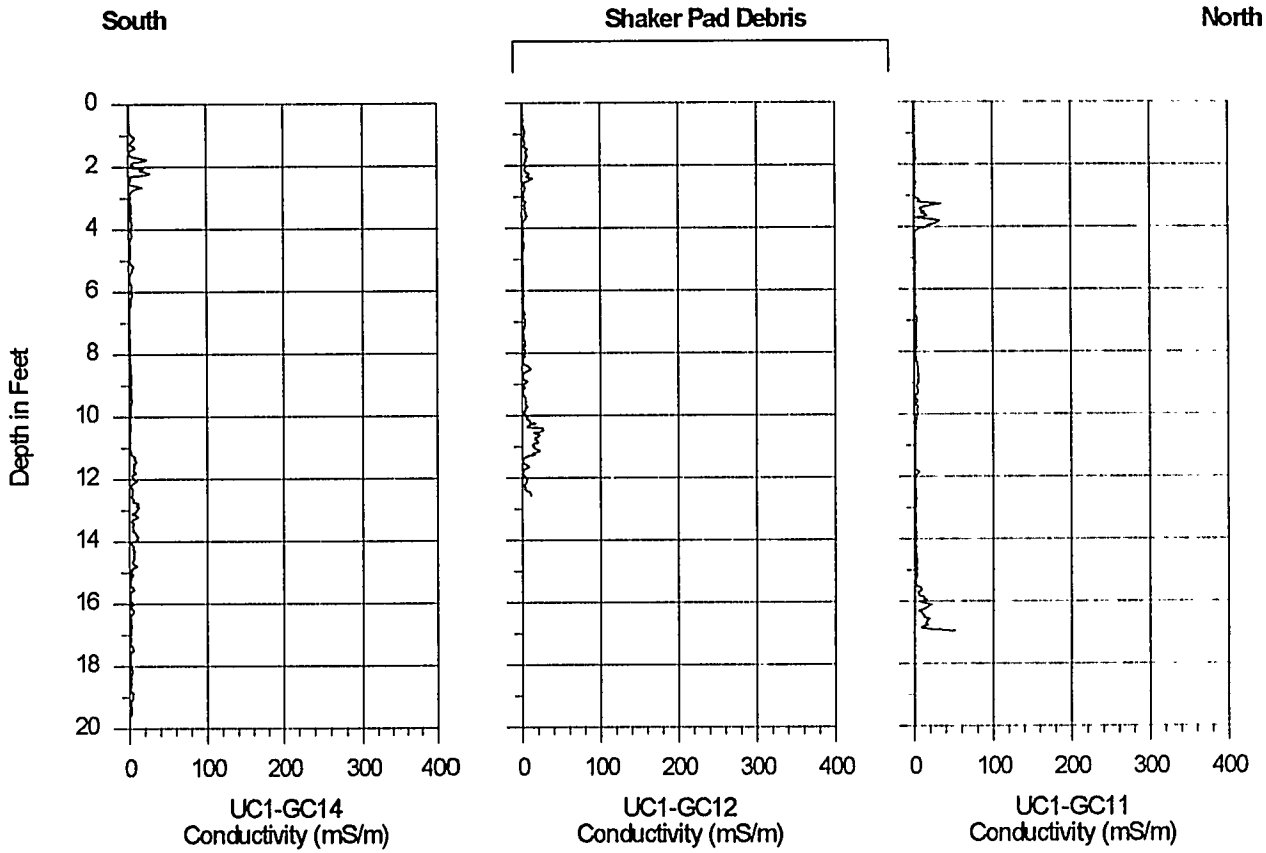

ESC
Central Nevada
Test Area

Mud Pit




E chemical results

Figure 6-10

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| ESC<br>Central Nevada<br>Test Area | Shaker pad debris cross section with Geoprobe conductivity logs UC1-GC11, UC1-GC12 and UC1-GC14 | Figure 6-11 |

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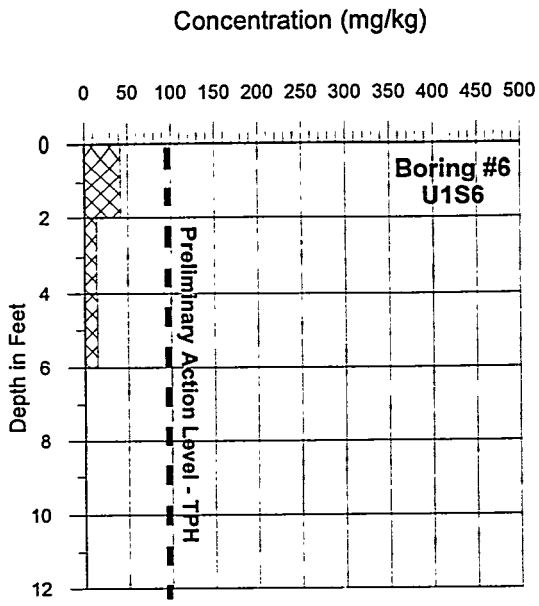


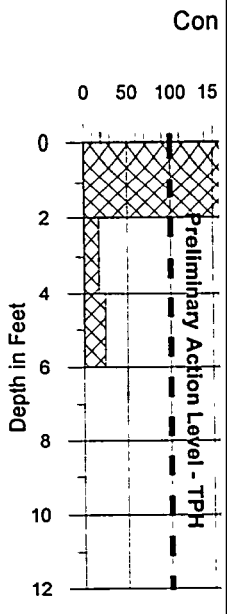


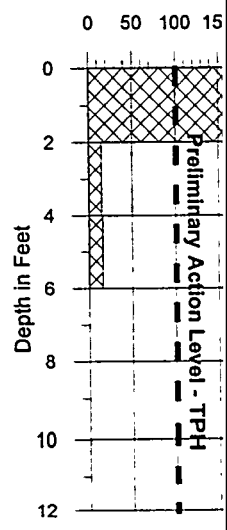


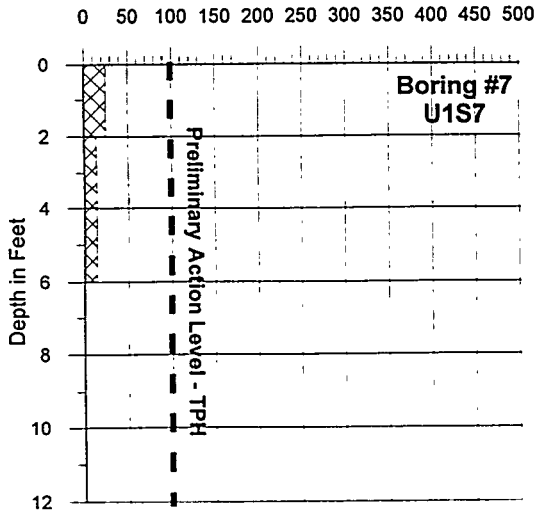


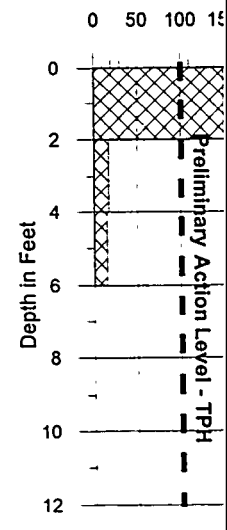


ESC
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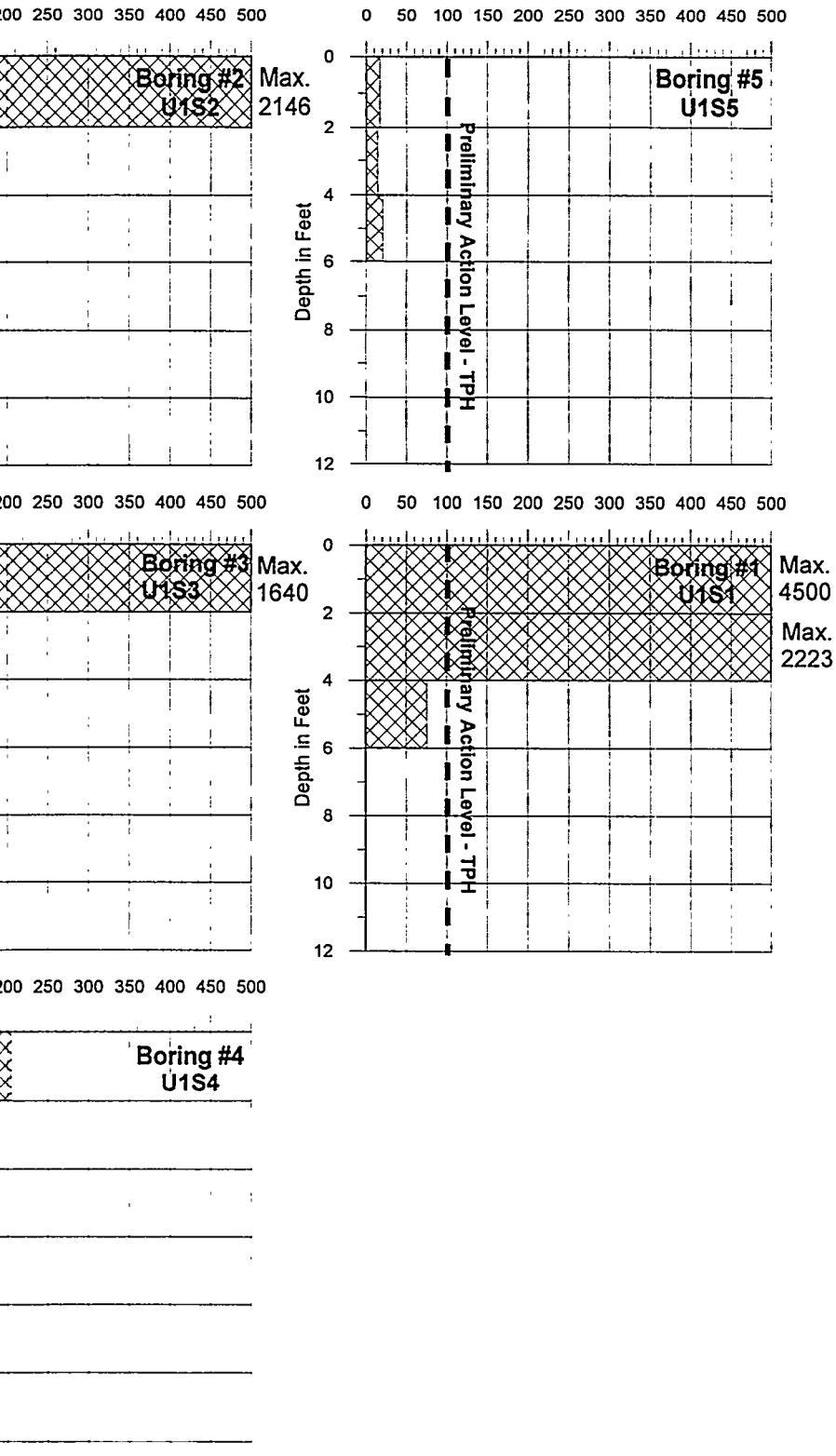
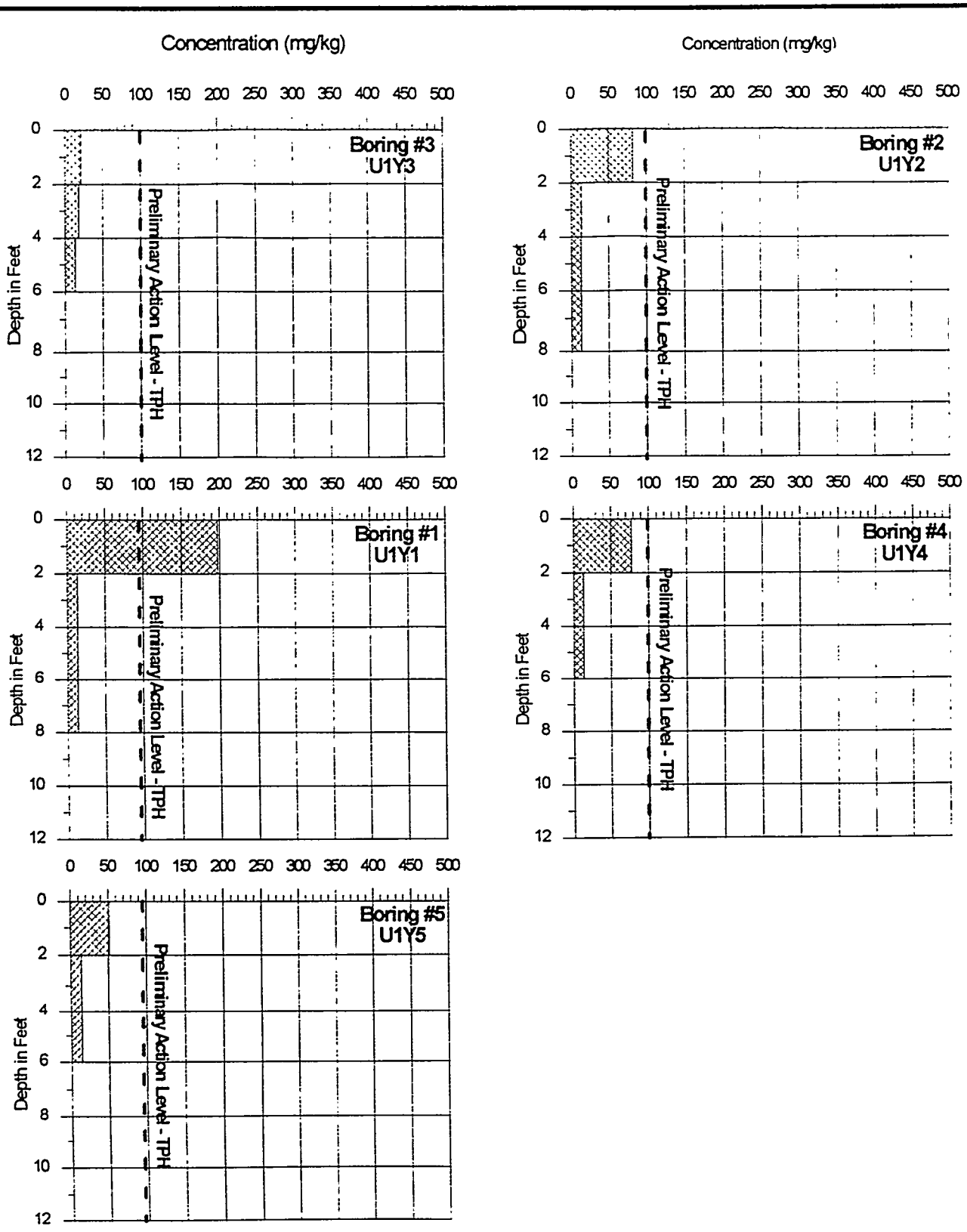
Test Area

Shaker pad




ebris chemical results

Figure 6-12

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| ESC<br>Central Nevada<br>Test Area | Surface depression<br>chemical results | Figure 6-13 |

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# 7.0 CMP AREA

## 7.1 Background

The CMP area contains the Central Mud Pit itself (CAS #58-09-01) with a surface area of about 138,000 ft.$^2$ and an approximate elevation of 6,030 ft. Surrounding the CMP are features described in CNTA Preliminary Site Characterization Report (June, 1996). These features include:

- Mud Pit 1A (CAS #58-09-02);
- Two drill mud/grout piles (CAS #58-44-01) southwest of the CMP;
- A waste pile (CAS #58-98-03);
- A burn area (CAS #58-35-01); and
- A decontamination facility pit (CAS #58-07-01).

Only the CMP itself, Mud Pit 1A, and the grout piles were to be located and sampled as part of this effort (see Table 2-1). The burn area was to be visually inspected, while no action was to be taken on the decontamination facility and waste pile.

## 7.2 Data Acquisition

### 7.2.1 Survey Grid

The survey grid was established over an area of 1,320 x 720 ft. (Figure 7-1). The extent of the grid was selected to include all of the mud pits and key features. Aerial photos, existing drawings (primarily from the CAIP), and on-site observations were used to select the boundaries of the grid. It was not feasible to include some outlying features within the grid.

All field observations and measurements are referenced to the grid northing and easting coordinates in ft. Coordinates given in the following text refer to this local grid system. Local grid coordinates were translated into UTM coordinates during field operations for compatibility with existing DOE databases. See Appendix A for a table of control points for the CMP area.

### 7.2.2 On-Site Observations

Figure 7-1 shows the site features in relation to a rectangular grid that surrounds the CMP. The CMP is bounded on all sides by a steep berm extending about 10 ft. above the surface of the mud. The berm has an engineered breach on the eastern end, and a drainage channel extends southeast from the breach. The mud consists of a 3 to 6 inch, dark, oily crust with moist, semi-liquid material beneath it. Eight vertical diffusers and a wooden depth gauge are located within the pit. A large steel pipe extends into the pit from the west.

A fault from the Project Faultless detonation at UC-1 extends southwest to northeast and abuts against the CMP berm on its southeastern side. Numerous soil piping and active collapse zones were observed along this fault and on the southern berm of the CMP. Some of these collapse features are located on the inside slope of the berm, very close to the mud itself.

Grout piles (CAS #58-44-01) are located at 150E, 80N and 50E, 270N, and consist of a small amount of light colored cement. East of these piles is an irregularly-shaped, low-lying area labeled as Mud Pit 1A (CAS #58-09-02). The burn area (CAS #58-35-01) appears to be located at an area of asphalt at 460E, 480N. The decontamination facility pit (CAS #58-07-01) is thought to be located near the burn area, but no surface evidence for the facility was observed. Two additional mud/grout piles were observed during an aerial inspection of the site during Phase 1A. These piles are located approximately 1,100 ft. north of the CMP grid.

### 7.2.3 Digital Elevations

Digital elevation data were acquired over the entire grid generally at 40-ft. sample spacings for a total of 759 stations. Figure 7-2 shows the elevations map for the CMP grid. Elevations at the CMP grid range from 6,022.0 to 6,066.6 ft. and average 6,044.7 ft.

### 7.2.4 Surface Geophysics

**EM31**

EM31 data were acquired over the main grid along parallel lines oriented west-east with a line separation of 20 ft. (Figure 7-3). The lines extend over the grid outside and inside the CMP. Data were not acquired around the immediate perimeter of the CMP due to the steep berm.

**EM38**

EM38 quadrature phase (conductivity) data were acquired within the CMP only, along parallel lines with a 20 ft. line spacing oriented west-east (Figure 7-3). This shallow data provided an indication of the lateral continuity of the shallow muds within the CMP. When combined with EM31 data, the EM38 data also provides a qualitative estimate for the thickness of the mud within the CMP.

**Resistivity**

In order to determine the vertical stratification of muds within the CMP, three resistivity soundings were acquired within the mud pit, along with a background resistivity sounding north of the mud pit. Figure 7-3 shows the locations of the four resistivity soundings. The background sounding is centered at 840E, 600N with the electrodes extending east-west along the gravel road north of the mud pit. Sounding R1 is centered at 960E, 330N with the electrodes extending south-north within the eastern portion of the mud pit. Sounding R2 is centered at 740E, 440N with the electrodes oriented southwest-northeast. Sounding R3 is centered at 700E, 300N with the electrodes oriented southeast-northwest.

### 7.2.5 Geoprobe Conductivity Logs

Geoprobe conductivity logs were acquired at seventeen (17) locations within the grid. Locations are shown in Figure 7-3 and are labeled sequentially CMP-GC01 through CMP-GC17. Plots of all conductivity logs are included in Appendix E.

### 7.2.6 Chemical Sampling and Analysis

Figure 7-4 shows all chemical sampling locations in the CMP area. Locations within the mud pits and grout piles were selected in accordance with the CAIP. Additional locations outside the pits were sampled to confirm the lateral extent of the drilling muds. No areas of uncontrolled

disposal of cuttings or mud (except grout piles) were identified in the vicinity of the CMP. All samples were analyzed in the on-site laboratories for TPH and chromium concentrations.

## 7.3 Interpretation

### 7.3.1 Central Mud Pit

**Surface EM**
EM31 conductivity and in-phase (metal) contour maps are shown in Figures 7-5 and 7-6. The most obvious feature defined by the EM31 survey is the CMP itself (CAS #58-09-01).

The in-phase (metal) data show an anomaly trending west-east down the center of the CMP (Figure 7-6). The western end of this anomaly starts near a large steel pipe that extends into the mud pit from the west. The pipe may continue beneath the mud down the central axis of the pit. This anomaly intersects another in-phase (metal) anomaly extending south-north near the middle of the mud pit. Both of these anomalies are also seen in the conductivity data.

Outside the influence of the two perpendicular pipes, extremely high conductivity values (>240 mS/m) are present within the CMP (Figure 7-5). The highest conductivity values are centered at 1030E, 320N within the southeastern portion of the mud pit. The high conductivities are constrained within the pit boundaries except for the breach in the berm at 1120E, 300N. However, the high conductivities decrease rapidly and do not continue more than 50 ft. past this breach down the drainage channel.

Figure 7-7 shows EM38 data acquired within the CMP. The highest conductivities are less than 200 mS/m and more uniform than the EM31 data. This difference suggests that the high conductivity concentration in the southeastern portion of the pit observed in the EM31 data is due to deeper material and a thickening of the mud. Also, there is no evidence for the buried pipes in the EM38 data, suggesting that the pipes are below the average exploration depth of the EM38, which is about 5 ft.

**Resistivity**
Resistivity soundings acquired within the mud pit provide a means to estimate the vertical extent of the mud. Figure 7-8 shows the geoelectric sections for three resistivity soundings acquired within the CMP, and one background sounding outside and north of the CMP.

The background sounding model shows resistivities ranging from 282 to 1,235 ohm-ft. (11.6 to 2.7 mS/m). This sounding represents background conditions and correlates well with the measurements made with the EM31.

Sounding R1, in the eastern side of the CMP, is interpreted as the thickest mud based upon the surface EM31 and EM38 data. The model for the resistivity sounding shows low resistivity values of 4.7 to 6.6 ohm-ft. (highly conductive values of 497-698 mS/m) to a depth of about 5.7 ft.

Resistivity soundings R3 and R2 were in areas of consecutively lower conductivities as indicated by the EM31 and EM38 data, and therefore are located over a thinner layer of mud. The model for sounding R3 indicates a 4.4 ft. thick layer of 4.8 ohm-ft. (684 mS/m) material. The model for sounding R2 shows only a thin layer (<1.6 ft) of high conductivities (1.1 ohm-ft, 2,983 mS/m).

The resistivity models generally agree with interpretations of EM31 and EM38 data. The thickest area of mud, about 5.7 ft., is located in the southeastern portion of the mud pit. Areas with conductivities less than 100 mS/m measured by the EM-31 may only contain about 2 ft. of mud.

**Conductivity Logs**

No Geoprobe conductivity logs were acquired within the CMP itself, due to the soft conditions of the mud. Two conductivity logs were acquired on the inner ramp of the northern berm and four conductivity logs were acquired around the perimeter outside the berm (see Figure 7-3 for locations). Only one conductivity log (CMP-GC15) on the inner ramp of the berm indicate high conductivities (as high as 390 mS/m, averaging <100 mS/m) between 14 and 20 ft. deep. All other conductivity logs on the inner ramp and around the outside perimeter indicate background conductivity conditions.

**Chemical Analyses**

Twelve chemical sampling locations are located within the CMP (see Appendix F for a table listing coordinates and Figure 7-4 for locations). Samples were generally obtained from 0 - 2, 2 - 4, 4 - 6, 6 - 8, and 8 - 10 ft. deep. At location CMP2, the manual sampling equipment was unable to penetrate farther than 4 ft. Locations CMP7 and CMP8 represent unsuccessful attempts to penetrate deeper in the vicinity of CMP2. Because of the statistical results on the first six locations, three additional locations were sampled along the centerline of the pit, in accordance with the CAIP.

Figure 7-9 graphically shows the results of the analysis with depth at each location. Hexavalent chromium was not detected above PALs in any samples. Chemical analysis of these soil samples indicates elevated TPH at all sampling locations except location CMP12, which was located within the breach in the east end of the CMP.

Elevated TPH levels were found between 0 - 2 ft. at locations CMP1, CMP2, CMP7, and CMP8. Location CMP1 also has a deeper layer from 4 - 6 ft. with elevated TPH. At locations CMP3, CMP4, CMP5, CMP9, CMP10, and CMP11 elevated TPH were found from 0 - 4 ft. In the southeast corner, at location CMP6, elevated TPH levels were found from 0 - 6 ft. This increase in thickness toward the southeast agrees well with the estimates from the surface EM31 and resistivity sounding data. The high TPH levels appear to be directly associated with the presence of drilling muds.

The statistical test of individual depth layers in the CMP showed that the top three intervals (0 - 6 ft. deep) contain TPH above the PAL. All samples from 0 - 2 ft. are consistently above the action level. Less than half of the samples from 2 - 4 and 4 - 6 ft. are above the action level; however, there is sufficient variability in the data that these depth intervals fail the statistical test. Table 7-1 provides a summary of chemical results and statistical test for samples from the CMP and surrounding area.

### 7.4.2 Mud Pit 1A

Mud Pit 1A (CAS #58-09-02) is located within the CMP grid at approximately 200E, 240N. No elevated conductivities are present within the pit (Figure 7-5), indicating a probable lack of drilling mud within the pit. Visual observations and historic aerial photography suggest that this feature may not be a mud pit, and instead is merely an undrained low-lying area which accumulates runoff, leaving a flat desiccated surface.

One Geoprobe conductivity log (CMP-GC8) was located directly within the Mud Pit 1A. Figure 7-10 compares log CMP-GC8 with log CMP-GC9 just to the north and outside Mud Pit 1A. CMP-GC8 indicated background conductivities similar to those in log CMP-GC9 (averaging 10 mS/m or less) except between 9.5 to 14 ft. deep where very thin layers periodically increase to a maximum of about 100 mS/m. These thin layers of increased conductivity may be due to natural clays and silts or localized increases in moisture content.

Nine sampling locations are located within and around Mud Pit 1A (see Appendix F for a table listing coordinates and Figure 7-4 for locations). Samples were obtained from 0 - 2, 2 - 4, 4 - 6, and 6 - 8 ft., at most of the locations. Figure 7-11 graphically shows the results of the analysis with depth. Hexavalent chromium was not detected above PALs at any sampling locations. Chemical analysis of three of the locations (U1A1, U1A5, and U1A6) indicate TPH values above PAL from 0 - 2 ft. deep. One location, U1A2, has TPH values above PALs from 0 - 4 ft. deep.

Table 7-1 provides a summary of chemical results and statistical test for samples from Mud Pit 1A and the CMP. The failure of the first two sample locations in Pit 1A required additional samples outside of the pit for the purpose of determining the extent.

### 7.4.3 Other CASs

There are four other CASs within the CMP grid area, which include a burn area, a decontamination facility, a waste pile near Mud Pit 1A and two grout piles.

No clear surface expression or elevated surface conductivities were found at or near the estimated location of the decontamination facility pit (CAS #58-07-01) and the burn area (CAS #58-35-01), indicating little or no drilling muds in the area (Figure 7-5). The two small grout piles (CAS #58-44-01) are visible at the surface but show background conductivities.

A large in-phase (metal) and conductivity anomaly centered at 240E, 200N is the result of steel casing marked as "CAS #30-04" (Figure 7-6). A large in-phase (metal) anomaly at 380E, 280N represents buried scrap metal, possibly related to waste pile CAS #58-98-03.

A west-east trending conductivity anomaly lies west of the CMP with values exceeding 50 mS/m (Figure 7-6). No unusual surface features were observed in this area. The anomaly follows the trend of surface water flow, and extends towards the pipe entering on the western edge of the mud pit. There is a slightly higher than background in-phase (metal) response in this same region with interspersed localized anomalies. This anomaly was re-surveyed with a magnetometer using profile lines oriented north-south. These data indicate a linear feature, which is likely a buried pipeline, connecting to the visible pipe leading into the western end of the CMP.

## 7.5 Summary of Features

Table 7-2 summarizes the CASs and other site features investigated at the CMP. The table lists the investigation methods used for each feature and their significance as well as the depth interval at which samples have values above the PALs.

Of the areas investigated at CMP, only two areas, the CMP itself and Mud Pit 1A, have values of TPH above PALs. Elevated TPH was detected within the CMP at depths up to 6 ft. deep in

the southeast corner decreasing to 2 ft. deep to the north and northwest. At Mud Pit 1A, elevated TPH was indicated at shallow depths (0 - 4 ft.).

## Table 7-1: Summary of TPH Analyses and Statistical Tests for CMP Area

Central Mud Pit

| Depth | CMP1 | CMP2 | CMP3 | CMP4 | CMP5 | CMP6 | CMP7 | CMP8 | CMP9 | CMP10 | CMP11 | $N_d$ | A | CMP12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 692 | 1230 | 1820 | 382 | 676 | 2560 | 903 | 1470 | 821 | 1730 | 1570 | 3 | 1425 | 23.1 |
| 2-4' | 8.9 | 5.6 | 434 | 401 | 673 | 1570 | 6.1 | | 426 | 392 | 2290 | 14 | 846 | 29.9 |
| 4-6' | 152.3 | | 7 | 6.2 | 7.1 | 305.6 | | | | | | 6138 | 87 | 13.6 |
| 6-8' | 6.3 | | | 8.5 | 7.2 | 5.5 | | | | | | 1 | -92 | 13.4 |
| 8-10' | | | | | 6.7 | | | | | | | | | |

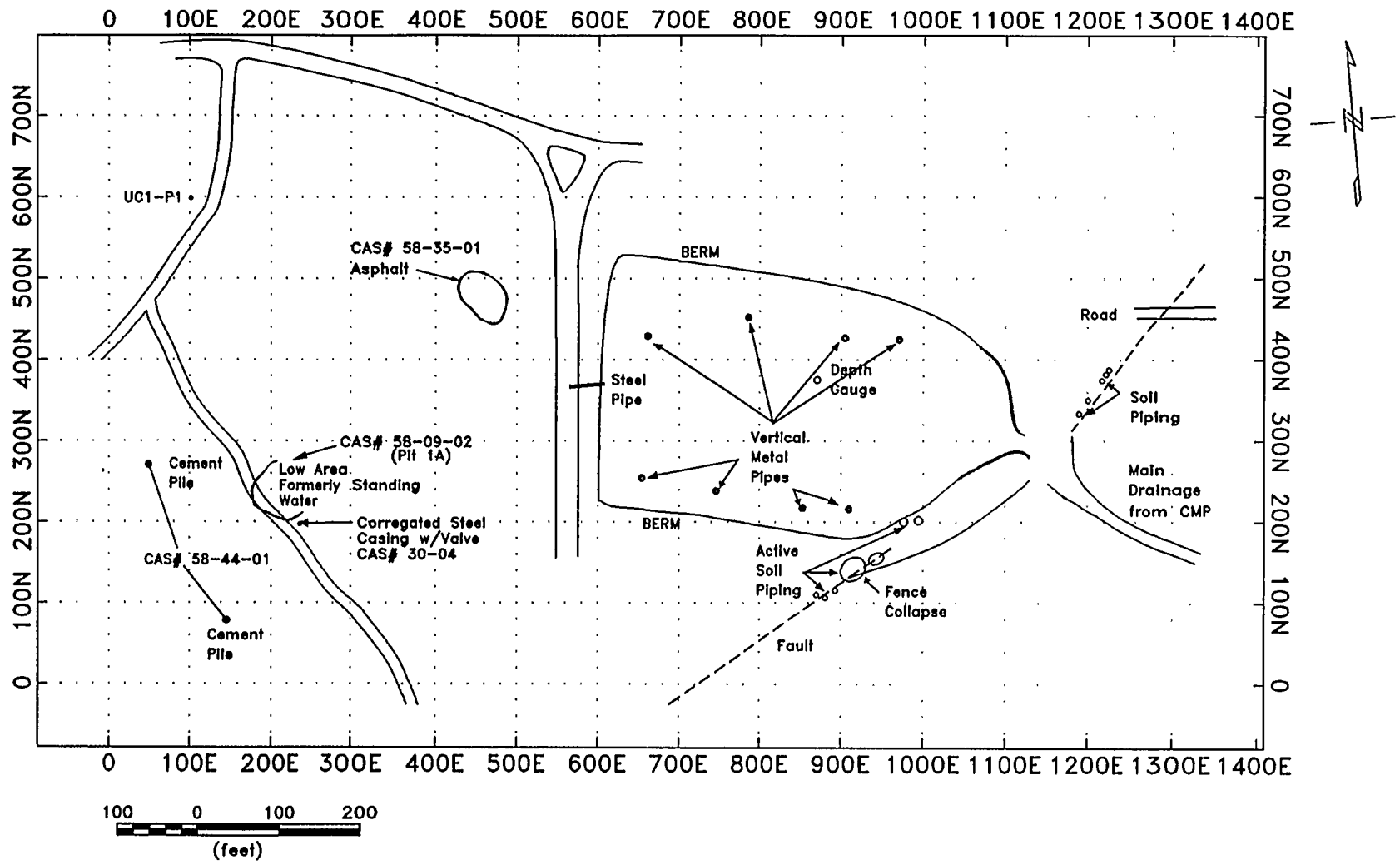
Mud Pit 1A

| Depth | U1A1 | U1A2 | $N_d$ | A | U1A3 | U1A4 | U1A5 | U1A6 | U1A7 | U1A8 | U1A9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 247.6 | 710 | 5 | 1090 | 13.4 | 18.9 | 393 | 313 | 19.5 | 21.3 | 14.2 |
| 2-4' | 20 | 256 | 127 | 401 | 13.6 | 13.8 | 18 | 20.6 | 16.5 | 13.6 | 14.1 |
| 4-6' | 15 | 33 | 1 | -48 | 15 | 13.5 | 76 | 18.6 | 13.6 | 13.5 | 13.8 |
| 6-8' | 13.6 | 13.3 | 1 | -86 | | | | | 13.4 | | 13.7 |

NOTE:
Analytical results are given in milligrams per kilogram (mg/kg).
Statistical results (shaded) are for data listed to the left of the results.
"Nd" represents number of samples required to satisfy statistical test.
"A" represents amount by which given depth interval exceeds PAL.
An empty cell indicates that no sample was analyzed.
All CMP area sample locations and mud pit layers not listed above are below the PAL for TPH and chromium.

## Table 7-2: Summary of Site Features at the CMP Area

| Site Feature | CAS Number | Location | Observations | GPS | EM31 Conductivity (mS/m) | Geoprobe Conductivity | Chemical Sampling |
|---|---|---|---|---|---|---|---|
| CMP | 58-09-01 | Within Grid | obvious feature, dry crust of oily mud at surface | corners of site grid | >240 mS/m, thickest muds in SE corner | none within pit, 2 on inner ramp (slope of berm) | 12 locations; 36 sample depths; increased TPH average 0-4, but as deep as 0 - 6 ft. |
| Pit 1A | 58-09-02 | Within Grid | no distinct features, | corners of site grid | background | Log 8 slightly elevated conductivities | 9 locations; 31 sample depths; increased TPH as deep as 0 - 4 ft. |
| Decon Facility | 58-07-01 | Within Grid | remnants of asphalt pad | corners of site grid | background | NA | NA |
| Burn Area | 58-35-01 | Within Grid | remnants of black plastic lining | corners of site grid | background | NA | NA |
| Waste Pile | 58-98-03 | Within Grid | no obvious concentration of waste or trash; scattered around site | corners of site grid | background | NA | NA |
| 2 Grout Piles | 58-44-01 | Within Grid | hardened mounds of light colored grout | corners of site grid | background | NA | NA |




| | | |
|---|---|---|
| ESC<br>Central Nevada<br>Test Area | Site features shown relative to the CMP survey grid | Figure 7-1 |

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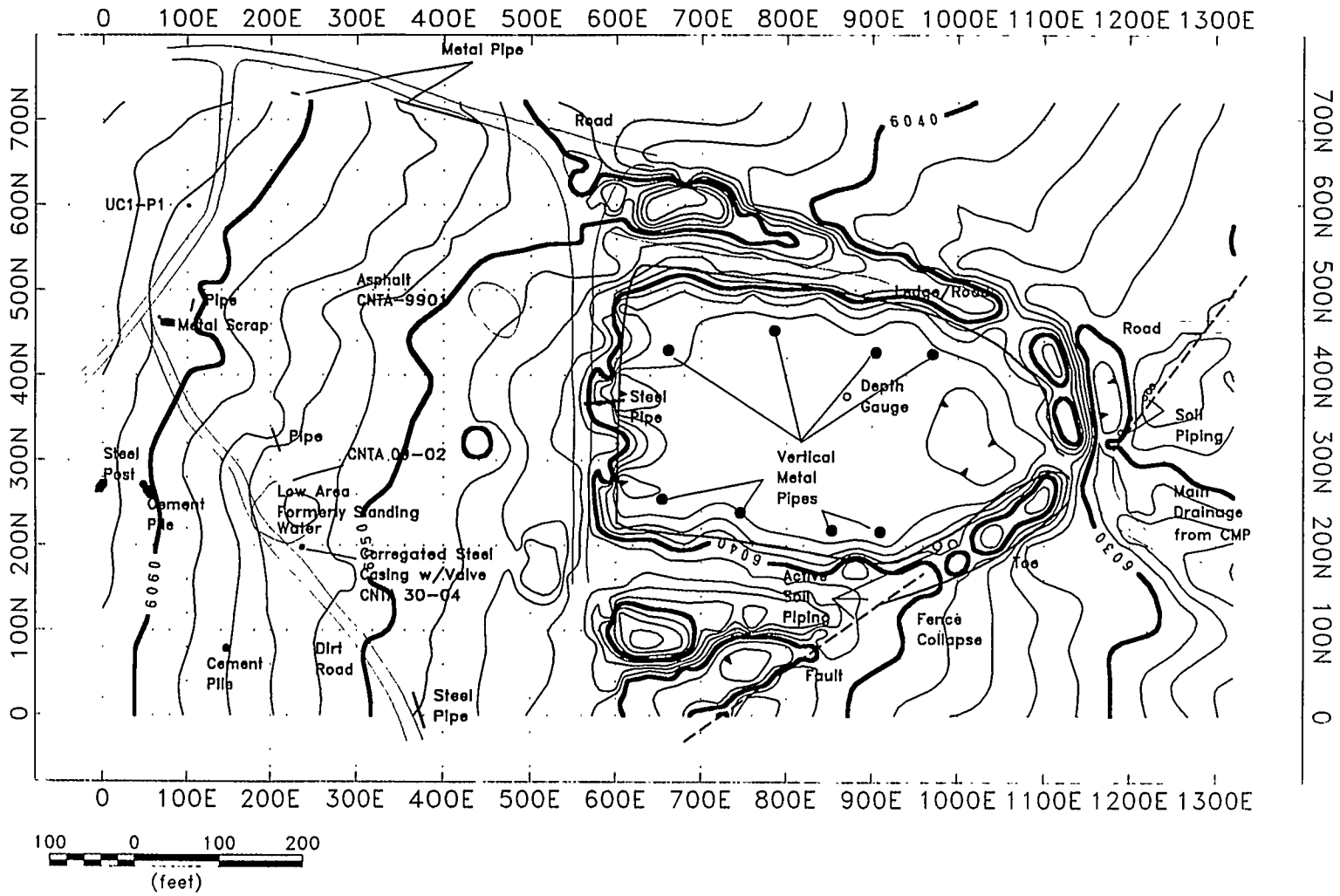


| | | |
|---|---|---|
| ESC<br>Central Nevada<br>Test Area | Surface elevation data | Figure 7-2 |

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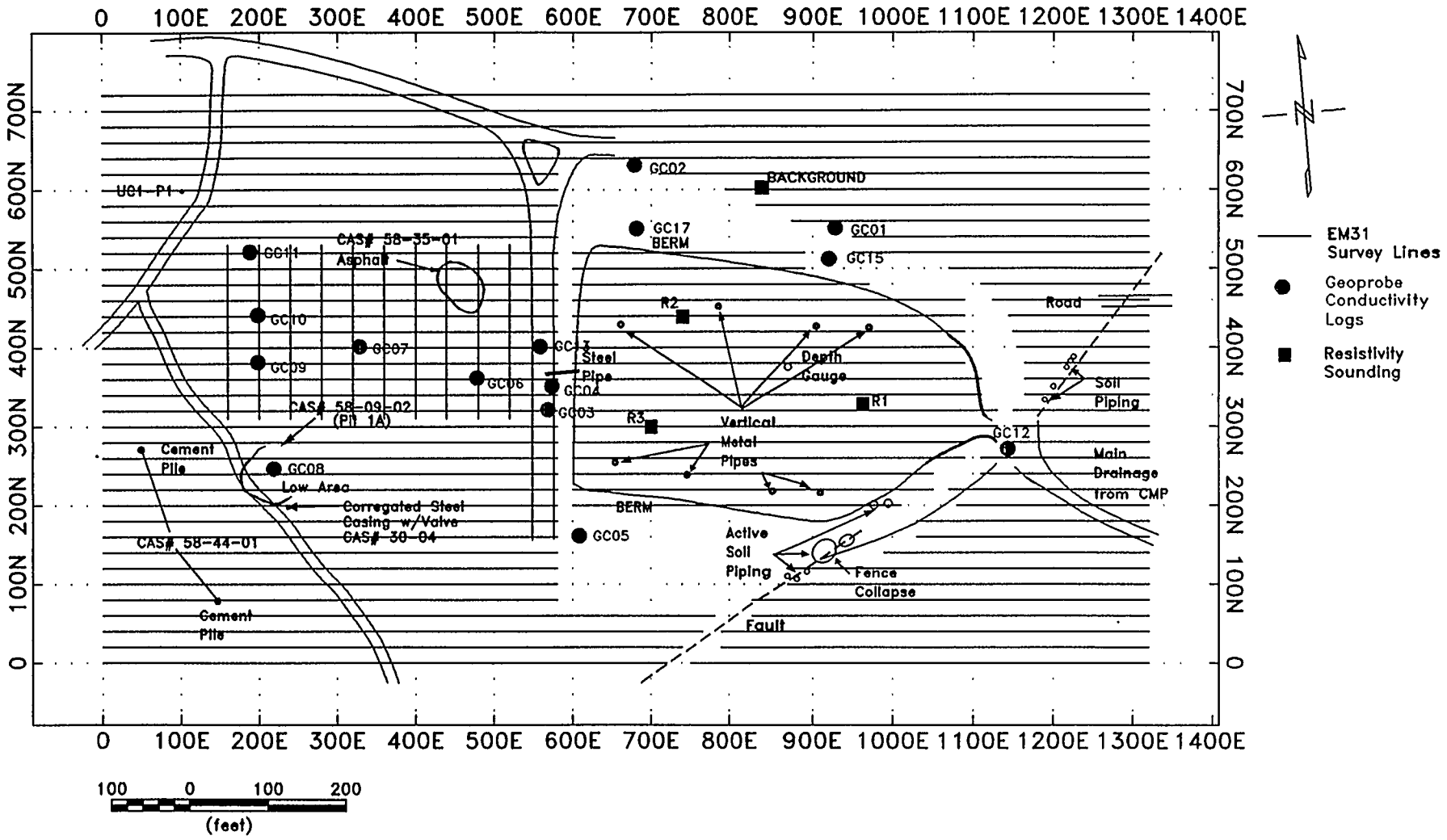


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| ESC<br>Central Nevada<br>Test Area | EM, Geoprobe and resistivity measurement locations within the CMP survey grid | Figure 7-3 |

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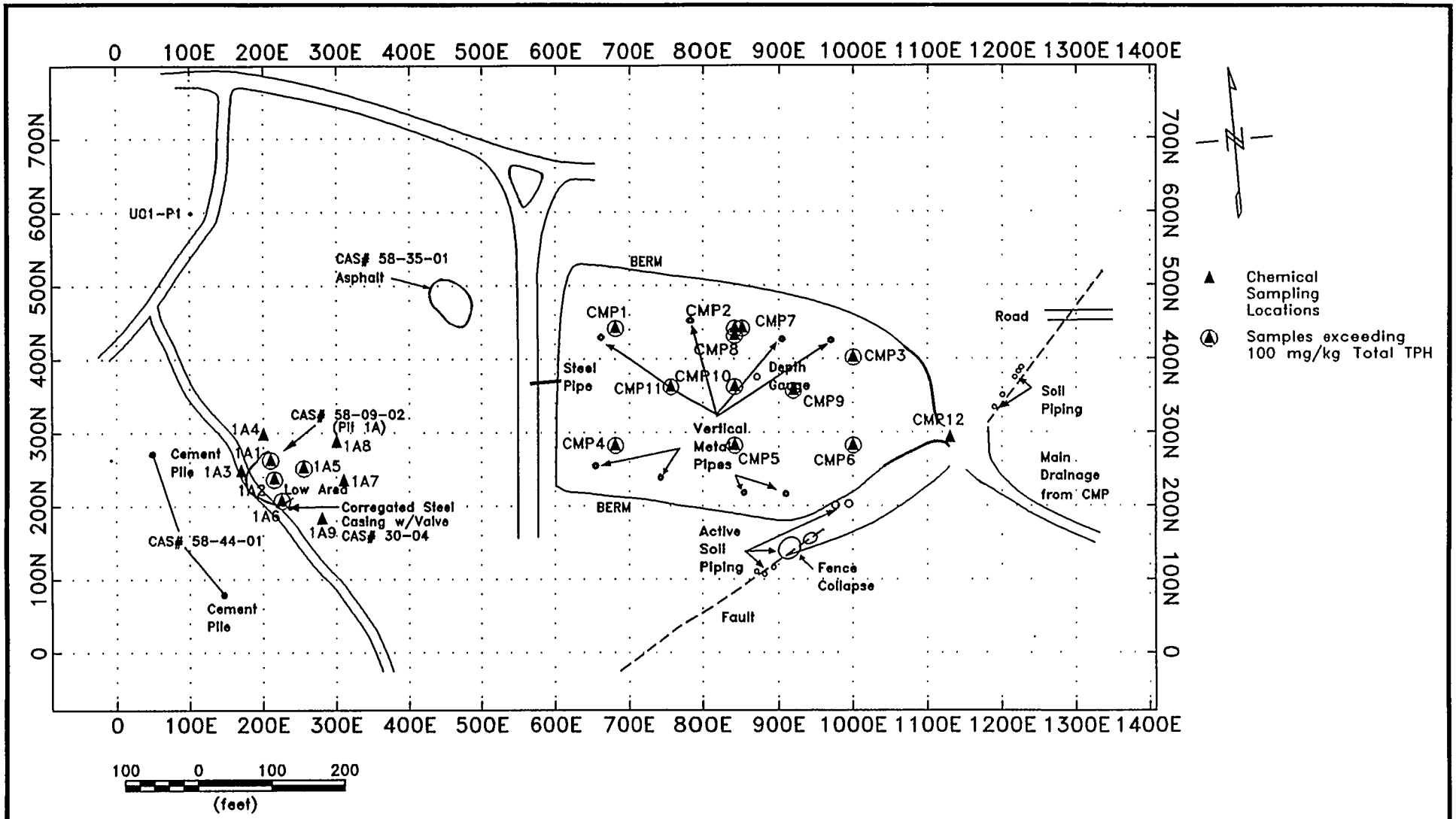


| | | |
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| ESC<br>Central Nevada<br>Test Area | Chemical sampling locations<br>within the CMP survey grid | Figure 7–4 |

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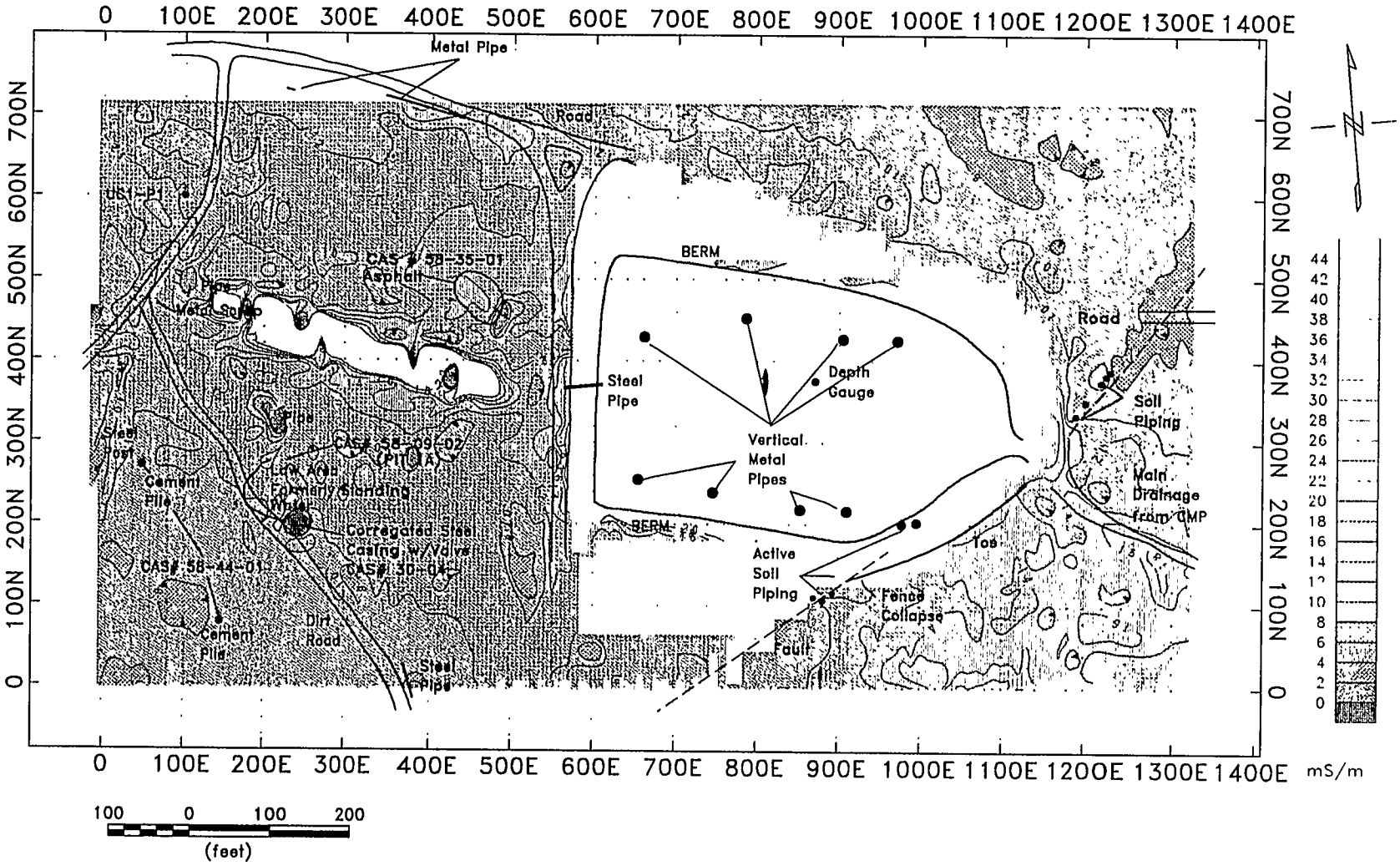


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| ESC<br>Central Nevada<br>Test Area | EM31 conductivity contour map of the CMP area | Figure 7-5 |

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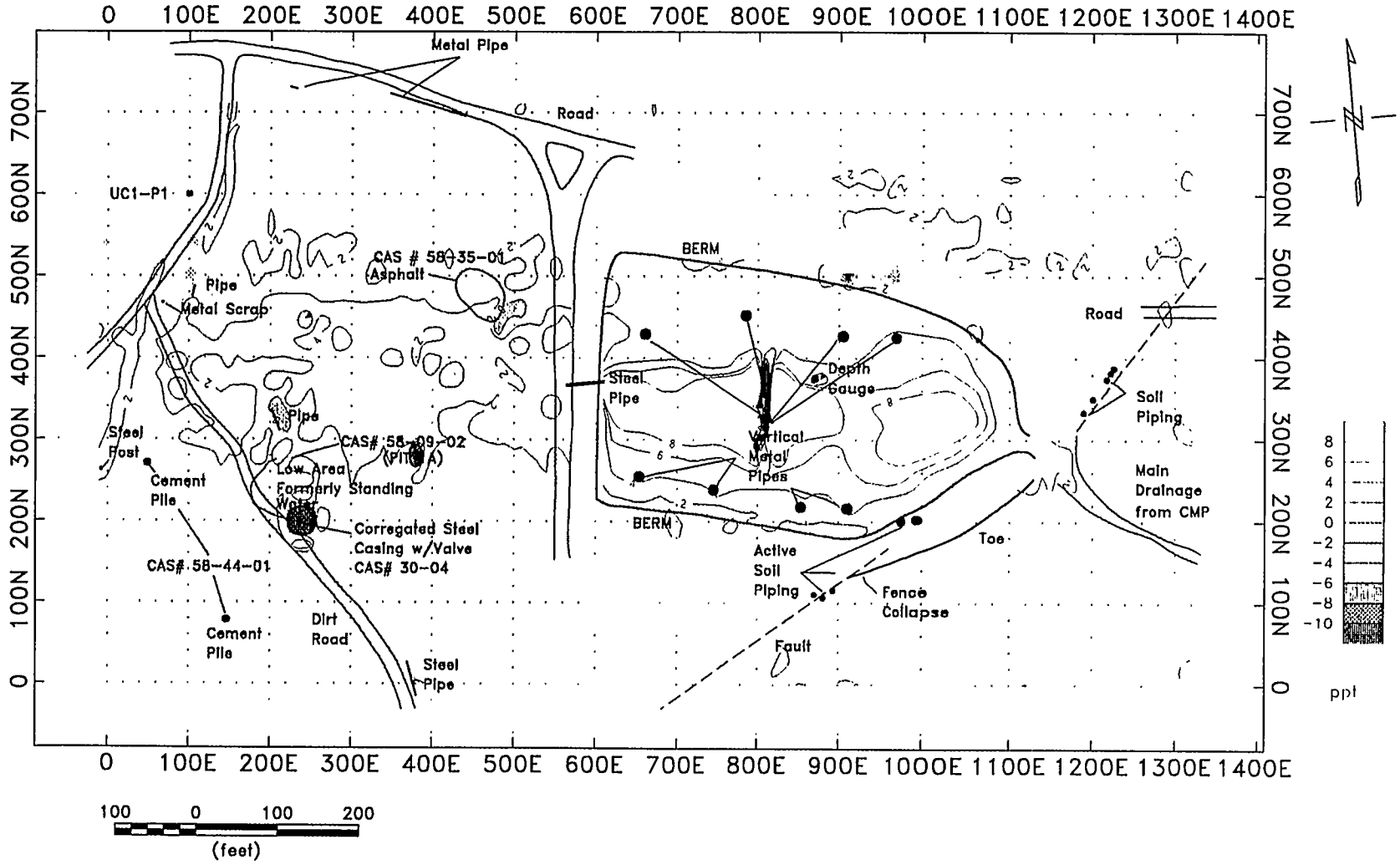


| | | |
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| ESC Central Nevada Test Area | EM31 in-phase (metal) contour map of the CMP area | Figure 7-6 |

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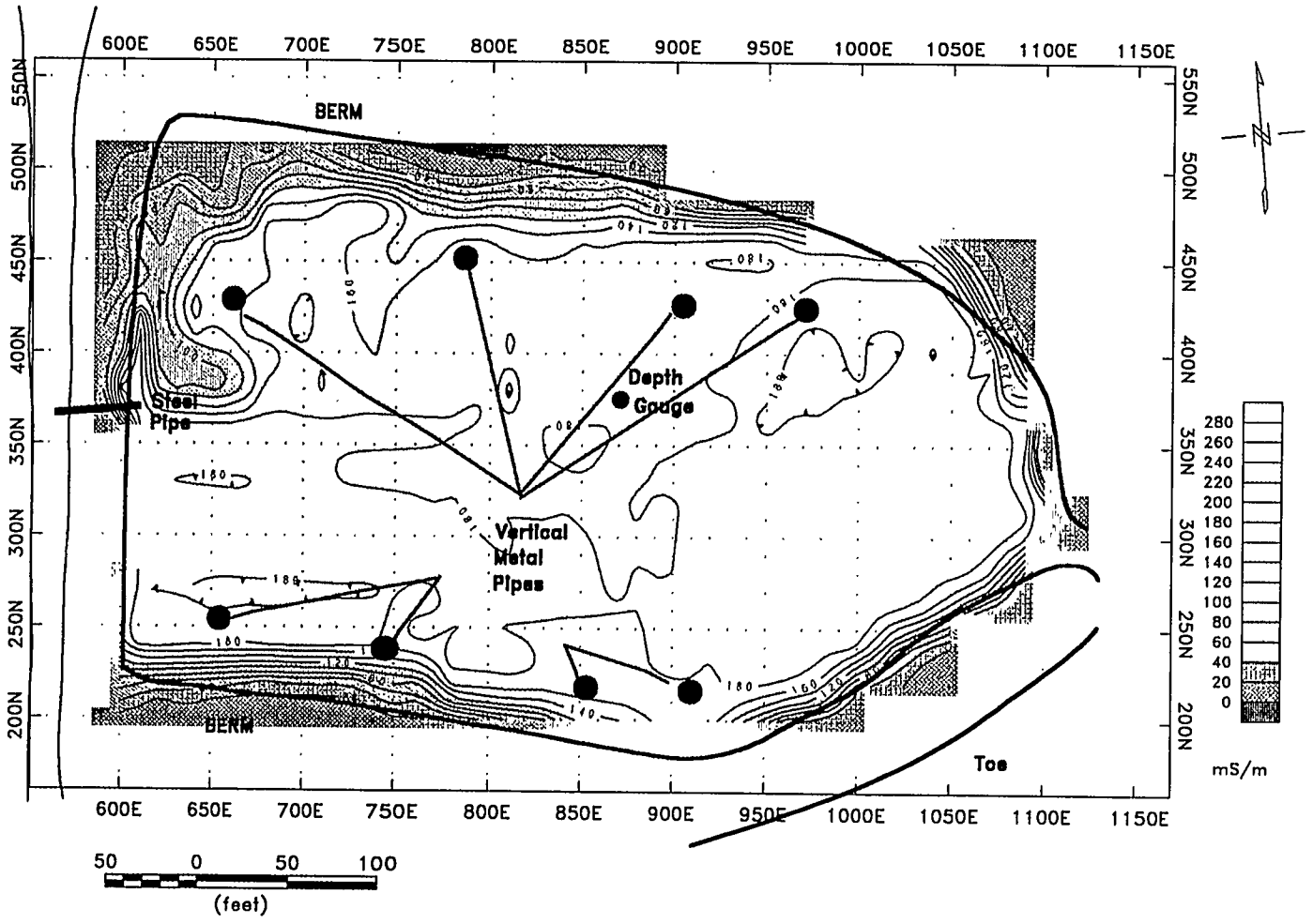


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| ESC<br>Central Nevada<br>Test Area | EM38 conductivity contour map within the CMP | Figure 7-7 |

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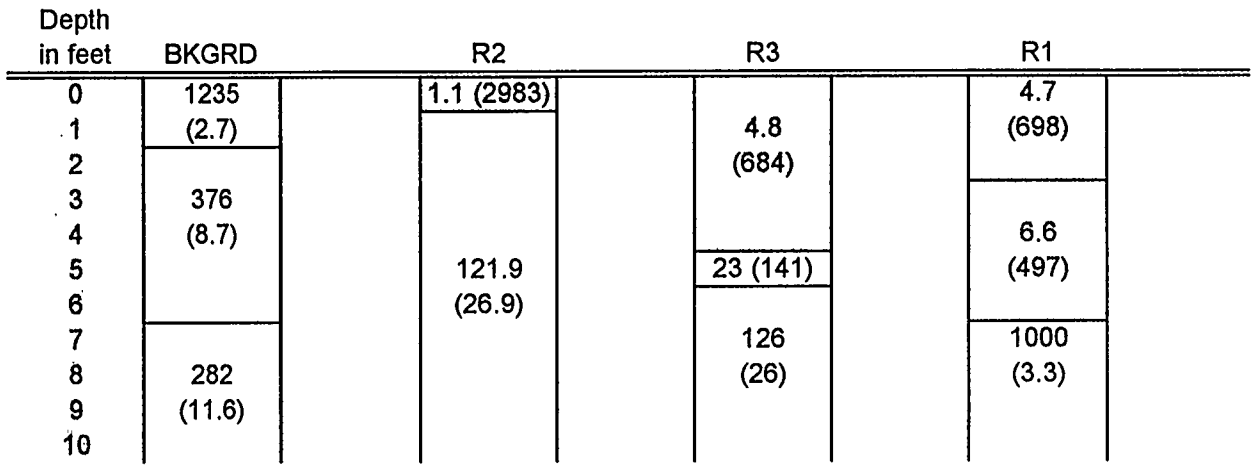
## CMP Resistivity Models




Resistivity in ohm-ft
(Conductivity in mS/m)

| | | |
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| ESC<br>Central Nevada<br>Test Area | CMP resistivity sounding models | Figure 7-8 |

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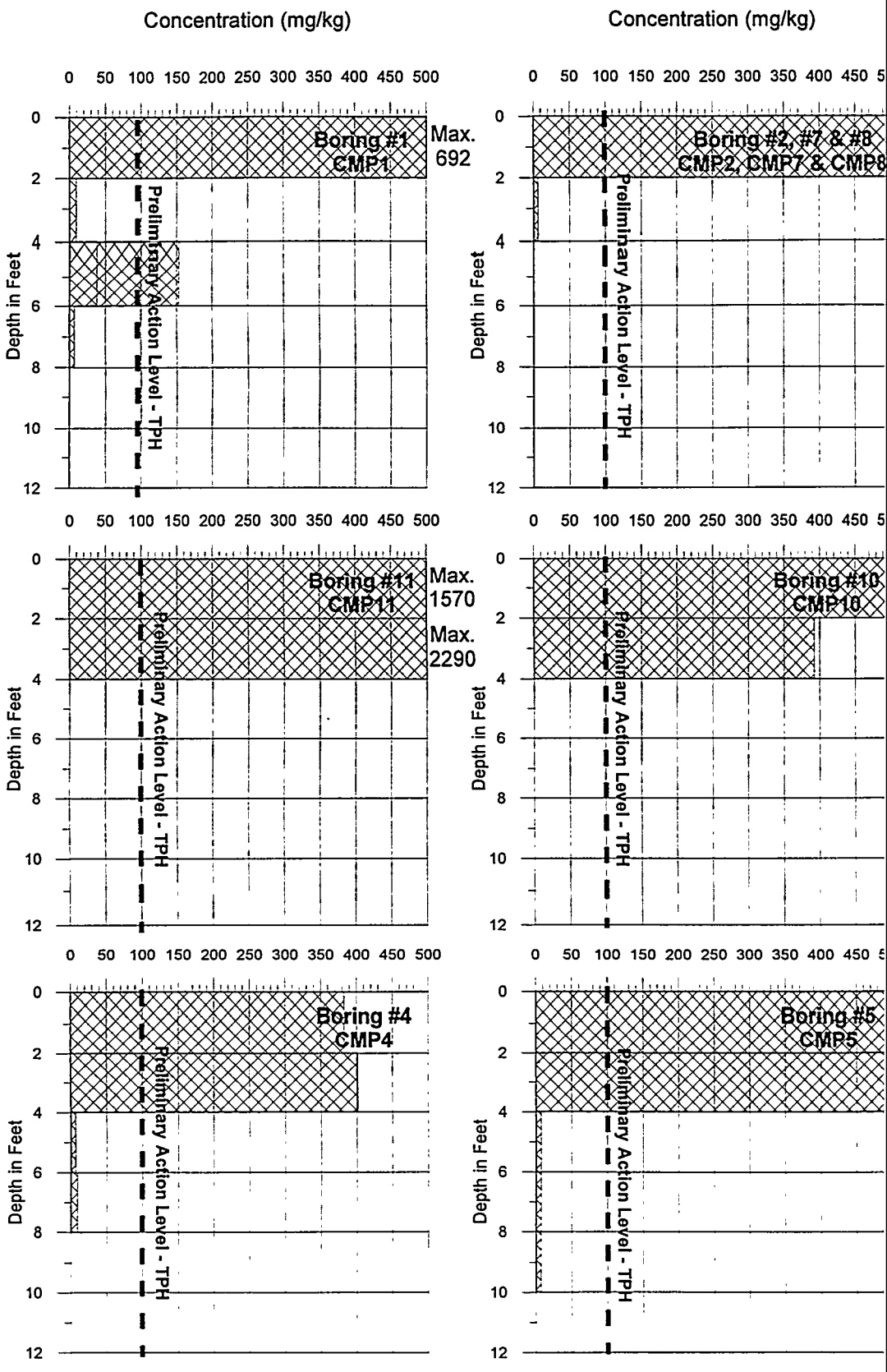
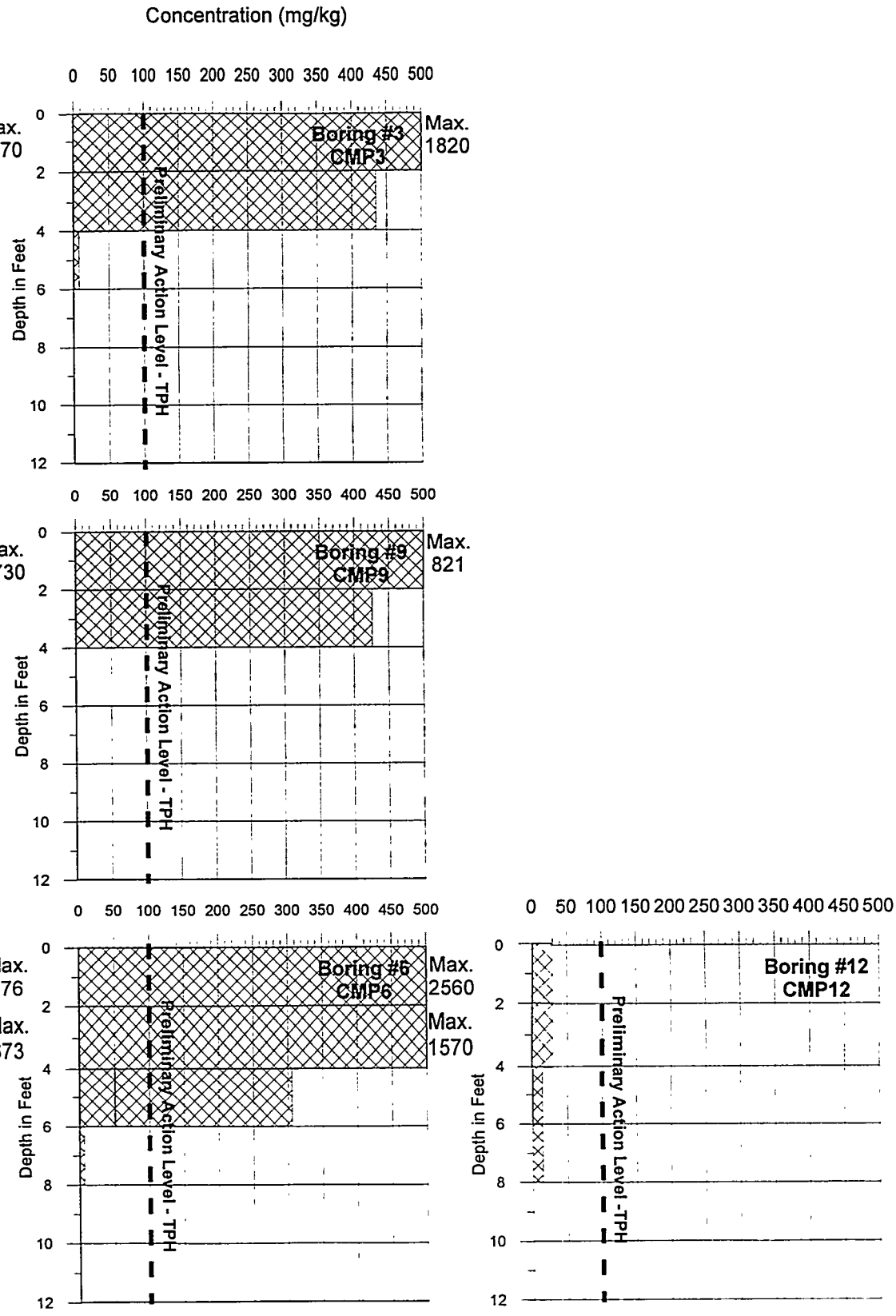


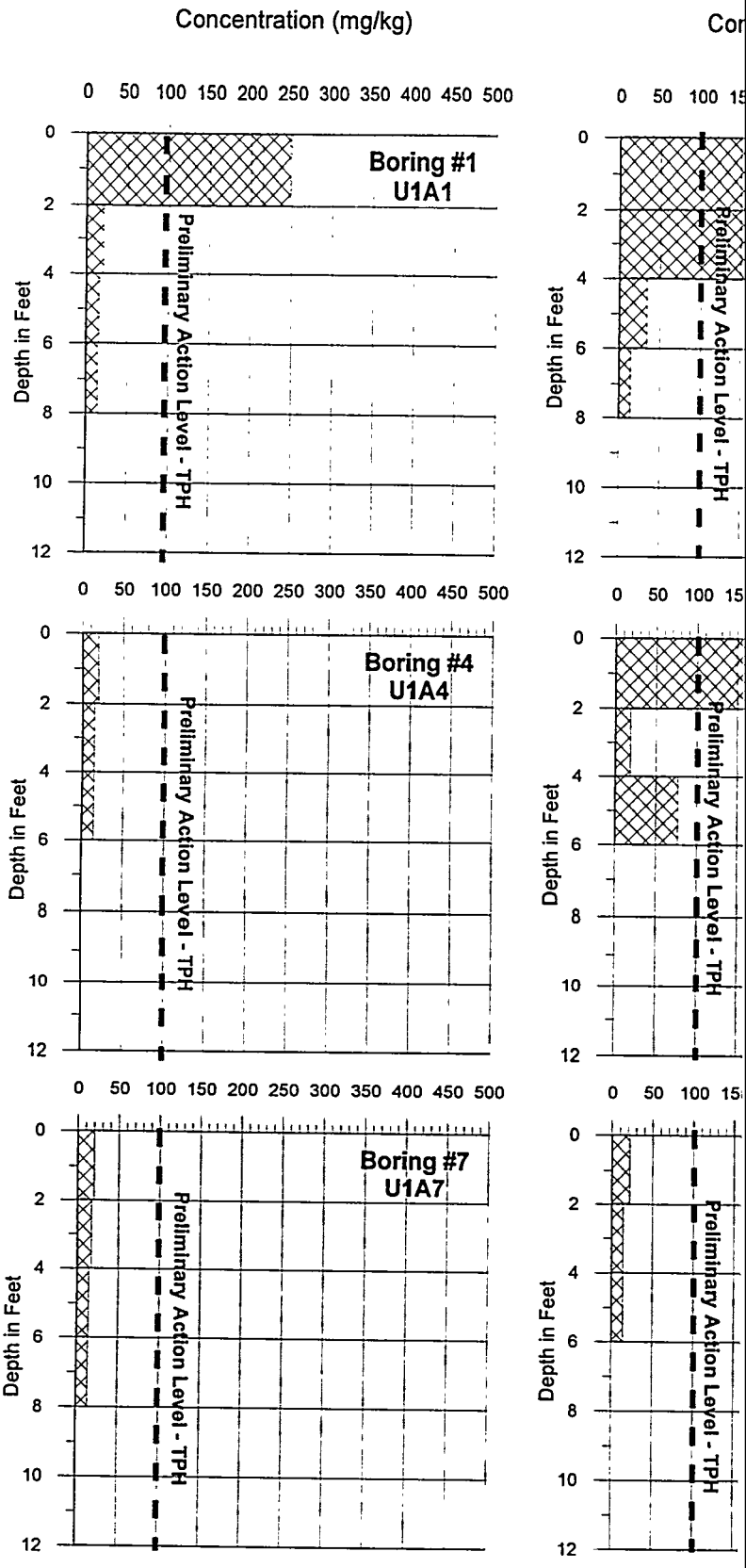

ESC
Central Nevada
Test Area

CMP



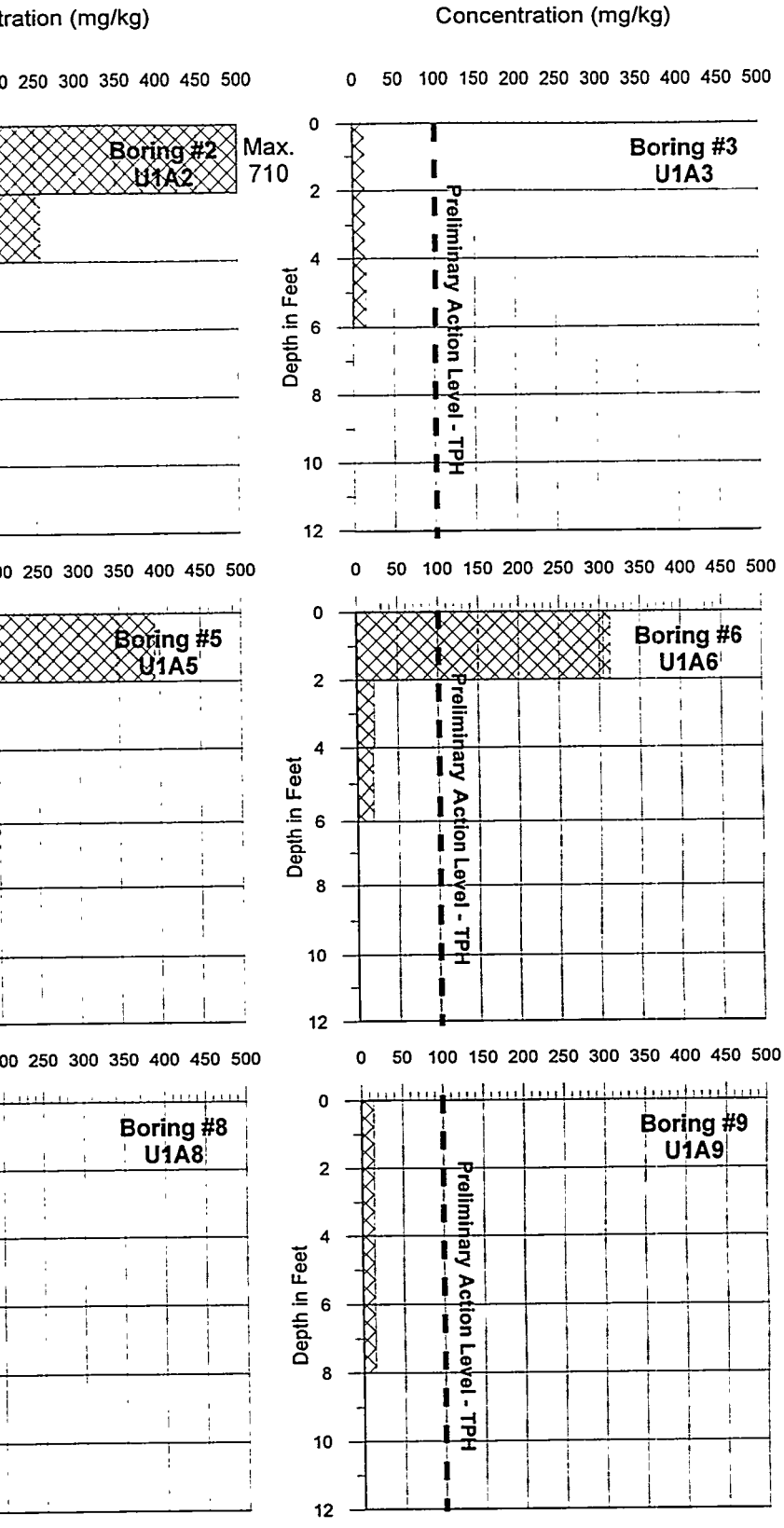

hemical results

Figure 7-9




ESC
Central Nevada
Test Area

Mud Pit




A chemical results

Figure 7-11

# 8.0 UC-3 AREA

## 8.1 Background

The UC-3 emplacement hole is located at NV 1927 state plane coordinates 628,092.24E, 1,399,948.43N with a concrete pad elevation of 5,759 ft. The UC-3 area is thought to contain five mud pits (CAS #58-09-06) with some disposal of waste and scrap. Currently, there is no visual evidence for the pits on the surface, and they are believed to be backfilled. Based upon previously compiled information, the locations of the various mud pits are west, north and northeast of the UC-3 well. Estimates of their locations have been based upon aerial photos and topographic features (Figure 8-1).

A shaker pad area (CAS #58-10-01) also existed northeast of the UC-3 emplacement well. A few other features such as drilling mud/grout spills southeast (CAS #58-44-03) and southwest (CAS #58-44-04) of UC-3 exist at the site. A scrap and trash dump (CAS #58-19-01) is thought to exist west of UC-3, and two protruding pipes (CAS #58-99-01), possibly indicating a buried tank, were found southeast of the UC-3 emplacement well.

## 8.2 Data Acquisition

### 8.2.1 Survey Grid

A survey grid was established over an area of 760 x 600 ft. (Figure 8-1). The extent of the grid was selected to include all of the mud pits and key features of the site. Aerial photos, existing drawings (primarily from the CAIP), and on-site observations were used to select the boundaries of the grid. It was not feasible to include some outlying features within the grid.

All field observations and measurements are referenced to the grid northing and easting coordinates in feet. Coordinates given in the following text refer to this local grid system. Local grid coordinates were translated into UTM coordinates during field operations for compatibility with existing DOE databases. See Appendix A for a table of control points for the UC-3 area.

### 8.2.2 On-Site Observations

Figure 8-1 shows the observed locations of various site features relative to a rectangular grid established at the site. The suspected position of the mud pits and shaker pad shown in Figure 8-1 and other figures are based upon CAIP drawings and aerial photos of this site. The UC-3 emplacement hole is located roughly at the center of the site at 360E, 300N. The pad contains a manhole leading to a water-filled volume of unknown extent. Five separate concrete pads for monitoring wells and the UC-3 Canister surround the emplacement hole.

Scrap metal, partially buried valves, metal cables, and pipes were observed throughout the site. An erosion channel runs down the northeastern portion of the grid. Four vertical pipes and steel manholes leading to a septic tank are located in the southeastern portion of the grid. Two small, vertical steel pipes, four tie-down points, and an electrical conduit were observed on the eastern edge of the grid.

Piles of drill cuttings and mud from the shaker pad was observed both within the grid and at outlying areas. No obvious drainage or piping system was observed as a means to transport

this material to the outlying areas, therefore it is thought that the material was distributed by truck primarily to three outlying areas (north, southeast, and southwest of the grid).

8.2.3 Digital Elevations

Digital elevation data were acquired over the entire grid generally at approximately a 40-ft. sample spacing, as well as over the grid extension to the west, for a total of 375 stations. Figure 8-3 shows the elevation map for UC-3. Elevations at UC-3 range from 5,754.19 to 5,769.19 and average 5,760.95 ft. Details regarding elevation data collection are given in Appendix B.

8.2.4 Surface Geophysics

**EM31**
EM31 data were acquired over seven areas and include:

- The site grid, along parallel lines oriented south-north with a line separation of 20 ft. (Figure 8-4).
- An extension of the grid to the east, in the southeast corner of the grid with a line separation of 10 ft. oriented both south-north and west-east.
- An area of drilling muds southwest of the grid (CAS #58-44-04). Outlier profiles UC3R13-UC3R18 are within this area (Figure 8-2).
- An area of drilling muds southeast of the grid (CAS #58-44-03). Outlier profiles UC3R6-UC3R12 are within this area (Figure 8-2).
- An area of drilling muds north of the grid. Outlier profiles UC3R1-UC3R5 and UC3R19-UC3R21 are within this area (Figure 8-2).
- Two smaller piles of apparently drill cuttings west and northwest of the grid. A single outlier profile cover each area, UC3R22 and UC3R23.

**Magnetometer/Metal Detector Pipe Locator**
A magnetometer and metal detector pipe locator was used in the area of vertical pipes in the southeast portion of the grid and the grid extension. These instruments were used to identify potential underground storage tanks and trace suspected pipelines.

8.2.5 Geoprobe Conductivity Logs

Geoprobe conductivity logs were acquired at forty (40) locations within the grid. Locations are shown in Figure 8-4 and are labeled sequentially UC3-GC01 through UC3-GC40. Plots of all conductivity logs completed are included in Appendix E.

8.2.6 Chemical Sampling and Analysis

Figure 8-5 shows all chemical sampling locations within the UC-3 area. Locations within the five mud pits were selected in accordance with the CAIP. When contamination was detected, additional locations were also sampled outside the pits to confirm the lateral extent of the drilling muds.

Sample location in areas of uncontrolled disposal of drill cuttings and/or drilling mud and grout, sample locations were selected based upon geophysical data and visual observations. Figure

8-6 shows all the chemical sampling locations for the three large outlying areas of cuttings/drilling mud. All samples were analyzed in the on-site laboratories for TPH and chromium concentrations.

## 8.3 Interpretation

The EM31 conductivity and in-phase (metal) data are contoured and presented in Figures 8-7 and 8-8. Background terrain conductivity values for UC-3 are approximately 12-16 mS/m. A large conductivity and in-phase (metal) anomaly is associated with the UC-3 well and surrounding reinforced concrete pad (CAS #58-30-01) and is centered at 340E, 320N. The anomaly extends 60 ft. north of the pad, which indicates the presence of additional subsurface metal to the north. Large in-phase (metal) and conductivity anomalies are also centered at 500E, 340N and at 480E, 220N, and are associated with reinforced concrete pads. Smaller anomalies are associated with reinforced concrete pads at wells UC-3-11 and UC-3-1-5R.

A large continuous conductivity anomaly (>40 mS/m) trends south to north in the northwest portion of the site (Figure 8-7). The anomaly follows the path of a berm (formerly used as a road based on historical photos) and shows an in-phase (metal) response at its northern end. Scrap metal was observed at the surface along the western portion of the anomaly.

A continuous west to east trending high conductivity and in-phase (metal) anomaly lies at the north end of the grid (Figures 8-7 and 8-8). The anomaly has a signature that would indicate a buried pipe. There is a sign on the surface at the west end of the anomaly that reads, "Buried Cable", but the anomaly is much larger than would be expected from a single utility cable. A large valve handle was observed in the field at about the midpoint of the anomaly. The anomaly joins the two conductivity anomalies in the northeast and northwest portions of the grid. Follow-up work with a magnetometer has indicated that this is very likely a pipeline that turns south at both the western and eastern ends. On the western end, the pipeline appears to run south almost until Mud Pit 3E. On the eastern end, the pipeline appears to run south, to the side of the drainage channel, almost to the access road for the site.

Note the estimated locations of Mud Pits 3B, 3C, 3E, and the shaker pad show little to no elevated conductivities. This may be due to the remaining muds having been removed from the site during the demobilization carried out in the early 1970's. Some historic photos of the UC-3 area show a structure over the UC-3 canister and a asphalt surface over the surrounding area. This may indicate that a thorough cleanup of the site, possibly including remains of drilling mud in the pits, occurred in preparation for the planned detonation at UC-3.

### 8.3.1 Mud Pit 3A

Mud Pit 3A is centered at 160E, 450N at the northwest portion of the site. The mud pit lies just east but adjacent to a elevated berm (former road) running south-north which is the waste pile area (CAS #58-98-01). EM31 data show no significant anomalies within this area, indicating a lack of muds (Figure 8-7).

One Geoprobe conductivity log (UC3-GC23) was centered within Mud Pit 3A, while two conductivity logs (UC3-GC36 and UC3-GC37) were located along the western edge of the pit. All three of these logs have periodic increases of conductivities to over 50 mS/m over intervals of less than 2 ft. which seems quite typical of the logs at UC-3. These localized increases are likely due to natural clays or increases in moisture content.

Six sampling points were located within Mud Pit 3A (see Appendix F for a table listing coordinates and Figure 8-5 for locations). Samples were obtained from 0 - 2, 2 - 4, 4 - 6, 6 - 8, and 8 - 10 ft. deep. Chemical analysis of these soil samples indicate values below the PALs for hexavalent chromium and TPH at all depths sampled.

Statistical tests performed on analytical results from Pit 3A indicate that an adequate number of samples were collect and all depth intervals sampled are below the PALs.

### 8.3.2 Mud Pit 3B

Mud Pit 3B is centered at 280E, 500N along the northern portion of the grid. EM31 data show no significant anomalies within this area indicating a lack of muds.

Two Geoprobe conductivity logs (UC3-GC32 and UC3-GC40) were located directly within Mud Pit 3B. Both of these logs generally show background conductivities to at least 10 ft. where they begin to have periodic increases of conductivities to over 150 mS/m over intervals of less than 2 ft. These localized increases are likely due to natural clays and silts or increases in moisture content.

Six sampling points were located within Mud Pit 3B (see Appendix F for a table listing coordinates and Figure 8-5 for locations). Samples were obtained from 0 - 2, 2 - 4, 4 - 6, 6 - 8, and 8 - 10 ft. deep. Chemical analysis of these soil samples indicate values below the PALs for hexavalent chromium and TPH at all depths sampled.

Statistical tests performed on analytical results from Pit 3B indicate that an adequate number of samples were collect and all depth intervals sampled are below the PALs.

### 8.3.3 Mud Pit 3C

Mud Pit 3C is centered at 420E, 500N along the northern portion of the grid. EM31 data show no significant anomalies within this area indicating a lack of muds.

One Geoprobe conductivity log (UC3-GC33) was located directly within Mud Pit 3C. Log UC3-GC33 generally shows background conductivities to at least 10 ft. where they begin to have periodic increases of conductivities to over 100 mS/m over intervals of less than 2 ft. These localized increases are likely due to natural clays and silts or increases in moisture content.

Six sampling points were located within Mud Pit 3C (see Appendix F for a table listing coordinates and Figure 8-5 for locations). Samples were obtained from 0 - 2, 2 - 4, 4 - 6, 6 - 8, and 8 - 10 ft. deep, with two locations extending to 10 - 12 ft. deep. Chemical analysis of these soil samples indicated values below the PALs for hexavalent chromium and TPH at all depths sampled.

Statistical tests performed on analytical results from Pit 3C indicate that an adequate number of samples were collect and all depth intervals sampled are below the PALs.

### 8.3.4 Mud Pit 3D

Mud Pit 3D is centered at 640E, 440N along the northeastern portion of the grid. A southeast trending EM31 conductivity anomaly (>40 mS/m) is evident in the northeastern portion of the grid (Figure 8-7). The conductivity anomaly follows a drainage path that leads into a larger eroded channel on the east end of the site. The estimated position of Mud Pit 3D partially lies within this anomaly, but is not oriented in the same direction. Aerial photos (CN820 and CN826) show Mud Pit 3D lying east of debris flowing from the shaker pad. The conductivity anomaly may be related to this shaker pad debris rather than Mud Pit 3D.

No Geoprobe conductivity logs were located directly within Mud Pit 3D, however log UC3-GC10 is on the southern edge of the pit. Log UC3-GC10 shows periodic increases of conductivities to over 150 mS/m over intervals of less than 2 ft. These localized increases are likely due to natural clays and silts or increases in moisture content.

Six sampling points were located within Mud Pit 3D (see Appendix F for a table listing coordinates and Figure 8-5 for locations). Samples were obtained from 0 - 2, 2 - 4, 4 - 6, 6 - 8, and 8 - 10 ft. deep. Chemical analysis of these soil samples indicate values below the PALs for hexavalent chromium and TPH at all depths sampled.

Statistical tests performed on analytical results from Pit 3D indicate that an adequate number of samples were collect and all depth intervals sampled are below the PALs.

### 8.3.5 Mud Pit 3E

The estimated location of Mud Pit 3E contains an EM31 predominantly in-phase (metal) anomaly (Figure 8-8). The discontinuous nature of the in-phase (metal) anomaly is representative of buried scrap metal. The lack of a large conductivity anomaly at this location indicates that Mud Pit 3E may no longer contain drilling mud, and may have been partially backfilled with scrap metal.

Only one Geoprobe conductivity log (UC3-GC35) was located directly within the Mud Pit 3E. This log indicates background conductivities to a depth of about 15.5 ft. where conductivities increase to as much as 100 mS/m down to 18 ft. and then again between 19 and 20 ft. These localized increases are likely due to natural clays and silts or increases in moisture content.

Twenty-five (25) sampling points were located within and around Mud Pit 3E (see Appendix F for a table listing coordinates and Figure 8-5 for locations). Samples were obtained from the surface to depths ranging from 6 to 18 ft. deep, and averaging 10 to 12 ft. deep. Figures 8-10a and 8-10b graphically show the results of the analysis with depth. Hexavalent chromium was not detected above PAL at any sampling locations.

Chemical analysis of these soil samples indicate TPH values above the PAL within the pit and to the south and southeast of the pit at various depths. At one location (U3E10), elevated TPH was detect as deep as 18 ft. The seemly random depths at which elevated TPH was found may suggest a spill or disposal area used by on-site equipment and is not likely the result of a mud pit.

Statistical tests performed on analyses from within Pit 3E indicate that all depth intervals down to 10 ft. are above the PAL for TPH. The large variability in TPH concentrations result in high $N_d$ values; however, given the level of TPH contamination, it was determined that no more

sampling inside the pit was warranted. Table 8-1 summarizes the Pit 3E and other chemical data from the UC-3 area. Samples collected outside of Pit 3E for the purpose of delineating the extent of TPH contamination are also tabulated.

### 8.3.6 Shaker Pad Area

No evidence of a shaker pad was observed on the surface of the site within the grid. Based on aerial photos (CN826 and CN831), the shaker pad is centered at about 480E, 400N, northeast of the UC-3 emplacement well (Figure 8-1). No EM31 conductivity anomalies are evident immediately surrounding this location, however, the conductivity anomaly in the northeastern portion of the grid may be related to draining shaker pad debris.

Two Geoprobe conductivity logs (UC3-GC1 and UC3-GC8) were located just on the eastern edge of the shaker pad. Log UC3-GC1, to the north, shows several layers of high conductivities, often greater than 100 mS/m, but over depth intervals less than 2 ft. The southern log UC3-GC8 indicates background conductivities throughout its depth. These localized increases are likely due to natural clays and silts or increases in moisture content.

Five sampling points were located to the east of the shaker pad (see Appendix F for a table listing coordinates and Figure 8-5 for locations). Samples were obtained from 0 - 2, 2 - 4, 4 - 6, 6 - 8, and 8 - 10 ft. deep. Figure 8-12 graphically show the results of the analysis with depth. Hexavalent chromium was not detected above PALs at any sampling location. Chemical analysis of these soil samples indicate TPH values below the PALs, except at location U3S4, where elevated TPH was detected at 4 - 6 ft. deep.

Statistical tests performed on the shaker area TPH analyses indicate that all layers, with the exception of 4 - 6 ft., are below the PAL. The one contaminated sample at U3S4 cause the 4 - 6 ft. layer to fail the test. An unknown number of additional samples would be required from 4 - 6 ft. before that layer could be declared below the PAL.

### 8.3.7 UST Area/Protruding Pipes

Protruding pipes were not found to the north at the site, as indicated in the CAIP. Two protruding pipes matching the description in the CAIP (CAS #58-99-01) were found southeast of the UC-3 emplacement well. The two protruding pipes are centered at 762E, 190N just outside the gridded area near the edge of a 3 to 4 ft. embankment. An extension to the grid was added which covered the area 710E to 810E and 40N to 320N.

The EM31 in-phase metal data (Figure 8-7) indicate the presence of the pipes, but the EM data do not indicate a tank at the location of the pipes. A large in-phase (metal) response is observed north of the pipes, near the four metal tie-downs (see Figure 8-1).

A magnetometer was used to carry out a reconnaissance survey over the area around the pipes. The magnetometer response shows the pipes but not the presence of a large tank. However, the magnetometer does indicate buried ferrous metal to the north of the two protruding pipes in an area with four metal tie-downs. This is consistent with the large EM31 in-phase (metal) response to the north of the pipes, possibly indicating the presence of a tank or other buried ferrous metal.

In close proximity to the vertical pipes are two steel manholes in the southeast corner of the site. These manholes are the access to a large concrete tank structure, probably formerly a

septic tank. In addition, four additional vertical pipes were also identified. A conductivity anomaly centered at 730E, 70N is just north of the four vertical pipes and two steel manholes. The conductivity anomaly is probably related to the septic tank's discharge field.

Four Geoprobe conductivity logs (UC3-GC14, UC3-GC15, UC3-GC16, and UC3-GC29) were obtained within this anomalous area (Figure 8-4). Some thin layers of elevated conductivities are seen in all four of the conductivity logs. The most significant elevated conductivities are seen at the bottom of all four conductivity logs. In conductivity logs UC3-GC29 and UC3-GC16 conductivities average about 100 mS/m between 16 and 19 ft. Further south, in conductivity logs UC3-GC15 and UC3-GC14, the elevated conductivities are between 18.5 and 20 ft. deep. These localized increases are likely due to natural clays and silts, increases in moisture content, or residues from the septic leach field.

Five sampling points were located within the area of the vertical pipes (see Appendix F for a table listing coordinates and Figure 8-5 for locations). Samples were obtained from 0 - 2, 2 - 4, 4 - 6, 6 - 8, and 8 - 10 ft. deep. Figure 8-16 graphically show the results of the analysis with depth. Hexavalent chromium was not detected above PALs at any sampling location. Chemical analysis of these soil samples indicate only one location (U3U1) contain TPH values above the PAL. This high level occurred at a depths of 4 - 6, and 6 - 8 ft. The extent of contaminated soil was defined on all sides by the sampling performed.

### 8.3.8 Drill Cuttings/Muds to the Southwest

Selected EM31 profiles were run over the area of drill cuttings/muds (CAS #58-44-04) which lie southwest of the UC-3 grid. Appendix C contains a contour plot of this conductivity data. The majority of the EM31 conductivity values are close to background.

No Geoprobe conductivity logs were located in this area due to the low conductivities.

Five sampling points were located within the drilling muds (see Appendix F for a table listing coordinates and Figure 8-6). Samples were obtained from 0 - 2, 2 - 4, 4 - 6 ft. deep, with one extending to 6 - 8 ft. deep. Chemical analysis of these soil samples indicated values below the PALs for hexavalent chromium and TPH at all depths sampled.

### 8.3.9 Drill Cuttings/Muds to the Southeast

Selected EM31 profiles were run over the area of drill cuttings/muds (CAS #58-44-03) which lie southeast of the UC-3 grid. Figure 8-18 shows the contour plot of this conductivity data along these profiles. The majority of the EM31 conductivity values are close to background, however the southeastern drilling mud area contains conductivities 2-5 mS/m above background over areas of dark gravel accumulations in the northern section. The conductivities from the darker gravel may indicate the presence of relatively higher proportions of drilling mud to cuttings.

No Geoprobe conductivity logs were located in this area.

Nine sampling points were located within the drilling mud area (see Appendix F for a table listing coordinates and Figure 8-6 for locations). Samples were obtained from 0 - 2 and 2 - 4 ft. deep, with some samples extending to 4 - 6 ft. deep. Figure 8-19 graphically show the results of the analysis with depth. Hexavalent chromium was not detected above PAL at any sampling location. Chemical analysis of these soil samples indicate TPH values above the PAL for

sample locations U3Z3 and U3Z4 at depths of 0 - 2 ft. These sample locations are within areas of higher EM31 conductivity. Locations U3Z5 through U3Z9 were collected in the vicinity of the impacted samples to confirm that contamination had not spread away from the visible cuttings/mud piles.

8.3.10 Drill Cuttings/Muds to the North

Selected EM31 profiles were run over the area of drill cuttings/muds not previously identified (no CAS number) which lies north of the UC-3 grid. Appendix C contains a contour plot of this conductivity data along these profiles. Conductivity values are generally in the 14 - 16 mS/m range, but larger values (up to 40 mS/m) and in-phase (metal) anomalies are present in the southwestern portion of this area.

No Geoprobe conductivity logs were located in this area.

Five sampling points were located within the drilling muds (see Appendix F for a table listing coordinates and Figure 8-6). Samples were obtained from 0 - 2, 2 - 4, 4 - 6 ft. deep, with some extending to 6 - 8 and 8 - 10 ft. deep. Chemical analysis of these soil samples indicate values below the PALs for hexavalent chromium and TPH at all depths sampled.

8.3.11 Other Outliers

Two small outliers west and northwest of the grid were observed in the field. These outliers are thought to be disposal areas for drill cuttings. A single EM31 profile was run over each of the two areas, UC3R22 and UC3R23. The conductivity data over both of these small outliers show uniform background conductivities, indicating little to no mud.

## 8.4 Summary of Features

Table 8-2 summarizes the CASs and other site features investigated at UC-3. The table lists the investigation methods used for each feature and their significance, as well as the depth interval at which samples have values above the PALs.

Of the areas investigated at UC-3, only four areas (Mud Pit 3E, the shaker pad area, the southeast cuttings/mud pile and the area of two protruding pipes) have values of TPH above PALs. TPH levels were detected at depths up to 18 ft. within Mud Pit 3E and extending to the south and southeast. At both the shaker pad area and the area of protruding pipes elevated TPH was indicated in one location only, from 4 - 6 and 4 - 8 ft. deep, respectively. Contaminated material in the cuttings/mud pile is present on at the surface.

## Table 8-1: Summary of TPH Analyses and Statistical Tests for UC-3 Area

Mud Pit 3E

| Depth | U3E1 | U3E2 | U3E3 | U3E4 | U3E5 | U3E6 | $N_d$ | A | U3E7 | U3E8 | U3E9 | U3E10 | U3E11 | U3E12 | U3E13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 98.5 | 304.5 | 556 | 46.6 | 61.6 | 109.8 | 29 | 216 | 23.3 | 17.1 | 13.3 | 1074 | 135.6 | 14.4 | 268.7 |
| 2-4' | 48.4 | 610 | 231 | 58 | 28.4 | 57.2 | 65 | 209 | 23.5 | 14.4 | 14.1 | 422 | 13.6 | 13.6 | 13.5 |
| 4-6' | 571 | 3850 | 178.5 | 56.7 | 99.4 | 1877 | 15 | 1915 | 20.3 | 39.2 | 13.1 | 1209.0 | 13.7 | 15.3 | 13.7 |
| 6-8' | 15440 | 9910 | 1876 | 362 | 14.7 | 120.1 | 14 | 8445 | 32.6 | 30.2 | 14.9 | 17010 | 13.7 | 13.6 | 17.6 |
| 8-10' | 1645 | 590 | 595 | 14.8 | 12.9 | 16.2 | 19 | 763 | 75.3 | 13.6 | 13.4 | 1055 | 15.3 | 13.6 | 13.6 |
| 10-12' | 16.7 | 13.7 | 15.4 | 12.9 | 13.6 | 16.9 | 1 | -84 | 24.7 | 15.5 |  | 2504 |  | 13.6 | 23.7 |
| 12-14' |  |  |  |  |  |  |  |  |  |  |  | 7930 |  |  |  |
| 14-16' |  |  |  |  |  |  |  |  |  |  |  | 5970 |  |  |  |
| 16-18' |  |  |  |  |  |  |  |  |  |  |  | 854 |  |  |  |

Mud Pit 3E (continued)

| Depth | U3E14 | U3E15 | U3E16 | U3E17 | U3E18 | U3E19 | U3E20 | U3E21 | U3E22 | U3E23 | U3E24 | U3E25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' |  | 45.5 | 848 | 35.5 | 201.1 | 33.1 | 42.3 | 126 | 111 | 195.7 | 13.7 | 22.3 |
| 2-4' |  | 732 | 54.5 | 13.6 | 196 | 13.3 | 21.2 | 13.3 | 13.4 | 16.4 | 13.7 | 14.1 |
| 4-6' |  | 105 | 16.9 | 14.1 |  | 23.1 | 21.2 | 13.4 | 13.7 | 13.9 | 13.6 | 14.6 |
| 6-8' |  | 1154 | 14.2 | 13.8 |  | 14.2 | 13.8 | 90.1 |  | 13.8 |  |  |
| 8-10' |  | 65.6 | 264 | 13.3 | 13.3 | 13.3 | 13.1 | 13.7 |  | 13.7 |  |  |
| 10-12' | 162 | 30.3 |  | 13.4 |  |  |  |  |  |  |  |  |
| 12-14' | 37.2 |  |  |  |  |  |  |  |  |  |  |  |
| 14-16' | 21.7 |  |  |  |  |  |  |  |  |  |  |  |



(continued)

## Table 8-1 (cont.): Summary of TPH Analyses and Statistical Tests for UC-3 Area

Shaker Area

| Depth | U3S1 | U3S2 | U3S3 | U3S4 | U3S5 | $N_d$ | A |
|---|---|---|---|---|---|---|---|
| 0-2' | 15.7 | 17 | 28.5 | 19 | 24.7 | 1 | -75 |
| 2-4' | 29.8 | 17.4 | 14.1 | 39.4 | 32.4 | 1 | -66 |
| 4-6' | 16.4 | 16.6 | 19.1 | 1670 | 13.6 | 59 | 754 |
| 6-8' | 15.7 | 11.2 | 17.9 | 31.3 | 13.3 | 1 | -74 |
| 8-10' | 14.5 | 13.6 | 21 | 36.1 | | 1 | -70 |

Protruding Pipes

| Depth | U3U1 | U3U2 | U3U3 | U3U4 | U3U5 |
|---|---|---|---|---|---|
| 0-2' | 13.4 | 13.7 | | | |
| 2-4' | 13.5 | 19.2 | 13.8 | 33.3 | 25.5 |
| 4-6' | 595.2 | 13.3 | 13.4 | 13.3 | 13.8 |
| 6-8' | 3209 | | 13.7 | 13.6 | 17.5 |
| 8-10' | 21.8 | | | | |

Southeast Cuttings/Mud Piles

| Depth | U3Z1 | U3Z2 | U3Z3 | U3Z4 | $N_d$ | A | U3Z5 | U3Z6 | U3Z7 | U3Z8 | U3Z9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 35.3 | 26.2 | 115.3 | 676 | 50 | 368 | 20.4 | 21.3 | 20.4 | 23.7 | 17.2 |
| 2-4' | 28.4 | 14.5 | 18 | 13.9 | 1 | -76 | 14.3 | 14 | 15.8 | 13.7 | 13.7 |
| 4-6' | 14.8 | 14.1 | 12.9 | 43.4 | 1 | -67 | | | | | |

NOTE:
Analytical results are given in milligrams per kilogram (mg/kg).
Statistical results (shaded) are for data listed to the left of the results.
"Nd" represents number of samples required to satisfy statistical test.
"A" represents amount by which given depth interval exceeds PAL.
An empty cell indicates that no sample was analyzed.
All UC-3 area sample locations and mud pit layers not listed above are below the PAL for TPH and chromium.

## Table 8-2: Summary of Site Features at UC-3

| Site Feature | CAS Number | Location | Observations | GPS | EM31 Conductivity (mS/m) | Geoprobe Conductivity | Chemical Sampling |
|---|---|---|---|---|---|---|---|
| Pit 3A | 58-09-06 | Within Grid | no surface expression | corners of grid | background | Log GC23 background to slightly above | 6 locations; 30 sample depths <PAL |
| Pit 3B | 58-09-06 | Within Grid | no surface expression | corners of grid | background | Log GC32 and GC40 background to slightly above | 6 locations; 30 sample depths <PAL |
| Pit 3C | 58-09-06 | Within Grid | no surface expression | corners of grid | background | Log GC33 background to slightly above | 6 locations; 35 sample depths <PAL |
| Pit 3D | 58-09-06 | Within Grid | no surface expression | corners of grid | background | Log GC10 (at edge) background to slightly above | 6 locations; 30 sample depths <PAL |
| Pit 3E | 58-09-06 | Within Grid | no surface expression | corners of grid | localized increases, some buried metal | Log GC35 background to slightly above | 25 locations; 131 sample depths; increased TPH random depths up to 18 ft. |

## Table 8-2 (cont.): Summary of Site Features at UC-3

| Site Feature | CAS Number | Location | Observations | GPS | EM31 Conductivity (mS/m) | Geoprobe Conductivity | Chemical Sampling |
|---|---|---|---|---|---|---|---|
| Shaker Pad | 58-10-01 | Within Grid | no surface expression | corners of grid | >40 mS/m | Logs GC1 and GC8 background to slightly above | 5 locations; 24 sample depths; increased TPH 4 - 6 ft. |
| Two Protruding Pipes | 58-99-01 | East of Grid | 2 pipes in area of previous operations trailers | corners of grid | background, possible tank 15' to the north | Logs GC14, GC15, GC34, GC16, and GC29 background to slightly above | 5 locations; 17 sample depths; increased TPH 4 - 8 ft. |
| SW Area of Drill Cuttings/ Muds | 58-44-04 | Outliers UC3R13-UC3R18 | large broad area of light colored material extending SW of UC-3 | center of EM profiles | background | NA | 5 locations; 16 sample depths <PAL |
| SE Area of Drill Cuttings/ Muds | 58-44-03 | Outliers UC3R6-UC3R12 | large broad area of light colored material extending SE of UC-3 | center of EM profiles | background to slightly elevated 19 mS/m | NA | 9 locations; 22 sample depths; increase TPH 0 - 2 ft. |
| N Area of Drill Cuttings/ Muds | - | Outliers UC3R1-UC3R5 & UC3R19-UC3R21 | large broad pile of light colored material extending north of UC-3 | center of EM profiles | slightly elevated 14 - 40 mS/m | NA | 5 locations; 20 sample depths <PAL |

## Table 8-2 (cont.): Summary of Site Features at UC-3

| Site Feature | CAS Number | Location | Observations | GPS | EM31 Conductivity (mS/m) | Geoprobe Conductivity | Chemical Sampling |
|---|---|---|---|---|---|---|---|
| Cuttings Pile | - | Outlier UC3R22 | series of small piles | center of EM profile | background | NA | NA |
| Cuttings Pile | - | Outlier UC3R23 | small pile | center of EM profile | background | NA | NA |

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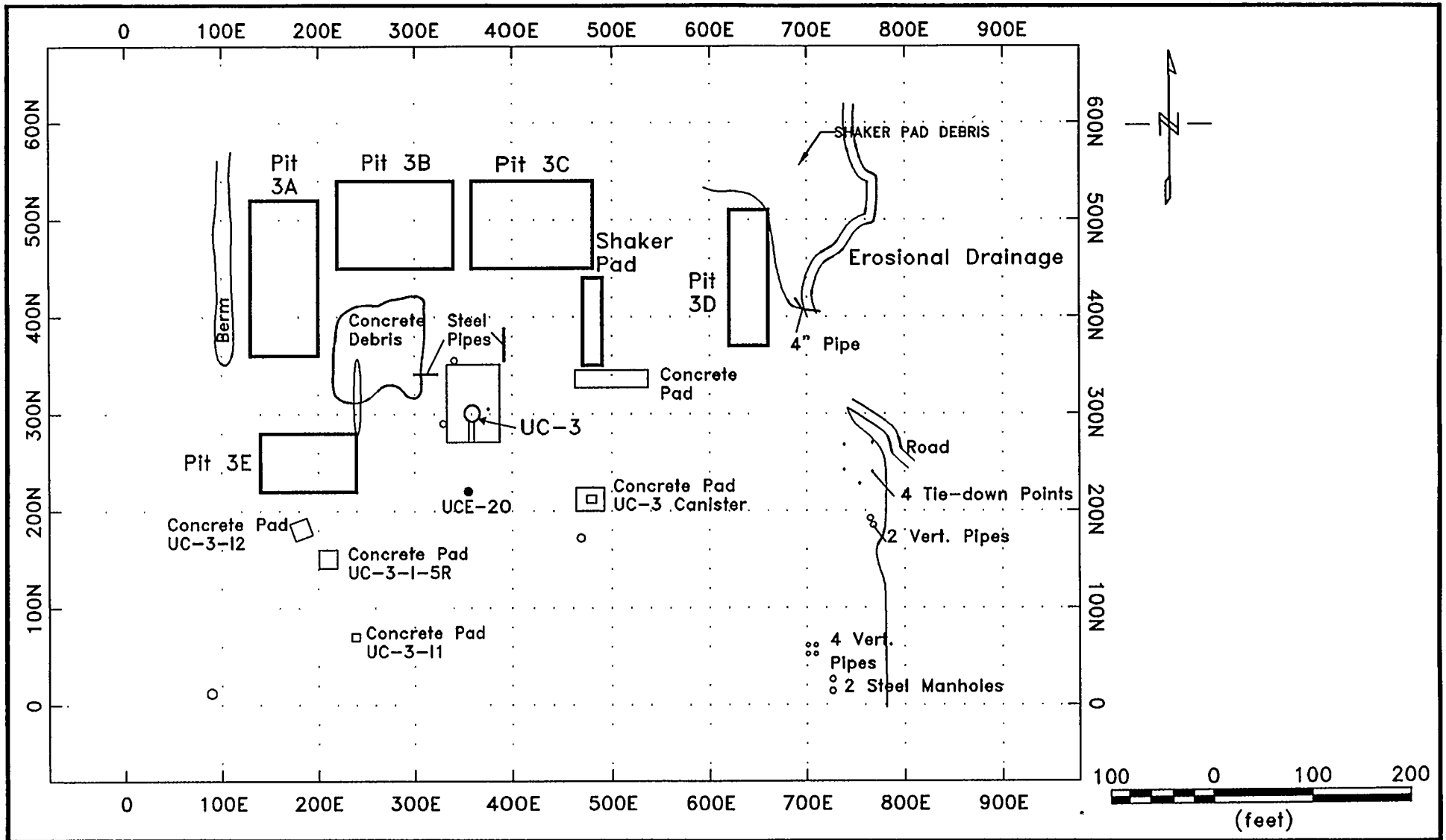


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| ESC Central Nevada Test Area | Site features shown relative to the UC-3 survey grid | Figure 8-1 |

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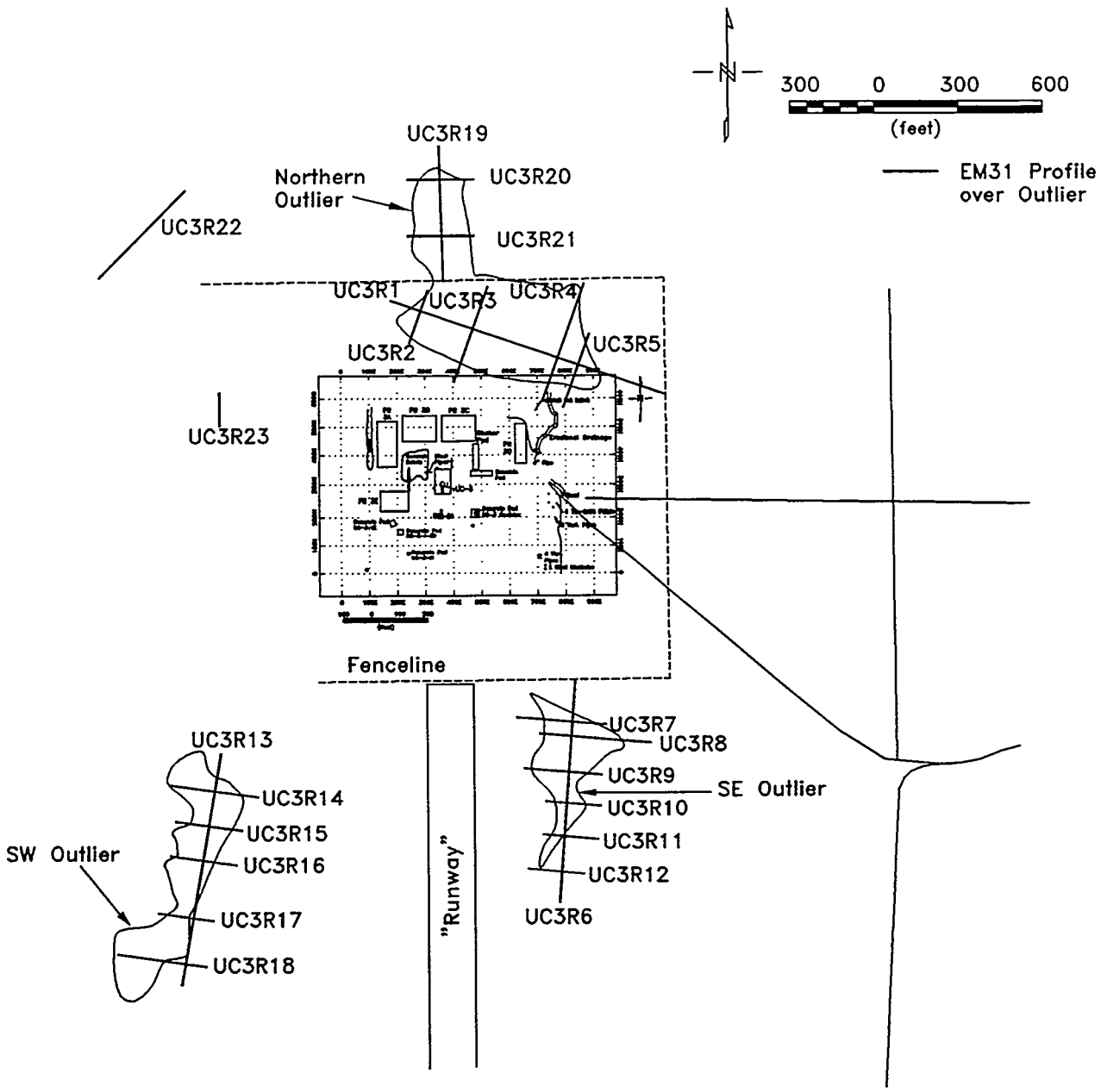


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| ESC<br>Central Nevada<br>Test Area | EM31 outlier locations<br>relative to the UC-3 survey grid | Figure 8-2 |

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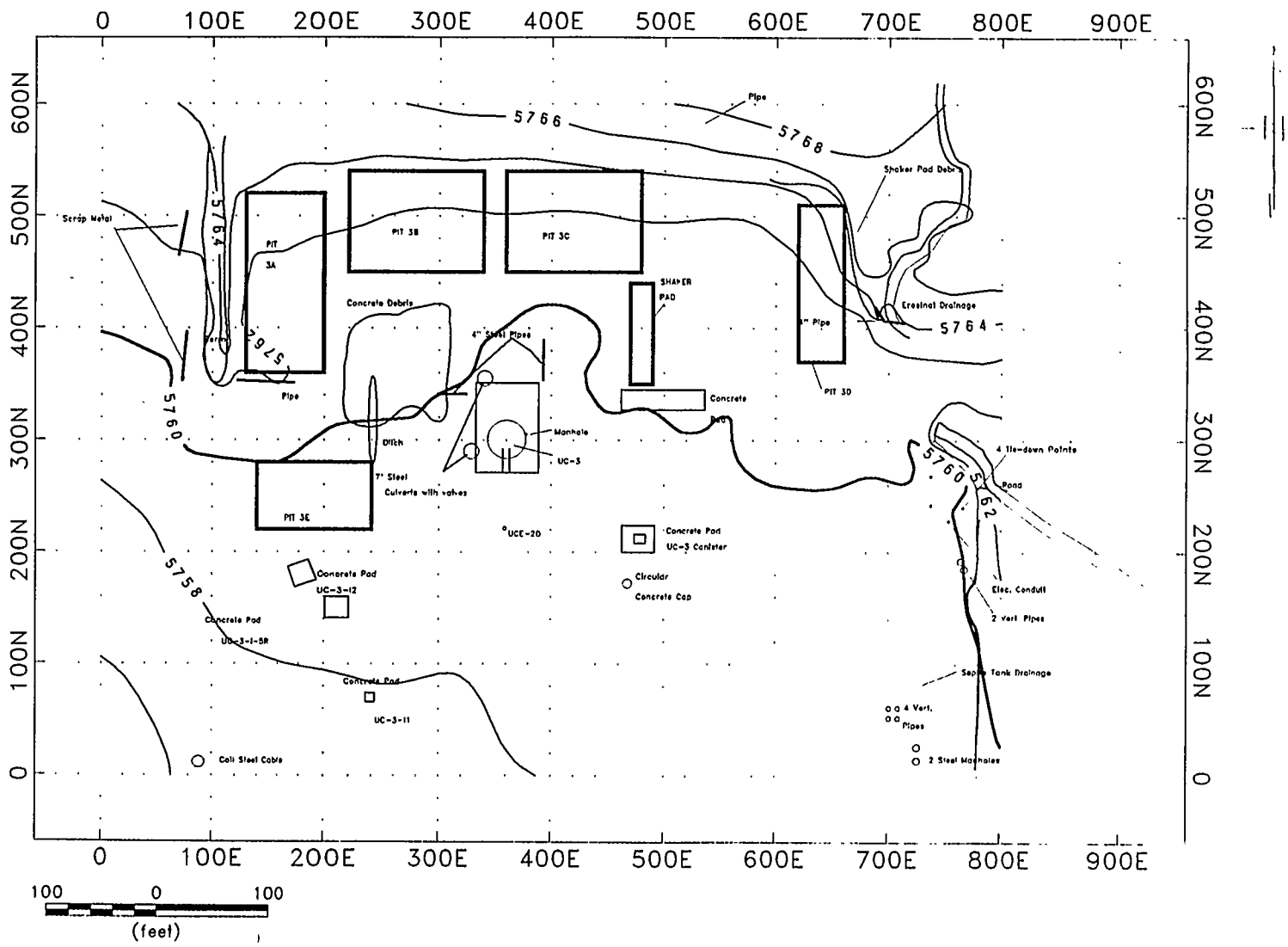


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| ESC<br>Central Nevada<br>Test Area | Surface elevation data | Figure 8–3 |

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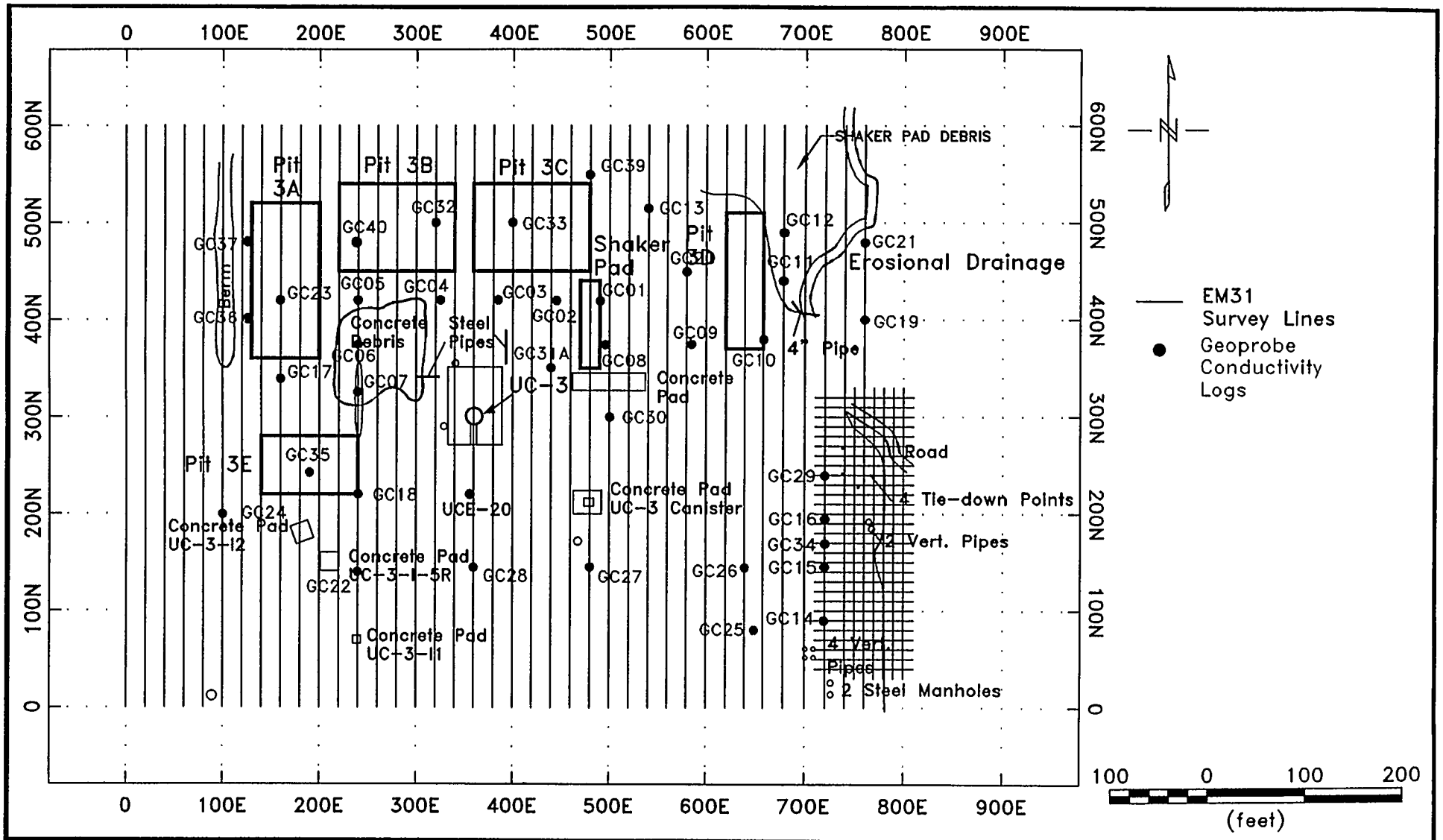


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| ESC<br>Central Nevada<br>Test Area | EM and Geoprobe measurement locations within the UC-3 survey grid | Figure 8-4 |

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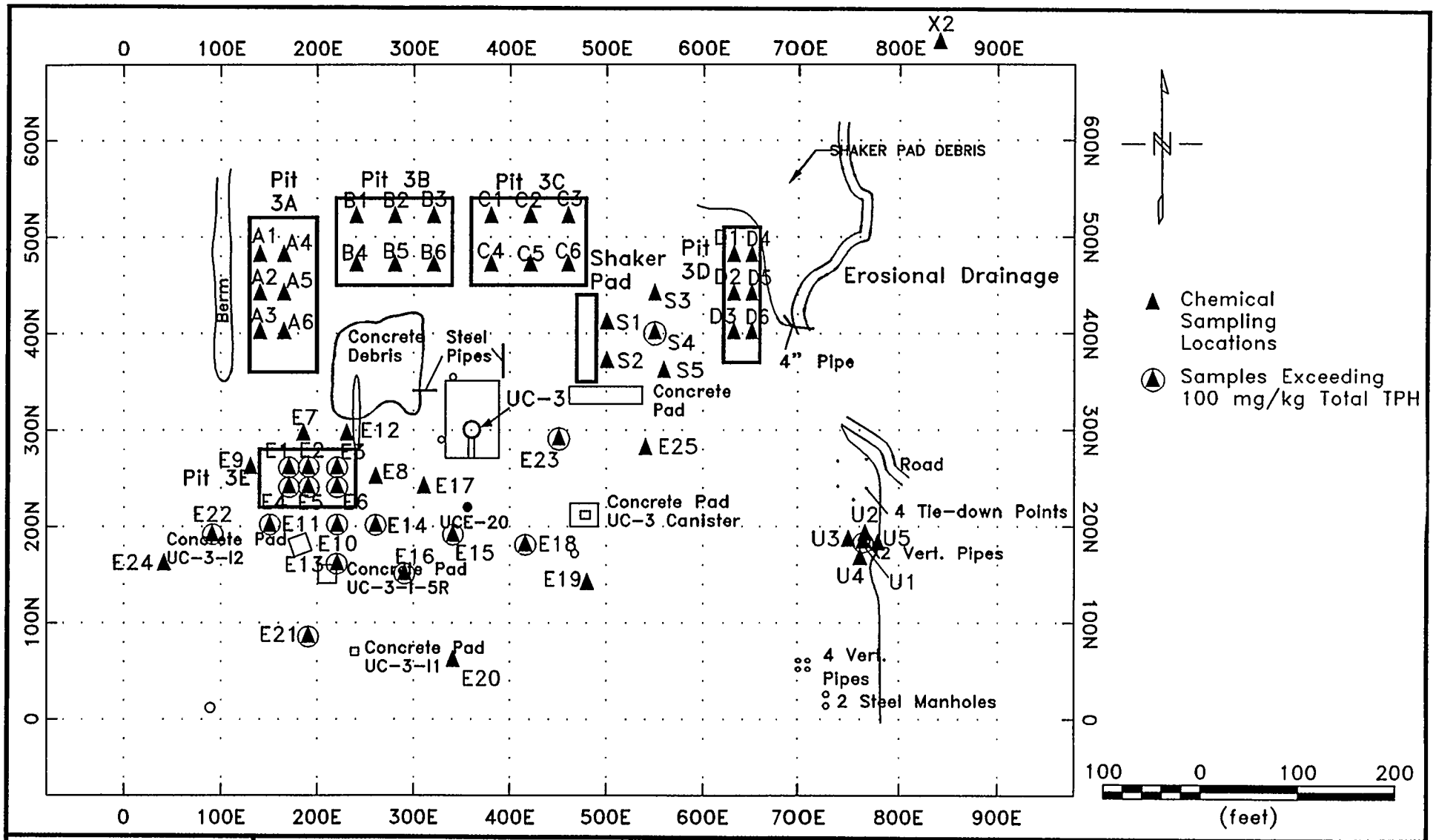


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| ESC<br>Central Nevada<br>Test Area | Chemical sampling locations<br>within the UC-3 survey grid | Figure 8-5 |

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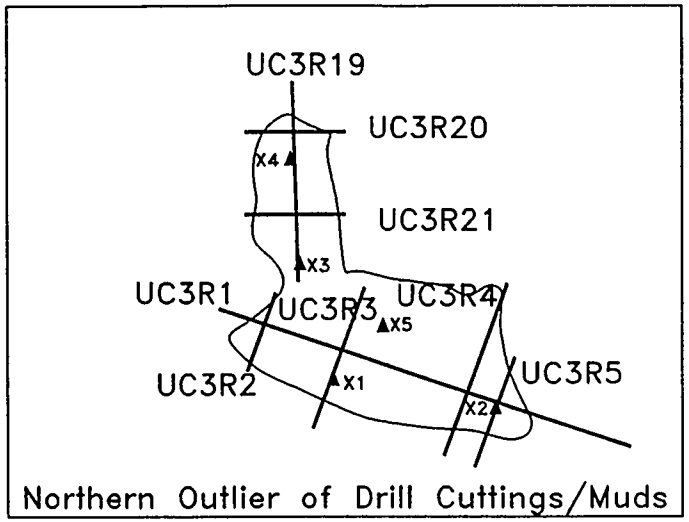
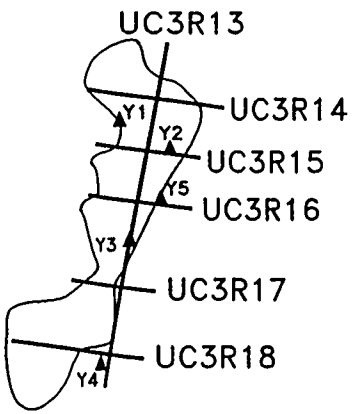
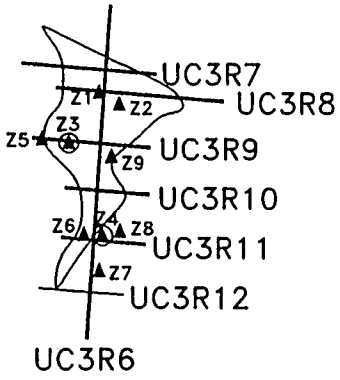



Northern Outlier of Drill Cuttings/Muds




Southwest Outlier of Drill Cuttings/Muds




Southeast Outlier of Drill Cuttings/Muds

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| ESC Central Nevada Test Area | Chemical sampling locations at UC-3 outliers | Figure 8-6 |

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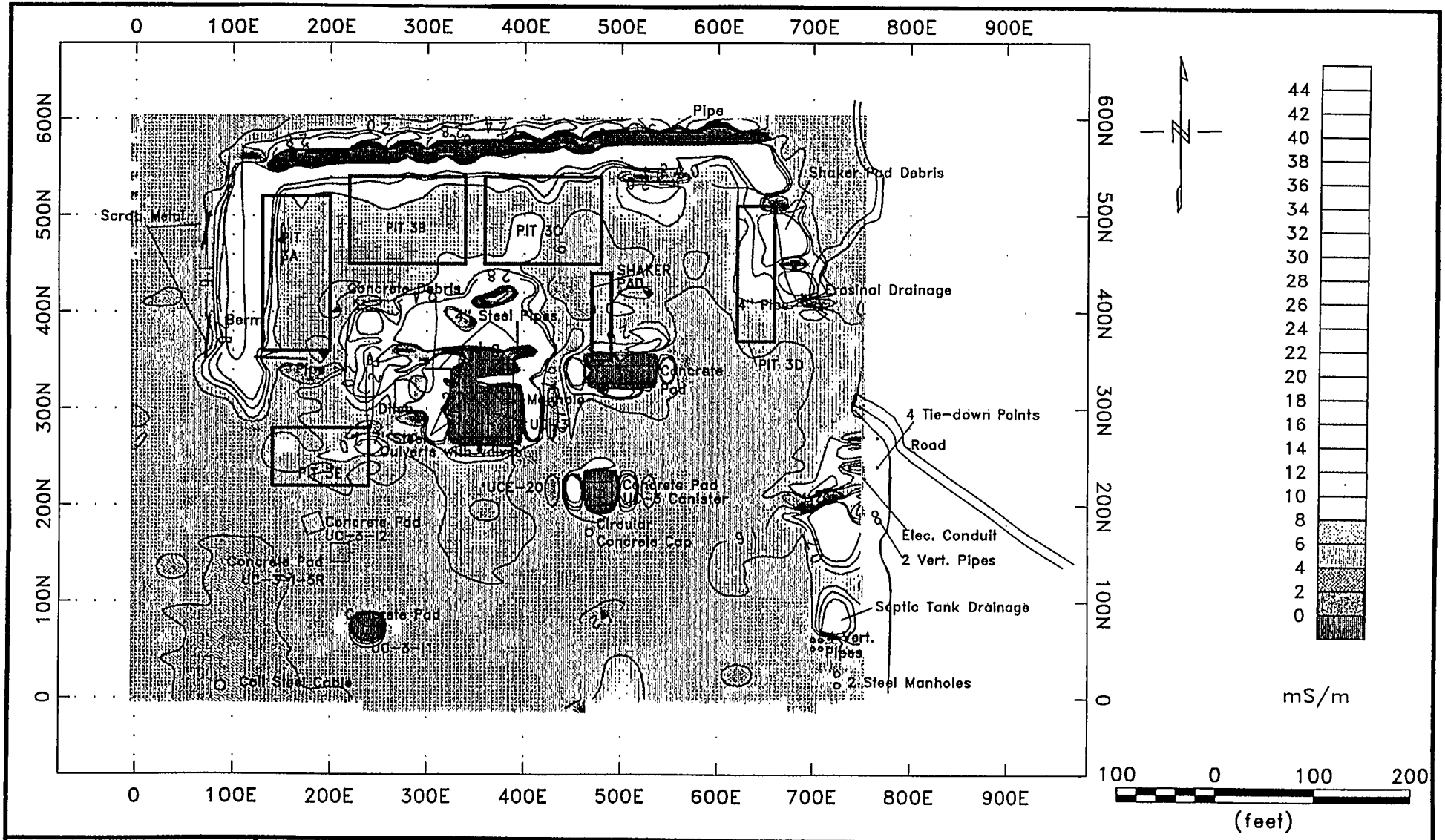


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| ESC<br>Central Nevada<br>Test Area | EM31 conductivity contour map of UC-3 | Figure 8-7 |

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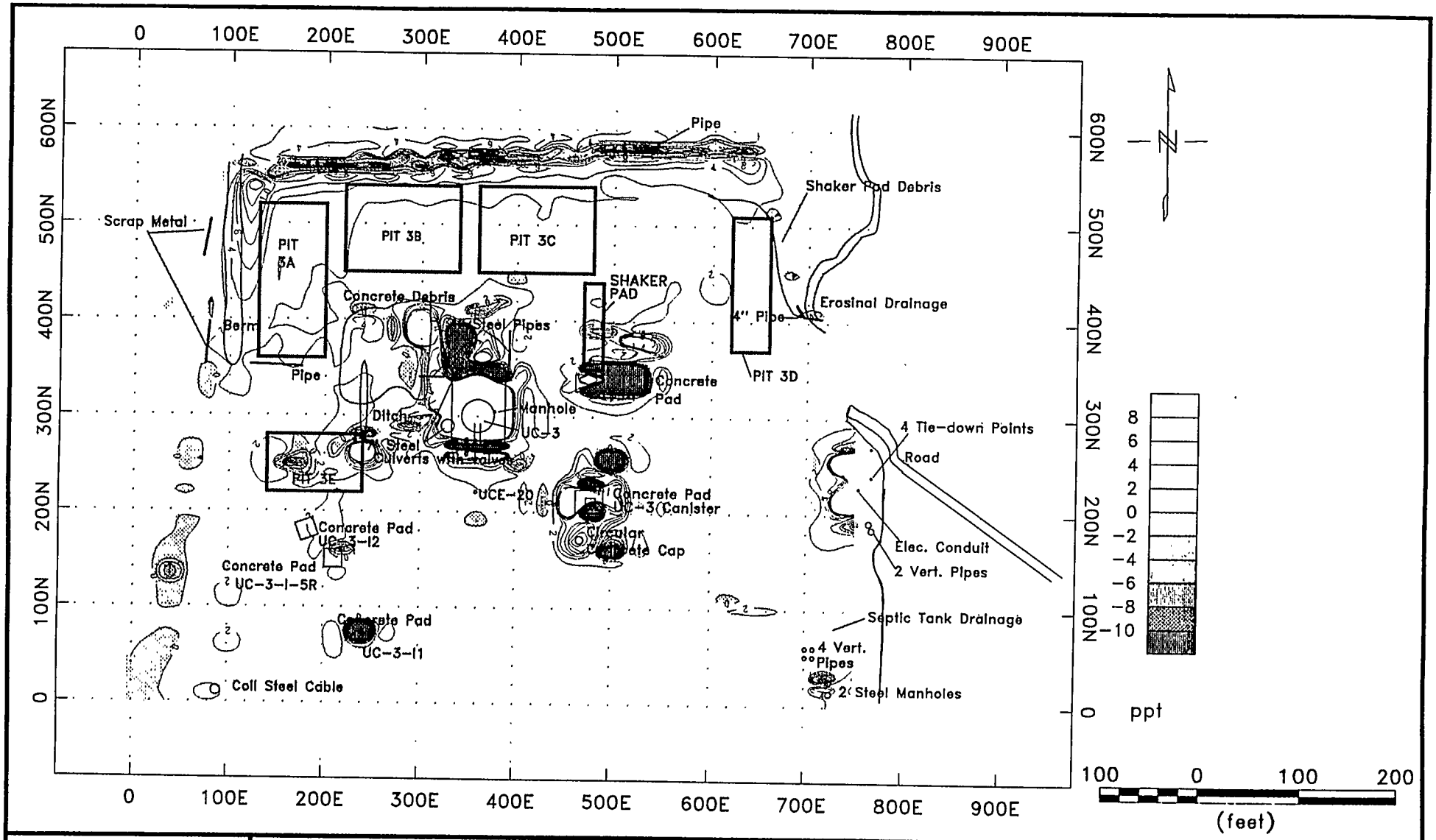


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| ESC<br>Central Nevada<br>Test Area | EM31 in-phase (metal) contour map of UC-3 | Figure 8-8 |

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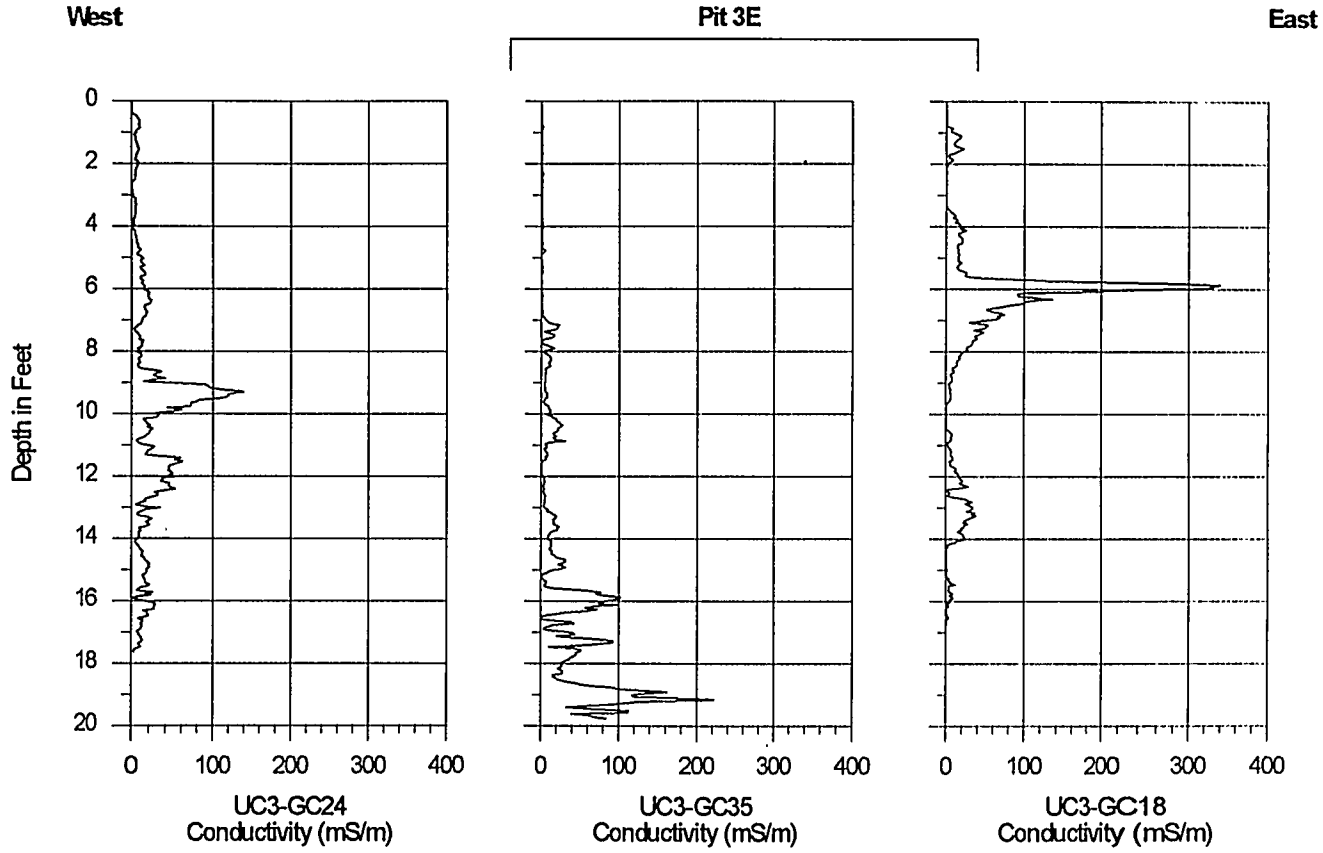


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| ESC<br>Central Nevada<br>Test Area | Mud Pit 3E cross section with Geoprobe conductivity logs UC3-GC24, UC3-GC5 and UC3-GC18 | Figure 8-9 |

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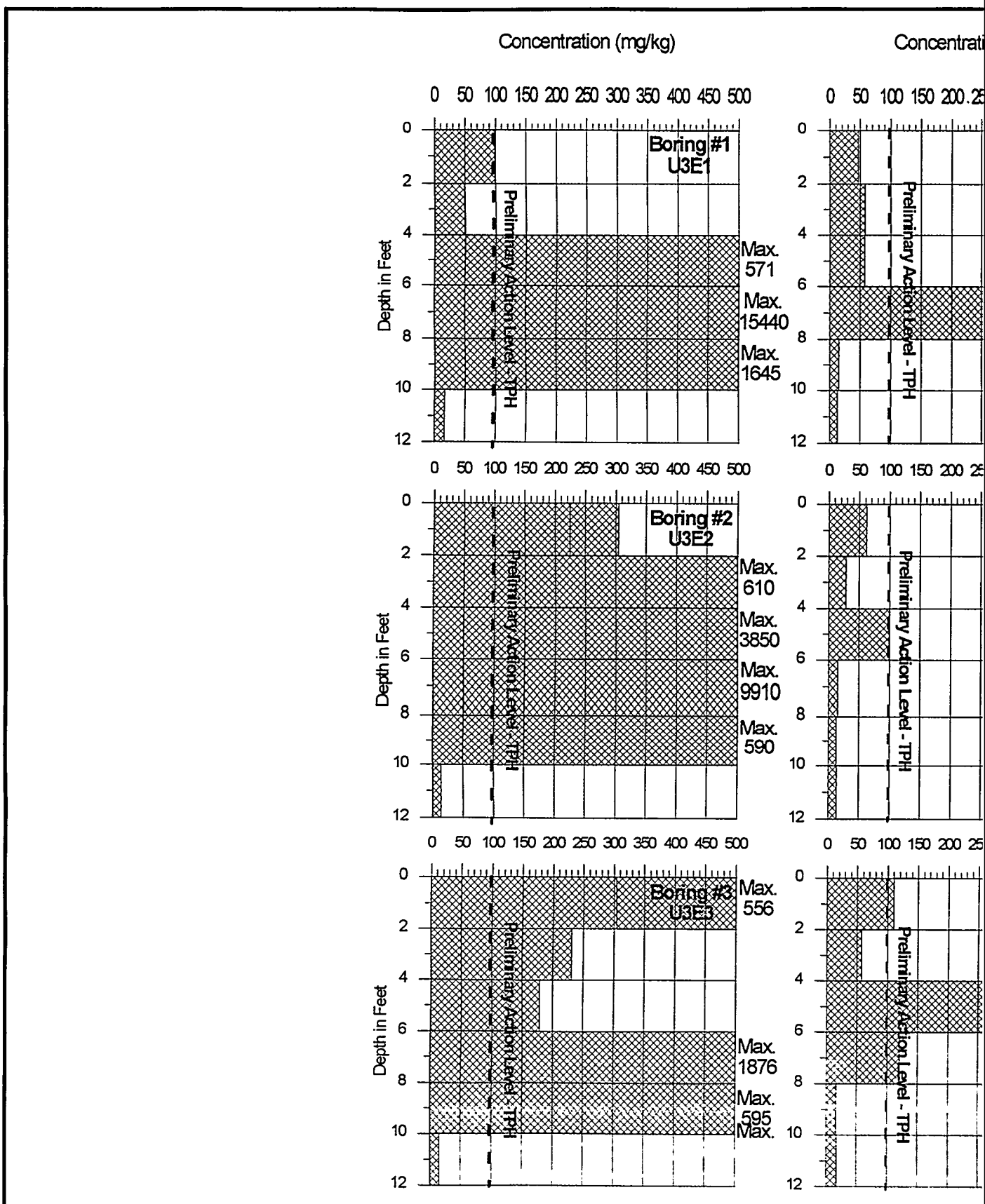


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Test Area

Mud Pit
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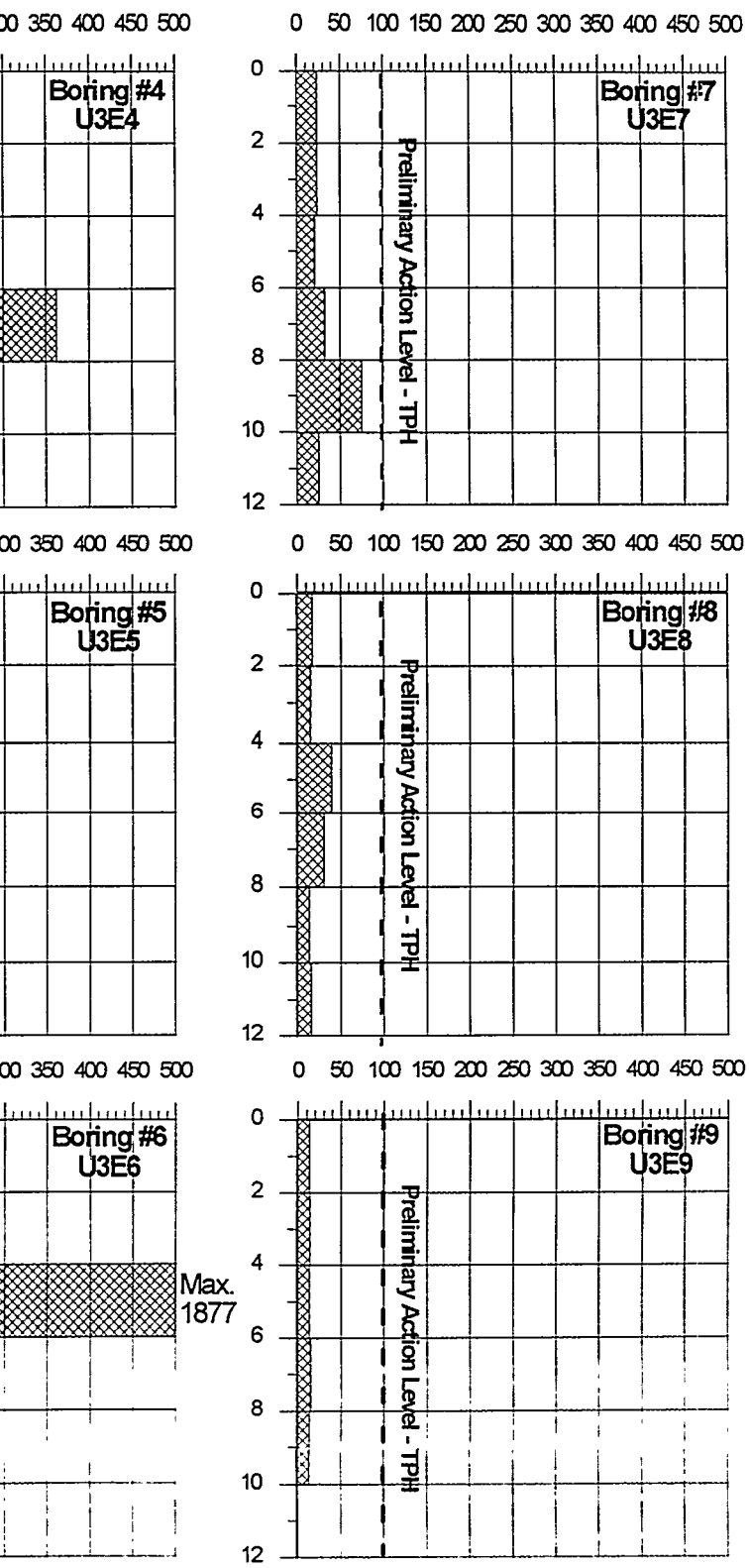
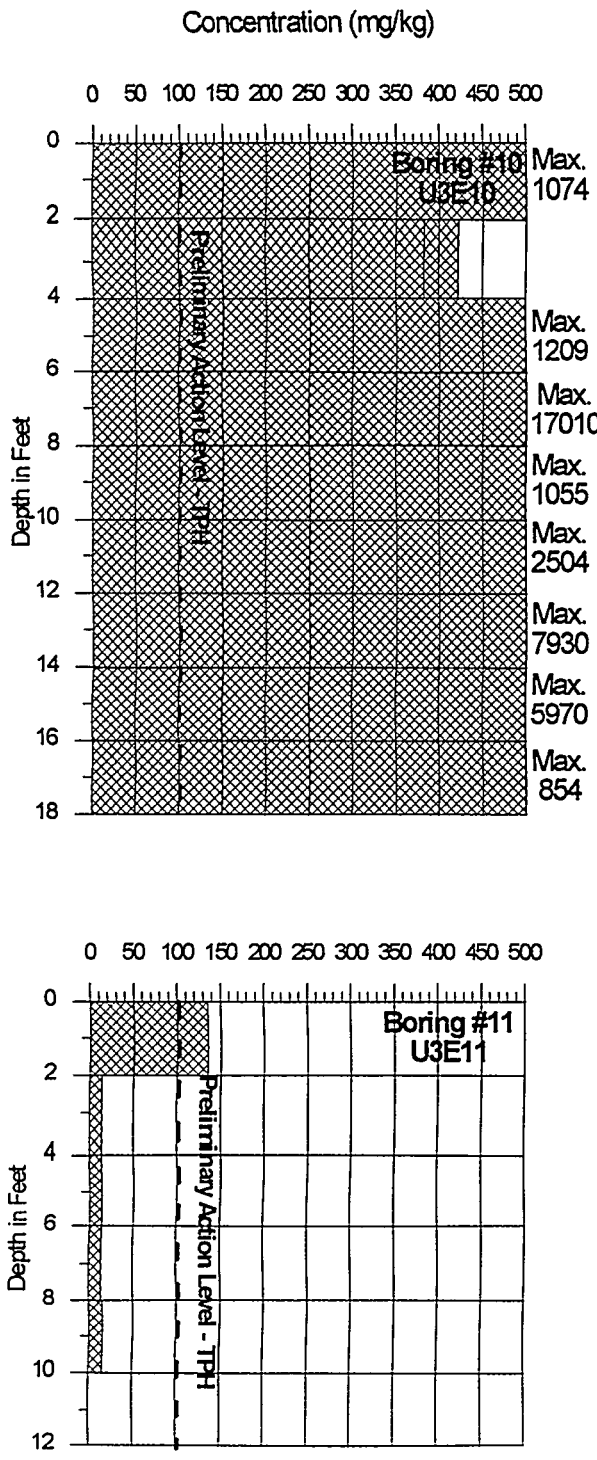
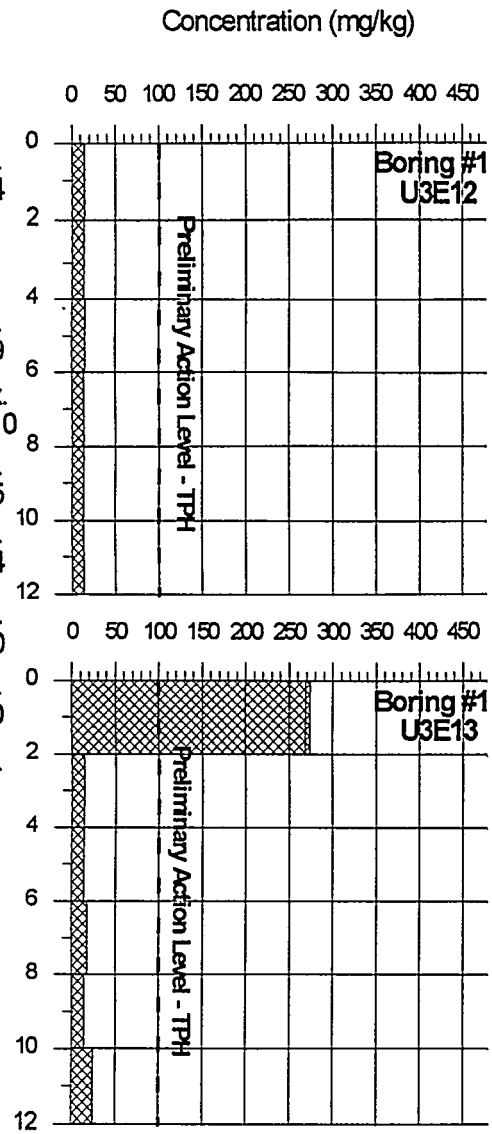



chemical results
U3E1 through U3E9)

Figure 8-10a

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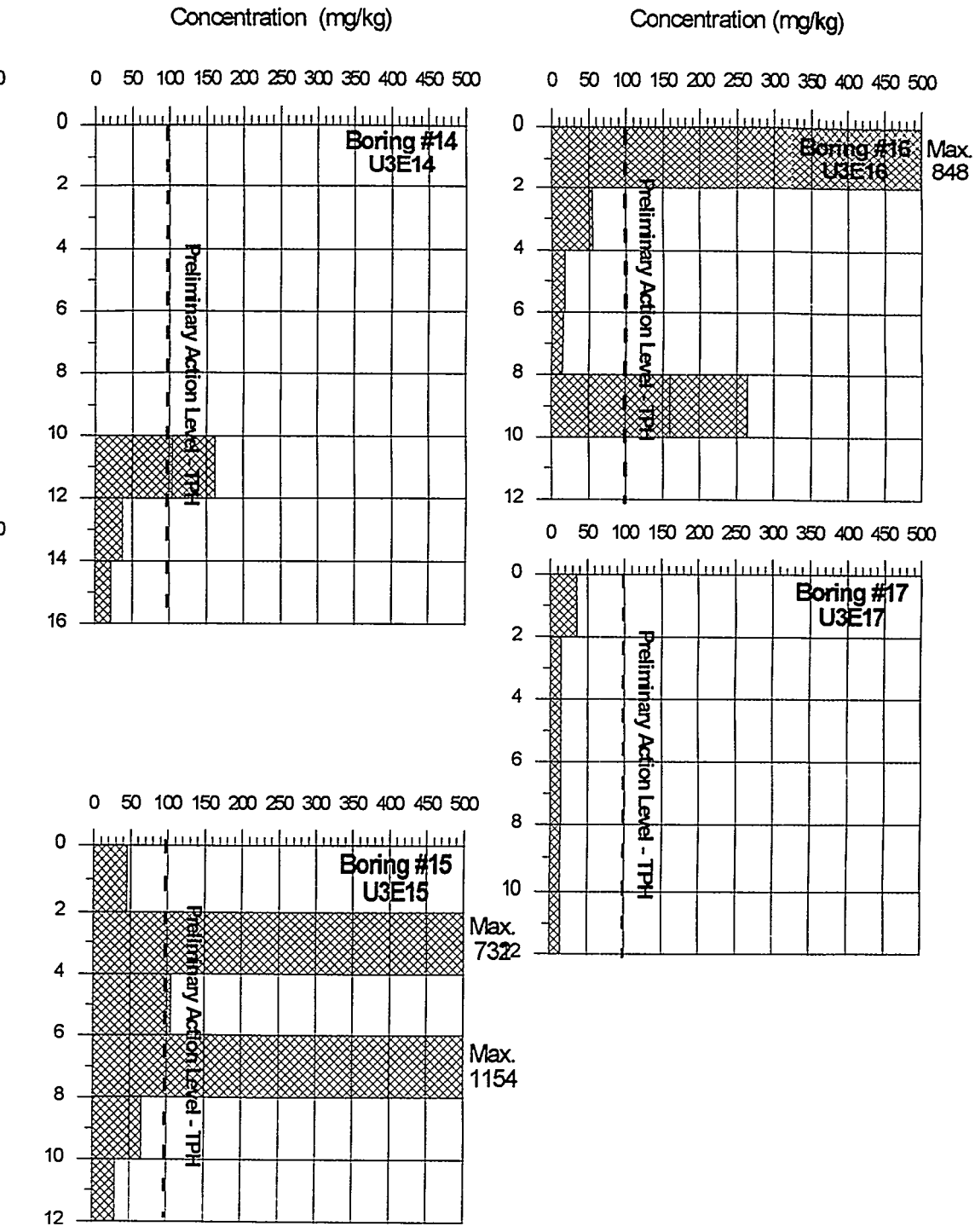
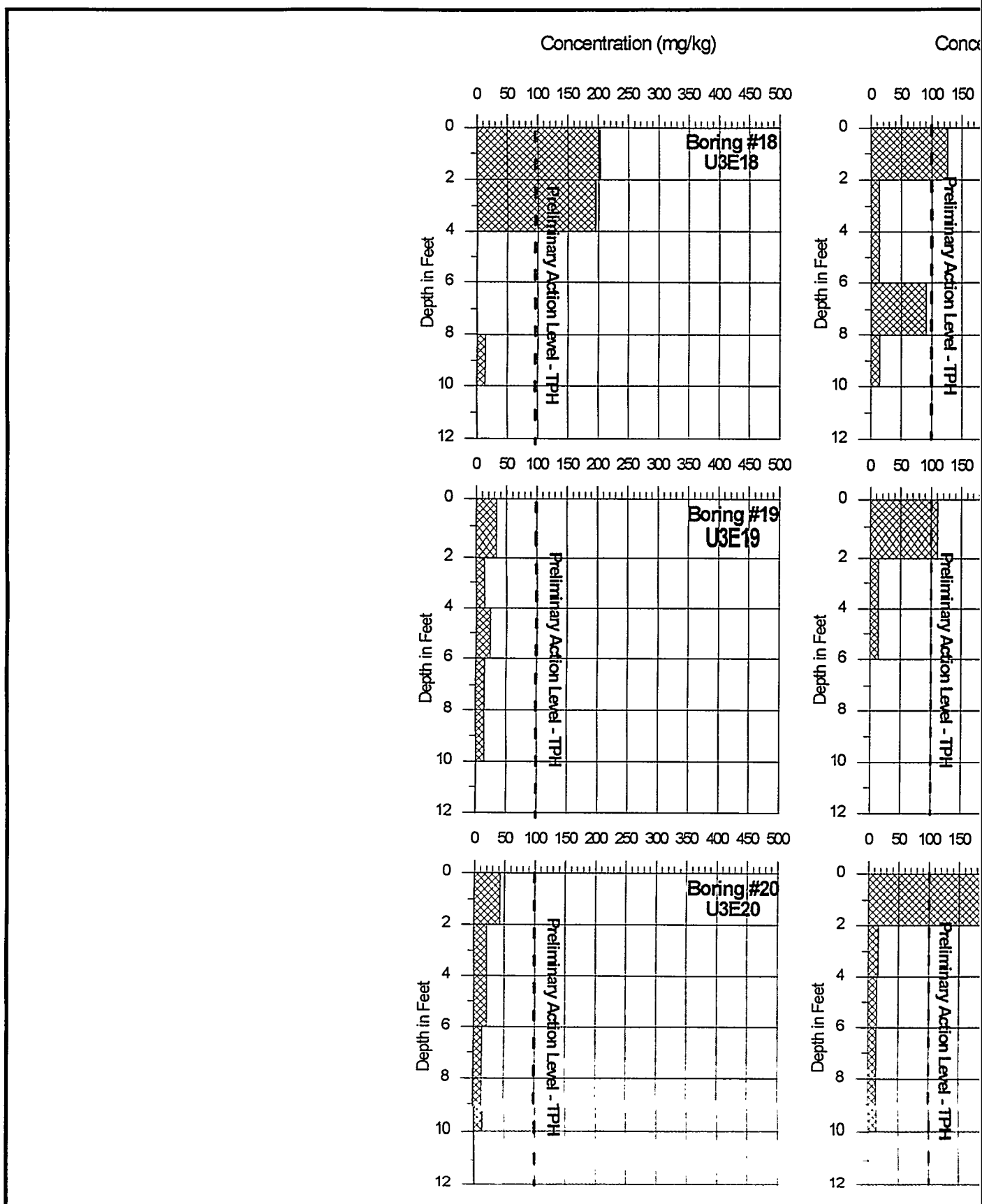
| ESC<br>Central Nevada<br>Test Area | Mud Pit<br>(locations |




E chemical results
3E10 through U3E17)

Figure 8-10b

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Test Area

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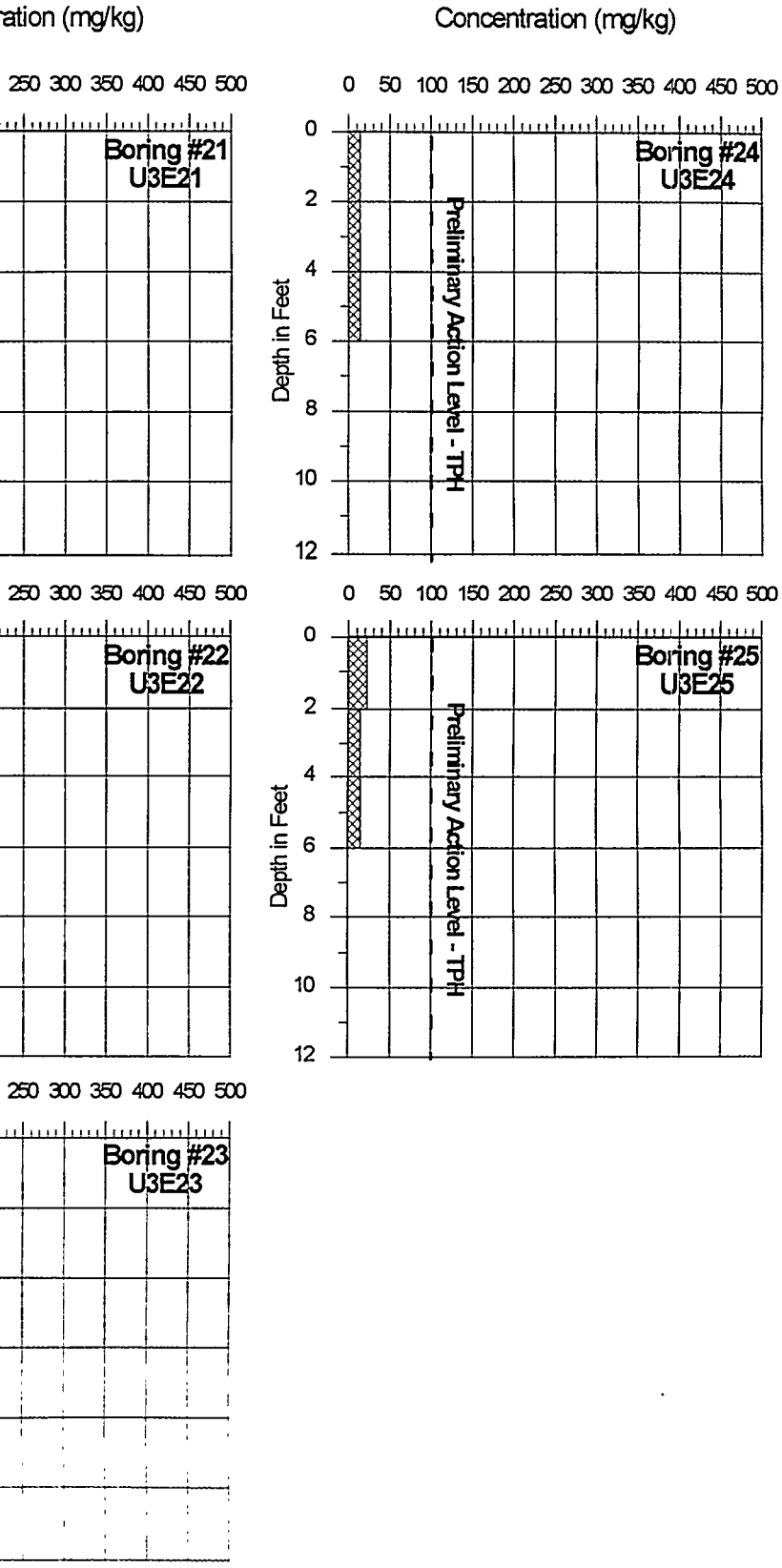
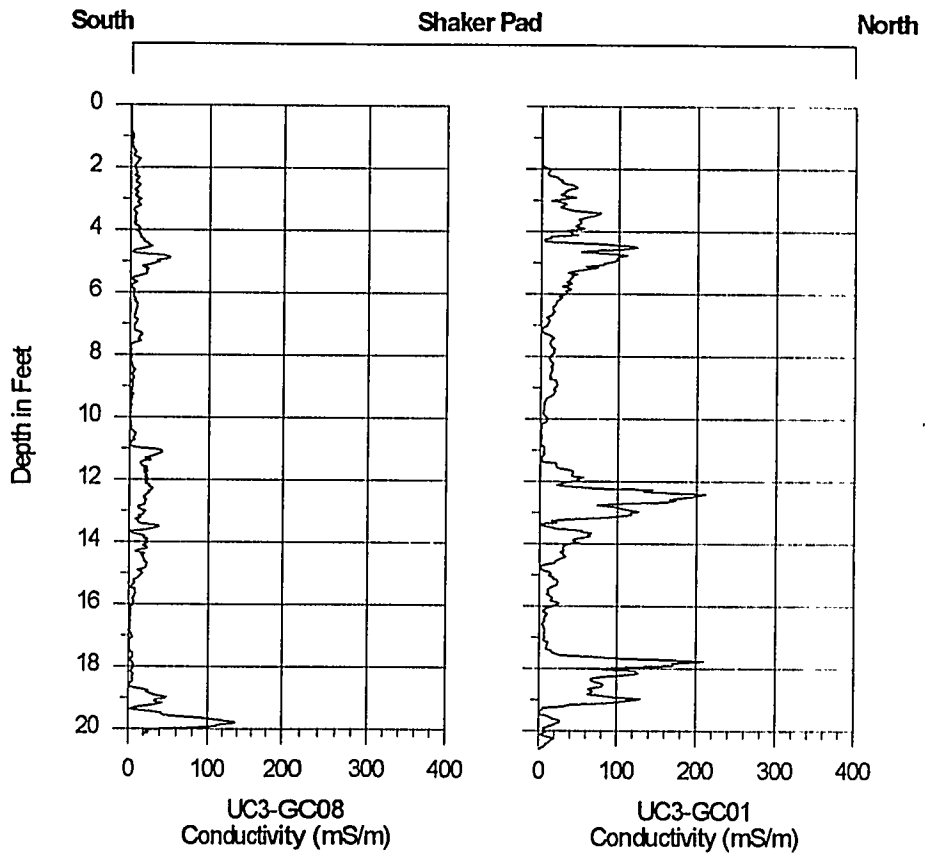



E chemical results
3E18 through U3E25)

Figure 8-10c

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| ESC<br>Central Nevada<br>Test Area | UC3 shaker pad cross section with<br>Geoprobe conductivity logs UC3-GC1 and UC3-GC8 | Figure 8-11 |

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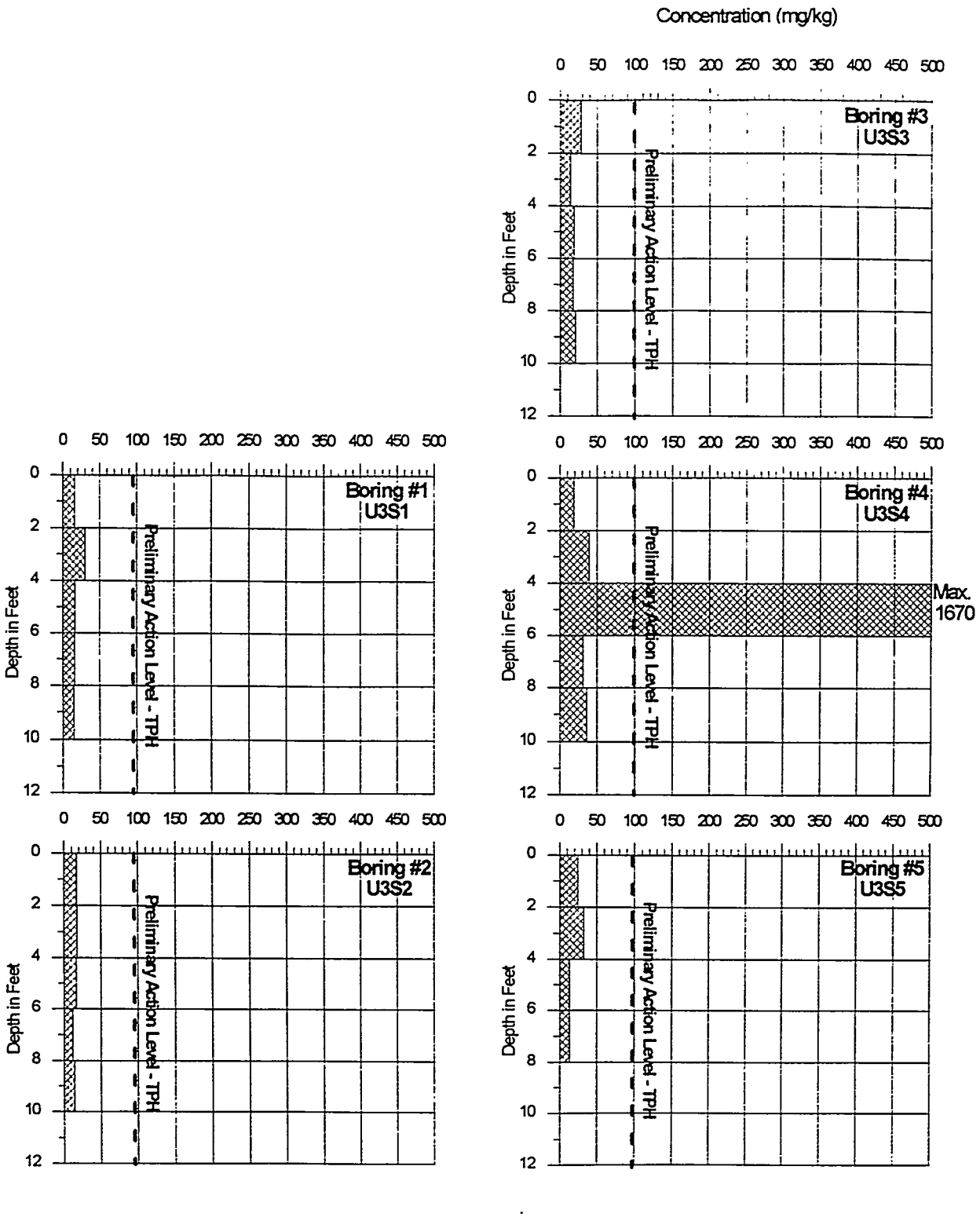


| ESC Central Nevada Test Area | UC3 shaker pad chemical results | Figure 8-12 |
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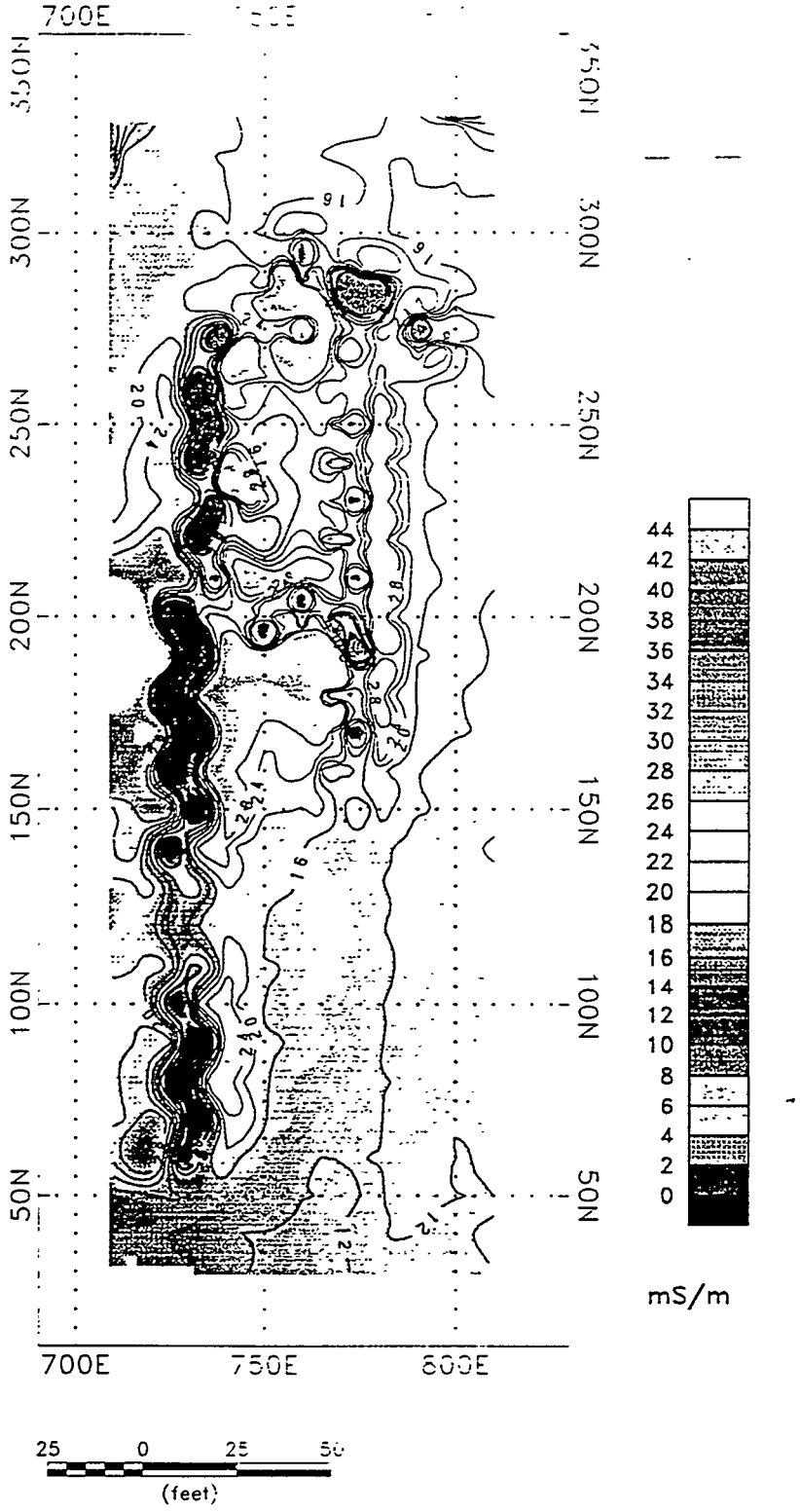


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| ESC<br>Central Nevada<br>Test Area | EM31 conductivity contour map<br>for the east extension<br>of the UC–3 survey grid | Figure 8–13 |

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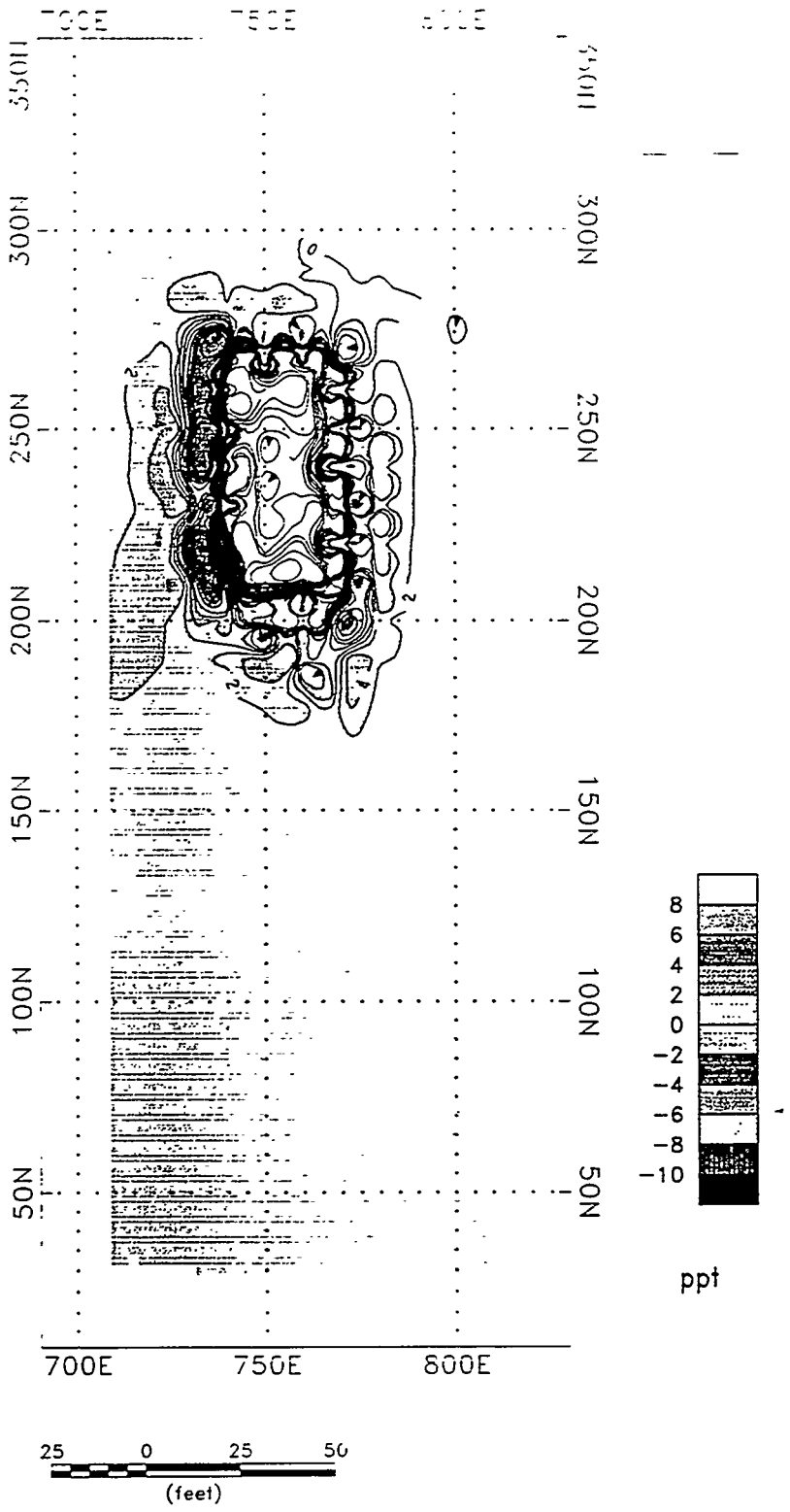


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| ESC<br>Central Nevada<br>Test Area | EM31 in-phase (metal) contour map for the east extension of the UC-3 survey grid | Figure 8-14 |

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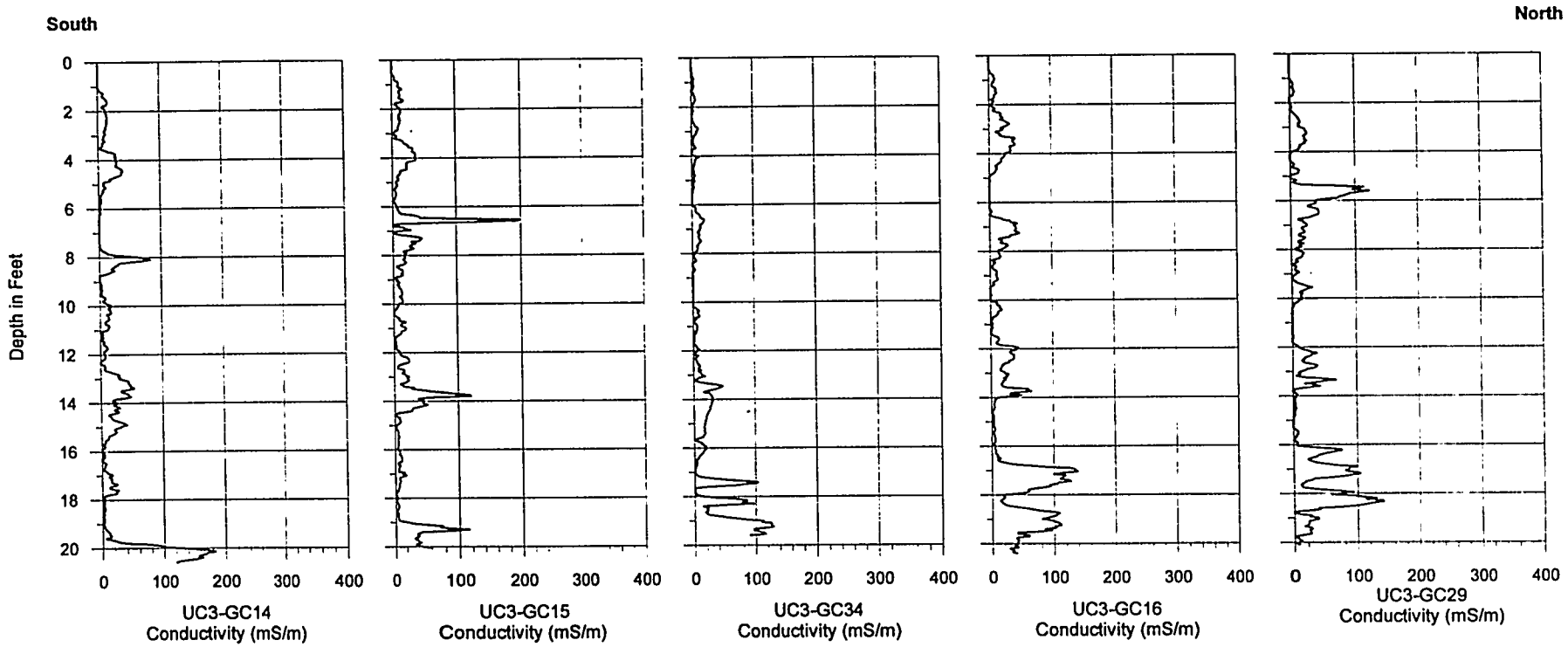


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| ESC<br>Central Nevada<br>Test Area | Protruding pipe area cross section with Geoprobe conductivity logs UC3-GC14, UC3-GC15, UC3-GC34, UC3-GC16 and UC3-GC29 | Figure 8-15 |

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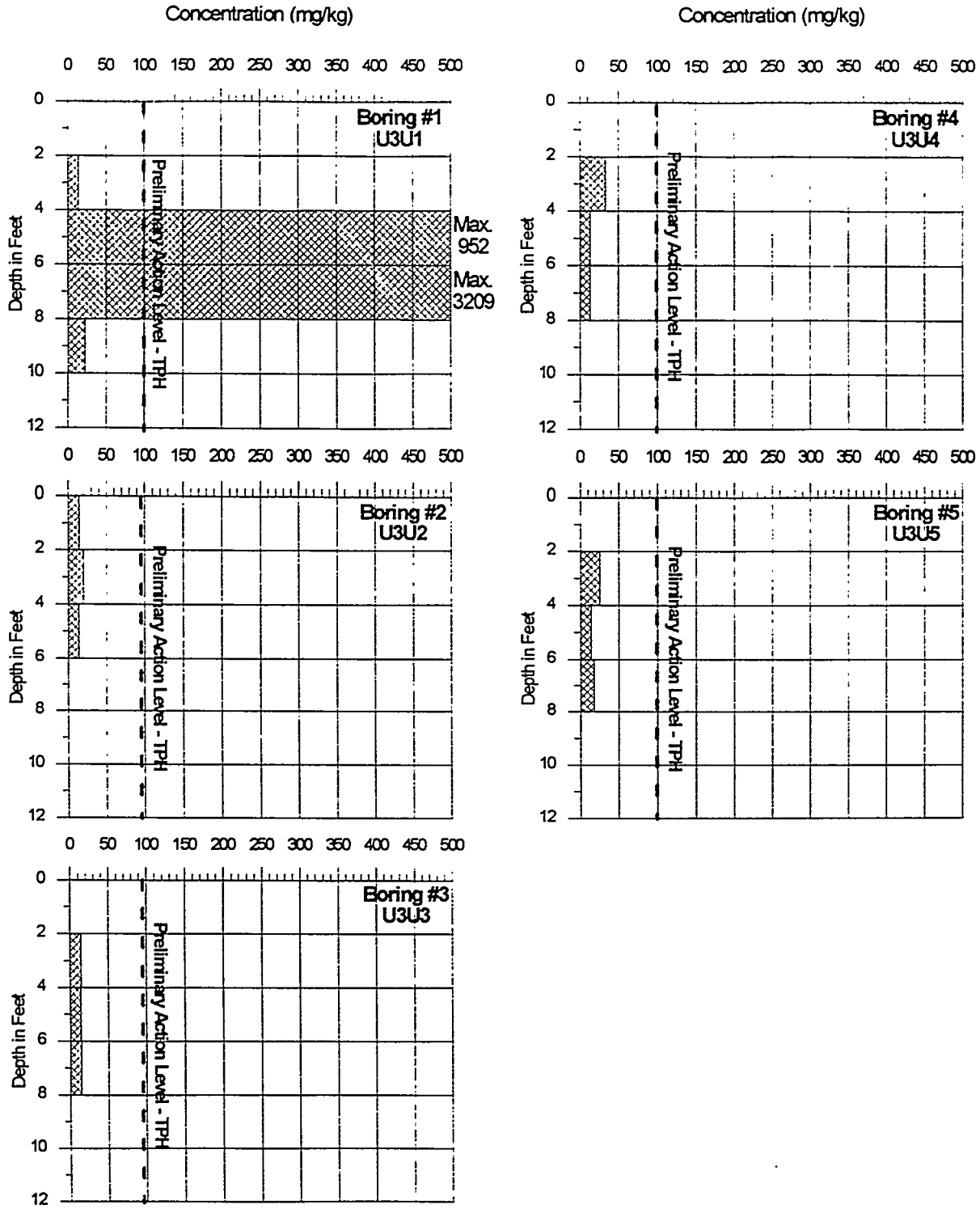


| ESC Central Nevada Test Area | Chemical results in area of protruding pipes | Figure 8–16 |
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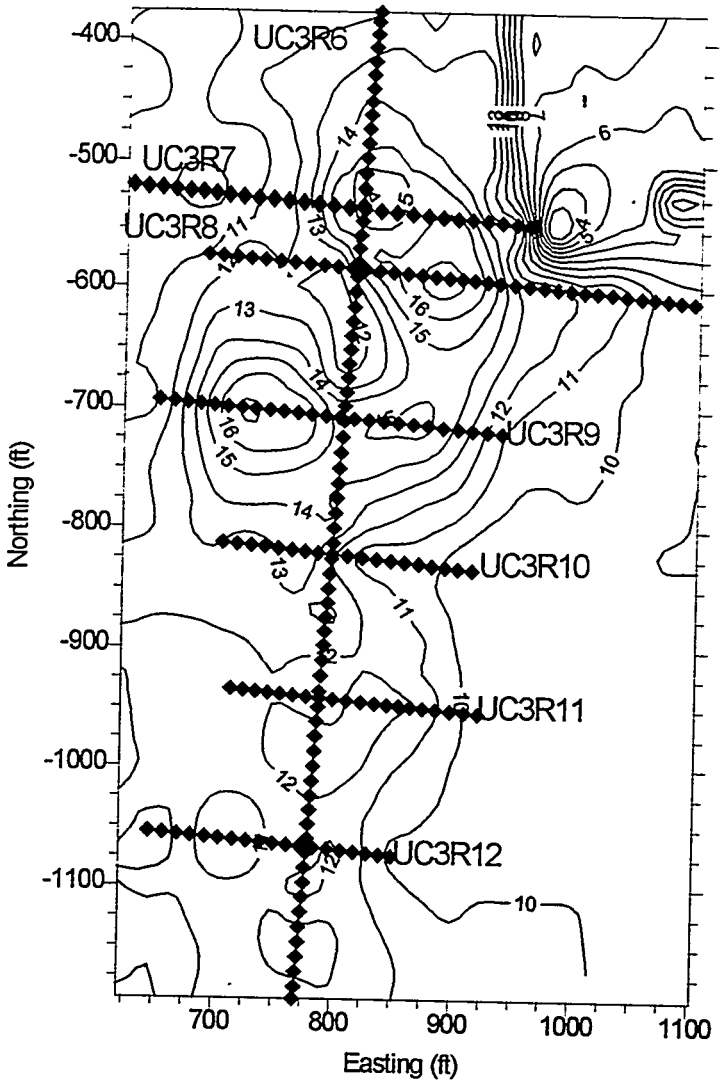


UC-3 Southeast Outlier
Conductivity (mS/m)

| | | |
|---|---|---|
| ESC<br>Central Nevada<br>Test Area | EM31 conductivity contour map for the drilling cuttings/muds southeast of the UC-3 survey grid | Figure 8-17 |

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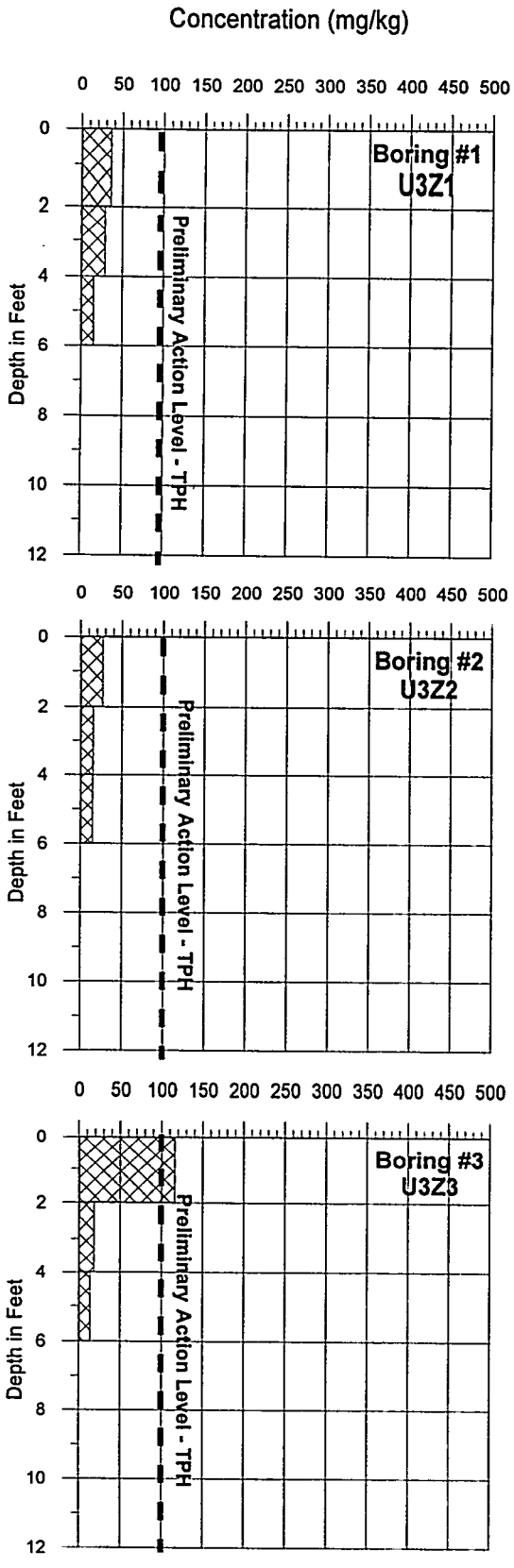
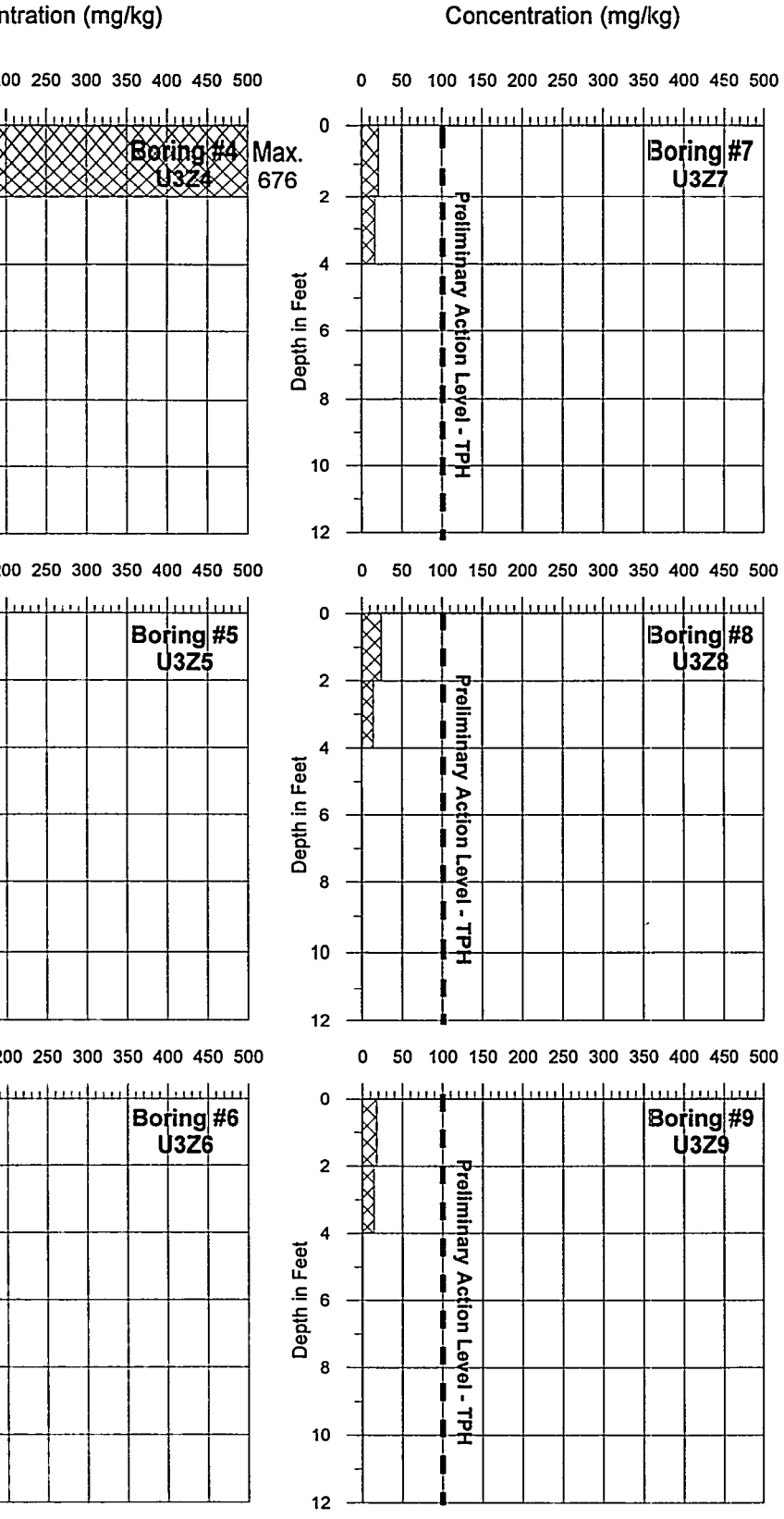



ESC
Central Nevada
Test Area

Chemical results f
southeast of




r the drilling cuttings/muds
the UC-3 survey grid

Figure 8-18

# 9.0 UC-4 AREA

## 9.1 Background

The UC-4 emplacement hole is located at NV 1927 state plane coordinates 628,253.40E, 1,430,564.49N with an approximate concrete pad elevation of 6,550 ft. Historic photographs taken at the time of active drilling operations were used to evaluate pit locations and work areas. UC-4 is thought to contain five mud pits (CAS #58-09-03) and a shaker pad area north of well UC-4 (CAS #58-10-02). Three of these mud pits were observed during a February 1996 site visit to have been backfilled. All five mud pits are located in the southwest portion of the site. In addition, there were some concerns regarding vertical pipes in an area previously used for operational trailers, on the western portion of the site.

## 9.2 Data Acquisition

### 9.2.1 Survey Grid

A survey grid was established over an area of 920 x 760 ft. (Figure 9-1). The extent of the grid was selected to include all of the mud pits and key features. Aerial photos, existing drawings (primarily from the CAIP), and on-site observations were used to select the boundaries of the grid. All field observations and measurements are referenced to the grid northing and easting coordinates in ft. Near the site, two ravines which contained drilling mud/cuttings were not included within the grid due to their locations and extents.

All field observations and measurements are referenced to the grid northing and easting coordinates in feet. Coordinates given in the following text refer to this local grid system. Local grid coordinates were translated into UTM coordinates during field operations for compatibility with existing DOE databases. See Appendix A for a table of control points for the UC-4 area.

### 9.2.2 On-Site Observations

Figure 9-1 shows the observed locations of site features relative to the rectangular grid established at the site. The suspected position of the mud pits (CAS #58-09-03) and shaker pad (CAS #58-10-02) shown in Figure 9-1 and other figures are based upon the CAIP drawings, aerial photos, field observations and surface geophysical data. One mud pit is visible at the surface centered at 220E, 160N and drains through a breach in its berm to the east.

The UC-4 area is generally bounded on three sides (south, east, and north) by dirt roads. The UC-4 emplacement hole (CAS #58-30-02) is located in roughly the center of the site at 365E, 350N, and is surrounded by a concrete pad. A separate concrete pad, which served as the floor of a metal building, lies about 75 ft. to the west of the hole. Shaker pad debris is visible in a large ravine across the northern portion of the site, and appears to drain to the east, extending under the road via a 20-inch steel pipe, and continuing down a valley to the east. It appears that drilling mud may have discharged into this ravine due the apparent large quantity of mud relative to cuttings. Similar waste material is visible in a valley south of the site that drains to the southeast.

### 9.2.3 Digital Elevations

Digital elevation data were acquired over the entire grid generally at a 40-ft. sample spacing, as well as over the grid extension to the west for a total of 433 stations. Figure 9-3 shows the elevation map for UC-4. Elevations at UC-4 range from 6,514.6 to 6,578.5 ft. and average 6,548.9 ft.

### 9.2.4 Surface Geophysics

**EM31**
EM31 conductivity and in-phase (metal) data was acquired over four areas. These four areas include:

- The site grid, along parallel lines oriented north-south with a line spacing of 20 ft. (Figure 9-3).
- The drainage channel east of the grid which contains light-colored material that is runoff from the shaker pad area flowing from a pipe beneath the road. Ten (10) separate EM31 profile lines were run perpendicular to the axis of the ravine. Their locations relative to the grid are shown in Figure 9-4. Profiles R1-R10 extend across the valley east of the grid.
- The drainage channel south of the grid which also contains a light colored material similar to that from the shaker pad. Ten (10) separate EM31 profile lines were run perpendicular to the axis of the ravines. Their locations relative to the grid are shown in Figure 9-4. Profiles R101-R110 extend across the valley south of the grid.
- West of the site grid extending from 0E to 190W and from 260N and 540N; at a line spacing of 10 ft. oriented both in the north-south and east-west directions.

**EM38**
EM38 data were acquired along one line (80E) running north-south through Mud Pits 4A and 4B. This data provided an indication of the lateral continuity of the mud pits within the shallow soils.

**Magnetometer and Metal Detector Pipe Locator**
A magnetometer and metal detector pipe locator was used for survey work completed west of grid. These instruments were used to identify potential underground storage tanks or trace suspected pipelines in the area previously used for operational trailers.

### 9.2.5 Geoprobe Conductivity Logs

Geoprobe conductivity logs were acquired at 23 locations within the grid (Figure 2-2). They are labeled sequentially UC4-GC01 through UC4-GC23. One location, UC4-GC08, was not completed due to ground conditions being too hard. Plots of the conductivity logs are included in Appendix E.

### 9.2.6 Chemical Sampling and Analysis

Figure 9-5 shows all the chemical sampling locations in the UC-4 area. Locations within the five mud pits were selected in accordance with the CAIP, with the exception of Pit 4E in which only two locations were sampled due to the small size of the pit. Additional locations were sampled

outside the pits to confirm their lateral extent, and two locations were sampled to characterize material eroding from Pit 4C through a breach in its berm.

In areas of uncontrolled disposal of drill cuttings and/or drilling mud and grout, sample locations were selected based on geophysical data and visual observations. Areas sampled in this manner were the eastern and southern drainage channels and the shaker runoff area. Samples were analyzed in the on-site laboratories for TPH and chromium concentrations.

### 9.3 Interpretation

The contoured EM31 data show high conductivity areas relating to mud pit locations, buried metal and surface features such as the reinforced concrete pads (Figure 9-6). The contoured EM31 in-phase (metal) data show anomalies related to reinforced concrete pads, buried metal and surface metal (Figure 9-7). Those conductivity anomalies in Figure 9-6 that do not have a corresponding in-phase anomaly in Figure 9-7 can be assumed to be related to natural geologic conditions, mud pits, shaker pad debris or other electrically conductive materials.

Background EM31 terrain conductivity values are approximately 8 to 10 mS/m at the UC-4 site. EM31 conductivity values increase dramatically to well above 30 mS/m over the mud pits. The areas of higher conductivities correspond well to the pit locations estimated from historical aerial photography. This allowed chemical sample locations to be selected with confidence.

Additional anomalies at UC-4 are dominantly associated with buried metals. An area of elevated conductivity and in-phase (metal) anomalies trends southeast between the UC-4 well and Mud Pit 4D. This trend may represent a mud flow area between the well and Mud Pit 4D as well as significant buried metal. An isolated in-phase (metal) anomaly is identified just east of the main south-north dirt road. This anomaly is roughly centered at 660E and 320N.

Geoprobe conductivity data was found to be an excellent indicator of the depth and thickness of mud layer due to the very high conductivity of the moist mud in comparison to background conductivity. For this reason, sampling depths in each particular pit and shaker area could be targeted at known mud depths. In the pits where mud was not visible at the surface, the mud layer plus one 2-ft. interval above the mud and one interval below the mud were planned for collection.

Chemical analyses produced results consistent with geophysical interpretations and initial site observations. Three of the mud pits contained buried drilling mud layers with TPH values in excess of the action level, and the uncovered pit showed TPH contamination at the surface. Material in the shaker area and both drainage channels also contained levels of TPH in excess of the action level. Chromium concentrations did not exceed applicable action levels in any sample.

#### 9.3.1 Mud Pits 4A

Mud Pit 4A displays conductivities above background and is centered at 80E, 400N (Figure 9-6). Based upon the EM31 in-phase (metal) data, no buried metal is located within this mud pit. However, three small in-phase anomalies are located just outside the southern boundary of Mud Pit 4A. Also, one small in-phase anomaly is located just outside the northeastern boundary of Mud Pit 4A.

Two Geoprobe conductivity logs (UC4-GC2 and UC4-GC3) were located directly within Mud Pit 4A. Two additional conductivity logs (UC4-GC1 and UC4-GC4) are located just outside the Mud Pit 4A, to the north and south, respectively. Figure 9-8 shows a cross section of these four conductivity logs along with the surface EM data acquired along Line 80E. Background conductivity values or close to background values are seen in logs UC4-GC1 and UC4-GC4 which are outside the pit boundaries. Conductivity logs UC4-GC2 and UC4-GC3 indicated very high conductivities (>200 mS/m) from 6 to 10 ft. and from 7 to 11 ft., respectively. Based upon this electrical conductivity data, the muds from Pit 4A have well defined lateral and vertical boundaries.

Six sampling points were located within Mud Pit 4A and two sampling points were located outside the pit (see Appendix F for a table listing coordinates and Figure 9-5 for locations). Samples were obtained from 0 - 2, 2 - 4, 4 - 6, 6 - 8, 8 - 10, and 10 - 12 ft. deep. Figure 9-9 graphically show the results of the TPH analysis with depth. Hexavalent chromium was not detected above PALs at any sampling location.

Chemical analysis of the six initial soil samples taken from Pit 4A indicate TPH values above the PAL at depth intervals 4 - 6, 6 - 8, and 8 - 10 ft. The 4 - 6 ft. depth interval indicated only slightly elevated TPH at three of the six sample locations (U4A1, U4A4, and U4A6). The two additional sample locations (U4A7 and U4A8) were located just outside the pit to the east and west, respectively, and indicate TPH well below the PALs.

Statistical tests performed on analytical results from Pit 4A indicate that an adequate number of samples were collected from all depth intervals except 4 - 6 ft. A high degree of variability is evident in the 4 - 6 ft. samples, possible due to uneven depths of the mud layer. Without taking additional samples, this depth interval must be considered to be above the PAL for TPH, in addition to the intervals from 6 - 10 ft.

Table 9-1 summarizes the Pit 4A and other chemical data from the UC-4 area. Samples collected outside of Pit 4A for the purpose of delineating the extent of TPH contamination are also tabulated.

### 9.3.2 Mud Pit 4B

Mud Pit 4B displayed conductivities above background and is centered at 90E, 200N (Figure 9-6). Some buried metals are indicated in the southeast corner of the pit, where it seems to merge with Mud Pit 4C.

One Geoprobe conductivity log (UC4-GC5) is located directly within Mud Pit 4B. Two additional conductivity logs (UC4-GC4 and UC4-GC6) are located just outside Mud Pit 4B, to the north and south, respectively. Figure 9-10 shows a cross section of these three conductivity logs. Background conductivity values or very close to background values are seen in logs UC4-GC4 and UC4-GC6 outside the pit boundaries. Conductivity log UC4-GC5 indicates very high conductivities (>200 mS/m) from 6 to 9 ft. Based upon this electrical conductivity data, the muds from Pit 4B have well defined lateral and vertical boundaries.

Six sampling points were located within Mud Pit 4B and one sample location was located outside the pit (see Appendix F for a table listing coordinates and Figure 9-5 for locations). Samples were obtained from 2 - 4, 4 - 6, 6 - 8, 8 - 10, and 10 - 12 ft. deep. A few other samples were collected from shallower depth intervals but not at all locations. Figures 9-11

graphically show the results of the TPH analysis with depth. Hexavalent chromium was not detected above PALs at any sampling location.

Chemical analysis of these soil samples indicate TPH values above the PAL occur at only one depth interval, 6 - 8 ft. Sample location U4B7, just outside the pit, indicated values well below the PAL.

Statistical tests performed on analytical results from Pit 4B indicate that an adequate number of samples were collected from all depth intervals. The 6 - 8 ft. interval was the only interval found to be above the TPH action level, although one sample from the 8 - 10 ft. interval was slightly above the action level.

Table 9-1 summarizes the Pit 4B and other chemical data from the UC-4 area. Samples collected outside of Pit 4B for the purpose of delineating the extent of TPH contamination are also tabulated.

9.3.3 Mud Pit 4C

Mud Pit 4C can be visually observed at the site and is centered at approximately 220E, 160N (Figure 9-1). Conductivities above background surround the observed mud pit and extend over an area of 16,900 $ft^2$ (Figure 9-6). The in-phase (metal) data suggest that buried metal is located within the eastern half of the mud pit (Figure 9-7).

A single Geoprobe conductivity log (UC4-GC7) was completed within this pit. A second conductivity log (UC4-GC8) was attempted but hit shallow refusal and was abandoned. Previous attempts at manual sampling this area have met with limited success due to encountering a very hard layer at about 4 ft. deep. It has been proposed that this is a layer of cement or concrete liner to the pit. Heavier truck-mounted equipment has not been used due to the soft nature of the dried mud surface.

In addition to the one log (UC4-GC7) inside Mud Pit 4C, one Geoprobe conductivity log (UC4-GC9) is located about 60 ft. to the southeast of the pit. Figure 9-12 shows these two conductivity logs. Background conductivity values or very close to background values are seen in logs UC4-GC9 outside the pit boundaries. Conductivity log UC4-GC7 indicated very high conductivities (>200 mS/m) from 0 to 4 ft. Based upon this electrical conductivity data, the muds from Pit 4C have well defined lateral and vertical boundaries.

Sampling at Pit 4C was conducted by manual methods due to exposed mud at the surface being unable to support the weight of a Geoprobe truck. Seven sampling points were located within Mud Pit 4C and four sampling points were located outside the pit to the east (see Appendix F for a table listing coordinates and Figure 9-5 for locations). Samples were generally obtained from 0 - 2 and 2 - 4 ft. deep, with one extending to 4 - 6 ft. deep.

Two surface samples were collected from mud eroded through the breach in the berm (U4C8 and U4C9). Locations U4C10 and U4C11, located outside the visible pit, were sampled to confirm the extent of contamination. All samples from U4C8 through U4C11 contained TPH below the PAL.

Figures 9-13 graphically show the results of the TPH analysis with depth within the pit. Hexavalent chromium was not detected above PALs at any sampling location. Chemical

analysis of soil samples indicate TPH values above the PALs at all depth intervals and all locations within the pit. The sample depth within the pit was limited due to a hard layer at about 4 ft. and as shallow as 2.5 ft. at location U4C6. Location U4C7 was sampled using Geoprobe equipment setup on the berm near location U4C6 in an attempt to sample deeper than 2.5 ft.

Table 9-1 summarizes the Pit 4C and other chemical data from the UC-4 area. Samples collected outside of Pit 4C for the purpose of delineating the extent of TPH contamination are also tabulated. Statistical tests performed on analytical results from Pit 4C indicate that additional samples would be needed to meet the 90% confidence test for the 0 - 2 ft. layer. However, since the level of TPH contamination is well above the PAL, this layer can be assumed to be contaminated.

### 9.3.4 Mud Pit 4D

Historical information indicate that Mud Pit 4D is almost due east of Mud Pit 4C, however, the EM data do not indicate a distinct boundary or uniform conductivities as in the previously discussed pits. An area of elevated conductivities to the east of Mud Pit 4C was used to identify the location of Mud Pit 4D along with historical aerial photos. Mud Pit 4D lies within an area of what appears on the surface to be bentonite run-off and diesel residue. In-phase (metal) anomalies indicate the presence of metal in the northern portion of the pit. Aerial photos (CN840 and CN841) show that this area appeared to be a sinuous settling basin, and was not likely a primary mud pit.

Two Geoprobe conductivity logs (UC4-GC10 and UC4-GC11) are located within Mud Pit 4D. Two additional conductivity logs (UC4-GC9 and UC4-GC12) are located just outside the Mud Pit 4D, to the west and east, respectively. Figure 9-14 shows a cross section of these four conductivity logs. Background conductivity values are seen in logs UC4-GC9 and UC4-GC12 outside the pit boundaries. Conductivity logs UC4-GC10 and UC4-GC11 indicate very high conductivities (>200 mS/m) from 6 to11 ft.

Six sampling points were located within Mud Pit 4D and two sample points were located outside the pit (see Appendix F for a table listing coordinates and Figure 9-5 for locations). Samples were obtained from 0 - 2, 2 - 4, 4 - 6, 6 - 8, 8 - 10, and 10 - 12 ft. deep. One location was sampled to 14 ft. Figures 9-15 graphically show the results of the TPH analysis with depth. Hexavalent chromium was not detected above PALs at any sampling location. Chemical analysis of these soil samples indicate TPH values above the PAL at various locations from 4 - 10 ft. deep, with the highest values concentrated at the 6 - 10 ft. depths.

Table 9-1 summarizes the Pit 4D and other chemical data from the UC-4 area. Samples collected outside of Pit 4D for the purpose of delineating the extent of TPH contamination are also tabulated. Statistical tests performed on analytical results from Pit 4D indicate that additional samples would be needed to meet the 90% confidence test for the 4 - 6, 6 - 8, and 8 - 10 ft. layers. However, the level of TPH contamination in the 6 - 8 and 8 - 10 ft. layer is well above the PAL. This layer can be assumed to be contaminated.

### 9.3.5 Mud Pit 4E

Based upon the CAIP and aerial photos, Mud Pit 4E is located south of Mud Pits 4B and 4C and is elongated in a west-east direction. There is no evidence in the EM data for a west-east trending mud pit in this area. Aerial photos (CN840 and CN841) show that this pit may have

been used only as a water retention basin. A topographic low was observed in the field at this location (Figure 9-2).

One Geoprobe conductivity log (UC4-GC23) is located directly within Mud Pit 4E. Background conductivity values are seen in log UC4-GC23 which supports the assumptions that this was not a mud pit. See Appendix E for a copy of the plot.

Two sampling points were located within Mud Pit 4E (see Appendix F for a table listing coordinates and Figure 9-5 for locations). Samples were obtained from 0 - 2 and 2 - 4 ft. at both locations and from 4 - 6 ft. in one location. Chemical analysis of these soil samples indicated values below the PALs for hexavalent chromium and TPH at all depths sampled.

Statistical tests performed on analytical results from Pit 4E indicate that no additional samples are needed to meet the 90% confidence test for the 0 - 2 and 2 - 4 ft. layers. The statistical test could not be performed on the 4 - 6 ft. layer since only one sample was available.

9.3.6 Shaker Pad

Based on aerial photos (CN841 and CN843), the shaker pad itself was north-northwest of the UC-4 emplacement well at approximately 220E, 520N. Areas of high conductivity on the north side of the grid correlate with the observed shaker pad debris on the surface. The high conductivities strike along the west-east axis of the shaker pad drainage channel and extend off the site grid into the eastern drainage channel (Figure 9-6). The highest conductivity values (>50 mS/m) in the shaker pad area are centered at 260E, 620N and 730E, 620N.

A very distinct localized in-phase (metal) anomaly centered at 420E, 640N may represent buried metal within the shaker pad drainage channel (Figure 9-7). A pipe at 800E, 590N is evident in the in-phase (metal) data, and appears to have served to transport the shaker pad debris beneath the road. No other large areas of buried metal appear to be located within the shaker pad area.

A west-east cross section of eight Geoprobe conductivity logs extend through the axis of shaker pad debris observed at the surface and coincides with the high EM31 conductivity areas (Figure 9-16). Conductivity logs UC4-GC19, UC4-GC20, and UC4-GC21 are within the highest conductivities around the shaker pad area, with UC4-GC19 and UC4-GC20 indicating elevated conductivities well above 200 mS/m. In all three logs, the highest conductivities occur between the surface and 7 ft. However, conductivity logs UC4-GC19 and UC4-GC20 also indicate higher than background conductivities extending to a depth of about 13 ft. Moving eastward, the conductivity logs return to almost background conditions until conductivity logs UC4-GC13 and UC4-GC14 which also have elevated conductivities (>200 mS/m). These conductivity logs are located within two separate high conductivity areas west and east of the dirt road, respectively. Log UC4-GC14 is west of the dirt road and indicates conductivities higher than 200 mS/m between 5.5 and 7 ft. deep and moderately high conductivities (50 to 150 mS/m) between 17 and 20 ft. deep. Log UC4-GC13 is east of the dirt road at the head of the valley extending to the east, and indicates conductivities higher than 200 mS/m between the surface and 6 ft. deep.

The configuration of the surface anomalies and the depth profiles suggest that the drilling mud in the shaker runoff area accumulated by filling in low-lying areas. At least three distinct areas of accumulation can be inferred from the geophysical data, in addition to the accumulations visible at the heads of the east and south drainage channels.

Fourteen (14) sampling points were located within the shaker pad debris (see Appendix F for a table listing coordinates and Figure 9-5 for locations). Samples were obtained from 0 - 2, 2 - 4, 4 - 6, 6 - 8, 8 - 10, and 10 - 12 ft. deep (not all depth intervals were sampled at all sample locations. Figures 9-17 graphically show the results of the TPH analysis with depth. Hexavalent chromium was not detected above PALs at any sampling location.

Chemical analysis of these soil samples indicate TPH values above PALs at only four locations (2, 3, 6, and 7). The depth intervals which exceed the action levels for TPH range from 0 - 2 to 6 - 8 ft. deep and have the largest concentration at sample location 6.

Since the shaker pad material is distributed in an irregular fashion and at varying elevations throughout the ravine, the statistical test applied to the mud pits is not well suited for the UC-4 shaker area. However, the results of the tests on the shaker area indicate that additional sampling is needed from 0 - 8 ft. deep to satisfy the 90% confidence interval. The 0 - 2 ft. interval contains two samples above the TPH action level, while the 2 - 4 and 4 - 6 ft. intervals contain three samples each above the action level. However, the statistical test indicates that all three of these intervals exceeds the TPH PAL.

The 6 - 8 and 8 - 10 ft. interval contain one sample each above the TPH action level. The 6 - 8 ft. layer fails the test but exhibits an "A" value slightly below the TPH action level. The 8 - 10 ft. interval passes the test and exhibits and "A" value well below the action level.

Table 9-1 summarizes the shaker area and other chemical data from the UC-4 area. Samples collected outside of the shaker area for the purpose of delineating the extent of TPH contamination are also tabulated.

### 9.3.7 Eastern Drainage Area

The eastern drainage area contains debris draining from the shaker pad area and extending eastward off of the grid. Based on visual observations, this area may have been the site of bulk drilling mud disposal. Additional EM31 profile lines were run perpendicular to the runoff beginning at a point approximately 320 ft. east of the road.

Figure 9-6 shows the beginning of the eastern drainage channel in the northeast portion of the grid, just east of the road. High EM31 conductivities were identified within this area. Figure 9-18 shows conductivity contour map of the profiles along the eastern drainage channel which extend off of the grid. The eastern drainage channel contains slightly higher conductivity values (8 - 13 mS/m), which suggests that there may be only a thin layer of shaker pad debris draining down the ravine. No in-phase (metal) anomalies resulting from metal were encountered in the channel.

Four (4) sampling points were located at or near the head of the eastern drainage area (see Appendix F for a table listing coordinates and Figure 9-5 for locations). The first sample (U4X1) was collected from the approximate center of the area of thick mud/cuttings accumulation at the head of the drainage channel. Samples U4X2 through U4X4 were located in the visible material eroding down slope from the area of thick accumulation.

Samples were obtained from the surface to as deep as 10 ft. Figures 9-19 graphically show the results of the TPH analysis with depth. Hexavalent chromium was not detected above PALs at

any sampling location. Chemical analysis of these soil samples indicate TPH values above PALs only at location U4X1 and at a depth interval 4 - 6 ft.

### 9.3.8 Southern Drainage Area

The southern drainage is similar to the eastern drainage except that drilling material in it appears to be entirely generated by bulk drilling mud/cuttings disposal. Light-colored material appears to have eroded from the accumulation area just south of the road on the south side of the UC-4 area. EM31 profile lines were run perpendicular to the axis of the ravine south of the site. The conductivity values along all of the profiles are below 15 mS/m.

Figure 9-20 shows conductivity contour map of the southern drainage area. The southern drainage channel contains background conductivity values of 6 - 8 mS/m along its entire length, which suggests that no drilling mud is present, although a white material was observed at the surface. No in-phase (metal) anomalies resulting from metal were encountered in channel.

Four (4) sampling points were located within the southern channel (see Appendix F for a table listing coordinates and Figure 9-5 for locations). The first sample (U4W1) was collected from the approximate center of the area of thick mud/cuttings accumulation. Samples U4W2 through U4W4 were located in the visible material eroding down slope from the area of thick accumulation.

Samples were obtained from the surface to as deep as 12 ft. (not all depth intervals were sampled at all sample locations). Figures 9-21 graphically show the results of the analysis with depth. Hexavalent chromium was not detected above PALs at any sampling location. Chemical analysis of these soil samples indicate TPH values above PALs at only location U4W1 and at all depth intervals from 0 to 8 ft.

### 9.3.9 Grid Extension to West

During a site visit, an area just west of the site grid was observed to contain several pairs of vertical pipes in an area previously used for operational trailers. There was concern regarding the potential for an underground storage tank or septic drainage area associated with these pipes. The main grid was extended to the west and surveyed using EM31, magnetometer and a metal detector pipe locator due to concerns regarding vertical pipes. The area surveyed ran from 0E to 190W between 260N and 540N.

EM31 data (Figure 9-6) indicated fairly uniform background conductivities across the site, as well as uniform in-phase data (Figure 9-7) indicating no signs of a metallic underground storage tank, buried debris or metals or septic drainage field. Most of the vertical pipes were found to be a composite material (not metallic) and therefore could not be traced with the magnetometer or pipe locator.

No Geoprobe conductivity logs or chemical sampling was completed in this area.

## 9.4 Summary of Features

Table 9-2 summarizes the CASs and other site features investigated at the UC-4. The table lists the investigation methods used for each feature and their significance as well as the depth interval at which samples exceed the PALs.

Of the areas investigated at UC-4, five of the six areas, Mud Pits 4A, 4B, 4C, 4D, and the shaker pad area, indicated values of TPH above PAL. Two of the off grid areas, the eastern and southern drainage areas, also indicated values of TPH above the PAL at the sources of these features.

## Table 9-1: Summary of TPH Analyses and Statistical Tests for UC-4 Area

Mud Pit 4A

| Depth | U4A1 | U4A2 | U4A3 | U4A4 | U4A5 | U4A6 | $N_d$ | A | U4A7 | U4A8 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 34.7 | 24.9 | 24.9 | 39.2 | 54.9 | 14.5 | 1 | -59 | | |
| 2-4' | 65.5 | 116.6 | 31.2 | 87.6 | 24.7 | 25.5 | 6 | -19 | 16.7 | 14.5 |
| 4-6' | 15.2 | 132.3 | 68.9 | 235.8 | 88.8 | 107.4 | 555 | 53 | 14.2 | 14.3 |
| 6-8' | 164.4 | 336 | 289.5 | 272 | 285.2 | 264 | 1 | 203 | 13.7 | 14.2 |
| 8-10' | 131.6 | 176.5 | 123.3 | 117.8 | 319.9 | 204.2 | 7 | 125 | 35.6 | 18 |
| 10-12' | 48.6 | 63.2 | 59.6 | 58.8 | 59.1 | 94.5 | 2 | -27 | | |

Mud Pit 4B

| Depth | U4B1 | U4B2 | U4B3 | U4B4 | U4B5 | U4B6 | $N_d$ | A | U4B7 |
|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 17.3 | | | | | | | | |
| 2-4' | 11.5 | 40.3 | 79.3 | 41.2 | 68.2 | 52.5 | 2 | -37 | 76.1 |
| 4-6' | 84.2 | 64.3 | 88.6 | 55.9 | 83.7 | 99.5 | 5 | -11 | 96.3 |
| 6-8' | 162.4 | 71.8 | 198.3 | 117.5 | 235.2 | 248.1 | 6 | 114 | 89.7 |
| 8-10' | 100.2 | 78.2 | 69.5 | 93.7 | 59.5 | 52.1 | 4 | -13 | 13.7 |
| 10-12' | 11 | | 60.2 | 62 | 61.6 | | 2 | -31 | |



(continued)

## Table 9-1 (cont.): Summary of TPH Analyses and Statistical Tests for UC-4 Area

Mud Pit 4C

| Depth | U4C1 | U4C2 | U4C3 | U4C4 | U4C5 | U4C6 | U4C7 | $N_d$ | A | U4C8 | U4C9 | U4C10 | U4C11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 120.5 | 185.1 | 493 | 160.2 | 985 | 900 | | 8 | 607 | 73.2 | 63.4 | 21.6 | 35.8 |
| 2-4' | 148.5 | 275.7 | | 121.5 | 381 | 178.2 | 231.9 | 4 | 180 | | | 28.7 | 44.3 |
| 4-6' | | | | | | | 150.2 | | | | | 58.5 | 27.1 |
| 6-8' | | | | | | | | | | | | 17.7 | 13.8 |

Mud Pit 4D

| Depth | U4D1 | U4D2 | U4D3 | U4D4 | U4D5 | U4D6 | Nd | A | U4D7 | U4D8 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 43.6 | 26.8 | 64.4 | 22.6 | 73.4 | 37.9 | 1 | -43 | | |
| 2-4' | 66.4 | 74.4 | 30 | 27.8 | 21 | 54.1 | 2 | -41 | | 28 |
| 4-6' | 75.4 | 184.1 | 302 | 60.1 | 55.3 | 33.8 | 210 | 81 | 53.4 | 66.8 |
| 6-8' | 1700 | 167 | 46.2 | 178.9 | 25.1 | 1504 | 16 | 973 | 12.8 | 38.7 |
| 8-10' | 157.2 | 77 | 35.7 | 961 | 81.3 | 47.9 | 54 | 345 | 13.2 | 38.3 |
| 10-12' | 57.7 | 15.9 | | 49.8 | 78.9 | 51.1 | 2 | -34 | | |
| 12-14' | | | | 61 | | | | | | |

Shaker Pad Area

| Depth | U4S1 | U4S2 | U4S3 | U4S4 | U4S5 | U4S6 | U4S7 | U4S8 | $N_d$ | A | U4S9 | U4S10 | U4S11 | U4S12 | U4S13 | U4S14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 49.4 | 43.3 | 273 | 29.4 | 49.9 | 182.6 | | | 3101 | 65 | 15.9 | 14.5 | 57.9 | 51 | 21.3 | 29.8 |
| 2-4' | 22.6 | 268 | 61.7 | 100.8 | 38.3 | 862 | 40.5 | 14.3 | 96 | 221 | 17.4 | 15.3 | 47.9 | 32.6 | 13.6 | 52.7 |
| 4-6' | 41.7 | 117.9 | 26.4 | 45.2 | 20.1 | 493 | 192 | 17.2 | 473 | 101 | 13.7 | 15.7 | 53 | 42.8 | 13.3 | 48.7 |
| 6-8' | 23.7 | 17.5 | 56.5 | 14.6 | 14.3 | 257.5 | 18.9 | 13.9 | 21 | -6 | 36.7 | 13.5 | 14 | 24.1 | 13.7 | 50.2 |
| 8-10' | 22.6 | 23.8 | 123.6 | | 13.6 | 16.2 | 13.6 | | 3 | -38 | 26.7 | 29.6 | 16.4 | 29.3 | 13.2 | 47.9 |
| 10-12' | 13.8 | | | | 21.9 | | | | 1 | -70 | | 14.2 | | | | |

(continued)

## Table 9-1 (cont.): Summary of TPH Analyses and Statistical Tests for UC-4 Area

Eastern Drainage

| Depth | U4X1 | U4X2 | U4X3 | U4X4 |
|---|---|---|---|---|
| 0-2' | 73.8 | 59.1 | 39.9 | 48.2 |
| 2-4' | 65.6 | 33.2 | 22.2 | 29.3 |
| 4-6' | 131.2 | | | |
| 6-8' | 82.5 | | | |
| 8-10' | 22 | | | |

Southern Drainage

| Depth | U4W1 | U4W2 | U4W3 | U4W4 |
|---|---|---|---|---|
| 0-2' | 128.6 | 51.3 | 18 | 76.7 |
| 2-4' | 207.6 | 54 | 13.6 | 24 |
| 4-6' | 301.3 | 36.3 | | |
| 6-8' | 145.9 | | | |
| 8-10' | 27.5 | | | |
| 10-12' | 13.7 | | | |

NOTE:
Analytical results are given in milligrams per kilogram (mg/kg).
Statistical results (shaded) are for data listed to the left of the results.
"Nd" represents number of samples required to satisfy statistical test.
"A" represents amount by which given depth interval exceeds PAL.
An empty cell indicates that no sample was analyzed.
All UC-4 area sample locations and mud pit layers not listed above are below the PAL for TPH and chromium.

## Table 9-2: Summary of Features at UC-4

| Site Feature | CAS Number | Location | Observations | GPS | EM31 Conductivity (mS/m) | Geoprobe Conductivity | Chemical Sampling |
|---|---|---|---|---|---|---|---|
| Pit 4A | 58-09-03 | Within Grid | no surface expression | corners of site grid | >40 mS/m | Logs GC2 and GC3, high conductivities 6 - 11 ft. | 8 locations; 48 sample depths; increased TPH 4 - 10 ft. |
| Pit 4B | 58-09-03 | Within Grid | no surface expression | corners of site grid | >40 mS/m | Log GC5, high conductivities 6 - 9 ft. | 7 locations; 33 sample depths; increased TPH 6 - 8 ft. |
| Pit 4C | 58-09-03 | Within Grid | low lying bermed area with muds observable at surface | corners of site grid | >40 mS/m | Log GC7, high conductivities 0 - 4 ft. | 11 locations; 23 sample depths; increased TPH 0 - 4 ft. |
| Pit 4D | 58-09-03 | Within Grid | no surface expression | corners of site grid | >40 mS/m | Logs GC10 and GC11, high conductivities 6 - 11ft. | 8 locations; 43 samples; increased TPH 6 - 10 ft. |
| Pit 4E | 58-09-03 | Within Grid | low area, no muds observable | corners of site grid | background | Log GC23 background | 2 locations; 5 sample depths <PAL |
| Shaker Pad Debris | 58-10-02 | Within Grid and Drainage areas | large area of light colored material running into drainage channel | corners of site grid | >50 mS/m | Logs GC22, GC21, GC20, GC19, GC16, GC15, GC14, and GC13 high conductivities 0 - 7 ft. | 14 locations; 69 sample depths; increased TPH 0 - 8 ft. |

(continued)

## Table 9-2 (cont.): Summary of Features at UC-4

| Site Feature | CAS Number | Location | Observations | GPS | EM31 Conductivity (mS/m) | Geoprobe Conductivity | Chemical Sampling |
|---|---|---|---|---|---|---|---|
| Southern Drainage Area | - | Linear Feature South of Grid | light colored material in drainage channel | center of EM profiles | background | NA | 4 locations; 13 sample depths; increased TPH 0 - 8 ft. at head of drainage. |
| Eastern Drainage Area | - | Linear Feature East of Grid | light colored material in drainage channel | center of EM profiles | background to slightly above (13 mS/m) | NA | 4 locations; 12 sample depths; increased TPH 4 - 6 ft. at head of drainage |
| Grid Extension to West | - | Area Adjacent West Side of Grid | several vertical pipes present in high elevation flat area | | background | NA | NA |

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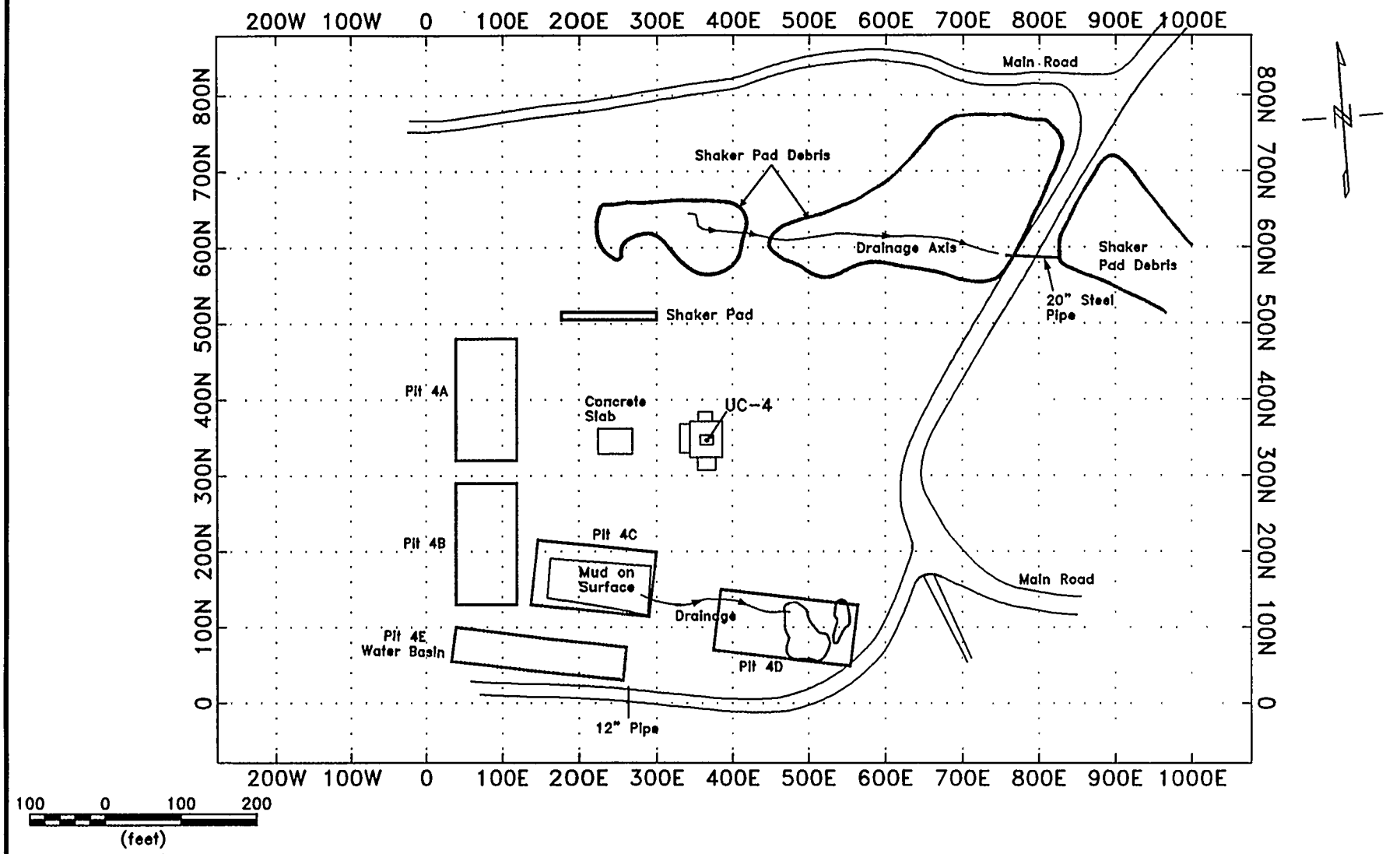


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|---|---|---|
| ESC Central Nevada Test Area | Site features shown relative to the UC-4 survey grid | Figure 9-1 |

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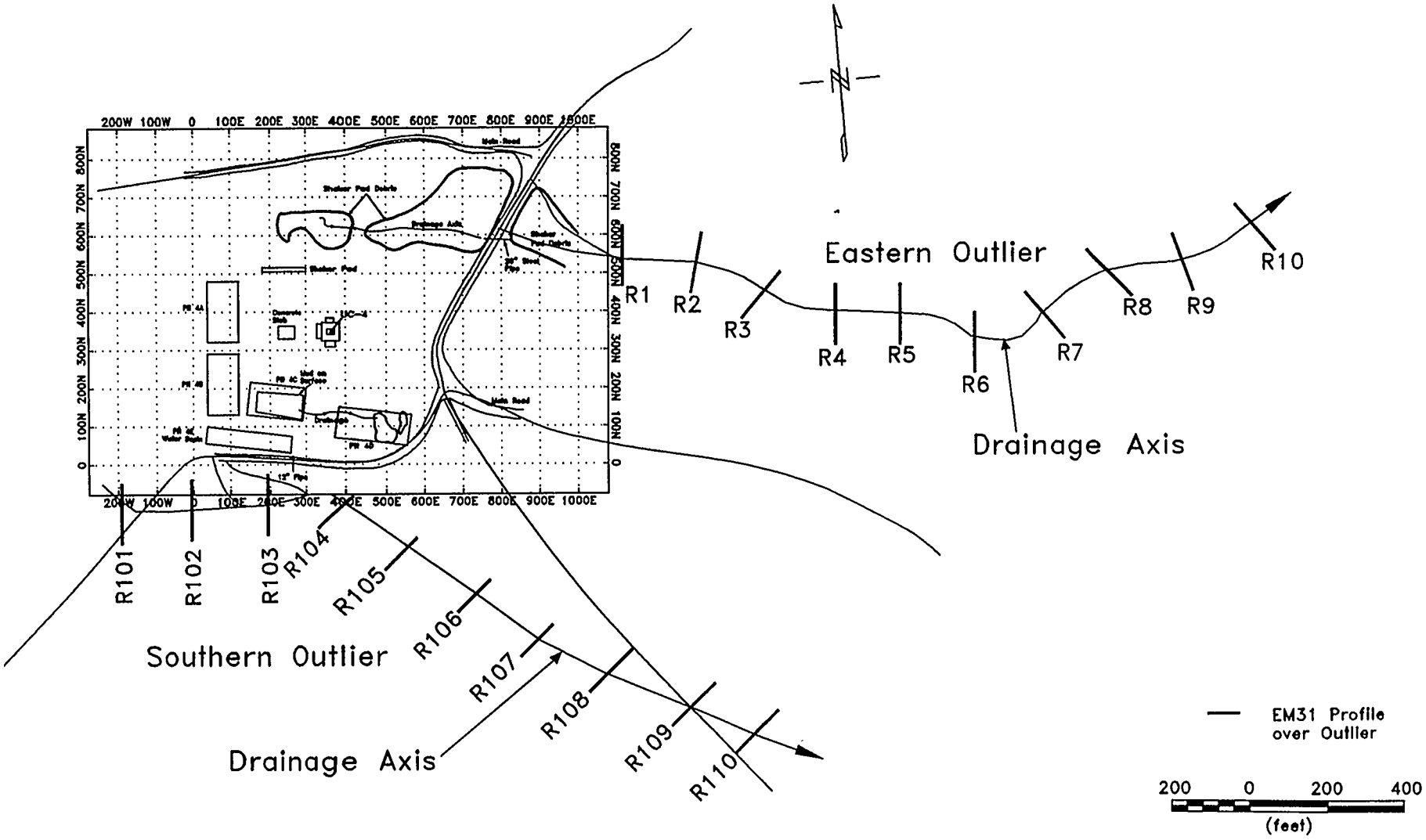


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| ESC<br>Central Nevada<br>Test Area | EM31 outlier locations<br>relative to the UC-4 survey grid | Figure 9-2 |

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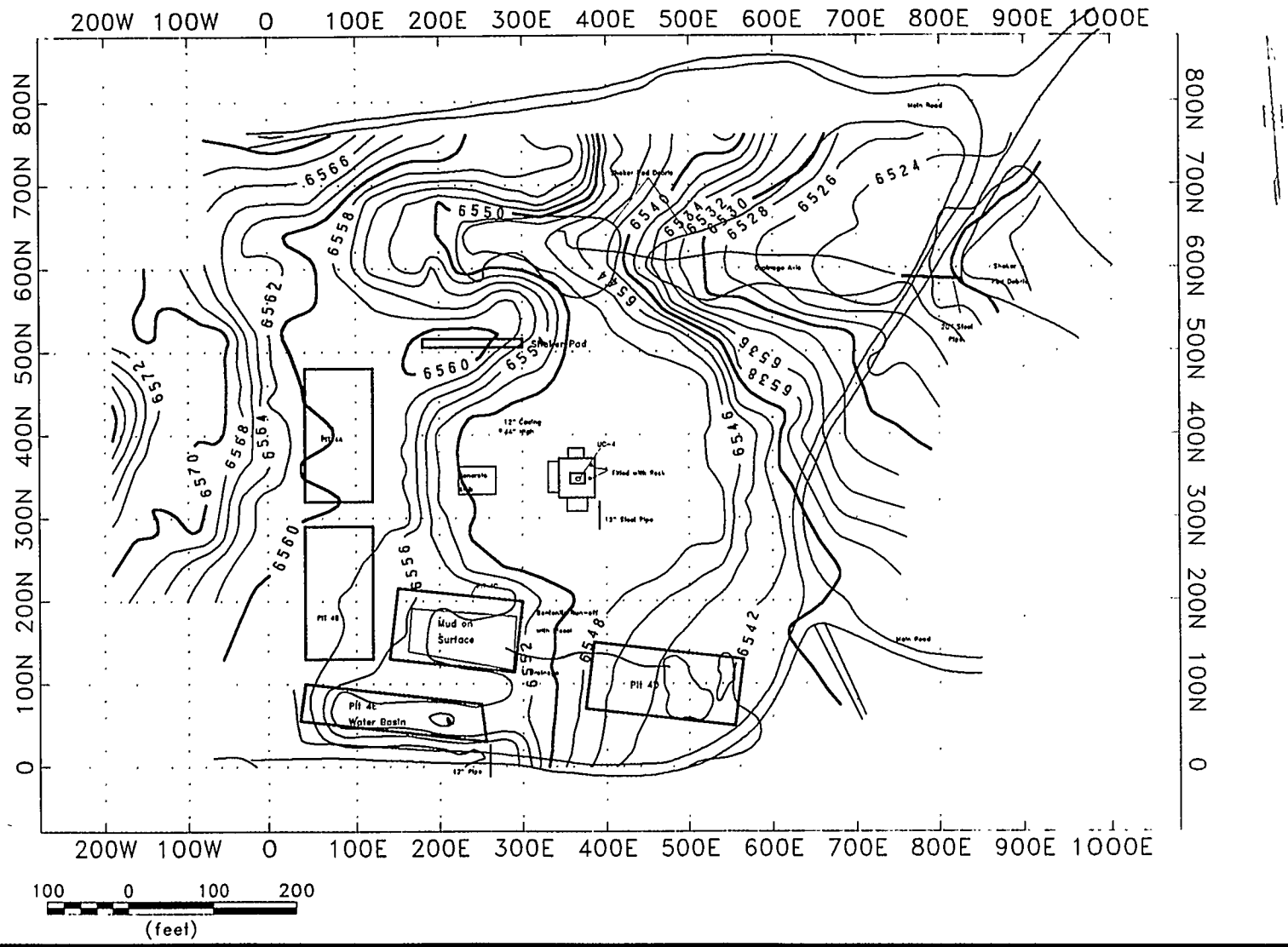


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| ESC Central Nevada Test Area | Surface elevation data | Figure 9–3 |

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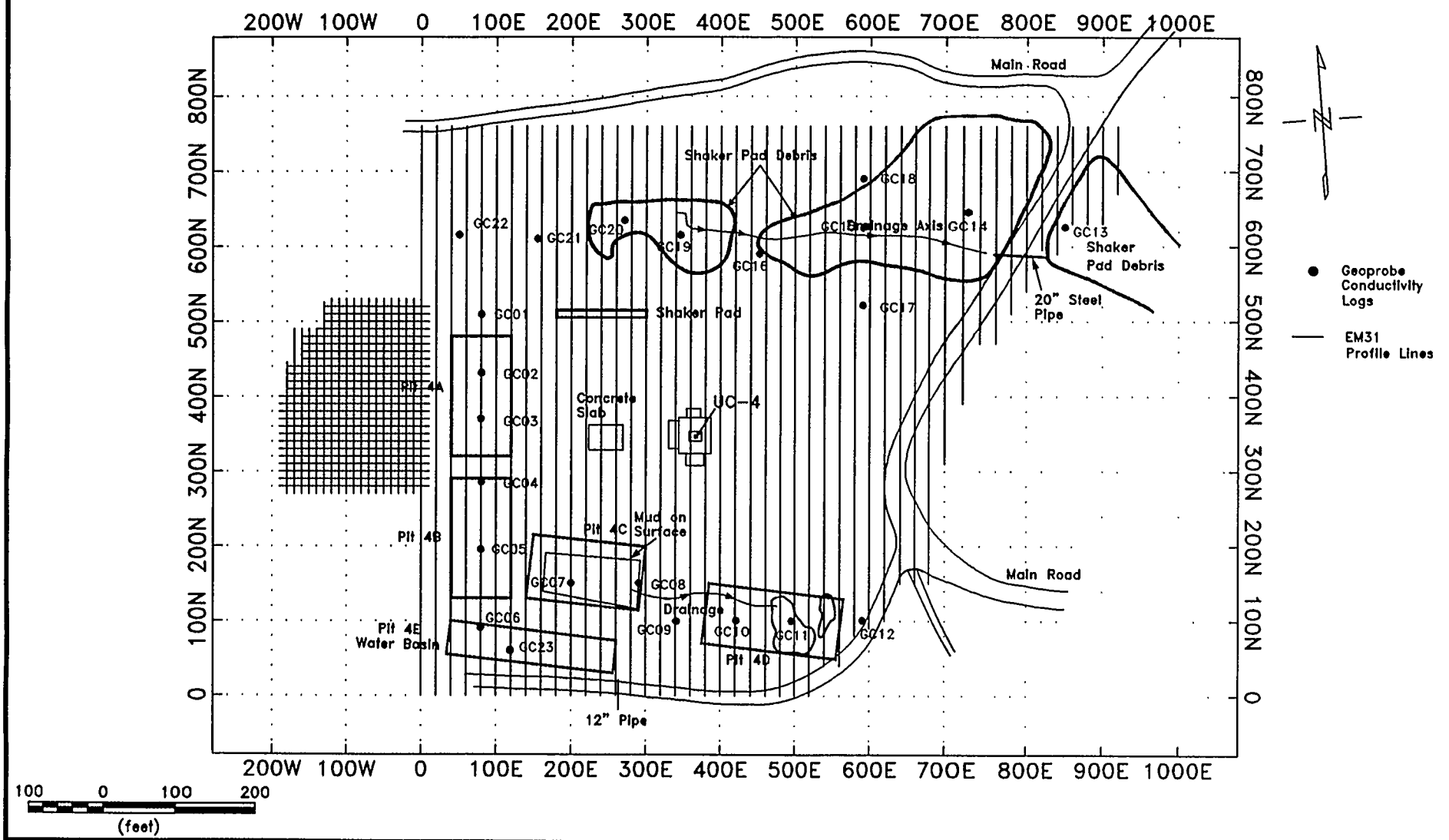


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| ESC Central Nevada Test Area | EM31 and Geoprobe measurement locations within the UC-4 survey grid | Figure 9-4 |

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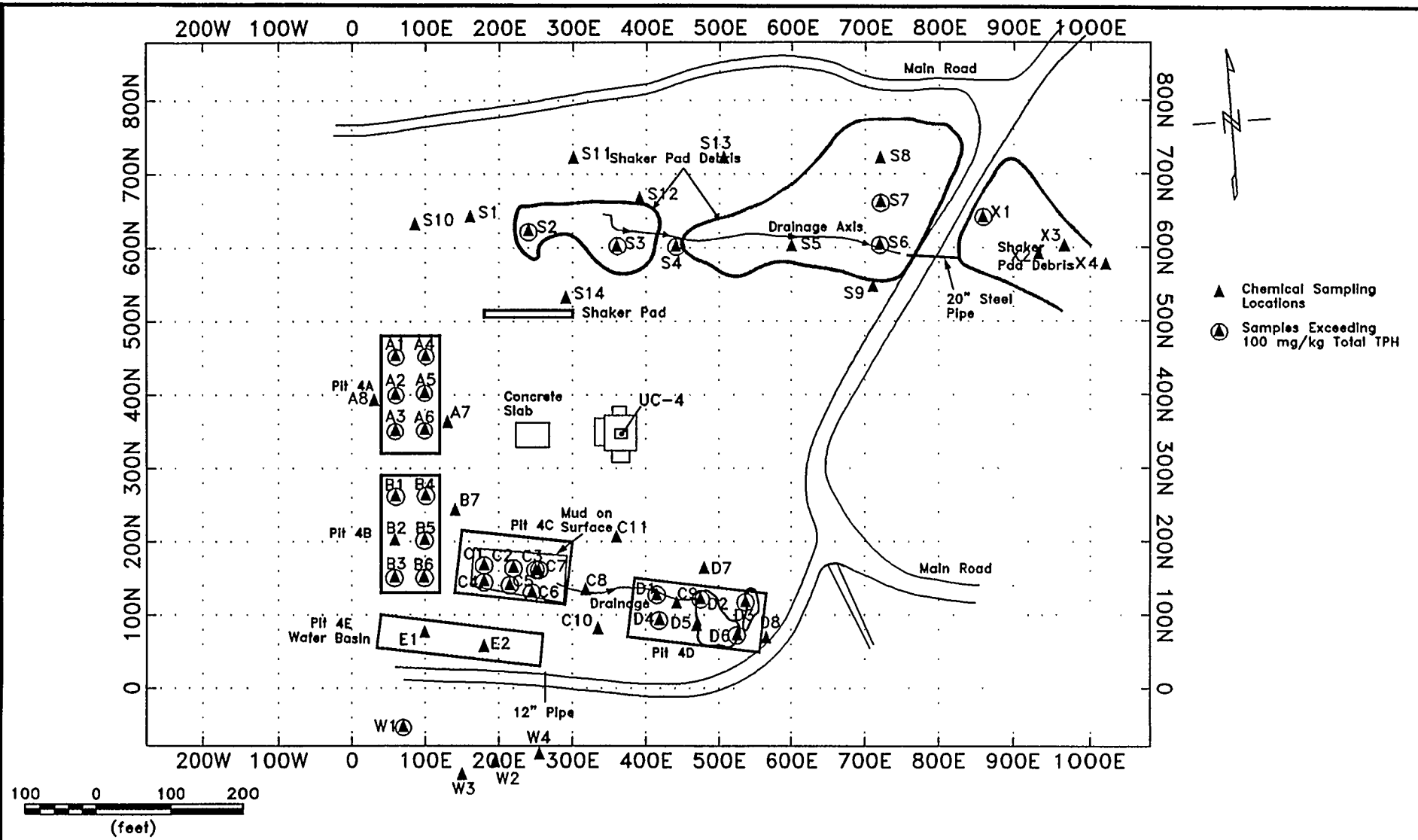


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| ESC<br>Central Nevada<br>Test Area | Chemical sampling locations<br>within the UC-4 survey grid | Figure 9-5 |

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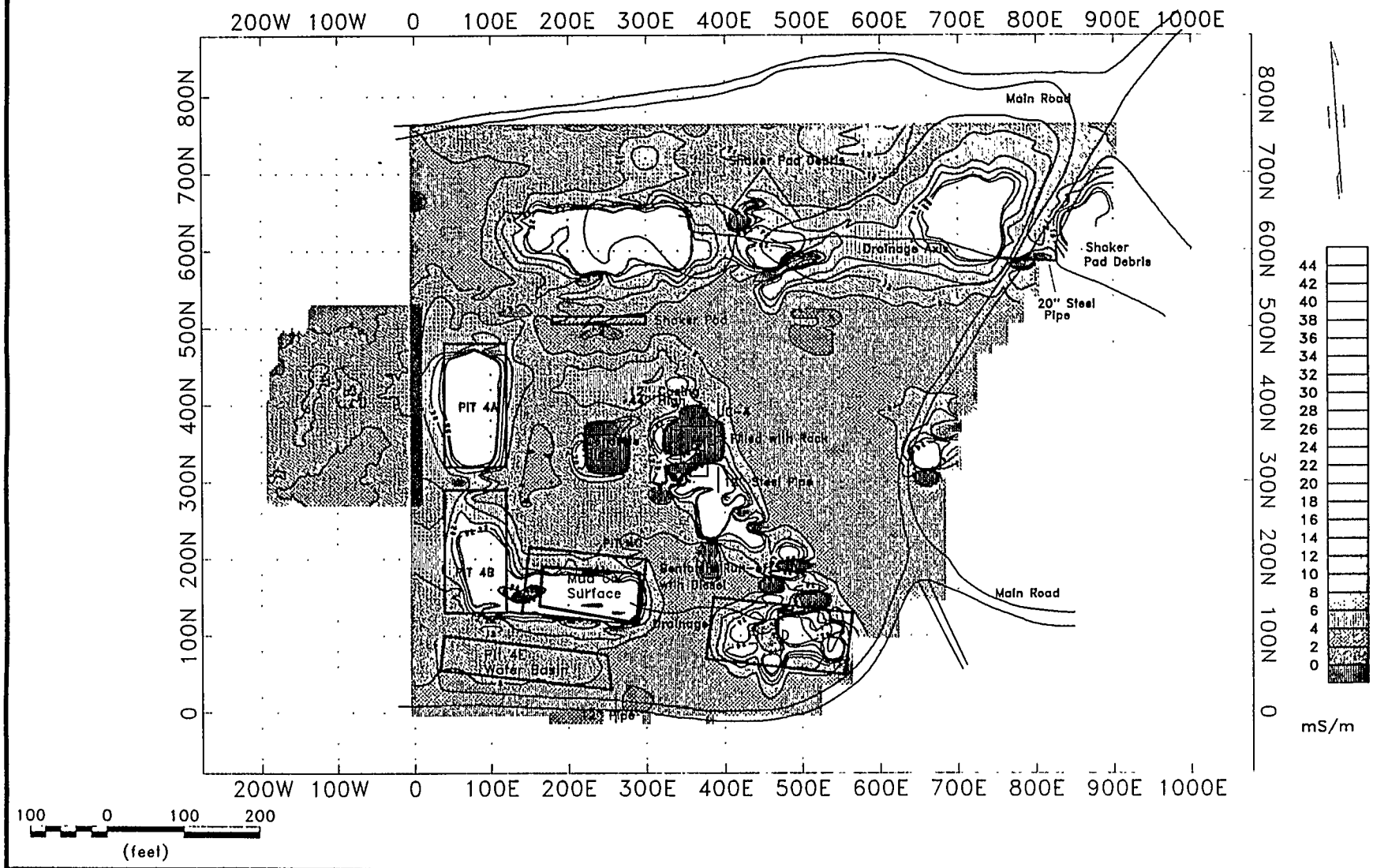


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| ESC<br>Central Nevada<br>Test Area | EM31 conductivity contour map of UC-4 | Figure 9-6 |

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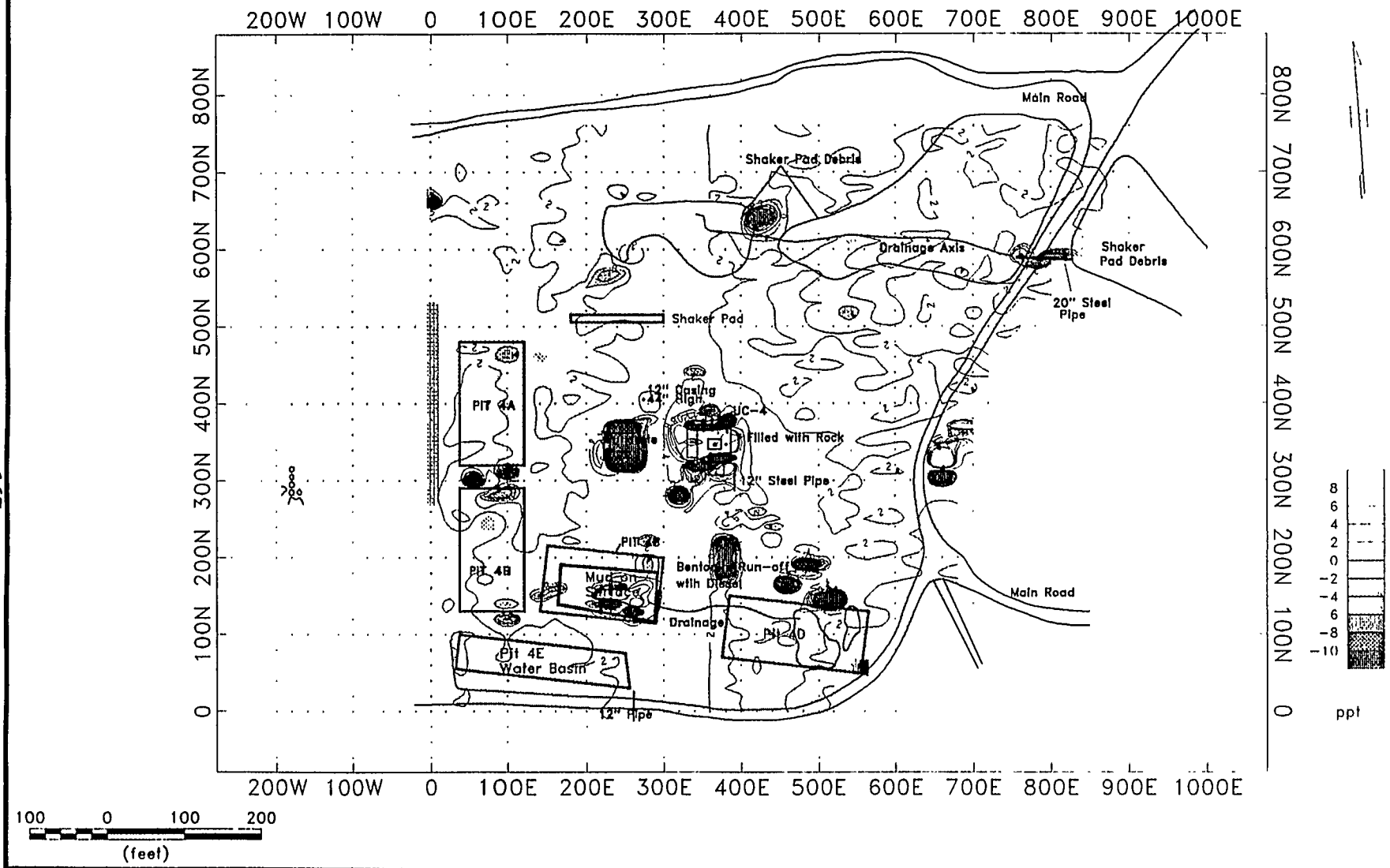


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| ESC Central Nevada Test Area | EM31 in-phase (metal) contour map of UC-4 | Figure 9-7 |

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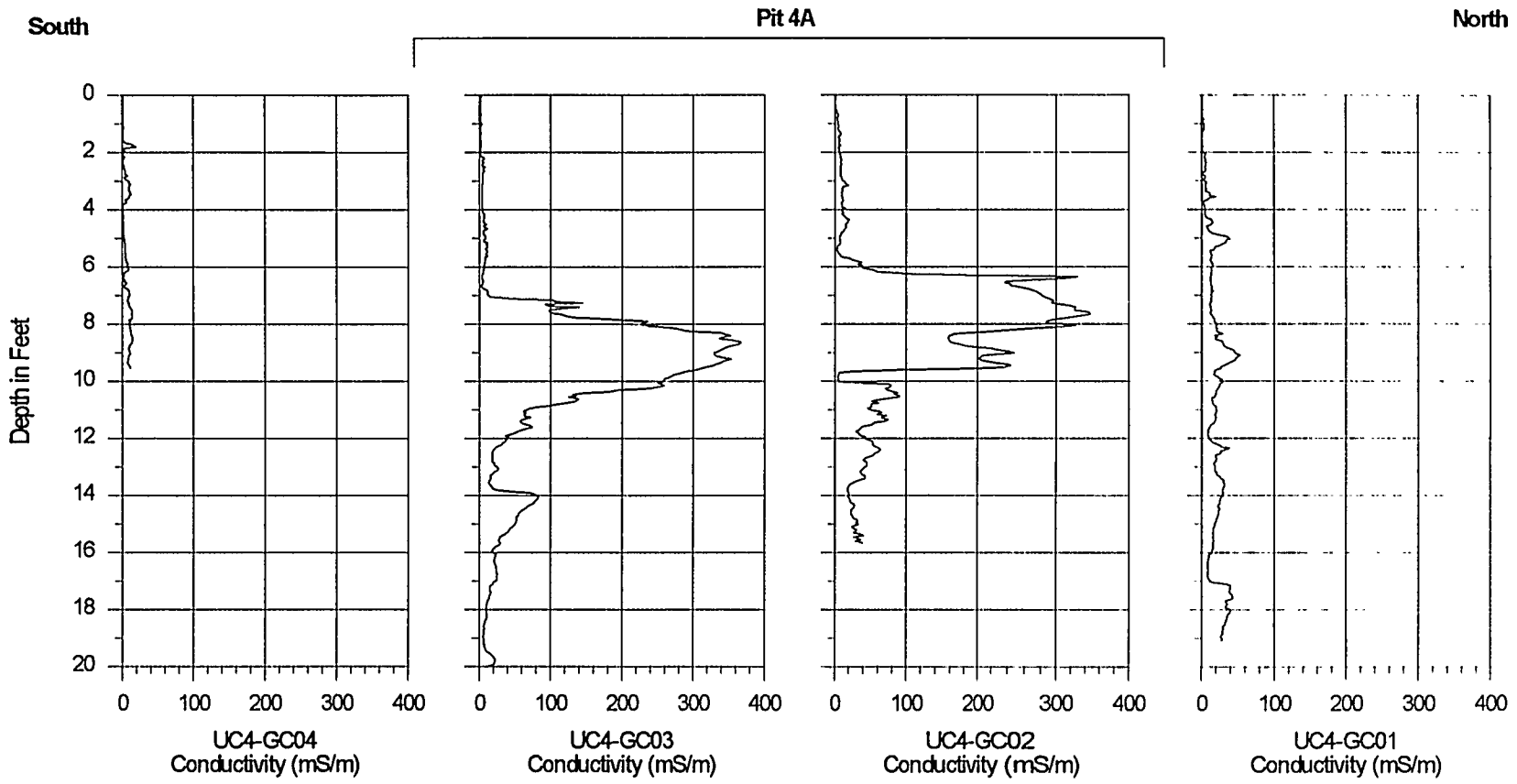


| | | |
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| ESC<br>Central Nevada<br>Test Area | Mud Pit 4A cross section with Geoprobe conductivity logs UC4-GC1, UC4-GC2, UC4-GC3 and UC4-GC4 | Figure 9-8 |

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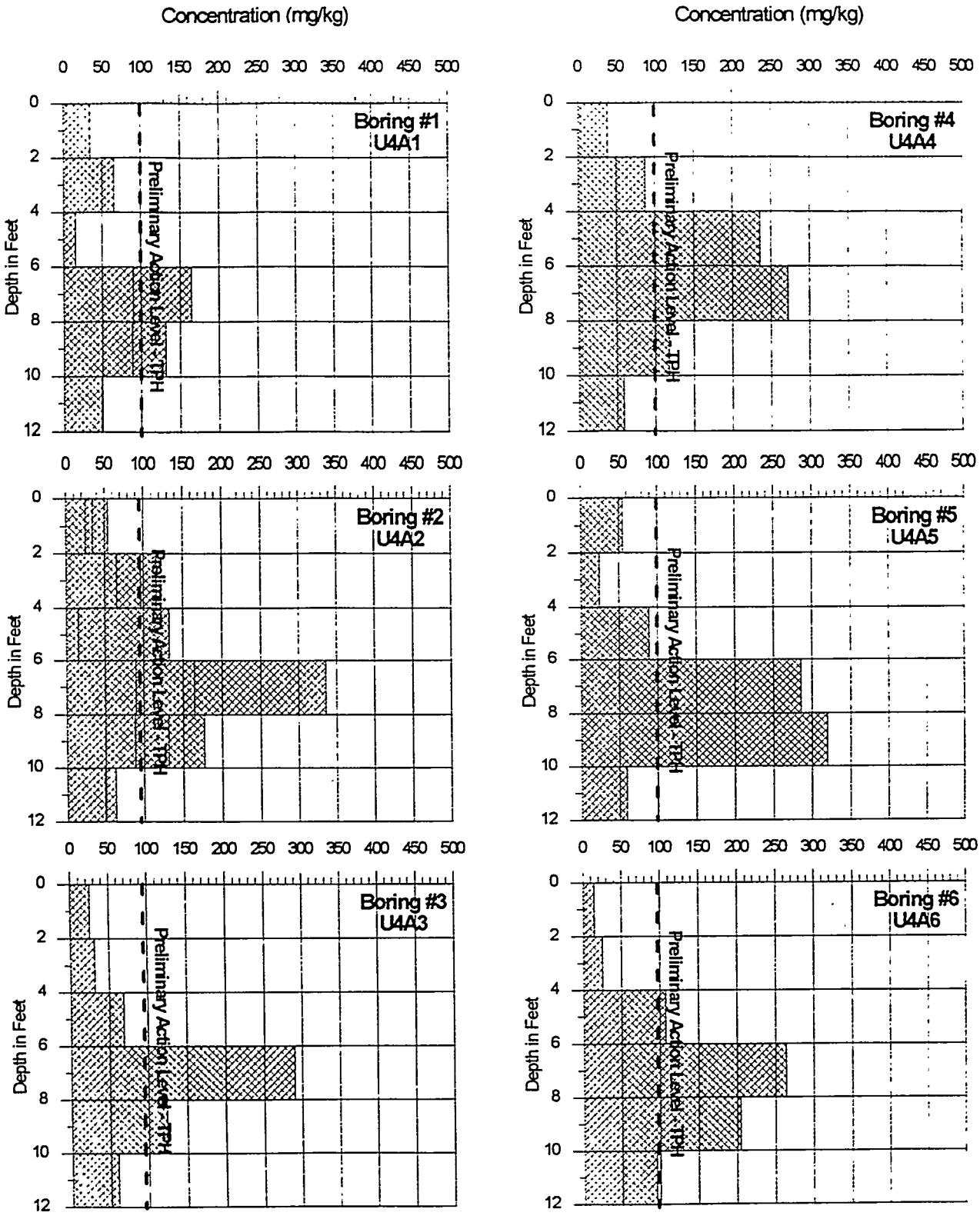


| ESC Central Nevada Test Area | Mud Pit 4A chemical results | Figure 9-9 |
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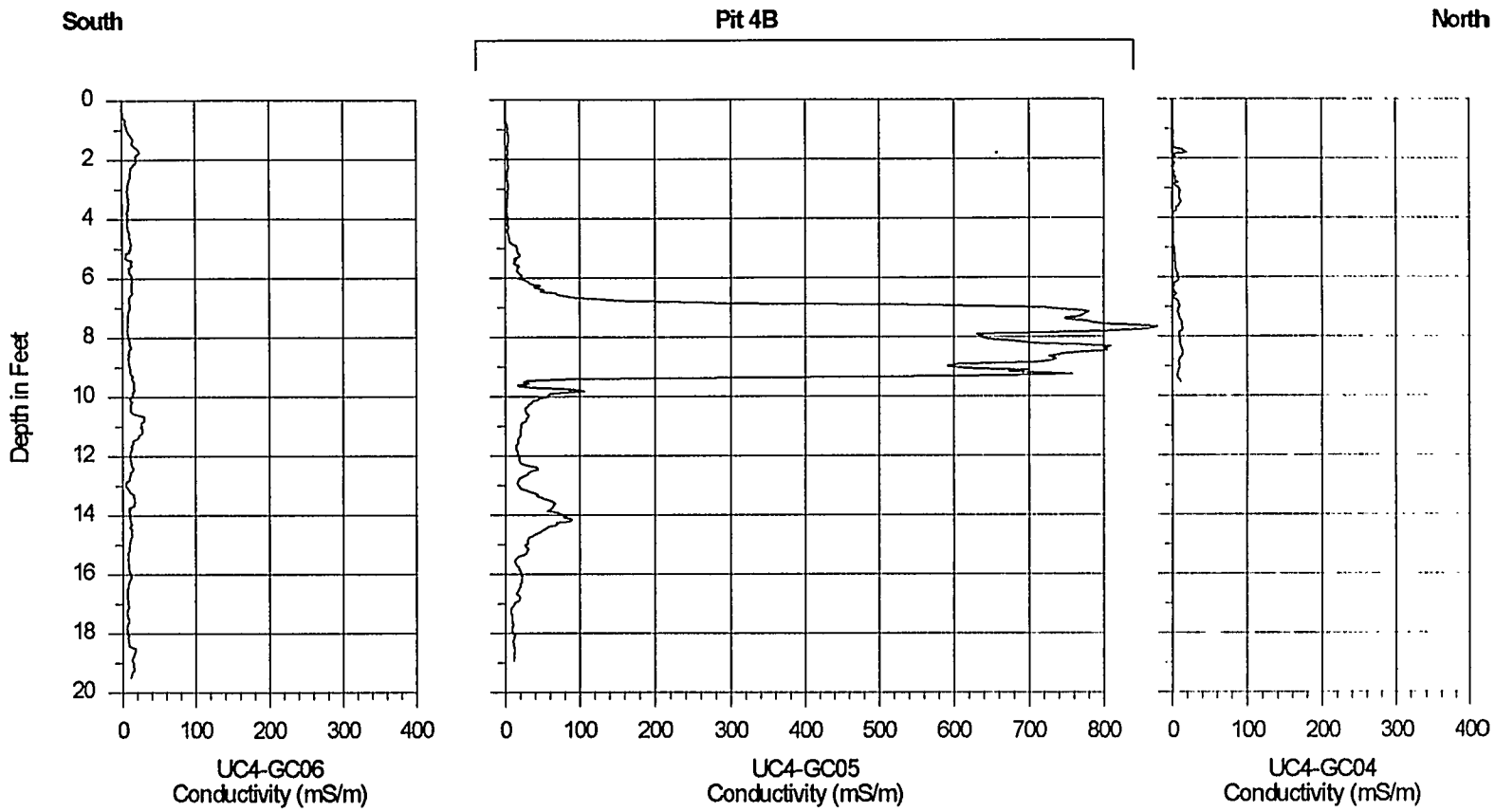


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| ESC<br>Central Nevada<br>Test Area | Mud Pit 4B cross section with Geoprobe conductivity logs UC4-GC4, UC4-GC5 and UC4-GC6 | Figure 9-10 |

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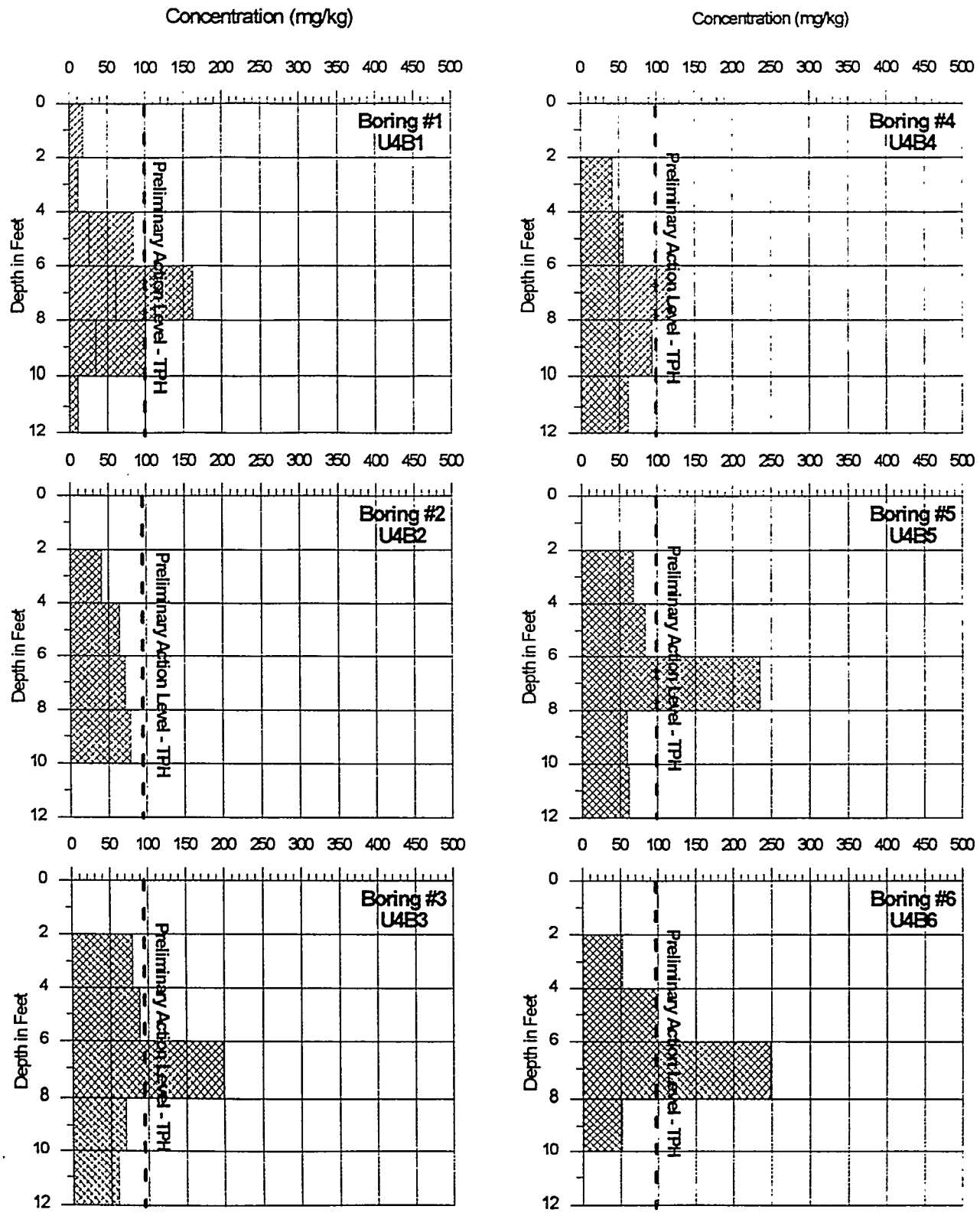


| ESC Central Nevada Test Area | Mud Pit 4B chemical results | Figure 9–11 |
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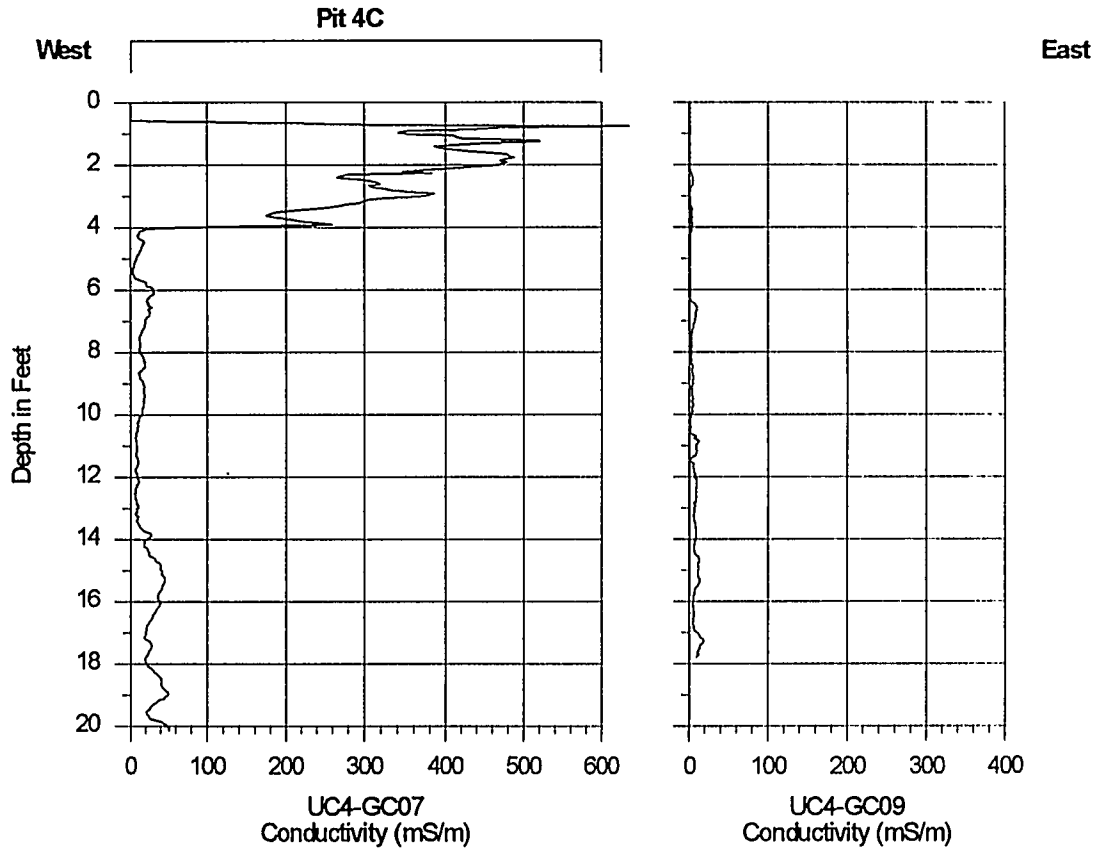


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| ESC<br>Central Nevada<br>Test Area | Mud Pit 4C cross section with Geoprobe conductivity logs UC4-GC7 and UC4-GC9 | Figure 9-12 |

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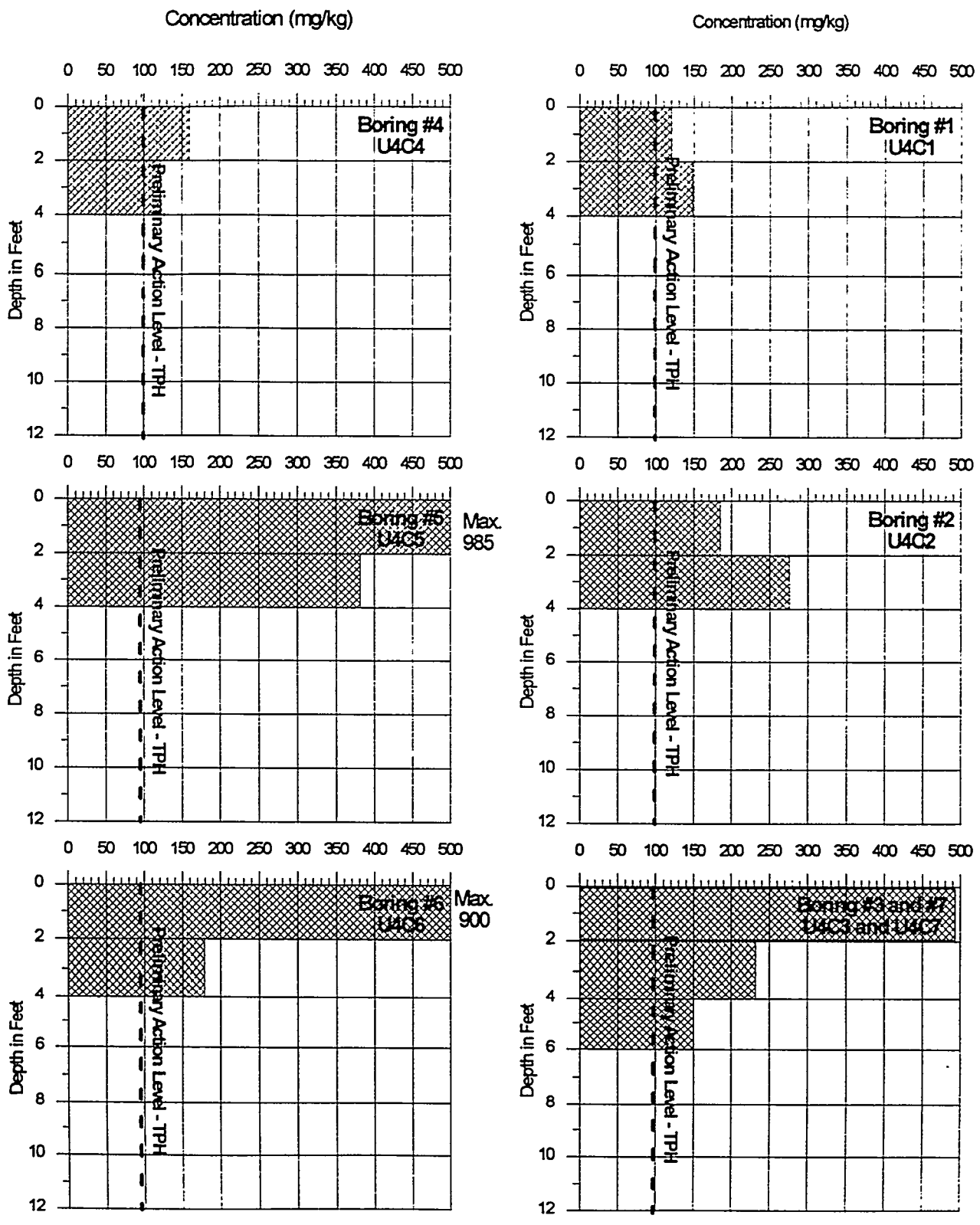


| ESC Central Nevada Test Area | Mud Pit 4C chemical results | Figure 9–13 |
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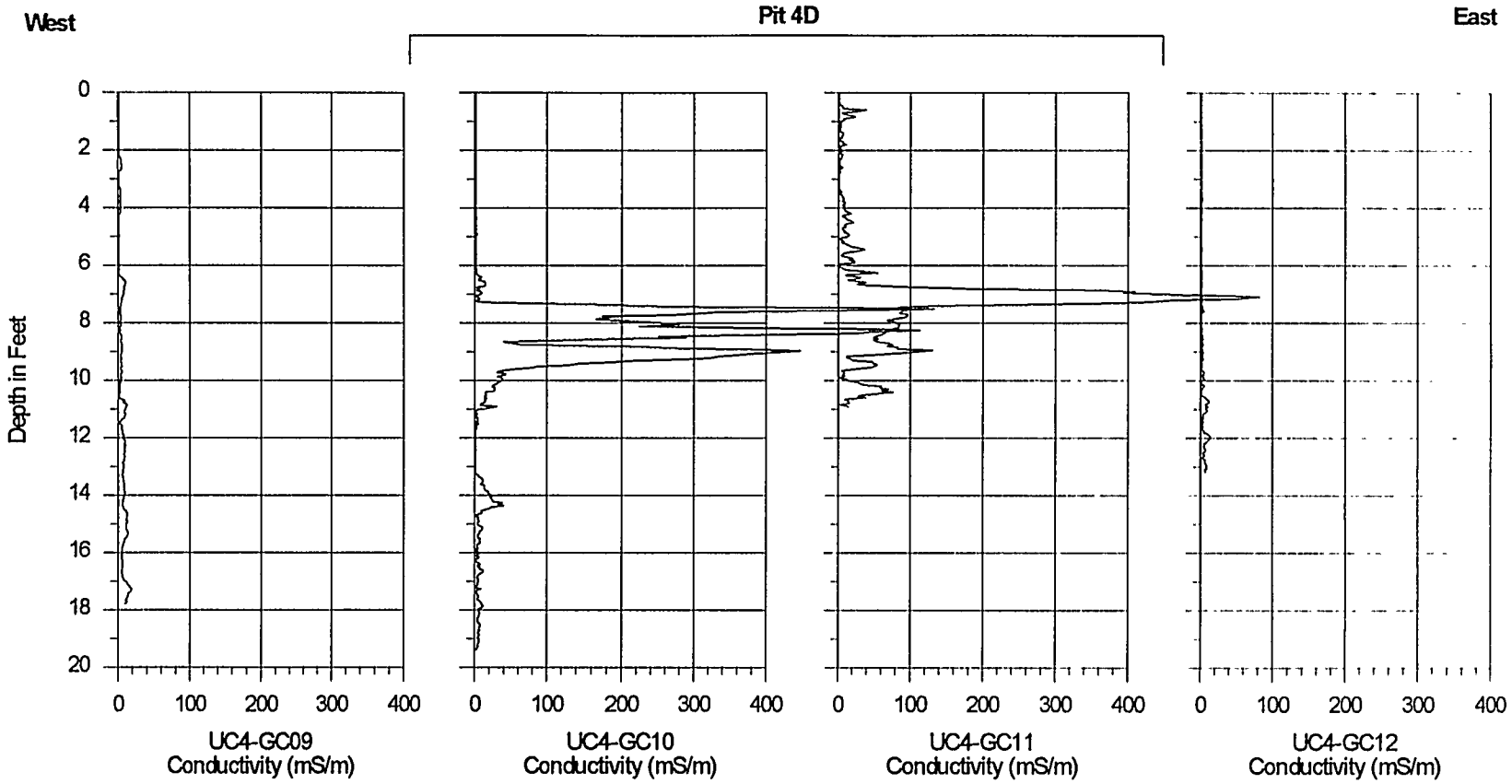


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| ESC<br>Central Nevada<br>Test Area | Mud Pit 4D cross section with Geoprobe conductivity logs UC4-GC9, UC4-GC10, UC4-GC11 and UC4-GC12 | Figure 9-14 |

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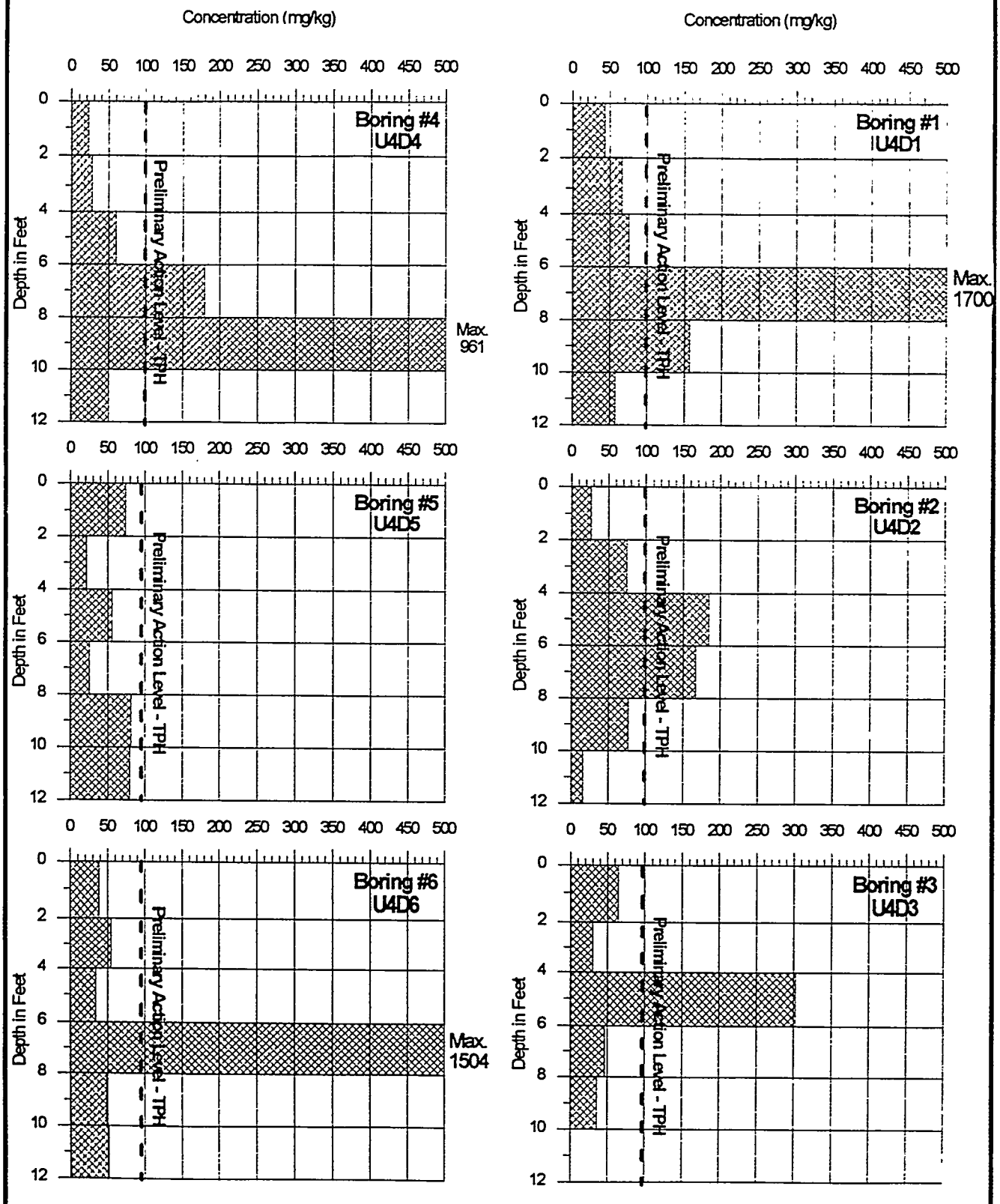


| ESC Central Nevada Test Area | Mud Pit 4D chemical results | Figure 9-15 |
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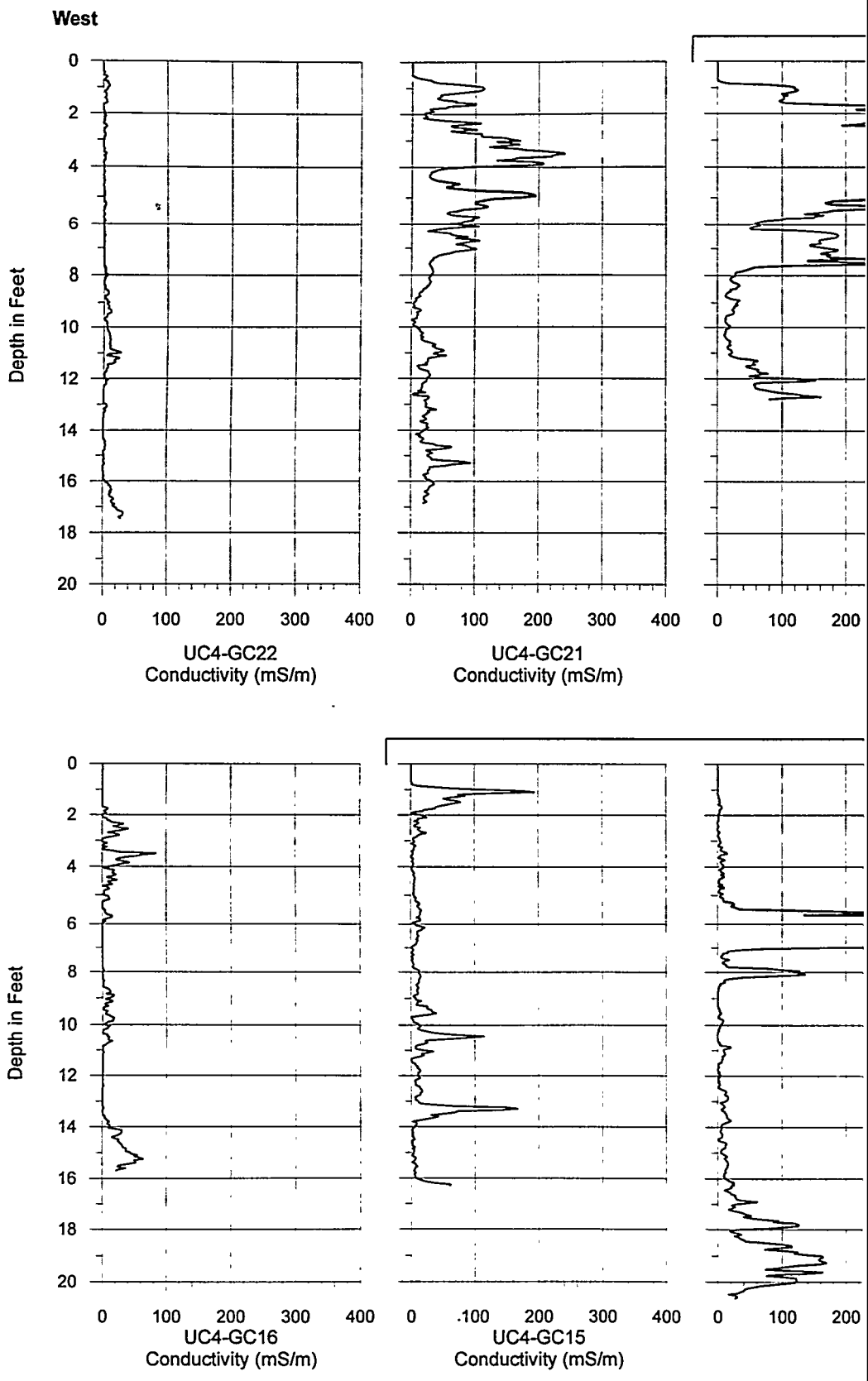


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UC-4 shaker pad de
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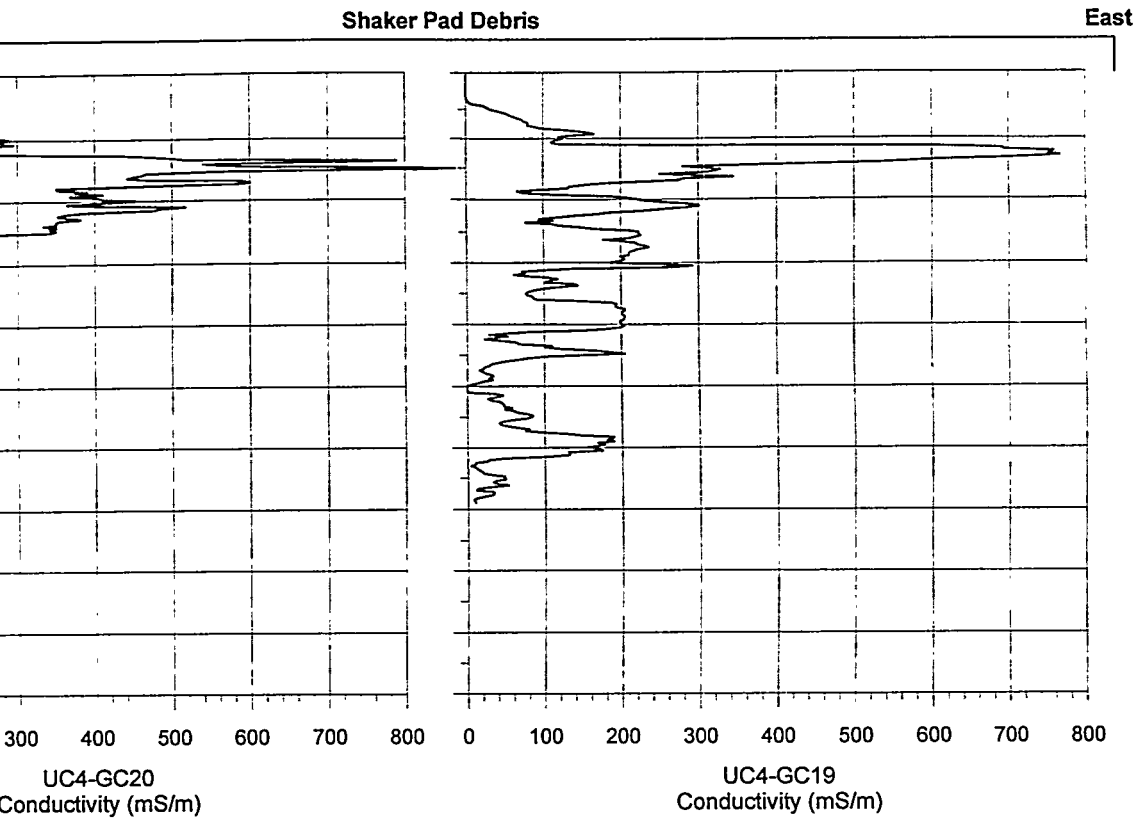
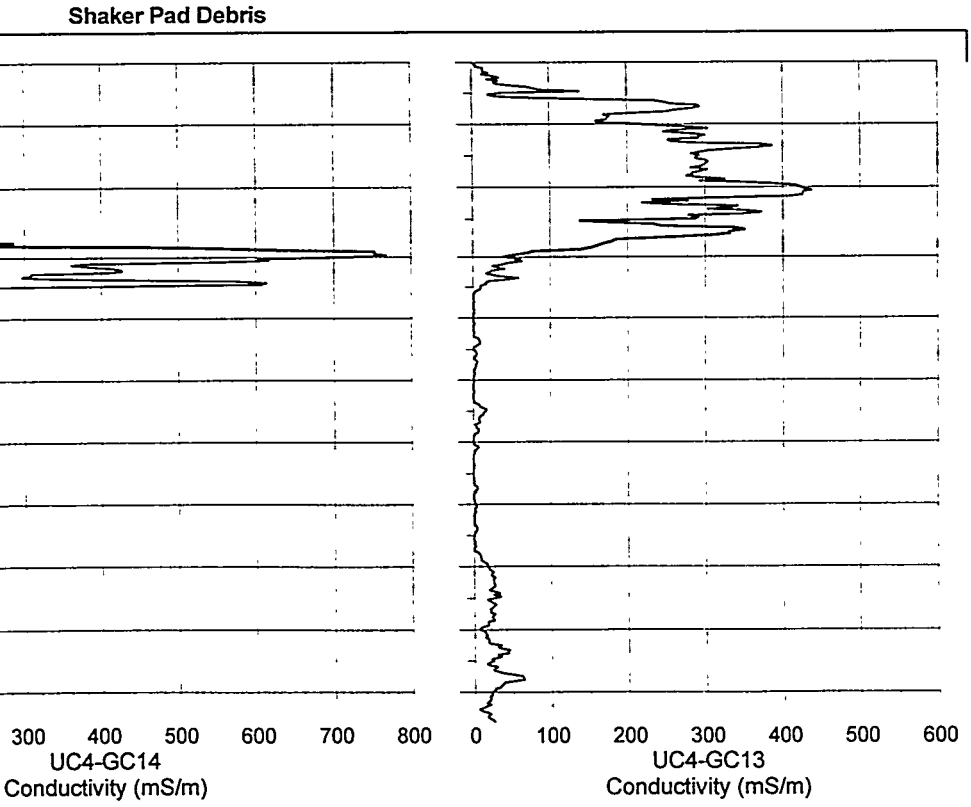
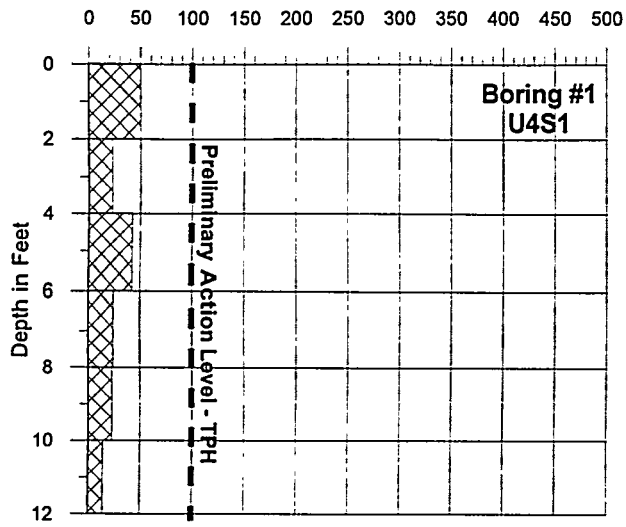
UC4-GC19, UC4-GC16, U

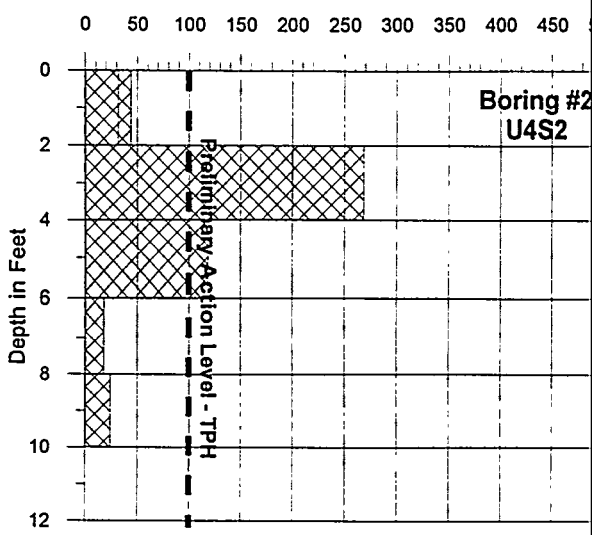


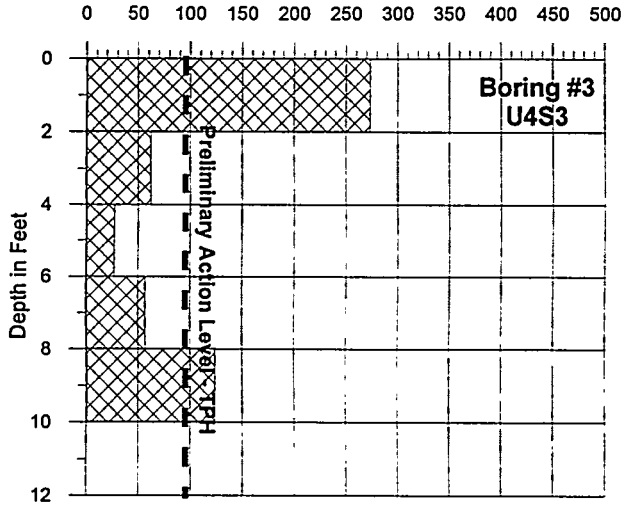



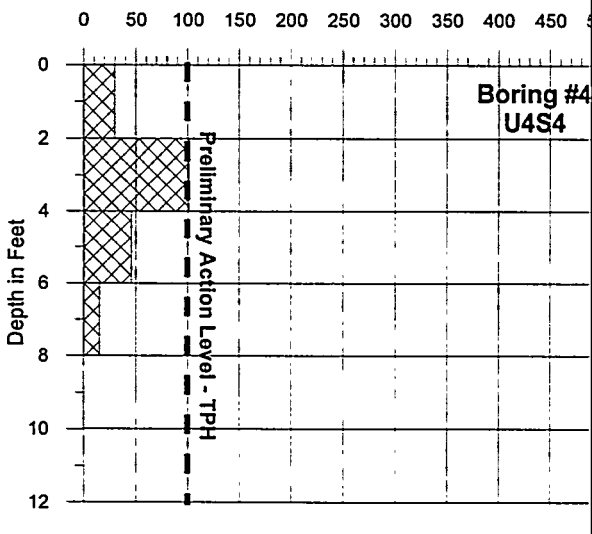

ris cross section with Geoprobe
-GC22, UC4-GC21, UC4-GC20,
4-GC15, UC4-GC14 and UC4-GC13

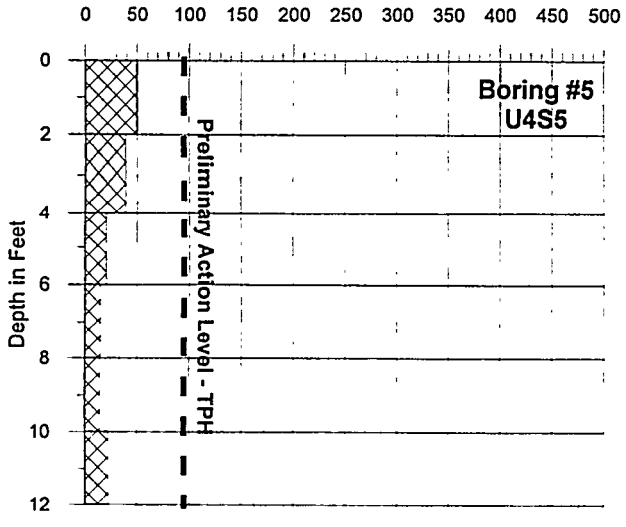
Figure 9-16

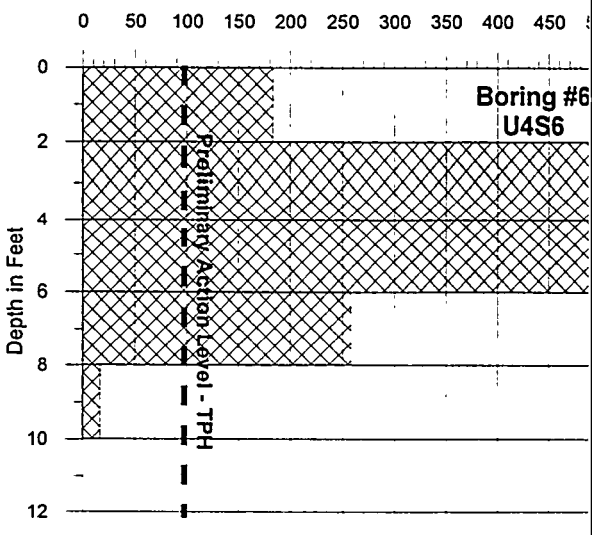
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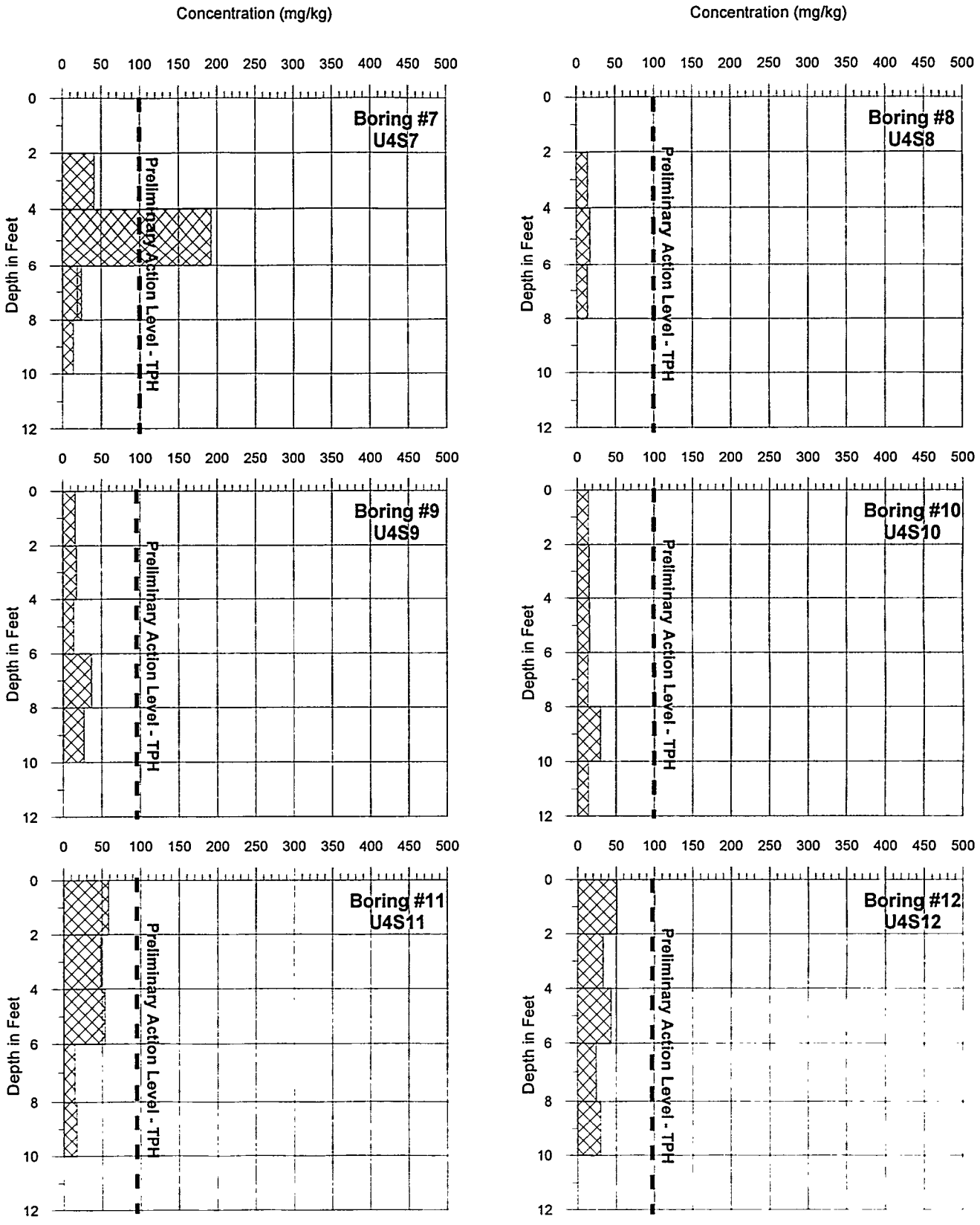
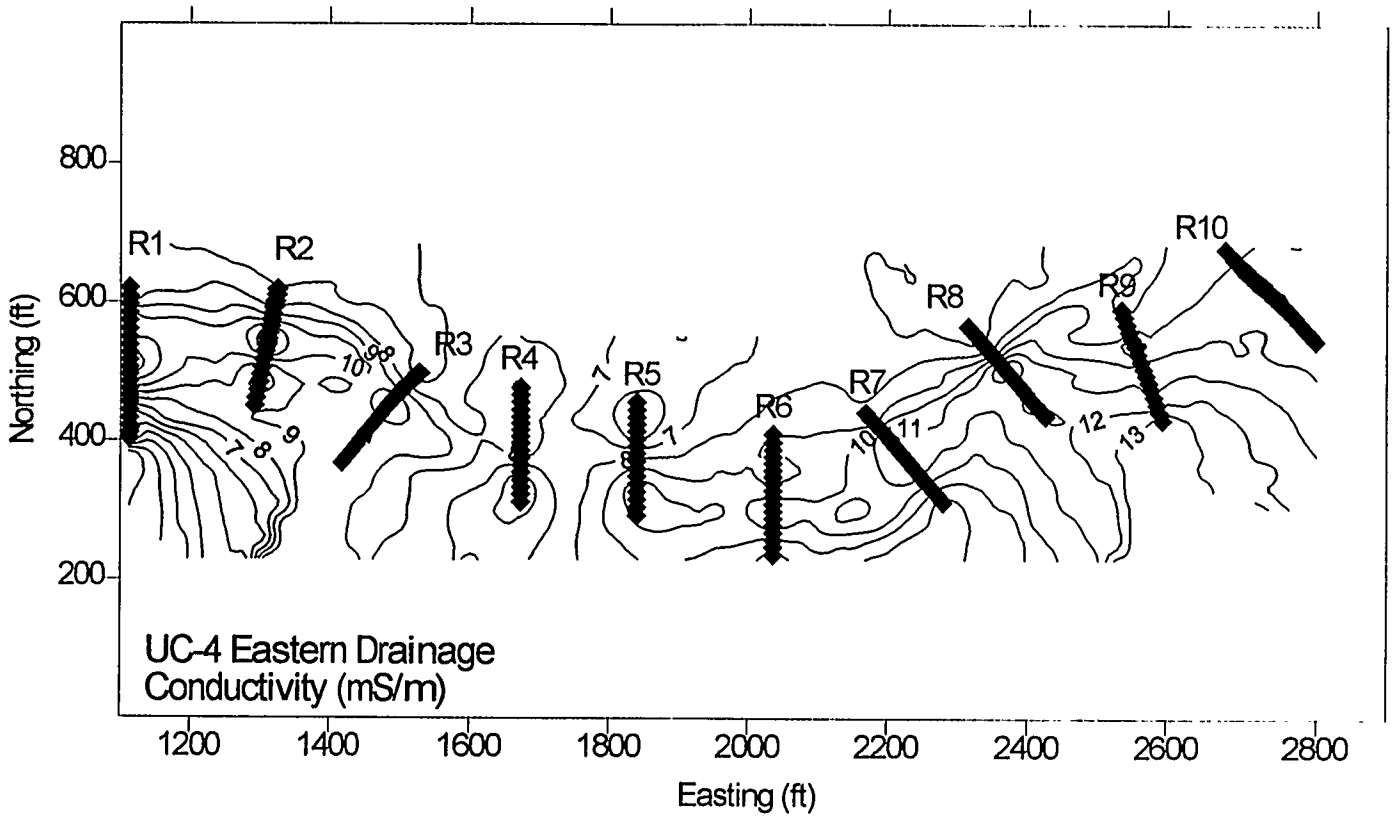
UC-4 shaker p




d debris chemical results

Figure 9-17

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| ESC<br>Central Nevada<br>Test Area | Eastern drainage area<br>EM conductivity contours | Figure 9–18 |

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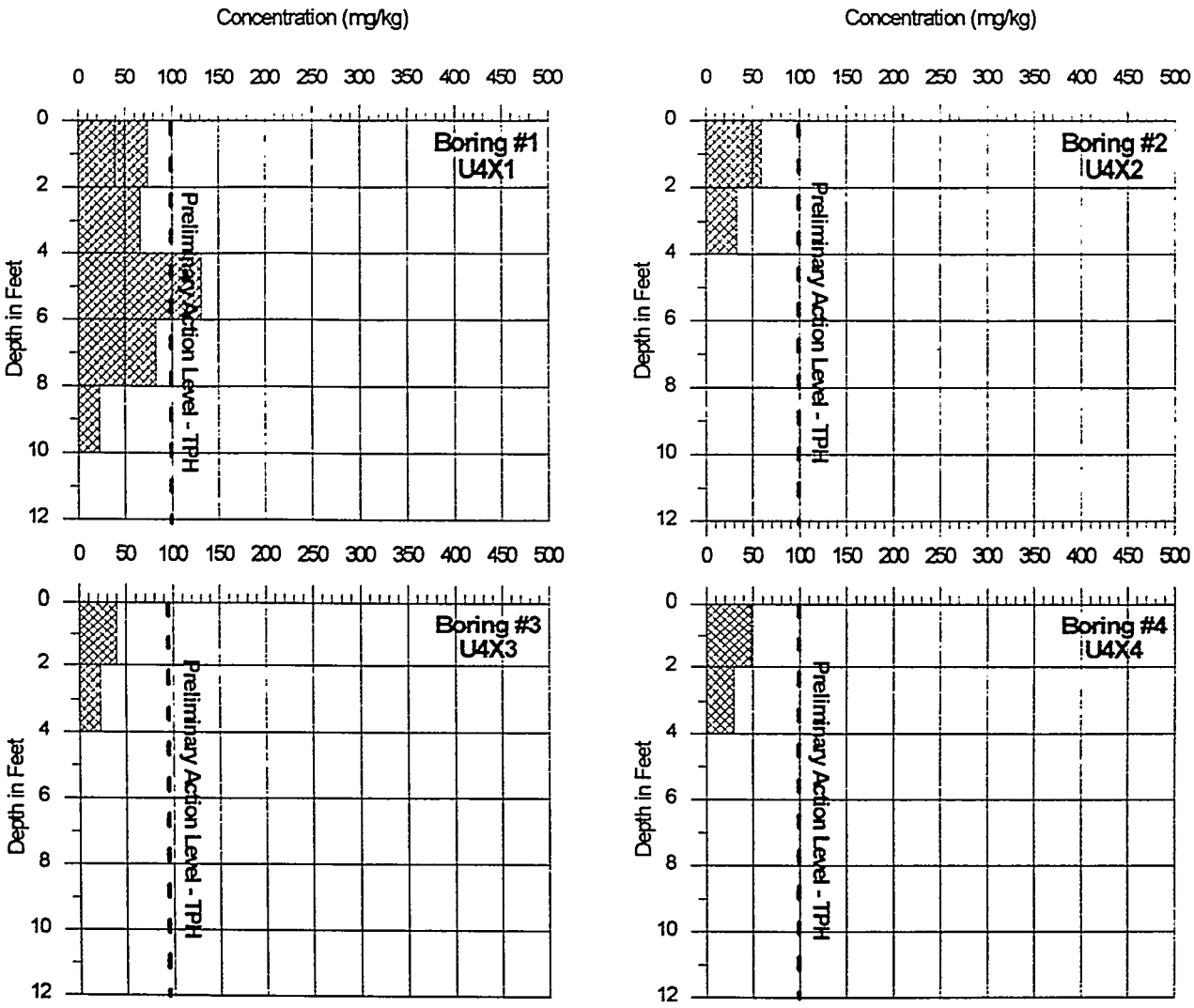


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| ESC<br>Central Nevada<br>Test Area | Eastern drainage chemical results | Figure 9–19 |

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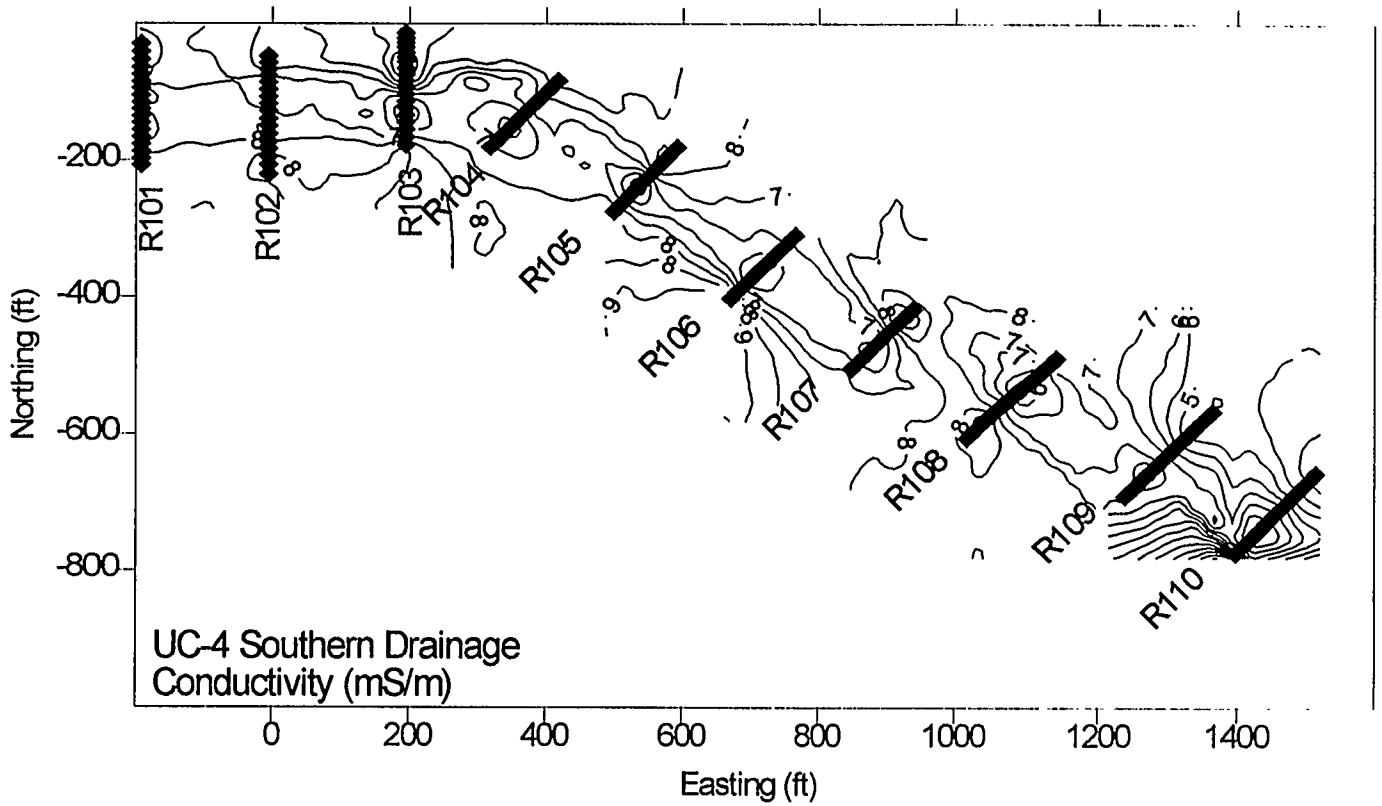


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| ESC<br>Central Nevada<br>Test Area | Southern drainage area<br>EM conductivity contours | Figure 9-20 |

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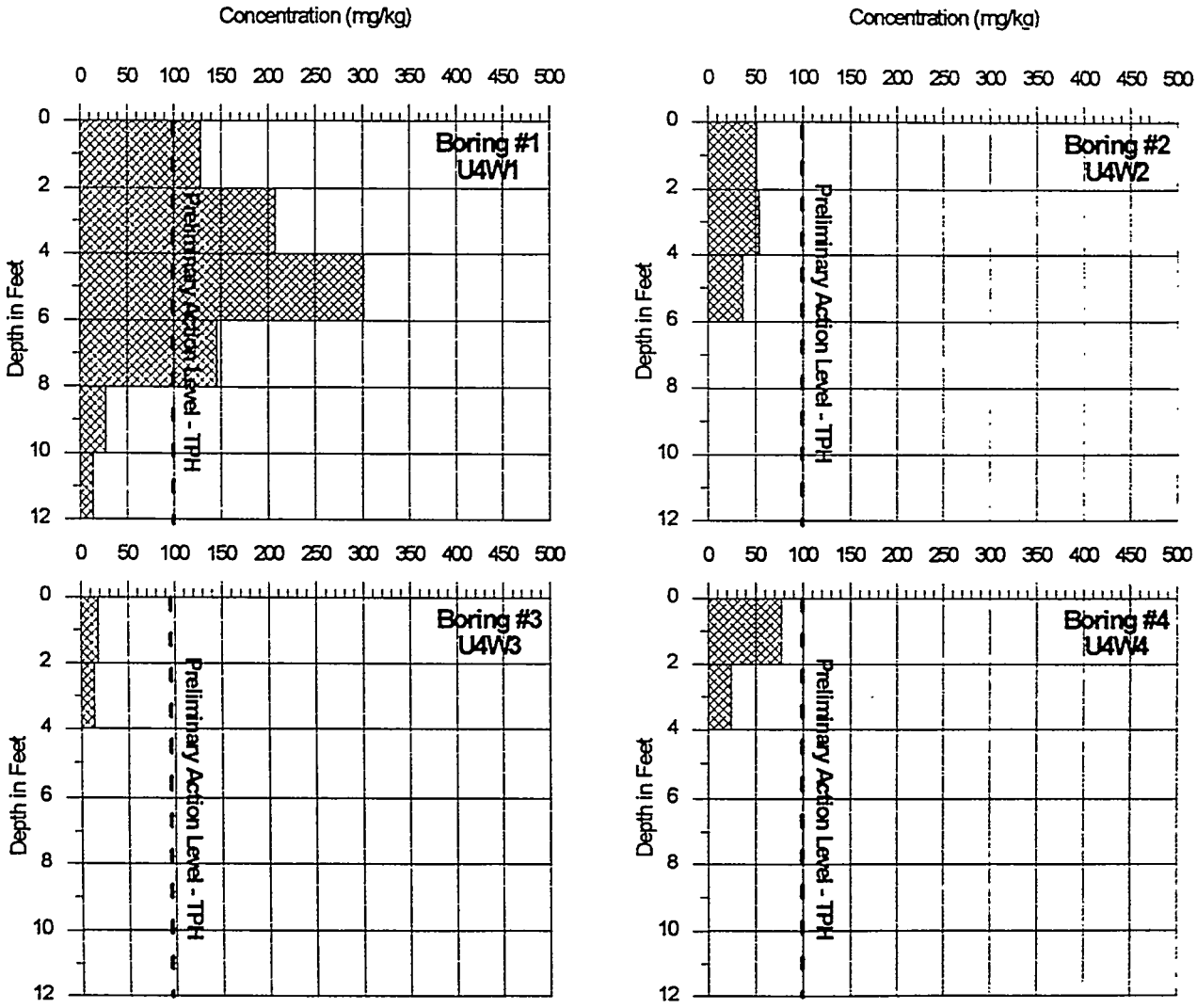


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| ESC<br>Central Nevada<br>Test Area | Southern drainage chemical results | Figure 9–21 |

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## 10.0 PROJECT SUMMARY

The characterization of the CNTA began with a thorough review of existing information and environmental data and a walk-through of the site. The identified primary source of potential contamination was drilling mud and cuttings. This material occurred in a number of settings, including buried residuum within engineered pits, uncovered accumulations within engineered pits, surface dumps, and secondary deposits from erosion of exposed material.

Preliminary measurements and observations made during the initial walk-through by the full characterization team indicated that the muds exhibited significantly higher electrical conductivities than the surrounding native soil. This fact became the basis for the physical characterization (Phase 1A and 1B) of the four CNTA areas. Surface-based electromagnetic induction methods were used to rapidly locate and map areas of surface and buried mud. Direct measurement of soil conductivity by direct-push technology was also undertaken to assess buried muds and characterize near-surface soil conditions. These methods provided an accurate portrayal of the presence or lack of, depth to and extent of residual mud.

In addition to geophysical measurements, the physical characterization phase also included establishment of coordinate grids, detailed site feature maps, and topographic base maps in each of the four areas, which was necessary supporting information for subsequent work. The results and interpretations derived from the physical characterization phase were used to update the initial site conceptual model prior to sampling and chemical analysis.

The chemical characterization efforts (Phase 2) resulted in the identification of 16 sites containing petroleum contamination, both as motor oil and diesel fuel, above the regulatory action level of 100 mg/kg. Also identified were 16 sites or features containing no detectable petroleum hydrocarbons or levels below the regulatory action level. No sites or individual samples were found to be contain hexavalent chromium above the PAL of 390 mg/kg.

Sites found to contain petroleum hydrocarbons above 100 mg/kg by layer through statistical evaluation of chemical analyses were:

- UC-1; Pit 1E; 0 - 4 ft.
- UC-1; Shaker area; 0 - 4 ft.
- CMP area; CMP; 0 - 6 ft.
- CMP area; Pit 1A; 0 - 4 ft.
- UC-3; Pit 3E; 0 - 10 ft.
- UC-3; Shaker area; 4 - 6 ft.
- UC-4; Pit 4A; 4 - 10 ft.
- UC-4; Pit 4B; 6 - 8 ft.
- UC-4; Pit 4C; 0 - 4 ft.
- UC-4; Pit 4D; 4 - 10 ft.
- UC-4; Shaker area; 0 - 8 ft.

Sites found to contain petroleum hydrocarbons above 100 mg/kg through judgmental sampling and chemical analyses were:

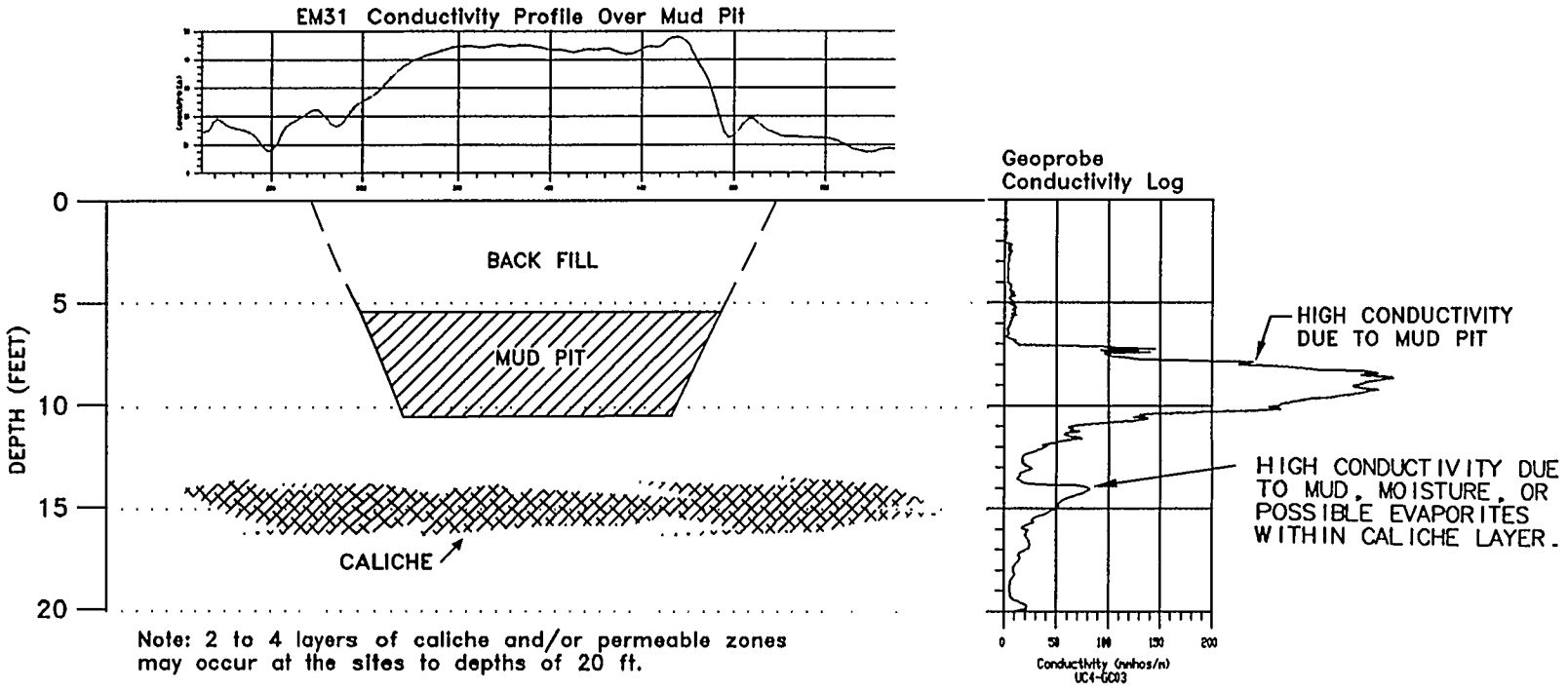
- UC-1 (outlier); surface depression; 0 - 2 ft.
- UC-3; area around Pit 3E; 0 - >18 ft. (contiguous with Pit 3E on the previous page)
- UC-3; Protruding pipes; 4 - 8 ft.
- UC-3; Cuttings dump to SE; 0 - 2 ft.
- UC-4; Eastern dump (head of drainage); 4 - 6 ft.
- UC-4; Southern dump (head of drainage); 0 - 8 ft.

All remaining sites identified in Tables 2-1 and 2-2 as having been sampled contained TPH and chromium below applicable action levels.

In the course of the full characterization effort, several new sites were discovered which had not been previously identified by preliminary sampling or site inspections. These new sites included outlying cuttings piles at UC-3, a suspected septic field at UC-3, buried metallic debris and pipelines at all four areas, additional grout/mud piles near UC-1, the shaker area at UC-1, an additional pit/depression of unknown origin between UC-1 and UC-3, and an eroding mud and cuttings dump south of UC-4 (southern drainage).

Figure 10-1 depicts the final conceptual physical site model of mud pits containing residual mud. In the absence of mud, electrical response was flat except in the presence of moisture or evaporite deposits. Chemical characterization supported this model completely.

The integration of ESC methods into the process resulted in a comprehensive understanding of the CNTA. Results and interpretations were gained beyond just chemical data. This comprehensive picture will provide a more sound basis for future activity, such as remediation, at the site.

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| ESC<br>Central Nevada<br>Test Area | Conceptual model of site conditions based on the EM data, Geoprobe conductivity logs and geologic observations | Figure 10–1 |

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## 11.0 DISTRIBUTION LIST

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# APPENDIX A: DIFFERENTIAL GLOBAL POSITIONING SYSTEM

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## Appendix A

## Differential Global Positioning System

A Magellan Pro-Mark X carrier phase differential GPS system was used to acquire control points at grid corners and outlier locations at the CNTA during Phase 1.

The differential GPS system requires that both a base station and remote station be operated simultaneously. Three local base stations that were tied to known well locations were used. It is recommended that future GPS work use these same base stations for consistency. The following table (Table A-1) lists the base station coordinates in Central Nevada state plane (NAD27 datum) coordinates and the assumed height above ellipsoid (HAE) in feet (Since the exact HAE was unknown, elevations above MSL were used):

**Table A-1**

| Site | Well | Easting (feet) | Northing (feet) | HAE (feet) |
|---|---|---|---|---|
| UC-1 & CMP | UC1-I1 | 628900.14 | 1414262.85 | 6102.40 |
| UC-3 | UCE20 | 628092.75 | 1399868.46 | 5759.00 |
| UC-4 | Emplacement | 628253.40 | 1430564.49 | 6458.00 |

The remote stations were occupied for 10 minutes. The base station data and remote station data were processed with Magellan GPS Post-Processing Software (v. 4.0) after each day. Repeat acquisitions at three different stations showed an average deviation of 0.21 ft.

The control points were originally output in Central Nevada state plane (NAD27 datum) coordinates (ft). The coordinates were then translated into UTM (Sector 11; NAD83 datum) coordinates using the Magellan software, and checked with Corpscon v.4.11 coordinate conversion software (U.S. Army Topographic Engineering Center). A second translation of the UTM coordinates was necessary to match the maps provided by the DOE in the field (possibly fitting the NAD27 datum). All three coordinates are presented in the Table A-2.

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Table A-2
GPS Control Points

| STATION | EASTING (feet) (CNV-NAD27) | NORTHING (feet) (CNV-NAD27) | UTM East (meter) Sector 11 (NAD83) | UTM North (meter) (NAD83) | Translated UTM East (meter) (see text) | Translated UTM North (meter) (see text) | HAE (ft) | DESCRIPTION (Local Grid Coordinates) |
|---|---|---|---|---|---|---|---|---|
| **Site: UC-1** | | | | | | | | |
| UC100 | 628581.7 | 1413920.7 | 568114.0 | 4276351.7 | 568193.5 | 4276152.3 | 6119.2 | UC1 - (0E,0N) |
| UC108 | 628542.8 | 1414719.1 | 568101.3 | 4276594.9 | 568180.8 | 4276395.6 | 6132.5 | UC1 - (0E,800N) |
| UC188 | 629418.0 | 1414767.4 | 568367.9 | 4276610.6 | 568447.4 | 4276411.3 | 6088.2 | UC1 - (880E,800N) |
| UC180 | 629460.4 | 1413969.0 | 568381.7 | 4276367.4 | 568461.2 | 4276168.0 | 6072.4 | UC1 - (880E,0N) |
| UC1R1C | 629745.4 | 1415095.5 | 568467.3 | 4276711.0 | 568546.8 | 4276511.6 | 6096.4 | Outlier R1 CENTER |
| UC1R2C | 629672.8 | 1414862.0 | 568445.5 | 4276639.7 | 568524.9 | 4276440.4 | 6087.9 | Outlier R2 CENTER |
| UC1R3C | 629172.6 | 1413884.1 | 568294.1 | 4276341.2 | 568373.6 | 4276141.8 | 6084.8 | Outlier R3 CENTER |
| UC1R4C | 629257.6 | 1413694.7 | 568320.2 | 4276283.6 | 568399.7 | 4276084.2 | 6078.5 | Outlier R4 CENTER |
| UC1R5N | 629706.9 | 1411566.0 | 568459.5 | 4275635.4 | 568539.0 | 4275436.0 | 6037.3 | Outlier R5 NORTH |
| UC1R5S | 629717.6 | 1411287.1 | 568463.2 | 4275550.3 | 568542.7 | 4275351.0 | 6031.8 | Outlier R5 SOUTH |
| FLT1N | 629874.7 | 1413152.5 | 568508.9 | 4276119.0 | 568588.4 | 4275919.7 | 6048.7 | FAULT 1 NORTH |
| FLT1S | 630155.8 | 1412864.4 | 568594.9 | 4276031.6 | 568674.4 | 4275832.2 | 6048.2 | FAULT 1 SOUTH |
| FLT2W | 630724.1 | 1413655.3 | 568767.2 | 4276273.2 | 568846.6 | 4276073.8 | 6033.9 | FAULT 2 WEST |
| FLT2E | 631094.9 | 1413511.2 | 568880.3 | 4276229.7 | 568959.8 | 4276030.3 | 6027.9 | FAULT 2 EAST |
| WELL UC1I1 | 628900.1 | 1414262.9 | 568210.7 | 4276456.3 | 568290.2 | 4276257.0 | 6102.4 | BASE STATION |
| | | | | | | | | |
| **Site: CMP** | | | | | | | | |
| CMP07 | 629641.6 | 1413943.4 | 568437.0 | 4276359.8 | 568516.4 | 4276160.4 | 6066.6 | CMP (0E,720N) |
| CMP137 | 630952.8 | 1413827.0 | 568836.7 | 4276325.8 | 568916.1 | 4276126.4 | 6031.2 | CMP (1320E,720N) |
| CMP130 | 630890.2 | 1413111.5 | 568818.4 | 4276107.7 | 568897.8 | 4275908.3 | 6022.1 | CMP (1320E,0N) |
| CMP00 | 629577.3 | 1413226.6 | 568418.2 | 4276141.3 | 568497.7 | 4275941.9 | 6061.3 | CMP (0E,0N) |
| | | | | | | | | |
| **Site: UC-3** | | | | | | | | |
| UC300 | 627729.9 | 1399652.4 | 567870.3 | 4272003.0 | 567949.8 | 4271803.6 | 5753.5 | UC3 (0E,0N) |
| UC306 | 627739.7 | 1400256.3 | 567872.6 | 4272187.0 | 567952.1 | 4271987.6 | 5762.8 | UC3 (0E,600N) |
| UC376 | 628498.5 | 1400240.5 | 568103.8 | 4272183.0 | 568183.3 | 4271983.6 | 5767.9 | UC3 (760E,600E) |
| UC370 | 628489.4 | 1399646.5 | 568101.7 | 4272002.0 | 568181.2 | 4271802.6 | 5758.1 | UC3 (760E,0N) |
| UC3R1W | 627913.9 | 1400595.3 | 567925.3 | 4272290.4 | 568004.8 | 4272091.1 | 5769.7 | Outlier R1 WEST |
| UC3R1E | 628895.2 | 1400254.6 | 568224.7 | 4272187.7 | 568304.2 | 4271988.4 | 5770.3 | Outlier R1 EAST |
| UC3R6N | 628556.8 | 1399270.2 | 567980.6 | 4272069.2 | 568060.1 | 4271869.8 | 5752.6 | Outlier R6 NORTH |
| UC3R6S | 628490.7 | 1398468.0 | 568102.2 | 4271644.7 | 568181.6 | 4271445.3 | 5752.5 | Outlier R6 SOUTH |
| UC3R13N | 627289.6 | 1399015.0 | 567736.8 | 4271808.2 | 567816.3 | 4271608.9 | 5740.6 | Outlier R13 NORTH |
| UC3R13S | 627139.7 | 1398187.4 | 567692.0 | 4271555.9 | 567771.5 | 4271356.5 | 5732.3 | Outlier R13 SOUTH |
| UC3R19S | 628105.1 | 1400659.9 | 567983.5 | 4272310.3 | 568062.9 | 4272111.0 | 5773.5 | Outlier R19 SOUTH |
| UC3R19N | 628094.3 | 1401139.2 | 567979.6 | 4272456.4 | 568059.1 | 4272257.0 | 5781.5 | Outlier R19 NORTH |
| UC3R22C | 627044.5 | 1400855.6 | 567660.1 | 4272368.8 | 567739.6 | 4272169.5 | 5769.8 | Outlier R22 CENTER |
| UC3R23C | 627303.0 | 1400217.6 | 567739.5 | 4272174.7 | 567819.0 | 4271975.3 | 5764.5 | Outlier R23 CENTER |
| UC3FNE | 628891.2 | 1400664.0 | 568222.9 | 4272311.6 | 568302.4 | 4272112.2 | 5771.6 | NE FENCE CORNER |
| UC3FSE | 628894.5 | 1399269.0 | 568225.5 | 4271887.4 | 568305.0 | 4271688.0 | 5756.3 | SE FENCE CORNER |
| UC3FSW | 627644.7 | 1399269.5 | 567844.7 | 4271886.1 | 567924.2 | 4271686.8 | 5747.1 | SW FENCE CORNER |
| UC3FNW | 627244.0 | 1400662.2 | 567720.9 | 4272309.9 | 567800.4 | 4272110.6 | 5765.0 | NW FENCE CORNER |
| WELL UCE2 | 628092.8 | 1399868.5 | 567980.6 | 4272069.2 | 568060.1 | 4271869.8 | 5759.0 | BASE STATION |
| | | | | | | | | |
| **Site: UC-4** | | | | | | | | |
| UC400 | 627861.7 | 1430244.8 | 567876.6 | 4281325.2 | 567956.1 | 4281125.9 | 6466.5 | UC4 (0E,0N) |
| UC450 | 628378.7 | 1430205.2 | 568034.1 | 4281313.7 | 568113.6 | 4281114.3 | 6448.8 | UC4 (520E,0N) |
| UC407 | 627926.5 | 1431001.8 | 567895.5 | 4281556.0 | 567975.0 | 4281356.6 | 6479.5 | UC4 (0E,760N) |
| UC457 | 628443.0 | 1430955.5 | 568052.8 | 4281542.3 | 568132.3 | 4281343.0 | 6448.7 | UC4 (520E,760N) |
| UC497 | 628839.5 | 1430918.7 | 568173.8 | 4281531.7 | 568253.3 | 4281332.4 | 6431.3 | UC4 (920E,760N) |
| UC461 | 628551.0 | 1430352.0 | 568086.5 | 4281358.6 | 568166.0 | 4281159.3 | 6446.3 | UC4 (680E,160N) |
| UC4R101 | 627658.4 | 1430133.6 | 567814.7 | 4281291.0 | 567894.2 | 4281091.7 | 6457.5 | Outlier R101 CENTER |
| UC4R102 | 627846.9 | 1430128.4 | 567872.2 | 4281289.7 | 567951.7 | 4281090.3 | 6448.5 | Outlier R102 CENTER |
| UC4R103 | 628045.9 | 1430122.8 | 567932.8 | 4281288.2 | 568012.3 | 4281088.8 | 6440.9 | Outlier R103 CENTER |
| UC4R104 | 628239.4 | 1430102.6 | 567991.8 | 4281282.3 | 568071.3 | 4281082.9 | 6428.0 | Outlier R104 CENTER |

Table A-2
GPS Control Points

| STATION | EASTING (feet) (CNV-NAD27) | NORTHING (feet) (CNV-NAD27) | UTM East (meter) Sector 11 (NAD83) | UTM North (meter) (NAD83) | Translated UTM East (meter) (see text) | Translated UTM North (meter) (see text) | HAE (ft) | DESCRIPTION (Local Grid Coordinates) |
|---|---|---|---|---|---|---|---|---|
| UC4R105 | 628396.3 | 1429979.0 | 568039.8 | 4281244.8 | 568119.2 | 4281045.4 | 6418.2 | Outlier R105 CENTER |
| UC4R106 | 628575.3 | 1429854.6 | 568094.4 | 4281207.1 | 568173.9 | 4281007.7 | 6406.6 | Outlier R106 CENTER |
| UC4R107 | 628728.7 | 1429728.0 | 568141.3 | 4281168.6 | 568220.8 | 4280969.3 | 6398.9 | Outlier R107 CENTER |
| UC4R108 | 628900.5 | 1429617.8 | 568193.8 | 4281135.3 | 568273.3 | 4280935.9 | 6387.7 | Outlier R108 CENTER |
| UC4R109 | 629109.2 | 1429511.6 | 568257.5 | 4281103.1 | 568337.0 | 4280903.8 | 6375.6 | Outlier R109 CENTER |
| UC4R110 | 629268.4 | 1429427.3 | 598306.1 | 4281077.6 | 598385.6 | 4280878.3 | 6364.1 | Outlier R110 CENTER |
| UC4R1 | 629014.9 | 1430701.9 | 568227.5 | 4281465.7 | 568306.9 | 4281266.4 | 6410.5 | Outlier R1 CENTER |
| UC4R2 | 629207.8 | 1430669.3 | 568286.3 | 4281456.0 | 568365.8 | 4281256.6 | 6393.0 | Outlier R2 CENTER |
| UC4R3 | 629370.4 | 1430567.7 | 568335.9 | 4281425.2 | 568415.4 | 4281225.9 | 6385.5 | Outlier R3 CENTER |
| UC4R4 | 629558.0 | 1430501.7 | 568393.1 | 4281405.3 | 568472.6 | 4281206.0 | 6376.1 | Outlier R4 CENTER |
| UC4R5 | 629726.1 | 1430487.1 | 568444.4 | 4281401.0 | 568523.9 | 4281201.6 | 6366.3 | Outlier R5 CENTER |
| UC4R6 | 629913.7 | 1430401.9 | 568501.7 | 4281375.3 | 568581.2 | 4281176.0 | 6358.3 | Outlier R6 CENTER |
| UC4R7 | 630100.4 | 1430456.5 | 568558.5 | 4281392.1 | 568638.0 | 4281192.8 | 6347.2 | Outlier R7 CENTER |
| UC4R8 | 630272.0 | 1430556.3 | 568610.7 | 4281422.8 | 568690.2 | 4281223.4 | 6337.3 | Outlier R8 CENTER |
| UC4R9 | 630452.5 | 1430565.8 | 568665.7 | 4281425.8 | 568745.2 | 4281226.5 | 6327.1 | Outlier R9 CENTER |
| UC4R10 | 630646.4 | 1430642.9 | 568724.7 | 4281449.6 | 568804.2 | 4281250.2 | 6313.9 | Outlier R10 CENTER |
| WELL UC4 | 628253.4 | 1430564.5 | 567995.6 | 4281423.0 | 568075.0 | 4281223.7 | 6458.0 | BASE STATION |

## APPENDIX B: DIGITAL ELEVATIONS

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## Appendix B

## Digital Elevations

Elevations were acquired for each of the four sites using a Topcon DL-102 digital level. Data were acquired at each 40 x 40 ft. grid node, unless the surrounding area was flat enough to interpolate between wider-spaced points. Also, closer spaced data were acquired at major breaks or changes in elevation. The elevations are relative to the three base station elevations used for the GPS control points (Well UC1-I1, Well UCE20, and UC-4 Emplacement Well).

**Table B-1**

| Site | Well | Easting (feet) | Northing (feet) | MSL* (feet) |
|---|---|---|---|---|
| UC-1 & CMP | UC1-I1 | 628900.14 | 1414262.85 | 6102.40 |
| UC-3 | UCE20 | 628092.75 | 1399868.46 | 5759.00 |
| UC-4 | Emplacement Well | 628253.40 | 1430564.49 | 6458.00 |

*taken from height above ellipsoid (see Appendix A)

Closure accuracy was calculated at least once per day by reoccupying the initial measurement station. The difference in repeated measurements ranged from 0 to 0.16 ft. and averaged 0.05 ft.

The elevation data were downloaded to a PC using Transfer, Reduction, Adjustment Electronic Level software (TRA) by Topcon Instrument Corporation. Color contours of the data were generated by Geosoft mapping and processing software. Four tables, B-2, B-3, B-4, and B-5 each contain a list of all elevations acquired at one of the four areas (positions are in the local grid Easting and Northing).

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Appendix B
Table B-2

| UC-1 Easting | UC-1 Northing | Elev (feet) | UC-1 Easting | UC-1 Northing | Elev (feet) | UC-1 Easting | UC-1 Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 6119.51 | 240 | 160 | 6109.00 | 600 | 200 | 6091.48 |
| 0 | 40 | 6119.56 | 240 | 200 | 6105.39 | 560 | 200 | 6092.73 |
| 0 | 80 | 6120.52 | 280 | 160 | 6108.70 | 600 | 240 | 6092.89 |
| 0 | 120 | 6122.25 | 280 | 120 | 6106.27 | 640 | 240 | 6091.11 |
| 0 | 160 | 6123.04 | 280 | 80 | 6104.80 | 640 | 200 | 6089.29 |
| 0 | 200 | 6122.80 | 280 | 40 | 6104.01 | 640 | 160 | 6088.60 |
| 0 | 240 | 6121.86 | 320 | 200 | 6104.61 | 560 | 40 | 6087.67 |
| 0 | 280 | 6122.96 | 320 | 160 | 6108.22 | 560 | 0 | 6086.99 |
| 40 | 280 | 6120.93 | 360 | 160 | 6107.62 | 600 | 0 | 6085.26 |
| 40 | 320 | 6120.81 | 400 | 160 | 6105.08 | 600 | 40 | 6085.49 |
| 40 | 360 | 6121.83 | 430 | 170 | 6104.36 | 600 | 80 | 6088.04 |
| 40 | 400 | 6122.24 | 440 | 200 | 6106.69 | 600 | 120 | 6088.48 |
| 80 | 400 | 6120.79 | 480 | 200 | 6106.07 | 640 | 120 | 6087.02 |
| 80 | 360 | 6120.02 | 440 | 160 | 6104.66 | 640 | 80 | 6085.81 |
| 80 | 320 | 6119.54 | 480 | 160 | 6104.38 | 640 | 40 | 6083.71 |
| 80 | 280 | 6118.00 | 400 | 200 | 6105.59 | 640 | 0 | 6083.30 |
| 80 | 240 | 6116.66 | 360 | 200 | 6104.88 | 680 | 0 | 6081.55 |
| 80 | 200 | 6116.32 | 280 | 0 | 6102.21 | 680 | 40 | 6082.69 |
| 80 | 160 | 6118.29 | 320 | 0 | 6100.06 | 680 | 80 | 6083.65 |
| 80 | 120 | 6117.85 | 320 | 40 | 6101.62 | 680 | 120 | 6085.43 |
| 80 | 80 | 6115.91 | 320 | 80 | 6102.40 | 680 | 160 | 6086.40 |
| 40 | 0 | 6116.55 | 320 | 120 | 6103.31 | 680 | 200 | 6087.21 |
| 40 | 40 | 6117.27 | 360 | 120 | 6100.83 | 680 | 240 | 6088.85 |
| 40 | 80 | 6117.95 | 360 | 80 | 6100.51 | 720 | 240 | 6086.94 |
| 40 | 120 | 6119.92 | 360 | 40 | 6098.91 | 720 | 210 | 6087.40 |
| 40 | 160 | 6120.68 | 360 | 0 | 6098.10 | 720 | 200 | 6085.33 |
| 40 | 200 | 6119.33 | 400 | 0 | 6096.56 | 720 | 160 | 6083.90 |
| 40 | 240 | 6120.04 | 400 | 40 | 6096.98 | 720 | 120 | 6083.46 |
| 120 | 160 | 6115.74 | 400 | 80 | 6098.13 | 720 | 80 | 6082.00 |
| 120 | 120 | 6115.79 | 400 | 120 | 6100.11 | 720 | 40 | 6080.70 |
| 80 | 0 | 6113.99 | 430 | 150 | 6101.55 | 720 | 0 | 6079.38 |
| 80 | 40 | 6114.21 | 440 | 120 | 6098.73 | 760 | 0 | 6078.15 |
| 120 | 0 | 6111.49 | 440 | 80 | 6094.69 | 760 | 40 | 6078.79 |
| 120 | 40 | 6111.49 | 440 | 40 | 6094.25 | 760 | 80 | 6079.50 |
| 120 | 80 | 6114.07 | 440 | 0 | 6094.05 | 760 | 110 | 6080.09 |
| 160 | 160 | 6113.39 | 480 | 0 | 6091.66 | 760 | 120 | 6081.92 |
| 160 | 120 | 6113.12 | 480 | 40 | 6091.22 | 760 | 160 | 6081.02 |
| 160 | 80 | 6111.79 | 480 | 80 | 6092.44 | 760 | 200 | 6084.13 |
| 160 | 40 | 6109.59 | 480 | 120 | 6095.66 | 800 | 240 | 6083.59 |
| 160 | 0 | 6108.64 | 520 | 140 | 6093.67 | 800 | 200 | 6081.21 |
| 200 | 80 | 6109.33 | 520 | 120 | 6093.42 | 800 | 160 | 6079.71 |
| 200 | 120 | 6111.80 | 520 | 80 | 6091.08 | 800 | 120 | 6079.66 |
| 200 | 160 | 6110.99 | 520 | 40 | 6089.49 | 800 | 80 | 6078.10 |
| 200 | 40 | 6107.62 | 520 | 0 | 6089.14 | 800 | 40 | 6076.97 |
| 200 | 0 | 6105.16 | 540 | 160 | 6093.32 | 800 | 0 | 6077.06 |
| 240 | 0 | 6103.82 | 560 | 160 | 6092.52 | 840 | 0 | 6075.45 |
| 240 | 40 | 6105.63 | 560 | 120 | 6091.61 | 840 | 40 | 6076.07 |
| 240 | 80 | 6107.01 | 560 | 80 | 6089.51 | 840 | 80 | 6077.22 |
| 240 | 120 | 6108.27 | 600 | 160 | 6090.46 | 840 | 120 | 6078.70 |

Appendix B
Table B-2

| UC-1 Easting | UC-1 Northing | Elev (feet) | UC-1 Easting | UC-1 Northing | Elev (feet) | UC-1 Easting | UC-1 Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 840 | 160 | 6078.54 | 840 | 160 | 6078.54 | 640 | 360 | 6088.19 |
| 840 | 200 | 6079.43 | 840 | 200 | 6079.43 | 640 | 320 | 6085.65 |
| 840 | 240 | 6082.30 | 840 | 240 | 6082.30 | 640 | 300 | 6085.44 |
| 880 | 320 | 6083.23 | 880 | 320 | 6083.23 | 640 | 280 | 6091.13 |
| 880 | 280 | 6081.55 | 880 | 280 | 6081.55 | 680 | 280 | 6090.89 |
| 880 | 240 | 6080.21 | 880 | 240 | 6080.21 | 680 | 320 | 6086.86 |
| 880 | 200 | 6078.34 | 880 | 200 | 6078.34 | 680 | 360 | 6086.14 |
| 880 | 160 | 6076.45 | 880 | 160 | 6076.45 | 680 | 400 | 6087.60 |
| 880 | 120 | 6077.40 | 880 | 120 | 6077.40 | 680 | 420 | 6091.99 |
| 880 | 80 | 6075.20 | 880 | 80 | 6075.20 | 640 | 400 | 6089.78 |
| 760 | 240 | 6085.17 | 760 | 240 | 6085.17 | 600 | 360 | 6090.80 |
| 760 | 280 | 6083.27 | 760 | 280 | 6083.27 | 600 | 320 | 6087.74 |
| 760 | 320 | 6087.91 | 760 | 320 | 6087.91 | 600 | 280 | 6087.21 |
| 720 | 300 | 6089.00 | 720 | 300 | 6089.00 | 660 | 440 | 6091.98 |
| 720 | 280 | 6088.86 | 720 | 280 | 6088.86 | 640 | 440 | 6092.60 |
| 720 | 320 | 6085.53 | 720 | 320 | 6085.53 | 600 | 440 | 6096.45 |
| 720 | 335 | 6085.88 | 720 | 335 | 6085.88 | 600 | 400 | 6094.04 |
| 720 | 340 | 6083.69 | 720 | 340 | 6083.69 | 600 | 480 | 6097.09 |
| 720 | 360 | 6084.08 | 720 | 360 | 6084.08 | 600 | 520 | 6098.13 |
| 720 | 400 | 6084.87 | 720 | 400 | 6084.87 | 640 | 520 | 6099.23 |
| 720 | 440 | 6086.69 | 720 | 440 | 6086.69 | 680 | 520 | 6099.19 |
| 720 | 480 | 6088.06 | 720 | 480 | 6088.06 | 680 | 480 | 6096.27 |
| 740 | 480 | 6085.48 | 740 | 480 | 6085.48 | 640 | 480 | 6095.53 |
| 760 | 460 | 6084.06 | 760 | 460 | 6084.06 | 560 | 240 | 6094.50 |
| 760 | 440 | 6084.78 | 760 | 440 | 6084.78 | 560 | 280 | 6094.76 |
| 760 | 400 | 6083.50 | 760 | 400 | 6083.50 | 560 | 320 | 6098.56 |
| 760 | 360 | 6083.91 | 760 | 360 | 6083.91 | 560 | 360 | 6098.69 |
| 760 | 330 | 6084.07 | 760 | 330 | 6084.07 | 560 | 400 | 6099.47 |
| 770 | 300 | 6083.49 | 770 | 300 | 6083.49 | 560 | 440 | 6100.16 |
| 800 | 280 | 6081.98 | 800 | 280 | 6081.98 | 560 | 480 | 6098.81 |
| 800 | 320 | 6083.29 | 800 | 320 | 6083.29 | 560 | 520 | 6098.97 |
| 800 | 340 | 6084.85 | 800 | 340 | 6084.85 | 280 | 200 | 6105.22 |
| 800 | 360 | 6087.21 | 800 | 360 | 6087.21 | 520 | 200 | 6105.01 |
| 790 | 380 | 6083.98 | 790 | 380 | 6083.98 | 495 | 160 | 6104.07 |
| 800 | 400 | 6086.19 | 800 | 400 | 6086.19 | 520 | 240 | 6102.49 |
| 800 | 430 | 6085.88 | 800 | 430 | 6085.88 | 520 | 160 | 6102.15 |
| 800 | 440 | 6083.28 | 800 | 440 | 6083.28 | 480 | 240 | 6102.96 |
| 800 | 460 | 6088.13 | 800 | 460 | 6088.13 | 435 | 230 | 6101.86 |
| 800 | 480 | 6084.99 | 800 | 480 | 6084.99 | 440 | 240 | 6100.08 |
| 820 | 460 | 6084.36 | 820 | 460 | 6084.36 | 400 | 240 | 6100.96 |
| 820 | 450 | 6082.12 | 820 | 450 | 6082.12 | 360 | 240 | 6101.66 |
| 820 | 360 | 6083.35 | 820 | 360 | 6083.35 | 320 | 240 | 6102.11 |
| 840 | 360 | 6084.81 | 840 | 360 | 6084.81 | 280 | 240 | 6102.41 |
| 840 | 320 | 6084.39 | 840 | 320 | 6084.39 | 240 | 240 | 6102.55 |
| 840 | 280 | 6083.88 | 840 | 280 | 6083.88 | 200 | 240 | 6103.22 |
| 880 | 360 | 6083.28 | 880 | 360 | 6083.28 | 160 | 240 | 6104.72 |
| 880 | 400 | 6082.19 | 880 | 400 | 6082.19 | 135 | 240 | 6106.21 |
| 860 | 400 | 6083.34 | 860 | 400 | 6083.34 | 120 | 200 | 6106.16 |
| 840 | 400 | 6081.60 | 840 | 400 | 6081.60 | 160 | 200 | 6105.68 |

Appendix B
Table B-2

| UC-1 Easting | UC-1 Northing | Elev (feet) | UC-1 Easting | UC-1 Northing | Elev (feet) | UC-1 Easting | UC-1 Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 200 | 200 | 6105.35 | 480 | 440 | 6100.68 | 580 | 640 | 6100.98 |
| 160 | 280 | 6104.65 | 520 | 440 | 6100.61 | 560 | 640 | 6101.55 |
| 200 | 280 | 6103.76 | 520 | 480 | 6100.12 | 520 | 640 | 6101.86 |
| 240 | 280 | 6102.99 | 480 | 480 | 6100.71 | 480 | 640 | 6101.96 |
| 280 | 280 | 6102.73 | 440 | 480 | 6101.59 | 440 | 640 | 6102.93 |
| 320 | 280 | 6102.32 | 400 | 480 | 6101.57 | 400 | 640 | 6101.68 |
| 360 | 280 | 6101.94 | 360 | 480 | 6101.59 | 360 | 640 | 6101.84 |
| 400 | 280 | 6101.59 | 320 | 480 | 6101.62 | 320 | 640 | 6103.92 |
| 440 | 280 | 6100.91 | 280 | 480 | 6101.92 | 280 | 640 | 6105.79 |
| 480 | 280 | 6100.09 | 240 | 480 | 6102.42 | 320 | 680 | 6105.12 |
| 520 | 280 | 6099.12 | 200 | 480 | 6102.88 | 360 | 680 | 6103.10 |
| 520 | 320 | 6100.35 | 160 | 480 | 6103.64 | 400 | 680 | 6102.43 |
| 480 | 320 | 6101.05 | 160 | 520 | 6104.86 | 440 | 680 | 6102.62 |
| 440 | 320 | 6101.35 | 200 | 520 | 6103.02 | 480 | 680 | 6102.59 |
| 400 | 320 | 6101.65 | 240 | 520 | 6102.51 | 520 | 680 | 6102.27 |
| 360 | 320 | 6102.21 | 280 | 520 | 6102.05 | 560 | 680 | 6101.70 |
| 320 | 320 | 6102.70 | 320 | 520 | 6101.89 | 600 | 680 | 6099.50 |
| 280 | 320 | 6102.61 | 360 | 520 | 6101.60 | 520 | 720 | 6102.53 |
| 240 | 320 | 6103.05 | 400 | 520 | 6102.17 | 480 | 720 | 6102.58 |
| 200 | 320 | 6103.58 | 440 | 520 | 6102.19 | 440 | 720 | 6102.47 |
| 160 | 320 | 6103.76 | 480 | 520 | 6101.03 | 400 | 720 | 6103.17 |
| 160 | 360 | 6103.91 | 520 | 520 | 6100.26 | 360 | 720 | 6104.30 |
| 200 | 360 | 6103.46 | 640 | 560 | 6100.28 | 320 | 720 | 6106.76 |
| 240 | 360 | 6103.71 | 680 | 560 | 6098.22 | 400 | 760 | 6104.65 |
| 280 | 360 | 6102.75 | 600 | 560 | 6100.34 | 440 | 760 | 6103.44 |
| 320 | 360 | 6102.26 | 560 | 560 | 6099.83 | 480 | 760 | 6103.26 |
| 360 | 360 | 6102.41 | 520 | 560 | 6100.32 | 520 | 760 | 6102.30 |
| 400 | 360 | 6101.92 | 480 | 560 | 6101.17 | 560 | 760 | 6101.21 |
| 440 | 360 | 6101.65 | 440 | 560 | 6102.38 | 600 | 760 | 6098.93 |
| 480 | 360 | 6101.19 | 400 | 560 | 6102.08 | 600 | 720 | 6099.30 |
| 520 | 360 | 6100.80 | 360 | 560 | 6101.46 | 560 | 720 | 6101.42 |
| 520 | 400 | 6100.89 | 320 | 560 | 6102.00 | 600 | 800 | 6098.48 |
| 480 | 400 | 6101.57 | 280 | 560 | 6102.43 | 560 | 800 | 6100.56 |
| 440 | 400 | 6101.41 | 240 | 560 | 6102.72 | 520 | 800 | 6103.31 |
| 400 | 400 | 6101.65 | 200 | 560 | 6103.97 | 480 | 800 | 6104.80 |
| 360 | 400 | 6101.74 | 160 | 560 | 6106.37 | 440 | 800 | 6105.90 |
| 320 | 400 | 6102.04 | 200 | 600 | 6104.73 | 400 | 800 | 6109.05 |
| 280 | 400 | 6102.15 | 240 | 600 | 6104.29 | 360 | 800 | 6110.30 |
| 240 | 400 | 6102.67 | 280 | 600 | 6102.72 | 360 | 760 | 6107.88 |
| 200 | 400 | 6103.03 | 320 | 600 | 6102.67 | 320 | 760 | 6110.38 |
| 160 | 400 | 6104.12 | 360 | 600 | 6101.34 | 280 | 720 | 6111.90 |
| 160 | 440 | 6104.22 | 400 | 600 | 6101.42 | 280 | 680 | 6107.93 |
| 200 | 440 | 6102.90 | 440 | 600 | 6102.00 | 240 | 600 | 6104.44 |
| 240 | 440 | 6102.18 | 480 | 600 | 6101.43 | 240 | 640 | 6109.47 |
| 280 | 440 | 6101.98 | 520 | 600 | 6101.69 | 320 | 800 | 6112.27 |
| 320 | 440 | 6101.51 | 560 | 600 | 6101.37 | 280 | 800 | 6114.10 |
| 360 | 440 | 6101.61 | 600 | 600 | 6101.22 | 280 | 760 | 6112.97 |
| 400 | 440 | 6101.29 | 620 | 600 | 6100.69 | 240 | 800 | 6116.43 |
| 440 | 440 | 6101.04 | 600 | 620 | 6100.69 | 240 | 760 | 6115.58 |

Appendix B
Table B-2

| UC-1 Easting | UC-1 Northing | Elev (feet) | UC-1 Easting | UC-1 Northing | Elev (feet) | UC-1 Easting | UC-1 Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 240 | 720 | 6115.96 | 0 | 320 | 6123.74 | 760 | 520 | 6083.65 |
| 240 | 680 | 6111.61 | 0 | 280 | 6122.95 | 800 | 560 | 6082.76 |
| 200 | 640 | 6114.94 | 80 | 440 | 6121.02 | 800 | 540 | 6082.02 |
| 200 | 680 | 6116.62 | 80 | 480 | 6121.36 | 840 | 600 | 6082.86 |
| 200 | 720 | 6118.07 | 80 | 520 | 6121.79 | 880 | 600 | 6081.43 |
| 200 | 760 | 6117.91 | 115 | 240 | 6111.44 | 880 | 560 | 6080.17 |
| 200 | 800 | 6119.18 | 120 | 280 | 6111.30 | 840 | 560 | 6081.67 |
| 160 | 800 | 6122.39 | 120 | 320 | 6111.67 | 840 | 520 | 6080.11 |
| 160 | 760 | 6120.86 | 120 | 360 | 6111.20 | 840 | 480 | 6080.75 |
| 160 | 720 | 6120.68 | 120 | 400 | 6112.67 | 840 | 440 | 6080.39 |
| 160 | 680 | 6119.68 | 120 | 440 | 6112.71 | 830 | 440 | 6083.85 |
| 160 | 640 | 6118.23 | 120 | 480 | 6112.98 | 880 | 440 | 6079.92 |
| 120 | 600 | 6118.03 | 120 | 520 | 6113.97 | 880 | 480 | 6079.85 |
| 120 | 560 | 6116.36 | 160 | 600 | 6108.70 | 880 | 520 | 6079.37 |
| 120 | 640 | 6121.16 | 640 | 800 | 6097.27 | | | |
| 120 | 680 | 6122.42 | 640 | 760 | 6096.50 | | | |
| 120 | 720 | 6123.65 | 640 | 720 | 6095.19 | | | |
| 120 | 760 | 6123.48 | 640 | 680 | 6092.37 | | | |
| 120 | 800 | 6125.34 | 640 | 600 | 6094.76 | | | |
| 80 | 800 | 6127.68 | 680 | 720 | 6092.30 | | | |
| 80 | 760 | 6126.07 | 680 | 760 | 6093.93 | | | |
| 80 | 720 | 6125.86 | 680 | 800 | 6095.45 | | | |
| 80 | 680 | 6124.37 | 720 | 800 | 6092.97 | | | |
| 80 | 640 | 6123.90 | 720 | 760 | 6092.55 | | | |
| 80 | 615 | 6123.31 | 720 | 720 | 6091.31 | | | |
| 80 | 560 | 6123.13 | 720 | 680 | 6088.96 | | | |
| 40 | 440 | 6123.67 | 720 | 640 | 6087.18 | | | |
| 40 | 480 | 6123.89 | 720 | 600 | 6086.97 | | | |
| 40 | 520 | 6124.57 | 720 | 560 | 6086.63 | | | |
| 40 | 560 | 6125.38 | 720 | 520 | 6092.77 | | | |
| 40 | 600 | 6125.98 | 680 | 600 | 6089.34 | | | |
| 40 | 640 | 6126.40 | 680 | 640 | 6088.52 | | | |
| 40 | 680 | 6127.39 | 680 | 680 | 6090.16 | | | |
| 40 | 720 | 6128.10 | 640 | 640 | 6091.11 | | | |
| 40 | 760 | 6128.71 | 610 | 640 | 6092.57 | | | |
| 40 | 800 | 6130.01 | 640 | 610 | 6091.49 | | | |
| 0 | 800 | 6132.66 | 760 | 480 | 6090.04 | | | |
| 0 | 760 | 6131.19 | 760 | 500 | 6090.99 | | | |
| 0 | 720 | 6130.22 | 760 | 600 | 6085.08 | | | |
| 0 | 680 | 6129.82 | 760 | 640 | 6086.51 | | | |
| 0 | 640 | 6128.60 | 760 | 680 | 6088.51 | | | |
| 0 | 600 | 6129.14 | 760 | 720 | 6089.92 | | | |
| 0 | 560 | 6128.31 | 760 | 760 | 6090.20 | | | |
| 0 | 520 | 6127.50 | 760 | 800 | 6091.74 | | | |
| 0 | 480 | 6126.97 | 800 | 800 | 6090.12 | | | |
| 0 | 440 | 6126.43 | 880 | 800 | 6088.41 | | | |
| 10 | 420 | 6126.67 | 880 | 720 | 6084.86 | | | |
| 15 | 390 | 6126.64 | 800 | 680 | 6086.82 | | | |
| 0 | 360 | 6124.07 | 760 | 560 | 6084.60 | | | |

Appendix B
Table B-3

| CMP Easting | CMP Northing | Elev (feet) | CMP Easting | CMP Northing | Elev (feet) | CMP Easting | CMP Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 600 | 480 | 6036.88 | 1100 | 380 | 6035.06 | 840 | 545 | 6048.14 |
| 640 | 480 | 6035.78 | 1120 | 360 | 6042.07 | 840 | 560 | 6049.26 |
| 680 | 480 | 6035.06 | 1130 | 360 | 6041.76 | 0 | 720 | 6066.57 |
| 720 | 480 | 6035.06 | 1115 | 400 | 6042.24 | 0 | 680 | 6065.66 |
| 760 | 480 | 6034.65 | 1125 | 400 | 6041.32 | 0 | 640 | 6064.92 |
| 840 | 480 | 6034.90 | 1100 | 440 | 6041.62 | 0 | 600 | 6064.92 |
| 920 | 480 | 6036.19 | 1110 | 440 | 6041.58 | 0 | 560 | 6064.99 |
| 960 | 475 | 6036.26 | 1040 | 475 | 6041.77 | 0 | 520 | 6065.13 |
| 1040 | 450 | 6034.38 | 1040 | 485 | 6042.55 | 0 | 480 | 6064.91 |
| 840 | 490 | 6035.63 | 1000 | 485 | 6042.43 | 0 | 440 | 6064.69 |
| 760 | 495 | 6035.93 | 1000 | 500 | 6044.55 | 0 | 400 | 6064.01 |
| 680 | 500 | 6036.12 | 960 | 490 | 6040.61 | 0 | 360 | 6062.91 |
| 560 | 625 | 6038.20 | 960 | 500 | 6042.03 | 0 | 320 | 6062.84 |
| 600 | 400 | 6033.65 | 960 | 520 | 6042.69 | 0 | 280 | 6062.65 |
| 680 | 400 | 6033.63 | 920 | 500 | 6042.42 | 40 | 280 | 6061.03 |
| 760 | 400 | 6033.34 | 920 | 530 | 6044.08 | 40 | 320 | 6060.98 |
| 840 | 400 | 6033.81 | 880 | 520 | 6043.35 | 40 | 360 | 6061.90 |
| 920 | 400 | 6033.24 | 880 | 500 | 6043.23 | 40 | 400 | 6062.09 |
| 1000 | 400 | 6032.52 | 880 | 525 | 6046.56 | 40 | 440 | 6063.27 |
| 1040 | 360 | 6032.34 | 880 | 535 | 6046.64 | 40 | 480 | 6062.72 |
| 960 | 360 | 6032.47 | 840 | 510 | 6043.61 | 40 | 520 | 6063.30 |
| 880 | 360 | 6032.52 | 840 | 525 | 6044.58 | 40 | 560 | 6063.76 |
| 800 | 360 | 6032.53 | 800 | 520 | 6044.49 | 40 | 600 | 6064.13 |
| 720 | 360 | 6032.24 | 800 | 530 | 6044.61 | 40 | 640 | 6063.93 |
| 640 | 360 | 6032.09 | 760 | 520 | 6044.69 | 40 | 680 | 6064.52 |
| 600 | 360 | 6032.96 | 760 | 540 | 6044.40 | 40 | 720 | 6065.65 |
| 600 | 280 | 6033.11 | 720 | 520 | 6043.94 | 80 | 720 | 6064.67 |
| 680 | 280 | 6032.42 | 720 | 545 | 6045.35 | 80 | 680 | 6064.02 |
| 760 | 280 | 6032.33 | 680 | 540 | 6044.43 | 80 | 640 | 6063.30 |
| 840 | 280 | 6032.33 | 680 | 555 | 6046.02 | 80 | 600 | 6062.31 |
| 920 | 280 | 6032.29 | 640 | 535 | 6045.45 | 80 | 560 | 6061.57 |
| 1000 | 280 | 6032.26 | 640 | 555 | 6046.42 | 80 | 520 | 6060.73 |
| 920 | 240 | 6032.64 | 600 | 550 | 6046.45 | 80 | 480 | 6061.13 |
| 840 | 240 | 6032.56 | 600 | 560 | 6047.14 | 80 | 440 | 6060.92 |
| 760 | 240 | 6033.03 | 600 | 580 | 6048.81 | 80 | 400 | 6060.83 |
| 680 | 240 | 6033.06 | 610 | 600 | 6049.66 | 80 | 360 | 6060.08 |
| 600 | 240 | 6034.37 | 630 | 560 | 6047.21 | 80 | 320 | 6059.13 |
| 600 | 220 | 6035.86 | 600 | 600 | 6059.15 | 120 | 400 | 6059.35 |
| 680 | 200 | 6038.12 | 600 | 615 | 6059.64 | 120 | 435 | 6059.19 |
| 760 | 200 | 6036.62 | 640 | 600 | 6059.11 | 120 | 440 | 6061.59 |
| 840 | 200 | 6034.37 | 680 | 620 | 6059.13 | 120 | 450 | 6059.16 |
| 920 | 200 | 6033.81 | 640 | 580 | 6058.00 | 120 | 480 | 6059.89 |
| 1000 | 200 | 6037.70 | 680 | 600 | 6058.46 | 120 | 505 | 6059.04 |
| 1040 | 245 | 6035.66 | 720 | 585 | 6056.85 | 120 | 520 | 6062.07 |
| 1080 | 280 | 6034.07 | 720 | 600 | 6057.31 | 120 | 525 | 6060.92 |
| 1120 | 290 | 6035.64 | 760 | 560 | 6052.39 | 120 | 560 | 6060.36 |
| 1120 | 300 | 6033.68 | 760 | 585 | 6053.27 | 120 | 600 | 6061.17 |
| 1120 | 315 | 6036.66 | 800 | 540 | 6048.27 | 110 | 600 | 6061.48 |
| 1100 | 320 | 6034.02 | 800 | 570 | 6049.60 | 120 | 640 | 6062.44 |

Appendix B
Table B-3

| CMP Easting | CMP Northing | Elev (feet) | CMP Easting | CMP Northing | Elev (feet) | CMP Easting | CMP Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 120 | 680 | 6063.15 | 160 | 40 | 6055.52 | 320 | 240 | 6049.60 |
| 160 | 720 | 6063.99 | 160 | 0 | 6055.70 | 320 | 200 | 6049.84 |
| 160 | 720 | 6063.66 | 200 | 0 | 6054.17 | 320 | 160 | 6049.58 |
| 160 | 680 | 6062.25 | 200 | 40 | 6054.03 | 320 | 125 | 6050.32 |
| 160 | 640 | 6061.34 | 200 | 80 | 6054.33 | 320 | 120 | 6052.52 |
| 160 | 600 | 6060.49 | 200 | 120 | 6053.82 | 320 | 90 | 6049.92 |
| 160 | 560 | 6059.54 | 200 | 160 | 6053.78 | 320 | 80 | 6049.67 |
| 160 | 520 | 6059.02 | 200 | 200 | 6053.37 | 320 | 40 | 6049.80 |
| 160 | 400 | 6059.61 | 200 | 240 | 6053.16 | 320 | 0 | 6049.93 |
| 0 | 240 | 6063.02 | 200 | 280 | 6053.27 | 160 | 440 | 6057.94 |
| 0 | 200 | 6062.40 | 200 | 320 | 6054.37 | 160 | 480 | 6056.59 |
| 0 | 160 | 6062.65 | 200 | 330 | 6057.47 | 200 | 480 | 6056.56 |
| 0 | 120 | 6061.90 | 200 | 360 | 6057.14 | 200 | 520 | 6057.18 |
| 0 | 80 | 6061.57 | 200 | 370 | 6056.11 | 240 | 520 | 6056.81 |
| 0 | 40 | 6061.33 | 200 | 400 | 6056.37 | 280 | 520 | 6056.04 |
| 0 | 0 | 6061.45 | 200 | 440 | 6056.53 | 320 | 520 | 6055.28 |
| 40 | 0 | 6059.94 | 240 | 440 | 6055.44 | 360 | 520 | 6052.92 |
| 40 | 40 | 6059.93 | 240 | 400 | 6055.55 | 400 | 520 | 6051.30 |
| 40 | 80 | 6059.99 | 240 | 360 | 6053.96 | 440 | 520 | 6049.58 |
| 40 | 120 | 6060.55 | 240 | 320 | 6053.57 | 520 | 560 | 6050.36 |
| 40 | 160 | 6060.88 | 240 | 280 | 6053.22 | 480 | 560 | 6051.10 |
| 40 | 200 | 6060.77 | 240 | 265 | 6052.89 | 440 | 560 | 6051.16 |
| 40 | 240 | 6061.21 | 240 | 240 | 6055.34 | 405 | 560 | 6052.09 |
| 80 | 280 | 6058.65 | 240 | 215 | 6053.47 | 400 | 560 | 6053.07 |
| 80 | 240 | 6059.50 | 240 | 200 | 6052.56 | 390 | 560 | 6054.57 |
| 80 | 200 | 6059.48 | 240 | 160 | 6053.12 | 360 | 560 | 6054.92 |
| 80 | 160 | 6059.18 | 240 | 120 | 6052.93 | 320 | 560 | 6055.85 |
| 80 | 120 | 6059.16 | 240 | 80 | 6052.42 | 240 | 480 | 6054.54 |
| 80 | 80 | 6059.00 | 240 | 40 | 6052.50 | 280 | 480 | 6053.26 |
| 80 | 40 | 6058.37 | 240 | 0 | 6052.68 | 320 | 480 | 6051.35 |
| 80 | 0 | 6058.58 | 280 | 0 | 6051.14 | 360 | 480 | 6051.50 |
| 120 | 0 | 6057.13 | 280 | 40 | 6051.39 | 400 | 480 | 6049.90 |
| 120 | 40 | 6056.95 | 280 | 80 | 6051.03 | 360 | 440 | 6050.17 |
| 120 | 80 | 6057.20 | 280 | 120 | 6051.15 | 360 | 400 | 6051.06 |
| 120 | 120 | 6057.63 | 280 | 150 | 6052.28 | 360 | 360 | 6050.48 |
| 120 | 160 | 6057.46 | 280 | 160 | 6054.45 | 360 | 320 | 6050.10 |
| 120 | 200 | 6057.88 | 280 | 185 | 6051.28 | 360 | 280 | 6049.55 |
| 120 | 240 | 6057.64 | 280 | 200 | 6051.16 | 360 | 240 | 6049.26 |
| 120 | 280 | 6056.97 | 280 | 240 | 6051.55 | 360 | 200 | 6049.14 |
| 120 | 320 | 6057.18 | 280 | 280 | 6051.89 | 400 | 280 | 6048.80 |
| 120 | 360 | 6058.73 | 280 | 320 | 6052.40 | 400 | 240 | 6048.46 |
| 160 | 360 | 6056.77 | 280 | 360 | 6052.86 | 400 | 200 | 6048.40 |
| 160 | 320 | 6055.97 | 280 | 400 | 6053.20 | 400 | 320 | 6048.77 |
| 160 | 280 | 6054.77 | 280 | 440 | 6054.03 | 400 | 360 | 6049.25 |
| 160 | 240 | 6055.07 | 320 | 440 | 6051.98 | 400 | 400 | 6049.47 |
| 160 | 200 | 6056.15 | 320 | 400 | 6052.04 | 400 | 440 | 6048.10 |
| 160 | 160 | 6056.10 | 320 | 360 | 6051.81 | 440 | 480 | 6048.66 |
| 160 | 120 | 6055.83 | 320 | 320 | 6051.36 | 440 | 440 | 6048.47 |
| 160 | 80 | 6055.68 | 320 | 280 | 6051.03 | 440 | 400 | 6047.63 |

Appendix B
Table B-3

| CMP Easting | CMP Northing | Elev (feet) | CMP Easting | CMP Northing | Elev (feet) | CMP Easting | CMP Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 440 | 360 | 6047.56 | 480 | 0 | 6044.49 | 690 | 0 | 6040.82 |
| 440 | 345 | 6047.85 | 480 | 40 | 6044.64 | 720 | 0 | 6040.01 |
| 440 | 320 | 6051.07 | 480 | 80 | 6044.68 | 730 | 0 | 6039.76 |
| 440 | 335 | 6051.01 | 480 | 120 | 6045.05 | 720 | 10 | 6040.24 |
| 480 | 280 | 6046.48 | 500 | 120 | 6044.69 | 720 | 15 | 6037.59 |
| 480 | 320 | 6047.63 | 480 | 160 | 6045.83 | 680 | 40 | 6038.15 |
| 480 | 340 | 6046.19 | 480 | 200 | 6046.05 | 680 | 55 | 6039.48 |
| 480 | 360 | 6045.88 | 490 | 200 | 6045.71 | 640 | 50 | 6040.57 |
| 480 | 400 | 6045.95 | 490 | 240 | 6045.38 | 640 | 40 | 6039.42 |
| 480 | 440 | 6047.14 | 500 | 240 | 6045.14 | 610 | 40 | 6040.44 |
| 480 | 480 | 6048.41 | 495 | 200 | 6049.24 | 600 | 20 | 6040.85 |
| 480 | 520 | 6048.52 | 520 | 200 | 6047.92 | 720 | 40 | 6036.65 |
| 520 | 520 | 6047.87 | 540 | 200 | 6047.16 | 720 | 65 | 6036.74 |
| 520 | 480 | 6047.13 | 495 | 160 | 6050.04 | 760 | 40 | 6036.13 |
| 520 | 440 | 6046.27 | 520 | 160 | 6050.34 | 760 | 75 | 6035.87 |
| 520 | 400 | 6044.88 | 535 | 160 | 6048.94 | 800 | 80 | 6037.28 |
| 520 | 360 | 6044.68 | 520 | 160 | 6050.54 | 800 | 65 | 6035.24 |
| 520 | 320 | 6044.16 | 530 | 160 | 6049.18 | 830 | 75 | 6036.54 |
| 520 | 280 | 6044.74 | 520 | 150 | 6049.70 | 840 | 95 | 6038.03 |
| 520 | 240 | 6045.15 | 520 | 90 | 6044.09 | 560 | 360 | 6041.90 |
| 560 | 240 | 6044.40 | 520 | 80 | 6044.36 | 595 | 360 | 6041.84 |
| 560 | 280 | 6044.11 | 520 | 40 | 6044.08 | 560 | 400 | 6042.55 |
| 560 | 440 | 6044.26 | 520 | 0 | 6043.47 | 595 | 400 | 6042.25 |
| 580 | 440 | 6045.52 | 600 | 40 | 6047.26 | 520 | 600 | 6051.81 |
| 560 | 480 | 6045.82 | 600 | 60 | 6045.41 | 520 | 640 | 6050.92 |
| 595 | 480 | 6046.89 | 580 | 60 | 6045.37 | 520 | 680 | 6050.13 |
| 560 | 520 | 6048.37 | 570 | 60 | 6043.28 | 520 | 720 | 6048.37 |
| 595 | 520 | 6048.47 | 560 | 0 | 6042.95 | 560 | 720 | 6047.44 |
| 560 | 560 | 6050.01 | 560 | 40 | 6043.09 | 560 | 680 | 6048.86 |
| 360 | 160 | 6049.38 | 570 | 40 | 6043.16 | 560 | 640 | 6050.09 |
| 360 | 120 | 6049.09 | 560 | 80 | 6043.10 | 560 | 600 | 6051.09 |
| 360 | 80 | 6048.71 | 575 | 80 | 6042.79 | 480 | 600 | 6051.94 |
| 360 | 70 | 6050.46 | 540 | 120 | 6043.84 | 480 | 640 | 6051.59 |
| 360 | 55 | 6048.24 | 560 | 120 | 6043.10 | 480 | 680 | 6051.53 |
| 360 | 40 | 6049.12 | 595 | 120 | 6042.36 | 480 | 720 | 6050.88 |
| 360 | 0 | 6048.29 | 600 | 160 | 6041.82 | 440 | 720 | 6053.21 |
| 400 | 0 | 6047.24 | 610 | 160 | 6042.06 | 440 | 680 | 6054.63 |
| 400 | 40 | 6047.21 | 560 | 160 | 6043.55 | 440 | 640 | 6053.74 |
| 400 | 80 | 6047.57 | 540 | 160 | 6044.44 | 440 | 600 | 6052.66 |
| 400 | 120 | 6048.00 | 550 | 200 | 6044.62 | 400 | 600 | 6054.92 |
| 400 | 160 | 6048.18 | 560 | 200 | 6043.89 | 400 | 640 | 6055.16 |
| 440 | 280 | 6048.05 | 585 | 200 | 6044.34 | 400 | 680 | 6055.80 |
| 440 | 240 | 6047.05 | 560 | 280 | 6044.05 | 400 | 720 | 6054.68 |
| 440 | 200 | 6047.42 | 595 | 280 | 6044.35 | 400 | 695 | 6055.81 |
| 440 | 160 | 6047.56 | 560 | 320 | 6042.58 | 400 | 700 | 6054.31 |
| 440 | 120 | 6046.33 | 595 | 320 | 6043.36 | 360 | 720 | 6055.80 |
| 440 | 80 | 6046.44 | 600 | 0 | 6040.57 | 360 | 710 | 6055.37 |
| 440 | 40 | 6046.04 | 640 | 0 | 6039.26 | 360 | 705 | 6056.81 |
| 440 | 0 | 6045.99 | 680 | 0 | 6038.14 | 360 | 680 | 6056.82 |

Appendix B
Table B-3

| CMP Easting | CMP Northing | Elev (feet) | CMP Easting | CMP Northing | Elev (feet) | CMP Easting | CMP Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 360 | 640 | 6055.99 | 800 | 600 | 6040.51 | 1040 | 600 | 6036.59 |
| 360 | 600 | 6055.99 | 840 | 600 | 6039.69 | 1000 | 600 | 6036.01 |
| 320 | 600 | 6056.51 | 880 | 600 | 6038.94 | 1000 | 560 | 6035.99 |
| 320 | 640 | 6056.96 | 920 | 600 | 6038.71 | 1040 | 560 | 6034.91 |
| 320 | 680 | 6057.81 | 960 | 600 | 6037.35 | 1080 | 560 | 6035.81 |
| 320 | 720 | 6057.59 | 1000 | 640 | 6037.37 | 1120 | 560 | 6034.99 |
| 280 | 720 | 6059.09 | 960 | 640 | 6037.91 | 1160 | 560 | 6033.77 |
| 280 | 680 | 6058.78 | 920 | 640 | 6039.24 | 1200 | 560 | 6032.86 |
| 280 | 640 | 6058.01 | 880 | 640 | 6040.79 | 1240 | 560 | 6031.98 |
| 280 | 600 | 6057.47 | 920 | 680 | 6039.23 | 1240 | 520 | 6031.51 |
| 280 | 560 | 6056.90 | 960 | 680 | 6039.53 | 1200 | 520 | 6032.18 |
| 240 | 560 | 6057.65 | 1000 | 680 | 6039.00 | 1160 | 520 | 6033.18 |
| 240 | 600 | 6058.72 | 1000 | 720 | 6040.31 | 1120 | 520 | 6033.94 |
| 240 | 640 | 6059.18 | 960 | 720 | 6040.57 | 1080 | 520 | 6033.38 |
| 240 | 680 | 6059.89 | 880 | 560 | 6038.52 | 1040 | 520 | 6033.37 |
| 240 | 720 | 6060.18 | 840 | 580 | 6039.40 | 1000 | 520 | 6034.93 |
| 200 | 720 | 6062.01 | 920 | 560 | 6037.57 | 1080 | 490 | 6031.62 |
| 200 | 680 | 6061.21 | 920 | 550 | 6037.63 | 1160 | 480 | 6032.95 |
| 200 | 640 | 6060.24 | 960 | 560 | 6036.83 | 1200 | 480 | 6031.38 |
| 200 | 600 | 6059.49 | 960 | 530 | 6036.79 | 1240 | 480 | 6031.17 |
| 200 | 560 | 6058.59 | 1040 | 640 | 6037.74 | 1280 | 480 | 6031.70 |
| 585 | 600 | 6051.24 | 1080 | 640 | 6037.02 | 1320 | 480 | 6032.76 |
| 600 | 640 | 6047.56 | 1120 | 640 | 6036.12 | 1320 | 440 | 6033.90 |
| 620 | 640 | 6046.67 | 1160 | 640 | 6035.32 | 1280 | 440 | 6035.37 |
| 600 | 680 | 6046.16 | 1200 | 640 | 6034.38 | 1240 | 400 | 6035.44 |
| 600 | 720 | 6046.94 | 1240 | 640 | 6033.06 | 1240 | 360 | 6034.86 |
| 640 | 720 | 6047.23 | 1280 | 640 | 6031.76 | 1220 | 360 | 6035.22 |
| 640 | 640 | 6045.76 | 1320 | 680 | 6031.24 | 1320 | 520 | 6030.75 |
| 680 | 720 | 6047.61 | 1280 | 680 | 6032.20 | 1320 | 560 | 6029.85 |
| 720 | 720 | 6047.17 | 1240 | 680 | 6033.58 | 1320 | 600 | 6030.25 |
| 760 | 720 | 6046.22 | 1200 | 680 | 6034.94 | 1320 | 640 | 6030.00 |
| 800 | 720 | 6045.05 | 1160 | 680 | 6035.98 | 1280 | 560 | 6031.00 |
| 840 | 720 | 6043.33 | 1120 | 680 | 6037.12 | 1280 | 520 | 6030.54 |
| 880 | 720 | 6041.35 | 1080 | 680 | 6038.02 | 1280 | 450 | 6031.21 |
| 920 | 720 | 6041.30 | 1040 | 680 | 6038.69 | 1120 | 480 | 6029.77 |
| 880 | 680 | 6041.44 | 1040 | 720 | 6039.57 | 1110 | 480 | 6031.19 |
| 840 | 680 | 6043.03 | 1080 | 720 | 6038.76 | 1140 | 440 | 6029.03 |
| 800 | 680 | 6044.08 | 1120 | 720 | 6037.75 | 1160 | 440 | 6029.54 |
| 760 | 680 | 6045.00 | 1160 | 720 | 6036.68 | 1200 | 440 | 6031.03 |
| 720 | 680 | 6045.13 | 1200 | 720 | 6035.63 | 1240 | 440 | 6030.76 |
| 680 | 680 | 6044.81 | 1240 | 720 | 6034.52 | 1225 | 400 | 6029.75 |
| 640 | 680 | 6044.87 | 1280 | 720 | 6033.30 | 1200 | 400 | 6031.07 |
| 680 | 640 | 6044.38 | 1320 | 720 | 6031.38 | 1160 | 400 | 6027.33 |
| 680 | 625 | 6044.29 | 1280 | 600 | 6031.49 | 1165 | 360 | 6027.86 |
| 720 | 640 | 6042.84 | 1240 | 600 | 6032.55 | 1200 | 360 | 6029.85 |
| 760 | 640 | 6041.82 | 1200 | 600 | 6033.57 | 1165 | 320 | 6027.64 |
| 800 | 640 | 6042.52 | 1160 | 600 | 6034.48 | 1180 | 340 | 6027.01 |
| 840 | 640 | 6041.54 | 1120 | 600 | 6035.36 | 1160 | 280 | 6027.93 |
| 760 | 600 | 6042.04 | 1080 | 600 | 6036.21 | 1140 | 270 | 6031.10 |

Appendix B
Table B-3

| CMP Easting | CMP Northing | Elev (feet) | CMP Easting | CMP Northing | Elev (feet) | CMP Easting | CMP Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 1140 | 260 | 6031.22 | 1080 | 200 | 6032.30 | 920 | 80 | 6040.66 |
| 1165 | 280 | 6027.98 | 1120 | 200 | 6030.56 | 920 | 120 | 6040.50 |
| 1200 | 280 | 6028.79 | 1160 | 200 | 6031.11 | 920 | 130 | 6041.40 |
| 1240 | 280 | 6028.28 | 1130 | 240 | 6032.96 | 880 | 120 | 6042.09 |
| 1320 | 240 | 6028.61 | 1120 | 120 | 6033.02 | 880 | 80 | 6041.99 |
| 1280 | 240 | 6026.76 | 1160 | 120 | 6031.58 | 880 | 40 | 6040.12 |
| 1240 | 240 | 6026.62 | 1200 | 120 | 6031.21 | 880 | 0 | 6039.73 |
| 1235 | 240 | 6026.66 | 1240 | 120 | 6029.76 | 840 | 0 | 6041.50 |
| 1225 | 240 | 6028.98 | 1280 | 80 | 6026.81 | 840 | 40 | 6041.28 |
| 1200 | 240 | 6028.18 | 1240 | 80 | 6029.02 | 840 | 80 | 6042.91 |
| 1190 | 240 | 6026.13 | 1200 | 80 | 6029.57 | 840 | 90 | 6043.14 |
| 1180 | 240 | 6027.00 | 1200 | 40 | 6028.72 | 800 | 50 | 6043.11 |
| 1175 | 240 | 6024.70 | 1240 | 40 | 6026.45 | 820 | 40 | 6043.84 |
| 1170 | 240 | 6027.25 | 1280 | 40 | 6024.55 | 800 | 40 | 6043.13 |
| 1160 | 240 | 6029.43 | 1320 | 40 | 6023.77 | 800 | 0 | 6042.77 |
| 1200 | 200 | 6027.48 | 1320 | 0 | 6022.72 | 760 | 0 | 6044.70 |
| 1200 | 205 | 6025.49 | 1280 | 0 | 6025.50 | 745 | 0 | 6045.51 |
| 1200 | 210 | 6025.12 | 1240 | 0 | 6027.10 | 760 | 20 | 6044.98 |
| 1200 | 225 | 6024.20 | 1200 | 0 | 6028.94 | 1130 | 320 | 6039.87 |
| 1200 | 230 | 6025.18 | 1160 | 0 | 6030.85 | 1140 | 320 | 6039.95 |
| 1200 | 235 | 6025.64 | 1120 | 0 | 6032.78 | 1140 | 330 | 6041.47 |
| 1240 | 200 | 6024.17 | 1080 | 0 | 6034.07 | 1125 | 330 | 6041.18 |
| 1280 | 200 | 6024.41 | 1040 | 0 | 6035.31 | 1100 | 280 | 6040.59 |
| 1320 | 200 | 6023.60 | 1080 | 40 | 6034.44 | 1120 | 275 | 6038.66 |
| 1320 | 160 | 6022.03 | 1120 | 40 | 6032.98 | 1100 | 265 | 6042.78 |
| 1280 | 160 | 6022.90 | 1160 | 40 | 6031.01 | 1100 | 250 | 6043.10 |
| 1240 | 160 | 6028.01 | 1160 | 80 | 6030.57 | 1080 | 240 | 6042.22 |
| 1280 | 120 | 6027.72 | 1120 | 80 | 6032.39 | 1080 | 250 | 6042.08 |
| 1320 | 120 | 6024.84 | 1080 | 80 | 6034.09 | 1040 | 220 | 6043.26 |
| 1320 | 80 | 6025.67 | 1080 | 120 | 6034.58 | 1000 | 185 | 6043.54 |
| 1320 | 280 | 6030.93 | 1040 | 200 | 6042.83 | 1000 | 175 | 6043.73 |
| 1280 | 280 | 6030.85 | 1040 | 180 | 6036.38 | 960 | 160 | 6042.26 |
| 1175 | 320 | 6031.15 | 1040 | 160 | 6035.74 | 960 | 170 | 6041.70 |
| 1200 | 320 | 6031.85 | 1040 | 120 | 6036.02 | 940 | 160 | 6040.90 |
| 1240 | 320 | 6032.07 | 1040 | 80 | 6036.02 | 940 | 145 | 6041.33 |
| 1280 | 320 | 6032.50 | 1040 | 40 | 6035.98 | 920 | 160 | 6041.05 |
| 1320 | 320 | 6031.63 | 1000 | 0 | 6035.93 | 920 | 135 | 6042.50 |
| 1320 | 360 | 6032.17 | 1000 | 40 | 6037.42 | 880 | 160 | 6041.00 |
| 1280 | 360 | 6033.58 | 1000 | 80 | 6037.59 | 880 | 150 | 6041.94 |
| 1280 | 360 | 6034.80 | 1000 | 120 | 6037.38 | 880 | 140 | 6042.43 |
| 1280 | 400 | 6034.12 | 1000 | 160 | 6038.18 | 840 | 160 | 6041.12 |
| 1300 | 400 | 6033.14 | 960 | 150 | 6042.60 | 840 | 135 | 6042.00 |
| 1315 | 400 | 6031.26 | 960 | 140 | 6039.66 | 800 | 170 | 6041.38 |
| 1317 | 400 | 6031.14 | 960 | 120 | 6038.98 | 800 | 160 | 6041.96 |
| 1320 | 400 | 6032.52 | 960 | 80 | 6039.19 | 800 | 150 | 6042.20 |
| 1200 | 160 | 6031.40 | 960 | 40 | 6038.63 | 760 | 180 | 6041.42 |
| 1160 | 160 | 6031.47 | 960 | 0 | 6036.45 | 760 | 160 | 6042.14 |
| 1120 | 160 | 6031.49 | 920 | 0 | 6038.30 | 720 | 190 | 6041.67 |
| 1080 | 160 | 6032.88 | 920 | 40 | 6039.09 | 720 | 160 | 6043.54 |

Appendix B
Table B-3

| CMP Easting | CMP Northing | Elev (feet) | CMP Easting | CMP Northing | Elev (feet) | CMP Easting | CMP Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 680 | 190 | 6041.35 | | | | | | |
| 680 | 170 | 6042.50 | | | | | | |
| 680 | 160 | 6043.76 | | | | | | |
| 640 | 200 | 6041.50 | | | | | | |
| 880 | 170 | 6046.70 | | | | | | |
| 840 | 120 | 6046.89 | | | | | | |
| 840 | 110 | 6047.02 | | | | | | |
| 800 | 120 | 6048.34 | | | | | | |
| 800 | 110 | 6048.25 | | | | | | |
| 760 | 120 | 6048.56 | | | | | | |
| 760 | 105 | 6050.36 | | | | | | |
| 720 | 120 | 6049.14 | | | | | | |
| 720 | 105 | 6051.73 | | | | | | |
| 680 | 120 | 6049.72 | | | | | | |
| 680 | 80 | 6053.38 | | | | | | |
| 640 | 80 | 6056.46 | | | | | | |
| 640 | 120 | 6050.99 | | | | | | |
| 620 | 80 | 6055.77 | | | | | | |
| 600 | 120 | 6052.24 | | | | | | |
| 680 | 160 | 6044.14 | | | | | | |
| 640 | 160 | 6044.73 | | | | | | |
| 620 | 160 | 6043.96 | | | | | | |
| 610 | 165 | 6041.79 | | | | | | |
| 600 | 200 | 6042.30 | | | | | | |

Appendix B
Table B-4

| UC-3 Easting | UC-3 Northing | Elev (feet) | UC-3 Easting | UC-3 Northing | Elev (feet) | UC-3 Easting | UC-3 Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 5754.19 | 160 | 280 | 5760.02 | 360 | 120 | 5758.78 |
| 0 | 40 | 5755.03 | 160 | 320 | 5761.17 | 360 | 80 | 5758.38 |
| 0 | 80 | 5755.62 | 160 | 360 | 5762.18 | 360 | 40 | 5758.14 |
| 0 | 120 | 5756.21 | 200 | 360 | 5761.54 | 360 | 0 | 5757.82 |
| 0 | 160 | 5756.69 | 200 | 320 | 5760.31 | 400 | 0 | 5758.14 |
| 0 | 200 | 5757.39 | 200 | 280 | 5759.35 | 400 | 40 | 5758.63 |
| 0 | 240 | 5757.70 | 200 | 240 | 5758.43 | 400 | 80 | 5758.70 |
| 0 | 280 | 5758.26 | 200 | 200 | 5758.76 | 400 | 120 | 5758.80 |
| 0 | 320 | 5758.74 | 200 | 160 | 5758.65 | 400 | 160 | 5759.17 |
| 0 | 360 | 5759.27 | 200 | 120 | 5758.39 | 400 | 200 | 5759.35 |
| 40 | 360 | 5759.72 | 200 | 80 | 5757.75 | 400 | 240 | 5759.54 |
| 40 | 320 | 5759.44 | 200 | 40 | 5757.24 | 400 | 280 | 5759.50 |
| 40 | 280 | 5758.85 | 200 | 0 | 5756.75 | 400 | 320 | 5759.51 |
| 40 | 240 | 5758.11 | 240 | 0 | 5756.71 | 400 | 360 | 5758.90 |
| 40 | 200 | 5757.70 | 240 | 40 | 5757.56 | 415 | 360 | 5758.88 |
| 40 | 160 | 5757.14 | 240 | 80 | 5757.97 | 430 | 360 | 5760.03 |
| 40 | 120 | 5756.57 | 240 | 120 | 5758.37 | 440 | 360 | 5760.20 |
| 40 | 80 | 5756.20 | 240 | 160 | 5758.60 | 440 | 320 | 5759.93 |
| 40 | 40 | 5755.70 | 240 | 200 | 5758.83 | 440 | 280 | 5759.64 |
| 40 | 0 | 5754.95 | 240 | 240 | 5758.52 | 440 | 240 | 5759.54 |
| 80 | 0 | 5756.54 | 240 | 280 | 5758.58 | 440 | 200 | 5759.19 |
| 80 | 40 | 5756.65 | 240 | 320 | 5760.12 | 440 | 160 | 5759.45 |
| 80 | 80 | 5756.97 | 240 | 360 | 5760.32 | 440 | 120 | 5759.26 |
| 80 | 120 | 5757.30 | 280 | 360 | 5760.24 | 440 | 80 | 5759.08 |
| 80 | 160 | 5757.77 | 280 | 320 | 5759.99 | 440 | 40 | 5759.02 |
| 80 | 200 | 5758.47 | 280 | 280 | 5759.51 | 440 | 0 | 5758.87 |
| 80 | 240 | 5758.46 | 280 | 240 | 5759.57 | 480 | 0 | 5758.91 |
| 80 | 280 | 5759.77 | 280 | 200 | 5758.99 | 480 | 40 | 5759.00 |
| 80 | 320 | 5760.47 | 280 | 160 | 5758.70 | 480 | 80 | 5758.91 |
| 80 | 360 | 5760.46 | 280 | 120 | 5758.41 | 480 | 120 | 5759.00 |
| 90 | 360 | 5761.34 | 280 | 80 | 5757.94 | 480 | 160 | 5759.20 |
| 110 | 360 | 5763.23 | 280 | 40 | 5757.52 | 480 | 200 | 5759.33 |
| 120 | 360 | 5761.98 | 280 | 0 | 5756.93 | 480 | 240 | 5759.44 |
| 120 | 320 | 5761.03 | 320 | 0 | 5757.40 | 480 | 280 | 5759.62 |
| 120 | 280 | 5759.94 | 320 | 40 | 5757.57 | 480 | 320 | 5759.90 |
| 120 | 240 | 5758.32 | 320 | 80 | 5757.90 | 480 | 360 | 5760.20 |
| 120 | 200 | 5758.88 | 320 | 120 | 5758.29 | 520 | 360 | 5760.22 |
| 120 | 160 | 5758.63 | 320 | 160 | 5758.69 | 520 | 320 | 5760.13 |
| 120 | 120 | 5758.07 | 320 | 200 | 5759.04 | 520 | 280 | 5759.79 |
| 120 | 80 | 5757.17 | 320 | 240 | 5759.32 | 520 | 240 | 5759.45 |
| 120 | 40 | 5756.68 | 320 | 280 | 5759.00 | 520 | 200 | 5759.29 |
| 120 | 0 | 5756.61 | 320 | 320 | 5759.17 | 520 | 160 | 5759.16 |
| 160 | 0 | 5756.33 | 320 | 360 | 5760.26 | 520 | 120 | 5758.93 |
| 160 | 40 | 5756.98 | 360 | 360 | 5759.26 | 520 | 80 | 5758.82 |
| 160 | 80 | 5757.61 | 360 | 320 | 5758.96 | 520 | 40 | 5758.98 |
| 160 | 120 | 5758.30 | 360 | 280 | 5758.87 | 520 | 0 | 5758.77 |
| 160 | 160 | 5758.68 | 360 | 240 | 5759.53 | 560 | 0 | 5758.45 |
| 160 | 200 | 5758.86 | 360 | 200 | 5759.45 | 560 | 40 | 5758.78 |
| 160 | 240 | 5758.60 | 360 | 160 | 5759.17 | 560 | 80 | 5758.79 |

Appendix B
Table B-4

| UC-3 Easting | UC-3 Northing | Elev (feet) | UC-3 Easting | UC-3 Northing | Elev (feet) | UC-3 Easting | UC-3 Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 560 | 120 | 5759.04 | 760 | 320 | 5763.12 | 740 | 484 | 5766.44 |
| 560 | 160 | 5759.14 | 760 | 305 | 5763.57 | 720 | 470 | 5763.08 |
| 560 | 200 | 5759.31 | 740 | 300 | 5763.33 | 720 | 460 | 5765.84 |
| 560 | 240 | 5759.71 | 730 | 300 | 5760.37 | 720 | 440 | 5765.70 |
| 560 | 280 | 5759.95 | 740 | 320 | 5761.95 | 720 | 400 | 5763.93 |
| 560 | 320 | 5759.99 | 740 | 285 | 5760.38 | 710 | 410 | 5764.11 |
| 560 | 360 | 5760.27 | 760 | 285 | 5763.22 | 700 | 410 | 5762.04 |
| 600 | 360 | 5760.71 | 760 | 280 | 5760.98 | 690 | 410 | 5764.38 |
| 600 | 320 | 5760.59 | 760 | 275 | 5760.25 | 680 | 400 | 5761.84 |
| 600 | 280 | 5760.25 | 760 | 240 | 5760.05 | 680 | 410 | 5762.10 |
| 600 | 240 | 5759.76 | 760 | 200 | 5759.86 | 680 | 440 | 5764.84 |
| 600 | 200 | 5759.37 | 760 | 160 | 5759.40 | 680 | 450 | 5766.60 |
| 600 | 160 | 5759.22 | 760 | 120 | 5759.21 | 680 | 480 | 5766.86 |
| 600 | 120 | 5759.02 | 760 | 80 | 5758.93 | 680 | 520 | 5767.31 |
| 600 | 80 | 5758.94 | 760 | 40 | 5758.85 | 680 | 560 | 5768.17 |
| 600 | 40 | 5758.73 | 760 | 0 | 5758.74 | 680 | 600 | 5769.19 |
| 600 | 0 | 5758.61 | 780 | 40 | 5759.11 | 640 | 600 | 5769.16 |
| 640 | 0 | 5758.53 | 780 | 80 | 5759.65 | 640 | 560 | 5768.02 |
| 640 | 40 | 5758.72 | 780 | 120 | 5760.02 | 640 | 520 | 5764.75 |
| 640 | 80 | 5758.90 | 780 | 160 | 5760.98 | 640 | 480 | 5763.36 |
| 640 | 120 | 5759.04 | 780 | 200 | 5760.43 | 640 | 440 | 5762.13 |
| 640 | 160 | 5759.11 | 780 | 240 | 5761.26 | 640 | 400 | 5761.32 |
| 640 | 200 | 5759.36 | 780 | 265 | 5762.68 | 600 | 440 | 5761.01 |
| 640 | 240 | 5759.83 | 770 | 255 | 5759.97 | 600 | 480 | 5762.01 |
| 640 | 280 | 5760.29 | 780 | 280 | 5763.19 | 600 | 520 | 5763.42 |
| 640 | 320 | 5760.78 | 780 | 320 | 5762.15 | 600 | 560 | 5766.81 |
| 640 | 360 | 5761.01 | 800 | 320 | 5762.07 | 600 | 600 | 5768.96 |
| 680 | 360 | 5761.31 | 800 | 280 | 5763.32 | 560 | 600 | 5768.44 |
| 680 | 320 | 5760.81 | 800 | 240 | 5762.76 | 560 | 560 | 5766.36 |
| 680 | 280 | 5760.19 | 800 | 200 | 5762.29 | 560 | 520 | 5763.21 |
| 680 | 240 | 5759.76 | 800 | 160 | 5761.78 | 560 | 480 | 5761.29 |
| 680 | 200 | 5759.45 | 800 | 120 | 5761.25 | 560 | 440 | 5760.67 |
| 680 | 160 | 5759.09 | 800 | 80 | 5760.78 | 560 | 400 | 5760.41 |
| 680 | 120 | 5758.88 | 800 | 40 | 5760.38 | 520 | 400 | 5760.46 |
| 680 | 80 | 5758.87 | 600 | 400 | 5760.73 | 520 | 440 | 5761.03 |
| 680 | 40 | 5758.81 | 760 | 400 | 5763.81 | 520 | 480 | 5761.58 |
| 680 | 0 | 5758.62 | 760 | 440 | 5766.50 | 520 | 520 | 5763.07 |
| 720 | 0 | 5758.68 | 760 | 480 | 5766.67 | 520 | 560 | 5765.69 |
| 720 | 40 | 5758.76 | 760 | 490 | 5766.86 | 520 | 600 | 5768.09 |
| 720 | 80 | 5758.85 | 760 | 500 | 5764.67 | 480 | 600 | 5767.88 |
| 720 | 120 | 5759.07 | 760 | 520 | 5767.04 | 480 | 560 | 5765.32 |
| 720 | 160 | 5759.16 | 760 | 555 | 5767.58 | 480 | 520 | 5763.02 |
| 720 | 200 | 5759.38 | 760 | 560 | 5766.17 | 480 | 480 | 5761.56 |
| 720 | 240 | 5759.70 | 760 | 565 | 5767.61 | 480 | 440 | 5760.77 |
| 720 | 280 | 5760.20 | 720 | 560 | 5767.77 | 480 | 400 | 5760.23 |
| 720 | 320 | 5760.62 | 720 | 520 | 5766.78 | 440 | 420 | 5760.40 |
| 720 | 360 | 5761.24 | 720 | 480 | 5766.12 | 440 | 440 | 5761.09 |
| 760 | 360 | 5761.54 | 740 | 490 | 5766.53 | 440 | 480 | 5761.58 |
| 760 | 335 | 5761.74 | 740 | 487 | 5763.85 | 440 | 520 | 5762.57 |

Appendix B
Table B-4

| UC-3 Easting | UC-3 Northing | Elev (feet) | UC-3 Easting | UC-3 Northing | Elev (feet) | UC-3 Easting | UC-3 Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 440 | 560 | 5765.15 | 120 | 600 | 5764.95 | | | |
| 440 | 600 | 5767.14 | 110 | 600 | 5764.52 | | | |
| 400 | 600 | 5766.59 | 110 | 560 | 5765.13 | | | |
| 400 | 560 | 5764.62 | 110 | 520 | 5765.20 | | | |
| 400 | 520 | 5762.47 | 110 | 480 | 5765.20 | | | |
| 400 | 480 | 5761.54 | 110 | 440 | 5765.21 | | | |
| 400 | 440 | 5760.80 | 110 | 400 | 5765.13 | | | |
| 400 | 400 | 5759.04 | 110 | 380 | 5764.65 | | | |
| 360 | 400 | 5759.97 | 100 | 400 | 5761.55 | | | |
| 360 | 440 | 5760.92 | 100 | 440 | 5762.32 | | | |
| 360 | 480 | 5761.60 | 100 | 480 | 5762.78 | | | |
| 360 | 520 | 5762.55 | 100 | 520 | 5763.35 | | | |
| 360 | 560 | 5764.43 | 100 | 560 | 5764.11 | | | |
| 360 | 600 | 5766.46 | 100 | 600 | 5764.47 | | | |
| 320 | 600 | 5766.31 | 80 | 600 | 5764.11 | | | |
| 320 | 560 | 5764.65 | 80 | 560 | 5763.53 | | | |
| 320 | 520 | 5762.43 | 80 | 520 | 5763.12 | | | |
| 320 | 480 | 5761.48 | 80 | 480 | 5762.44 | | | |
| 320 | 440 | 5760.83 | 80 | 440 | 5761.66 | | | |
| 320 | 400 | 5760.18 | 80 | 400 | 5760.92 | | | |
| 280 | 400 | 5760.56 | 40 | 400 | 5760.34 | | | |
| 280 | 440 | 5760.84 | 40 | 440 | 5761.19 | | | |
| 280 | 480 | 5761.31 | 40 | 480 | 5761.79 | | | |
| 280 | 520 | 5762.48 | 40 | 520 | 5762.45 | | | |
| 280 | 560 | 5764.38 | 40 | 560 | 5763.11 | | | |
| 280 | 600 | 5766.09 | 40 | 600 | 5763.88 | | | |
| 240 | 600 | 5765.84 | 0 | 600 | 5763.47 | | | |
| 240 | 560 | 5764.32 | 0 | 560 | 5762.92 | | | |
| 240 | 520 | 5762.62 | 0 | 520 | 5762.16 | | | |
| 240 | 480 | 5761.75 | 0 | 480 | 5761.30 | | | |
| 240 | 440 | 5760.91 | 0 | 440 | 5760.63 | | | |
| 240 | 400 | 5760.52 | 0 | 400 | 5760.09 | | | |
| 200 | 400 | 5760.69 | | | | | | |
| 200 | 440 | 5761.20 | | | | | | |
| 200 | 480 | 5761.93 | | | | | | |
| 200 | 520 | 5762.92 | | | | | | |
| 200 | 560 | 5764.69 | | | | | | |
| 200 | 600 | 5765.78 | | | | | | |
| 160 | 600 | 5765.40 | | | | | | |
| 160 | 560 | 5764.50 | | | | | | |
| 160 | 520 | 5763.25 | | | | | | |
| 160 | 480 | 5762.34 | | | | | | |
| 160 | 440 | 5761.60 | | | | | | |
| 160 | 400 | 5761.44 | | | | | | |
| 120 | 400 | 5762.28 | | | | | | |
| 120 | 440 | 5762.82 | | | | | | |
| 120 | 480 | 5762.85 | | | | | | |
| 120 | 520 | 5764.06 | | | | | | |
| 120 | 560 | 5766.16 | | | | | | |

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Appendix B
Table B-5

| UC-4 Easting | UC-4 Northing | Elev (feet) | UC-4 Easting | UC-4 Northing | Elev (feet) | UC-4 Easting | UC-4 Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 6558.26 | 160 | 480 | 6560.28 | 200 | 130 | 6553.09 |
| 0 | 80 | 6558.49 | 200 | 480 | 6560.37 | 200 | 120 | 6555.36 |
| 0 | 160 | 6559.23 | 200 | 440 | 6554.84 | 200 | 80 | 6554.68 |
| 0 | 240 | 6560.37 | -40 | 280 | 6564.03 | 200 | 40 | 6553.39 |
| 0 | 320 | 6560.55 | -40 | 320 | 6564.34 | 200 | 20 | 6558.60 |
| 0 | 400 | 6562.07 | -40 | 360 | 6566.49 | 200 | 0 | 6557.97 |
| 40 | 440 | 6559.86 | -40 | 400 | 6568.69 | 240 | 0 | 6557.46 |
| 40 | 360 | 6559.12 | -40 | 440 | 6568.12 | 240 | 20 | 6558.04 |
| 40 | 280 | 6559.03 | -40 | 480 | 6568.13 | 240 | 40 | 6552.78 |
| 40 | 200 | 6559.20 | -40 | 520 | 6568.40 | 240 | 80 | 6555.42 |
| 40 | 120 | 6558.44 | -60 | 480 | 6570.62 | 240 | 110 | 6555.53 |
| 40 | 80 | 6558.36 | -60 | 440 | 6570.77 | 240 | 120 | 6552.87 |
| 40 | 40 | 6558.83 | -60 | 400 | 6570.21 | 240 | 170 | 6552.77 |
| 80 | 0 | 6558.60 | -60 | 360 | 6569.35 | 240 | 180 | 6555.03 |
| 80 | 20 | 6558.96 | -60 | 320 | 6568.15 | 240 | 200 | 6555.55 |
| 80 | 40 | 6555.25 | -60 | 280 | 6567.09 | 240 | 220 | 6554.60 |
| 80 | 100 | 6556.45 | -80 | 280 | 6569.89 | 280 | 210 | 6554.91 |
| 80 | 120 | 6557.32 | -80 | 320 | 6570.31 | 280 | 200 | 6555.24 |
| 80 | 200 | 6557.90 | -100 | 280 | 6569.92 | 280 | 160 | 6553.20 |
| 80 | 280 | 6558.83 | -100 | 320 | 6570.70 | 280 | 120 | 6552.72 |
| 80 | 360 | 6558.05 | -100 | 360 | 6570.10 | 280 | 105 | 6553.92 |
| 80 | 440 | 6558.09 | -100 | 400 | 6570.25 | 280 | 80 | 6553.93 |
| 80 | 480 | 6558.79 | -100 | 480 | 6570.77 | 280 | 40 | 6554.89 |
| 120 | 480 | 6558.72 | -100 | 520 | 6571.75 | 280 | 20 | 6557.72 |
| 120 | 400 | 6558.77 | -60 | 520 | 6571.11 | 280 | 0 | 6556.64 |
| 120 | 320 | 6558.90 | -120 | 520 | 6572.43 | 280 | 50 | 6551.73 |
| 120 | 280 | 6558.79 | -140 | 520 | 6569.50 | 240 | 50 | 6551.87 |
| 120 | 240 | 6557.43 | -140 | 480 | 6571.16 | 200 | 55 | 6551.16 |
| 120 | 200 | 6557.35 | -140 | 440 | 6572.60 | 160 | 60 | 6551.23 |
| 120 | 160 | 6556.64 | -120 | 440 | 6570.79 | 120 | 60 | 6551.67 |
| 120 | 120 | 6556.22 | -140 | 400 | 6571.45 | 80 | 60 | 6552.08 |
| 120 | 80 | 6554.74 | -140 | 360 | 6570.59 | 80 | 90 | 6553.87 |
| 120 | 40 | 6555.25 | -140 | 280 | 6570.21 | 330 | 10 | 6550.40 |
| 120 | 20 | 6558.73 | -160 | 280 | 6570.07 | 320 | 40 | 6551.14 |
| 120 | 0 | 6558.50 | -160 | 320 | 6570.35 | 320 | 80 | 6550.96 |
| 160 | 0 | 6558.19 | -160 | 360 | 6571.97 | 320 | 120 | 6550.24 |
| 160 | 20 | 6558.84 | -160 | 400 | 6574.99 | 320 | 240 | 6549.01 |
| 160 | 40 | 6555.41 | -160 | 440 | 6575.91 | 360 | 160 | 6548.87 |
| 160 | 80 | 6554.57 | -160 | 480 | 6572.67 | 360 | 120 | 6548.43 |
| 160 | 120 | 6555.80 | -180 | 280 | 6570.95 | 360 | 80 | 6548.32 |
| 160 | 160 | 6556.04 | -180 | 320 | 6572.67 | 360 | 40 | 6547.98 |
| 160 | 200 | 6556.32 | -180 | 360 | 6574.96 | 360 | 0 | 6547.48 |
| 160 | 240 | 6556.15 | -180 | 400 | 6578.46 | 400 | 0 | 6544.52 |
| 160 | 280 | 6555.85 | -180 | 440 | 6578.19 | 400 | 40 | 6545.58 |
| 160 | 290 | 6558.28 | 200 | 280 | 6552.95 | 400 | 80 | 6545.89 |
| 160 | 320 | 6558.53 | 200 | 240 | 6554.46 | 400 | 120 | 6546.23 |
| 160 | 360 | 6558.25 | 200 | 200 | 6556.05 | 400 | 160 | 6547.14 |
| 160 | 400 | 6558.28 | 200 | 160 | 6553.17 | 400 | 200 | 6548.55 |
| 160 | 440 | 6558.39 | 200 | 190 | 6553.75 | 400 | 240 | 6549.11 |

Appendix B
Table B-5

| UC-4 Easting | UC-4 Northing | Elev (feet) | UC-4 Easting | UC-4 Northing | Elev (feet) | UC-4 Easting | UC-4 Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 400 | 320 | 6549.08 | 560 | 200 | 6542.34 | 680 | 640 | 6524.05 |
| 440 | 320 | 6549.00 | 640 | 160 | 6539.00 | 680 | 680 | 6524.29 |
| 440 | 240 | 6549.02 | 640 | 200 | 6540.82 | 640 | 680 | 6526.14 |
| 440 | 200 | 6546.81 | 640 | 240 | 6541.38 | 600 | 680 | 6528.42 |
| 440 | 160 | 6545.51 | 640 | 280 | 6540.68 | 560 | 680 | 6530.38 |
| 440 | 120 | 6544.48 | 640 | 320 | 6539.09 | 600 | 720 | 6532.37 |
| 440 | 80 | 6544.43 | 680 | 240 | 6539.96 | 640 | 720 | 6530.01 |
| 440 | 40 | 6543.82 | 680 | 200 | 6539.30 | 680 | 720 | 6525.80 |
| 440 | 0 | 6543.18 | 680 | 160 | 6538.50 | 720 | 720 | 6524.54 |
| 480 | 40 | 6542.97 | 680 | 280 | 6537.60 | 760 | 720 | 6524.12 |
| 480 | 80 | 6542.69 | 680 | 320 | 6534.96 | 760 | 760 | 6526.39 |
| 480 | 120 | 6543.25 | 680 | 360 | 6533.09 | 720 | 760 | 6526.35 |
| 480 | 160 | 6544.16 | 640 | 360 | 6537.17 | 680 | 760 | 6527.85 |
| 480 | 200 | 6545.43 | 680 | 400 | 6532.16 | 440 | 600 | 6536.48 |
| 480 | 240 | 6547.96 | 640 | 400 | 6535.30 | 440 | 640 | 6538.41 |
| 480 | 280 | 6548.60 | 620 | 400 | 6537.33 | 480 | 640 | 6532.91 |
| 480 | 320 | 6548.84 | 620 | 420 | 6539.92 | 480 | 560 | 6535.30 |
| 480 | 360 | 6548.81 | 600 | 440 | 6539.33 | 520 | 520 | 6540.80 |
| 520 | 360 | 6548.01 | 640 | 440 | 6537.49 | 560 | 480 | 6537.99 |
| 520 | 320 | 6548.27 | 660 | 440 | 6533.73 | 560 | 440 | 6541.16 |
| 520 | 280 | 6548.48 | 680 | 440 | 6532.26 | 400 | 600 | 6542.18 |
| 520 | 240 | 6546.33 | 680 | 480 | 6533.09 | 400 | 640 | 6542.58 |
| 520 | 200 | 6544.21 | 640 | 480 | 6535.10 | 440 | 560 | 6542.49 |
| 520 | 160 | 6542.93 | 600 | 480 | 6536.55 | 480 | 520 | 6545.89 |
| 520 | 80 | 6542.68 | 720 | 440 | 6529.23 | 520 | 480 | 6546.77 |
| 520 | 40 | 6543.43 | 720 | 400 | 6530.66 | 560 | 400 | 6545.68 |
| 520 | 20 | 6542.87 | 720 | 480 | 6527.02 | 600 | 400 | 6542.26 |
| 560 | 160 | 6542.69 | 680 | 480 | 6529.99 | 520 | 440 | 6548.17 |
| 540 | 240 | 6545.88 | 560 | 520 | 6535.53 | 520 | 400 | 6547.96 |
| 540 | 280 | 6548.62 | 600 | 520 | 6534.09 | 480 | 440 | 6548.79 |
| 540 | 320 | 6548.58 | 640 | 520 | 6532.33 | 440 | 520 | 6547.44 |
| 480 | 0 | 6542.56 | 680 | 520 | 6531.38 | 440 | 480 | 6548.63 |
| 520 | 0 | 6541.30 | 720 | 520 | 6528.97 | 440 | 400 | 6549.12 |
| 520 | 120 | 6542.42 | 755 | 520 | 6526.63 | 400 | 360 | 6549.10 |
| 560 | 120 | 6541.90 | 565 | 485 | 6537.01 | 400 | 440 | 6549.24 |
| 560 | 80 | 6541.77 | 520 | 560 | 6530.79 | 400 | 520 | 6548.31 |
| 560 | 40 | 6542.43 | 560 | 560 | 6530.72 | 400 | 560 | 6547.46 |
| 600 | 80 | 6541.44 | 600 | 560 | 6527.93 | 360 | 560 | 6548.80 |
| 600 | 120 | 6542.44 | 640 | 560 | 6525.31 | 360 | 520 | 6549.08 |
| 600 | 160 | 6540.51 | 680 | 560 | 6524.23 | 360 | 480 | 6548.78 |
| 600 | 200 | 6541.74 | 640 | 600 | 6524.20 | 360 | 400 | 6549.11 |
| 600 | 240 | 6542.25 | 600 | 600 | 6525.24 | 360 | 320 | 6549.07 |
| 600 | 280 | 6542.34 | 560 | 600 | 6526.93 | 360 | 280 | 6549.38 |
| 600 | 320 | 6542.10 | 520 | 600 | 6530.00 | 360 | 240 | 6549.14 |
| 600 | 360 | 6540.49 | 480 | 600 | 6532.40 | 360 | 200 | 6550.17 |
| 560 | 360 | 6546.09 | 520 | 640 | 6529.99 | 320 | 200 | 6552.19 |
| 560 | 320 | 6544.19 | 560 | 640 | 6527.42 | 320 | 160 | 6550.62 |
| 560 | 280 | 6544.24 | 600 | 640 | 6525.55 | 320 | 280 | 6549.45 |
| 560 | 240 | 6543.75 | 640 | 640 | 6524.89 | 320 | 360 | 6549.07 |

Appendix B
Table B-5

| UC-4 Easting | UC-4 Northing | Elev (feet) | UC-4 Easting | UC-4 Northing | Elev (feet) | UC-4 Easting | UC-4 Northing | Elev (feet) |
|---|---|---|---|---|---|---|---|---|
| 320 | 440 | 6549.60 | 240 | 600 | 6548.53 | 520 | 760 | 6541.00 |
| 320 | 480 | 6552.27 | 280 | 660 | 6548.37 | 550 | 760 | 6543.21 |
| 280 | 440 | 6550.30 | 280 | 680 | 6553.90 | 560 | 760 | 6540.88 |
| 280 | 400 | 6549.03 | 320 | 680 | 6555.75 | 480 | 720 | 6541.29 |
| 280 | 320 | 6548.86 | 360 | 680 | 6551.26 | 440 | 720 | 6544.12 |
| 280 | 280 | 6549.69 | 240 | 680 | 6551.17 | 400 | 720 | 6546.09 |
| 280 | 240 | 6549.88 | 200 | 680 | 6549.95 | 400 | 680 | 6546.08 |
| 240 | 240 | 6550.90 | 160 | 680 | 6552.02 | 440 | 680 | 6542.58 |
| 240 | 280 | 6549.55 | 120 | 680 | 6554.59 | 480 | 680 | 6539.18 |
| 240 | 360 | 6548.94 | 120 | 640 | 6553.16 | 520 | 680 | 6533.67 |
| 240 | 400 | 6549.38 | 160 | 640 | 6551.01 | 520 | 720 | 6538.49 |
| 240 | 420 | 6549.62 | 280 | 560 | 6558.47 | 560 | 720 | 6536.56 |
| 240 | 440 | 6552.65 | 160 | 560 | 6556.50 | 600 | 760 | 6534.35 |
| 200 | 400 | 6551.25 | 120 | 560 | 6557.59 | 640 | 760 | 6532.08 |
| 200 | 360 | 6552.03 | 80 | 560 | 6559.63 | 800 | 760 | 6525.50 |
| 200 | 320 | 6551.71 | 40 | 560 | 6560.21 | 840 | 760 | 6524.72 |
| 240 | 480 | 6556.50 | 0 | 560 | 6562.42 | 880 | 760 | 6524.09 |
| 240 | 480 | 6561.35 | 40 | 600 | 6561.19 | 920 | 760 | 6522.50 |
| 240 | 500 | 6562.50 | 80 | 600 | 6557.34 | 880 | 720 | 6523.43 |
| 240 | 520 | 6561.59 | 80 | 640 | 6558.07 | 840 | 720 | 6523.57 |
| 280 | 520 | 6559.85 | 40 | 640 | 6559.40 | 800 | 720 | 6523.01 |
| 200 | 520 | 6561.40 | 0 | 640 | 6560.54 | 680 | 600 | 6522.52 |
| 160 | 520 | 6559.84 | 80 | 680 | 6560.46 | 760 | 600 | 6522.78 |
| 120 | 520 | 6559.04 | 120 | 720 | 6561.49 | 760 | 640 | 6522.66 |
| 80 | 520 | 6559.03 | 160 | 720 | 6558.77 | 720 | 640 | 6523.89 |
| 40 | 520 | 6560.00 | 200 | 720 | 6558.89 | 720 | 680 | 6523.44 |
| 10 | 520 | 6560.14 | 240 | 720 | 6558.17 | 760 | 680 | 6523.22 |
| 0 | 520 | 6562.58 | 280 | 720 | 6559.30 | 800 | 680 | 6522.33 |
| 0 | 480 | 6562.35 | 320 | 720 | 6558.16 | 840 | 680 | 6523.30 |
| 40 | 480 | 6559.28 | 360 | 720 | 6557.43 | 840 | 640 | 6519.01 |
| 0 | 440 | 6561.96 | 360 | 760 | 6556.84 | 840 | 600 | 6515.31 |
| 320 | 520 | 6555.36 | 320 | 760 | 6556.94 | 800 | 560 | 6520.63 |
| 320 | 640 | 6546.34 | 280 | 760 | 6558.78 | 800 | 600 | 6521.11 |
| 320 | 600 | 6547.71 | 240 | 760 | 6559.41 | 800 | 640 | 6521.96 |
| 360 | 600 | 6545.41 | 200 | 760 | 6562.37 | 880 | 640 | 6516.13 |
| 360 | 640 | 6544.21 | 0 | 600 | 6564.23 | 920 | 640 | 6514.57 |
| 280 | 640 | 6546.18 | 0 | 680 | 6564.45 | 920 | 680 | 6515.63 |
| 240 | 640 | 6547.12 | 40 | 680 | 6564.61 | 920 | 720 | 6519.64 |
| 200 | 640 | 6549.67 | 0 | 720 | 6567.99 | 880 | 680 | 6519.42 |
| 280 | 600 | 6549.75 | 40 | 720 | 6567.27 | 720 | 600 | 6521.83 |
| 320 | 560 | 6554.65 | 80 | 720 | 6565.59 | 760 | 560 | 6525.16 |
| 240 | 560 | 6555.03 | 0 | 760 | 6572.28 | | | |
| 200 | 560 | 6554.98 | 40 | 760 | 6571.14 | | | |
| 120 | 600 | 6552.76 | 80 | 760 | 6569.43 | | | |
| 160 | 600 | 6551.17 | 120 | 760 | 6566.20 | | | |
| 175 | 600 | 6551.66 | 160 | 760 | 6563.79 | | | |
| 190 | 600 | 6554.43 | 400 | 760 | 6547.01 | | | |
| 200 | 600 | 6553.58 | 440 | 760 | 6544.78 | | | |
| 215 | 600 | 6549.44 | 480 | 760 | 6542.02 | | | |

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# APPENDIX C: ELECTROMAGNETICS

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# Appendix C

## Electromagnetics

Electromagnetic conductivity measurements were made using a Geonics EM31 and EM38. Both of these instruments are operated on the surface, and measure the electrical conductivity of the subsurface. The EM31 measures the conductivity from the surface down to approximately 20 ft., with the maximum response centered at 7.5 ft., and provides a sampling volume of more than 1,000 cubic ft. The EM38 measures the conductivity to a depth of about 5 ft., with the maximum response centered at the surface, and provides a sampling volume of less than 10 cubic ft.

Electrical conductivity is a function of soil and rock type, porosity and the permeability, as well as the composition of fluids that fill the pore spaces. For example, clays will have a higher electrical conductivity than clean sands and gravel. Electrical conductivity values are given in milliSiemens/meter (mS/m). In addition to evaluation of natural hydrologic conditions, electromagnetic measurements can be used to locate inorganic contaminates.

The EM31 provides a second measurement, referred to as the in-phase component, that responds to metals (both ferrous and non-ferrous) and can be used to detect buried metal objects, such as drums, metal pipelines, and larger metallic debris. For example, using the in-phase component, a single 55-gallon steel drum can be detected at a depth of about 6 to 8 ft. The EM31 will detect buried metal with a sufficient cross-section (i.e., 55-gallon drums) but will not respond to buried metal with small cross-sections (i.e., 1 gallon containers). In general, the in-phase response is more sensitive to the presence of metal than the electromagnetic conductivity data. The in-phase values are relative to the primary electromagnetic field of the instrument and have units of parts per thousand (ppt).

### Quality Control

The EM31 and EM38 were calibrated and operated according to the manufacturer=s instructions. Instrument field checks were recorded to a daily log that specified any system maintenance and/or calibration performed.

A 200 ft. long calibration line was established for the EM31 and EM38 instruments at a central location to all four sites. This line was used in both Phase 1A and Phase 1B field efforts. At least one profile was acquired along the line at the beginning and end of each day that the instruments were used. The calibration line was used to ensure the instruments were reading consistently throughout the survey. A metal culvert lies near the center of the calibration line.

The EM31 conductivity values were within 2 mS/m of each other during the entire survey, while in-phase values were within 2.5 ppt of each other (Figure C-1 and C-2). The EM38 conductivity values are noisier than the EM31 values acquired over the same line (Figure C-3). The EM38 values were within about 6 mS/m of each other, with much of the deviation caused by instrument drift (changing values over time). However, the relative values of the EM38 data along each line are consistent with each other.

In addition to the central calibration line, EM31 and EM38 lines were re-acquired at each site to ensure repeatability of the measurements. The repeated lines at each site were reoccupied

approximately three times per day. The repeatability of the lines was checked in the field before any additional new data were acquired.

## Field Procedures And Data Reduction For EM Measurements

Continuous measurements were made along parallel traverses spaced 20 ft. apart. The traverses were oriented north-south, except at the CMP, where the traverses were oriented east-west. In areas where more detailed information was needed, such as the area near protruding pipes at UC-3, measurements were acquired along lines spaced 10 ft. apart in two perpendicular directions. Data were recorded with a digital acquisition system and marks were placed on the record at 40-ft. intervals as the station marks were passed for positioning control. Both conductivity and metal (in-phase) data were recorded simultaneously with the EM31 instrument. In areas off of the grid, outlier areas, individual profile lines were run to optimize reconnaissance coverage.

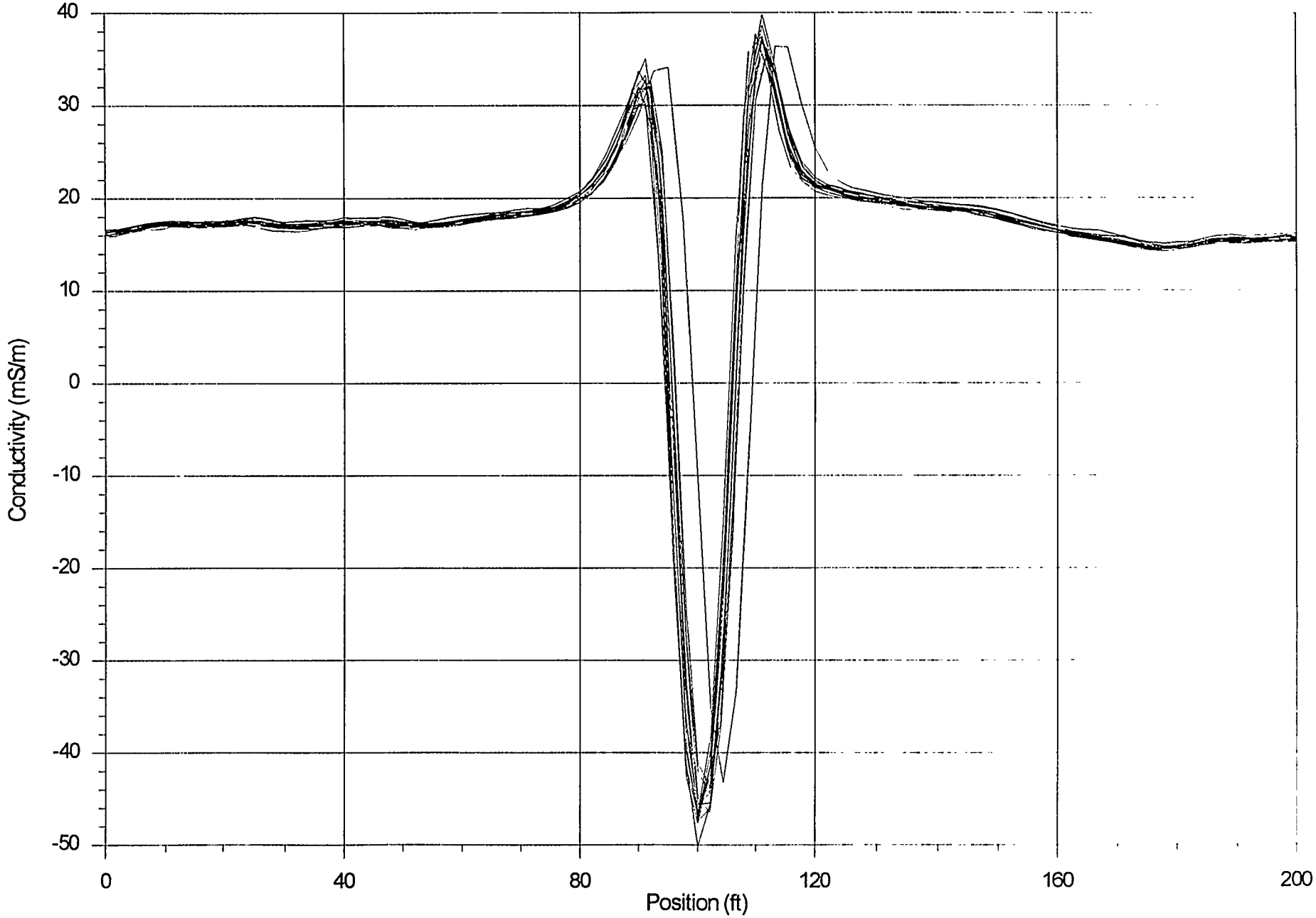
The data were then downloaded to a PC for contouring. Gridding and contouring were carried out in-field using Surfer by Golden Software. Both the conductivity and metal (in-phase) data sets were gridded using a 10 x 10 ft. grid spacing and the inverse distance algorithm. A quality control check of the data was made in the field. No further data reduction or processing were done to the electromagnetic data in the field. Copies of these field contours were supplied to the IT on-site representative.

In the office, the data from the four main grid areas were gridded and contoured using Geosoft mapping software. A 5 x 5 ft. grid spacing was used and color contours were plotted for presentation of the EM31 and EM38 data. The color contours provide a much more visual assessment of the data and often allow subtle features to be identified.

The color contours for the four main grid areas are presented in the main body of this report along with any outlier EM data (contours or profiles) which were associated with soils having chemical values above the PALS. All other EM data acquired over outliers are included in this Appendix as profile plots or contour maps in order of UC-1, UC-3, and UC-4 sites.

# Figure C-1

EM31 Conductivity
Quality Control Line



# Figure C-2

EM31 In-Phase
Quality Control Line

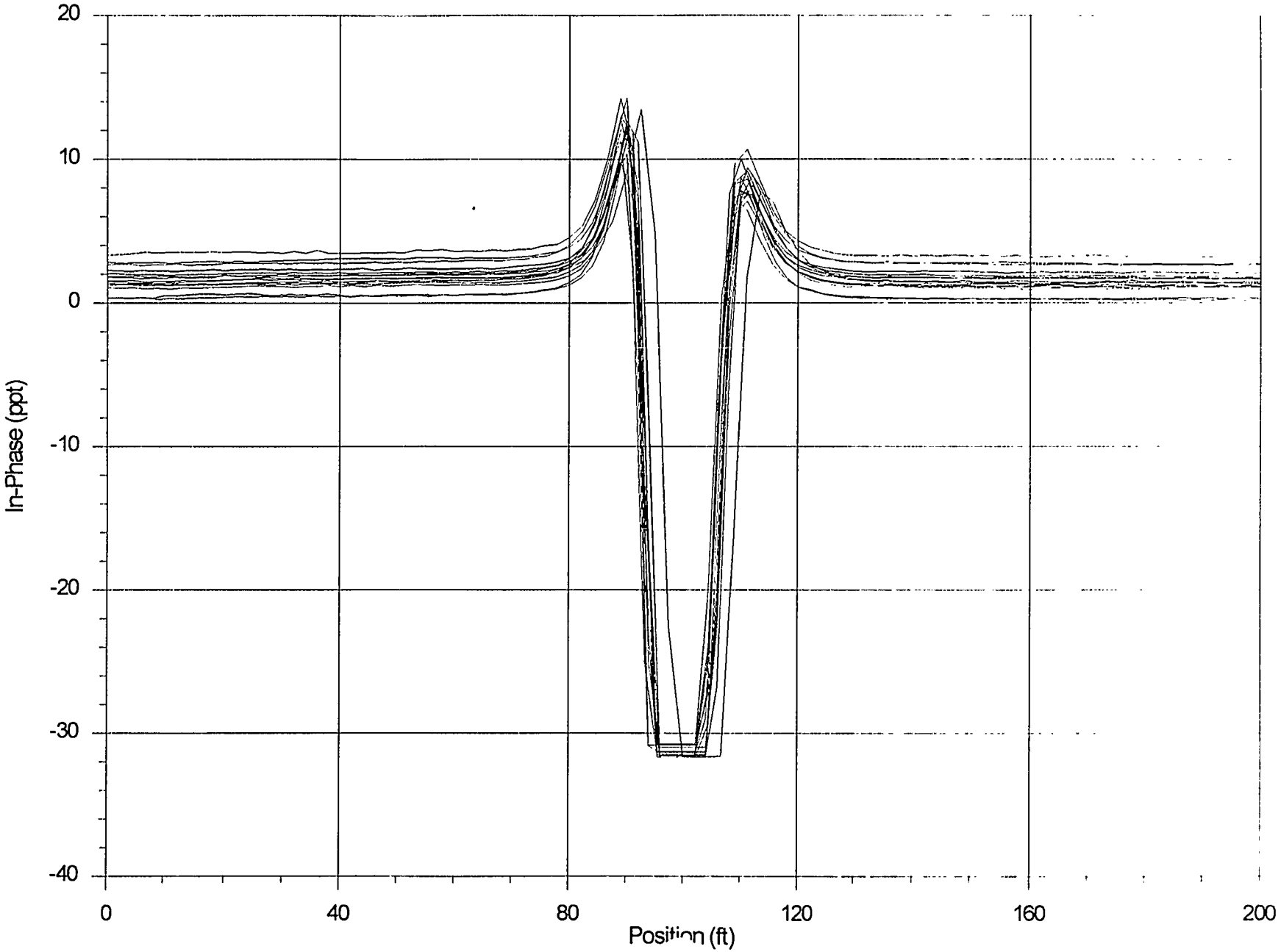
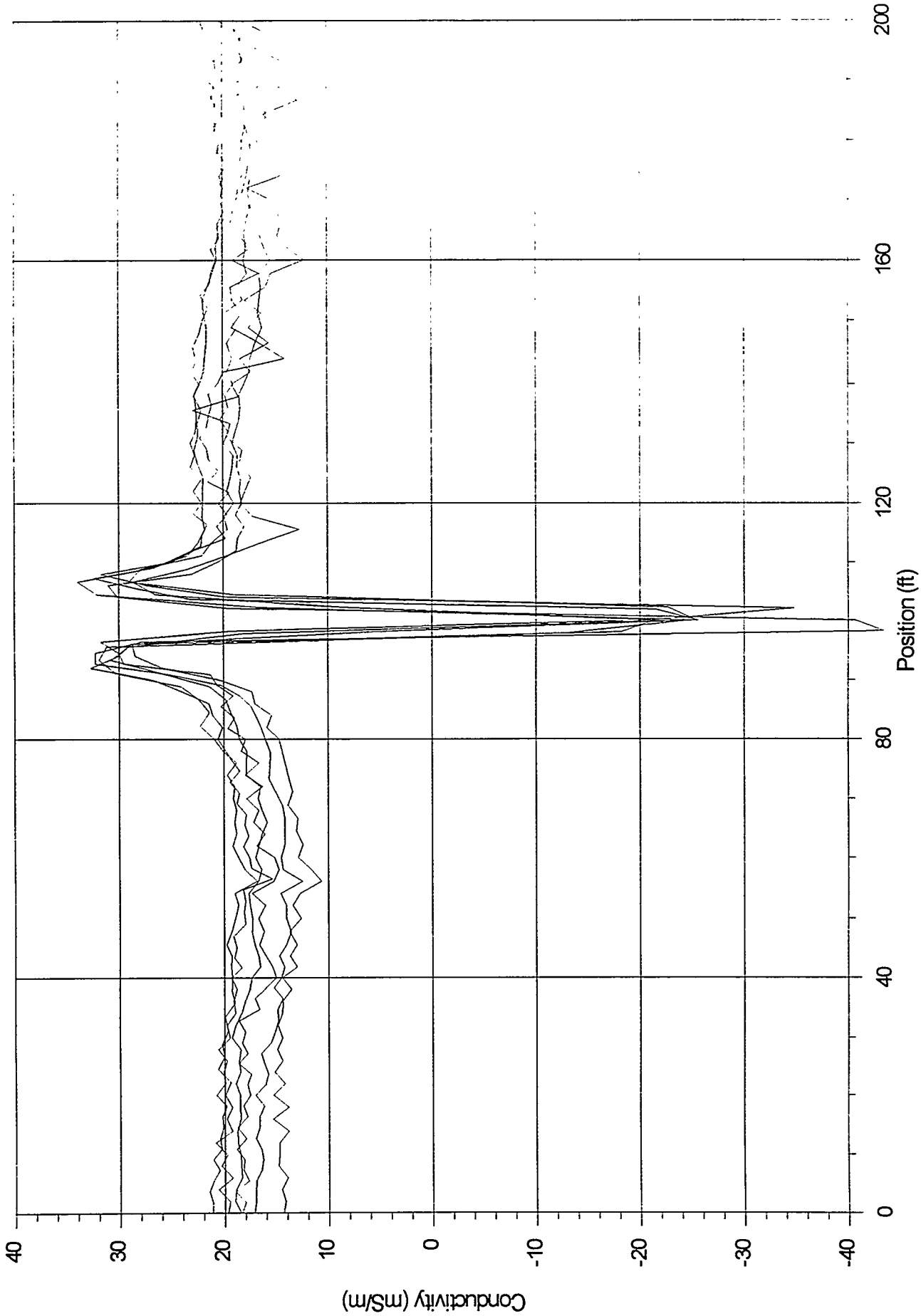


**Figure C-3**

EM38 Conductivity
Quality Control Line



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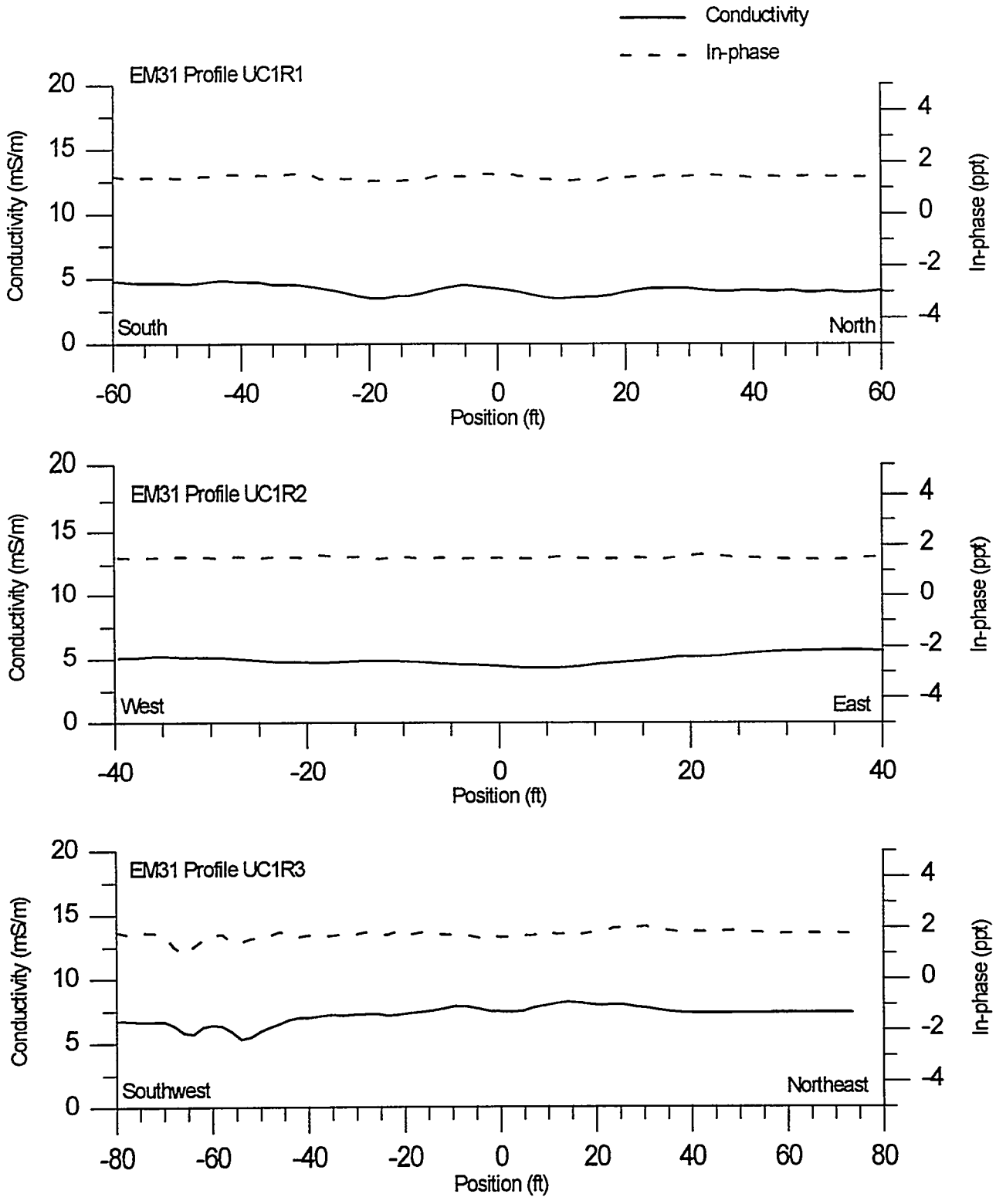
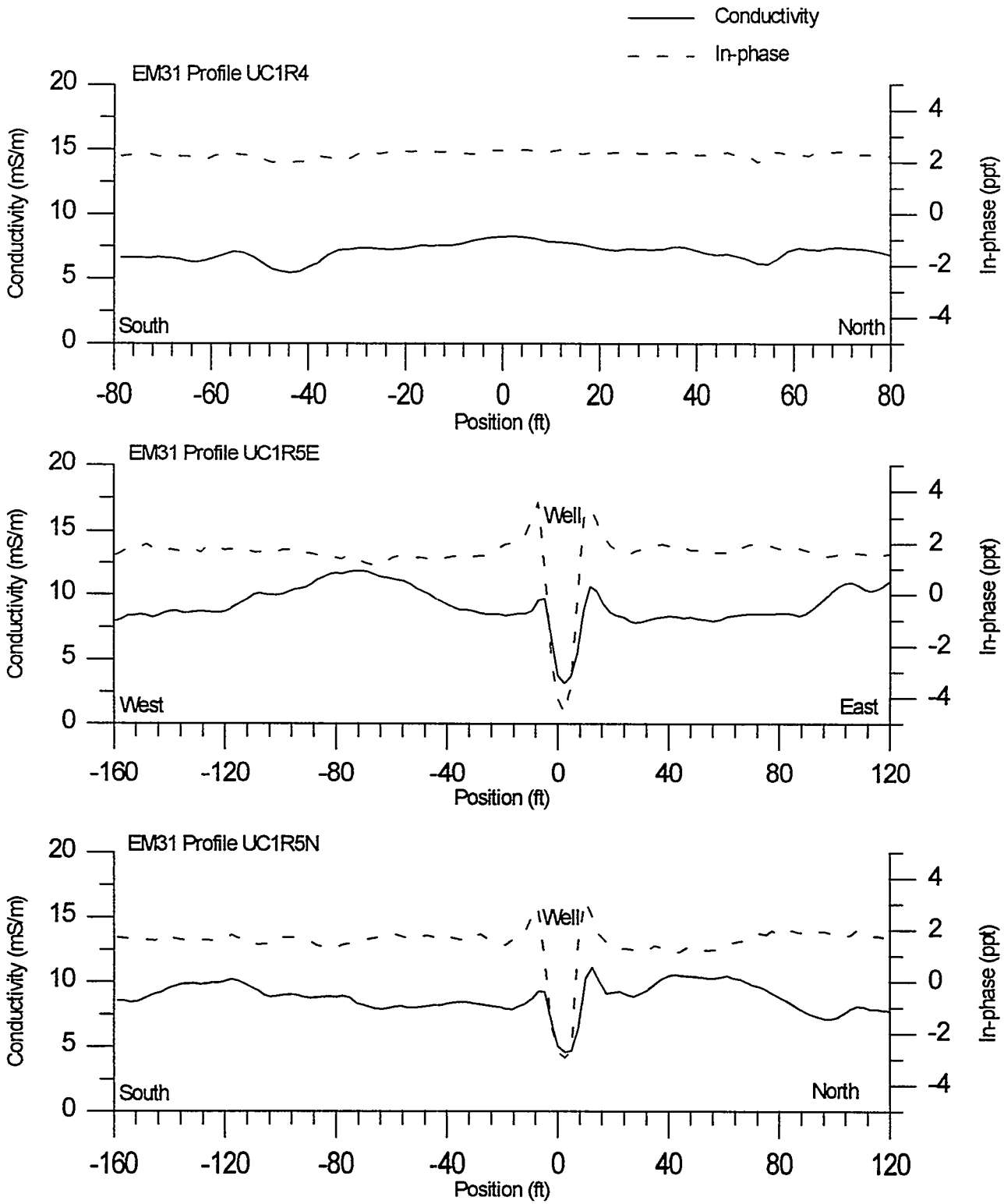
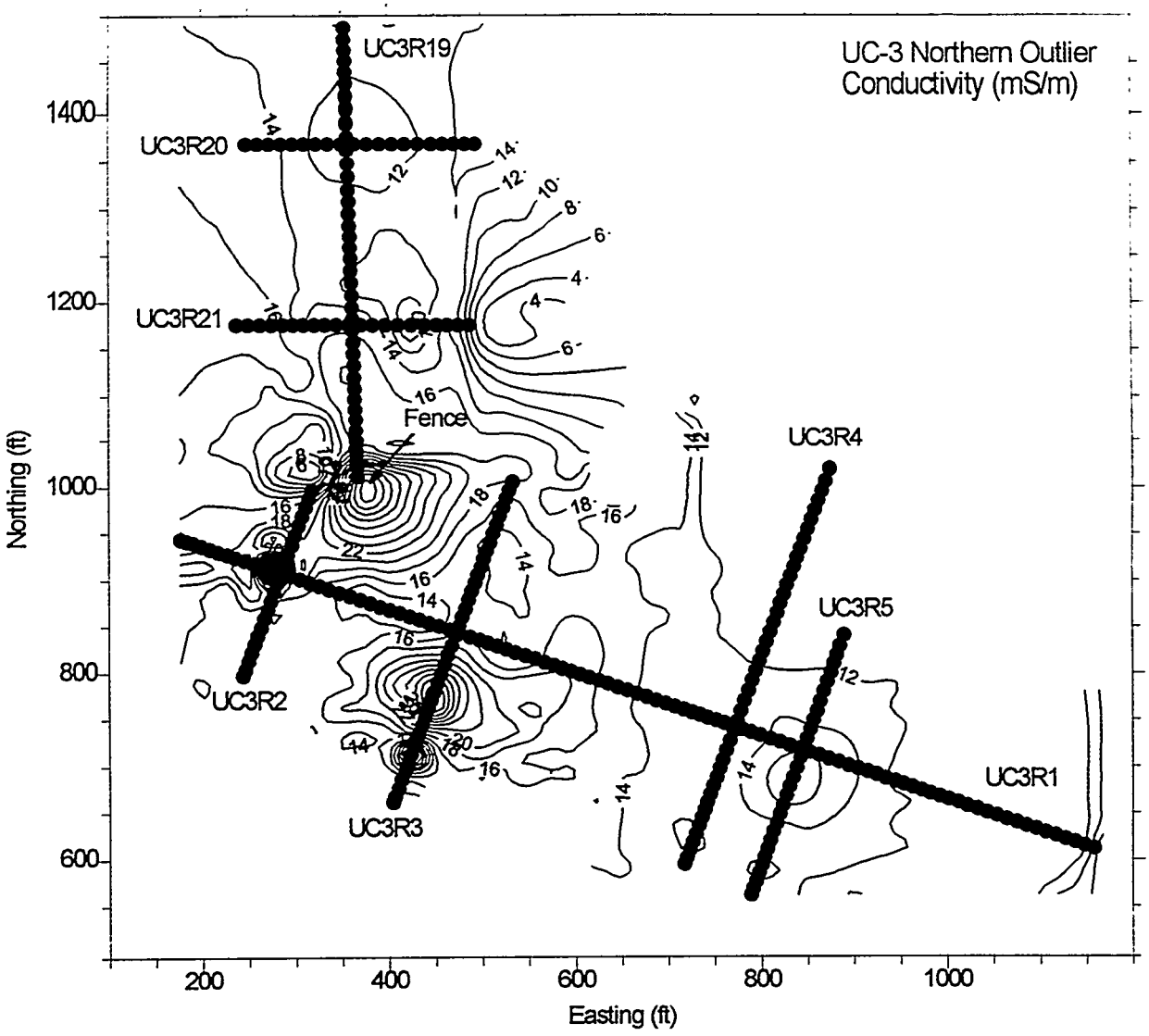
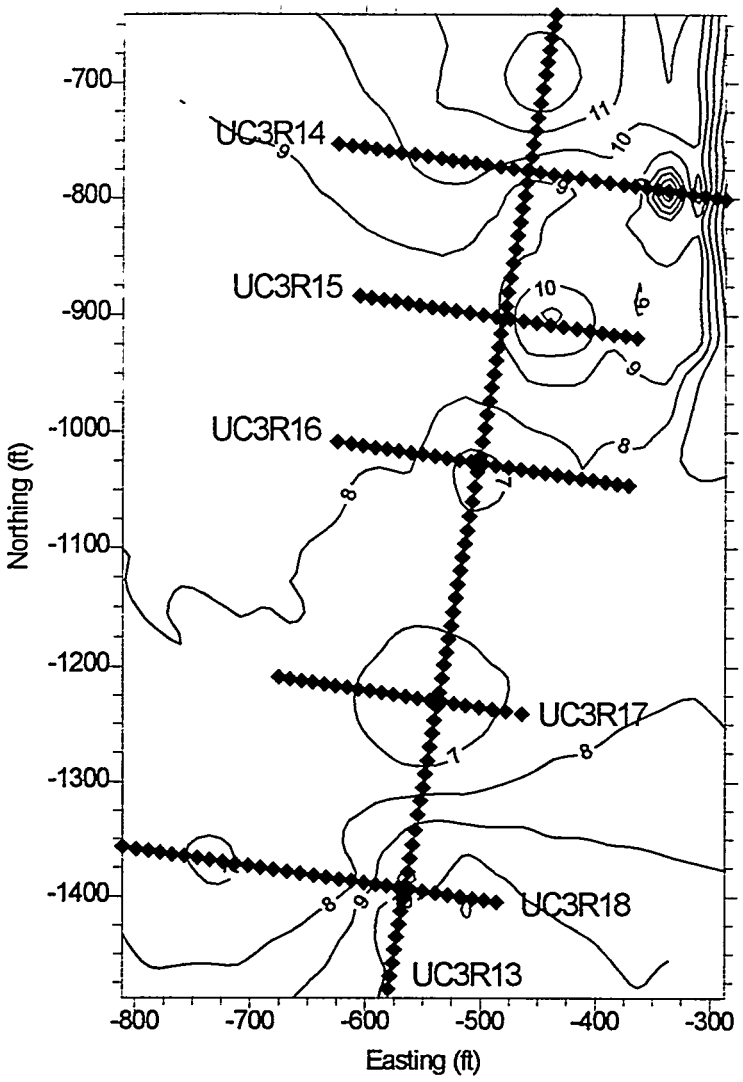

Conductivity
In-phase
EM31 Profile UC1R1
Conductivity (mS/m)
In-phase (ppt)
South
North
Position (ft)
EM31 Profile UC1R2
West
East
EM31 Profile UC1R3
Southwest
Northeast


Conductivity
In-phase
EM31 Profile UC1R4
Conductivity (mS/m)
In-phase (ppt)
South
North
Position (ft)
EM31 Profile UC1R5E
Well
West
East
EM31 Profile UC1R5N
Well
South
North


UC-3 Northern Outlier
Conductivity (mS/m)
UC3R19
UC3R20
UC3R21
UC3R2
UC3R3
UC3R4
UC3R5
UC3R1
Fence
Northing (ft)
Easting (ft)
1400
1200
1000
800
600
200
400
600
800
1000




UC-3 Southwest Outlier
Conductivity (mS/m)

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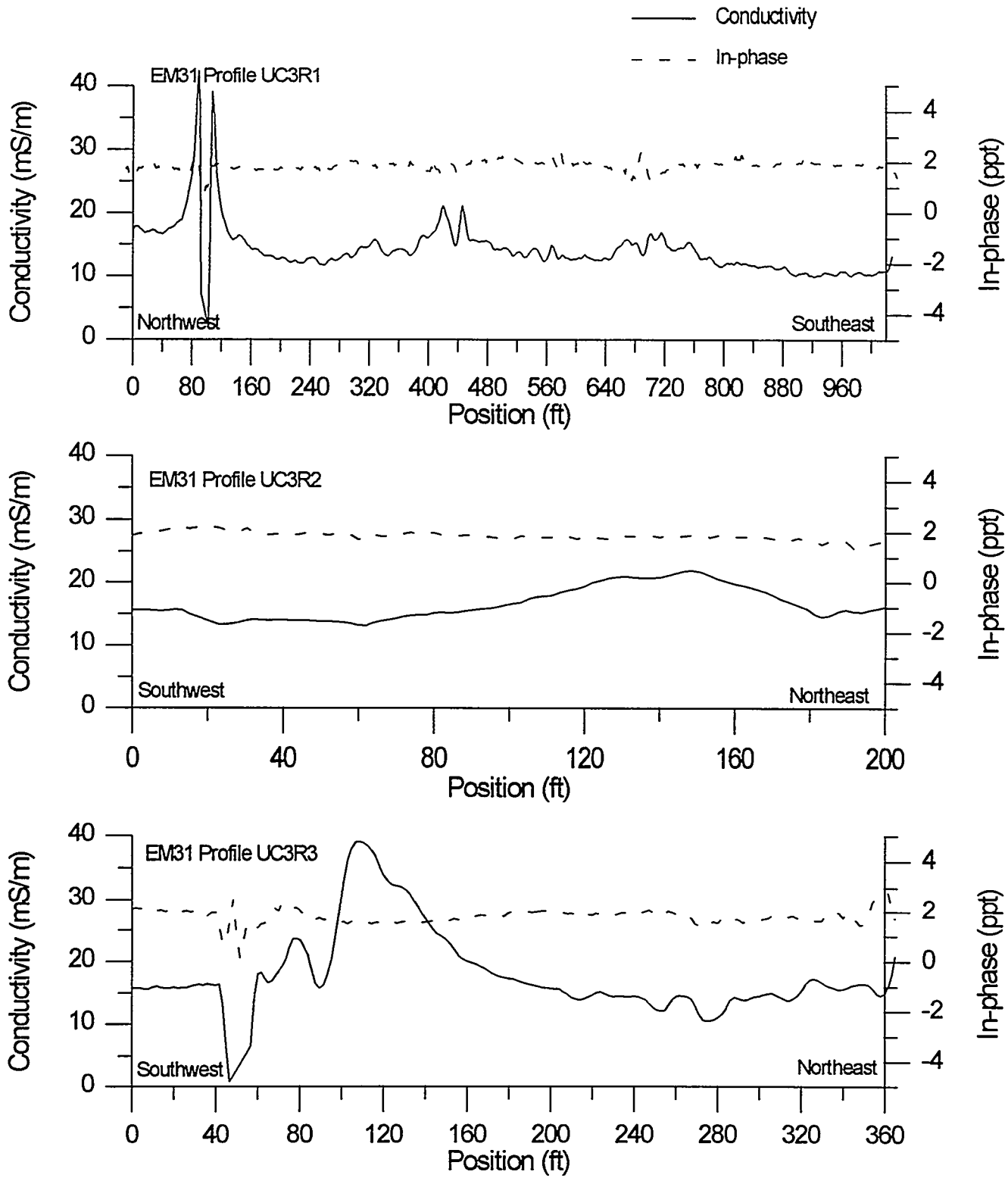
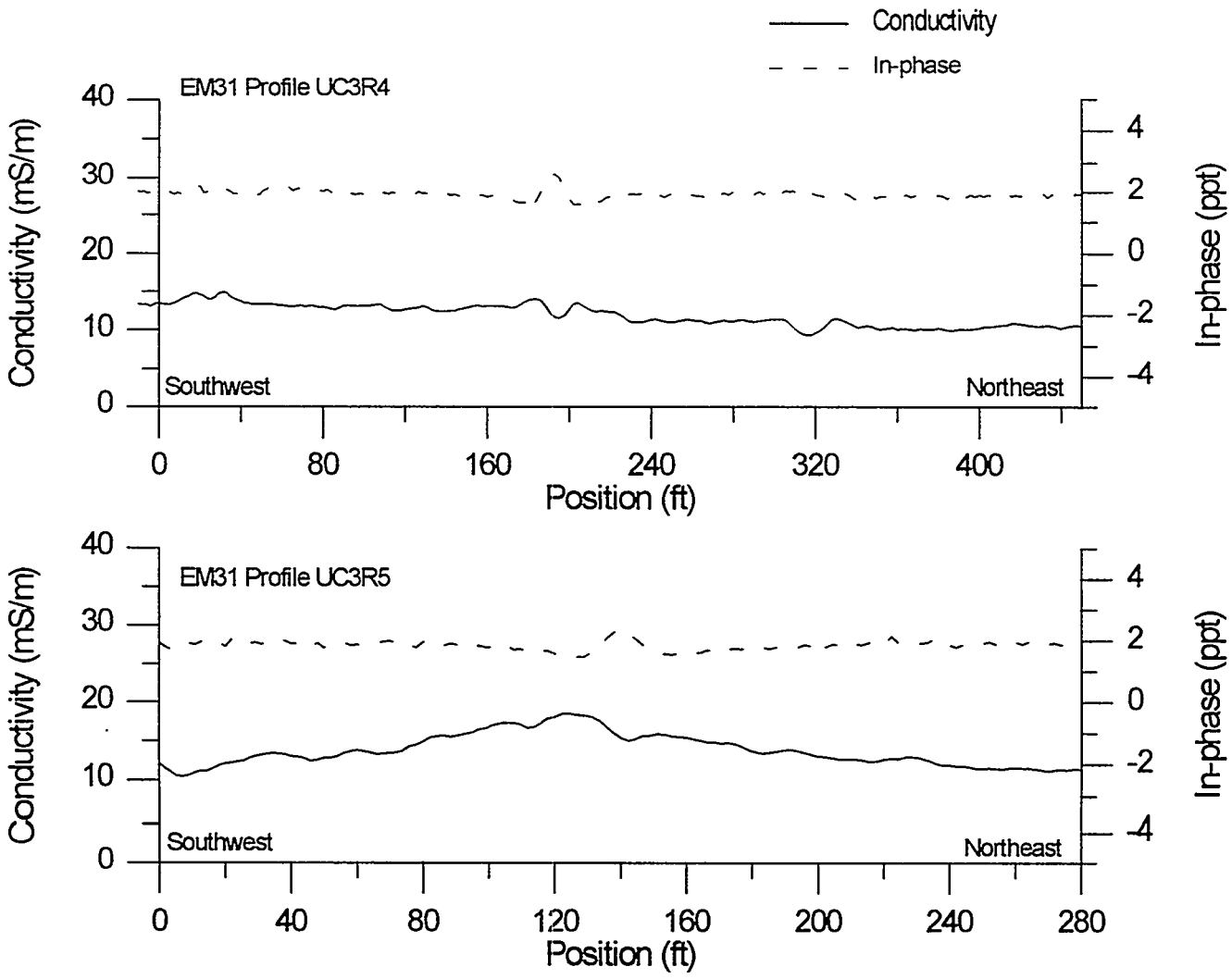
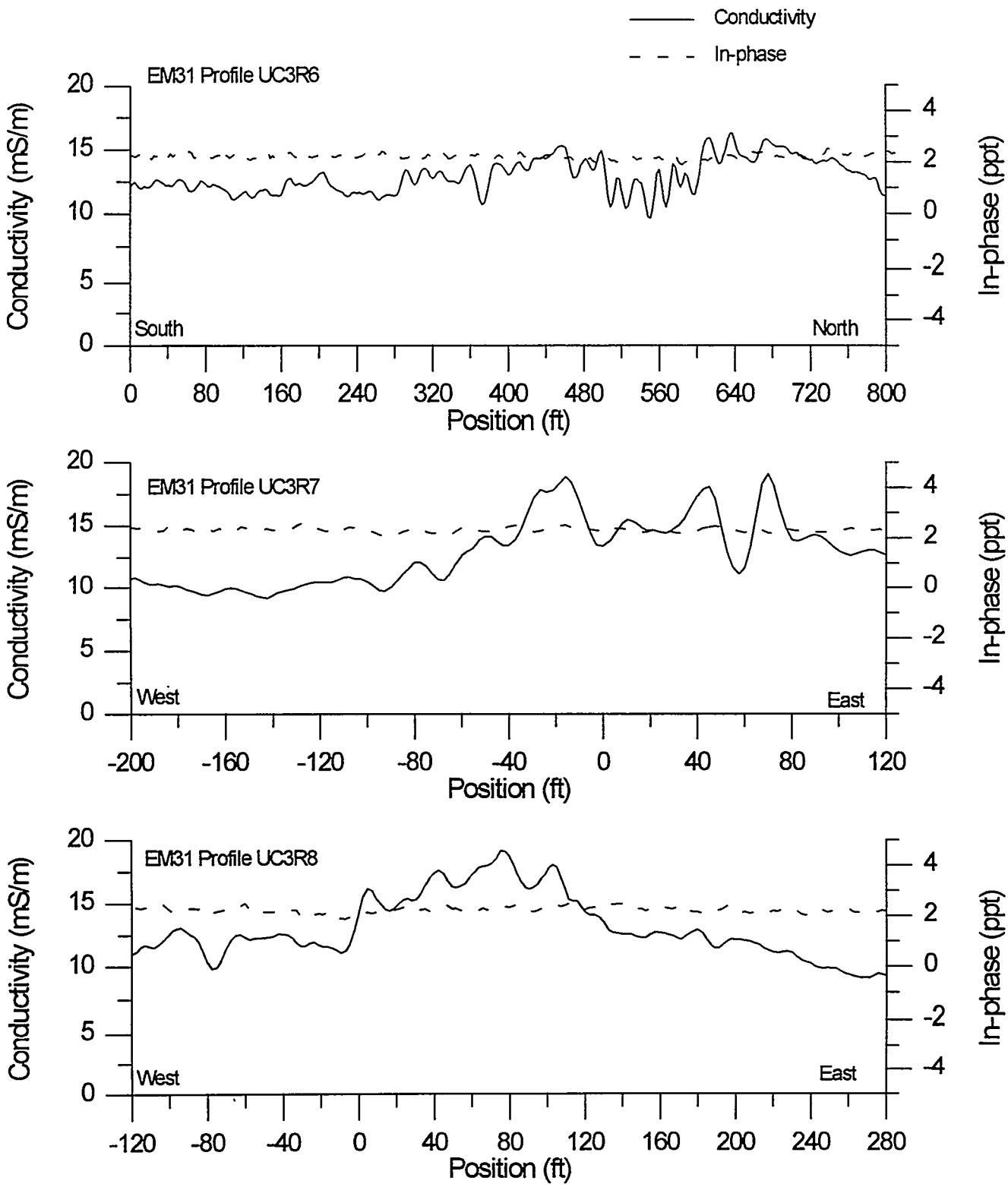
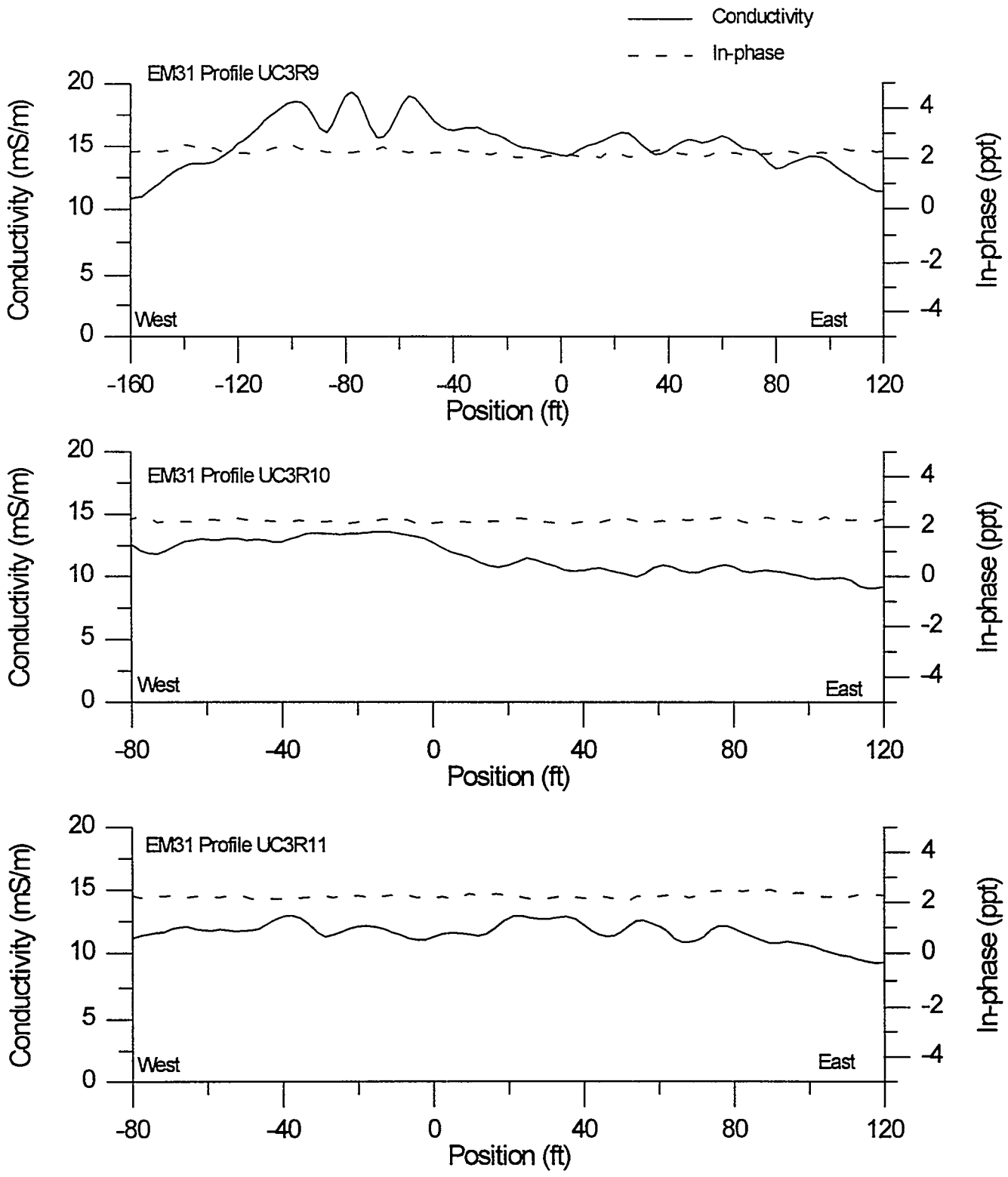
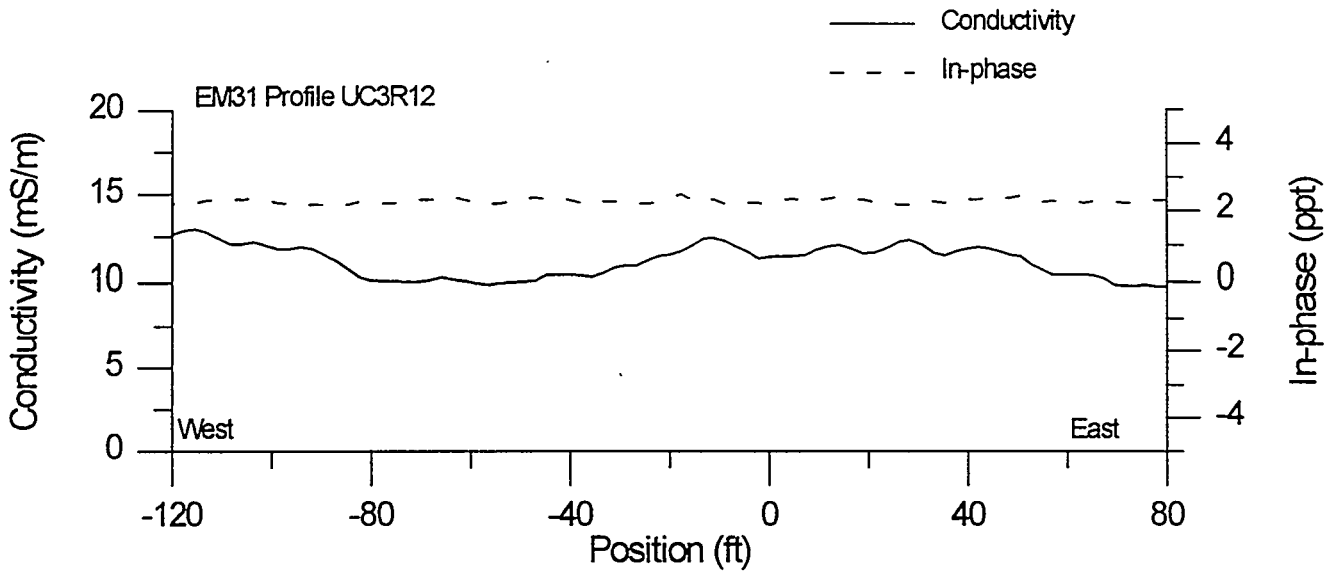
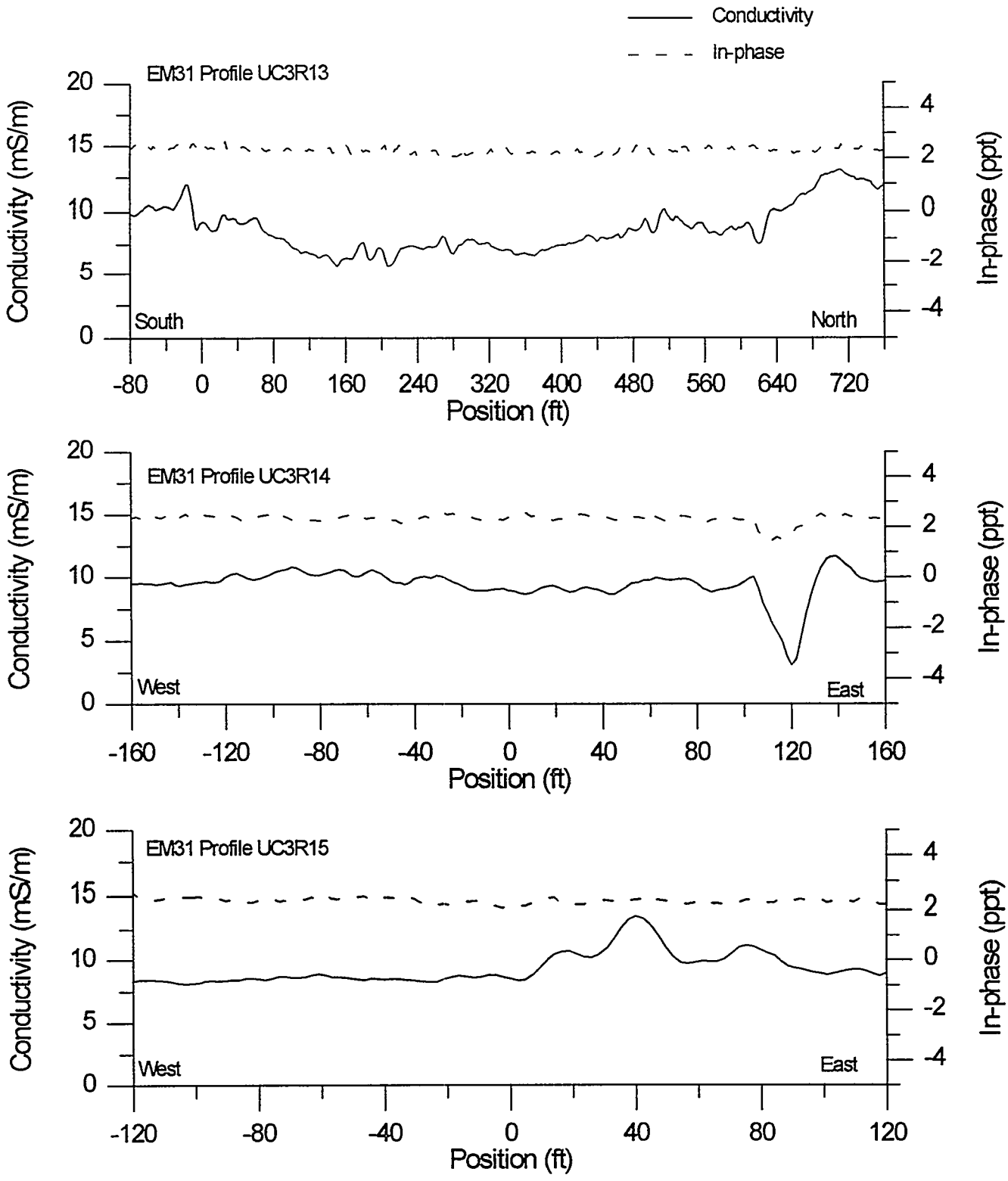

Conductivity
In-phase
EM31 Profile UC3R1
Conductivity (mS/m)
In-phase (ppt)
Northwest
Southeast
Position (ft)
EM31 Profile UC3R2
Southwest
Northeast
EM31 Profile UC3R3

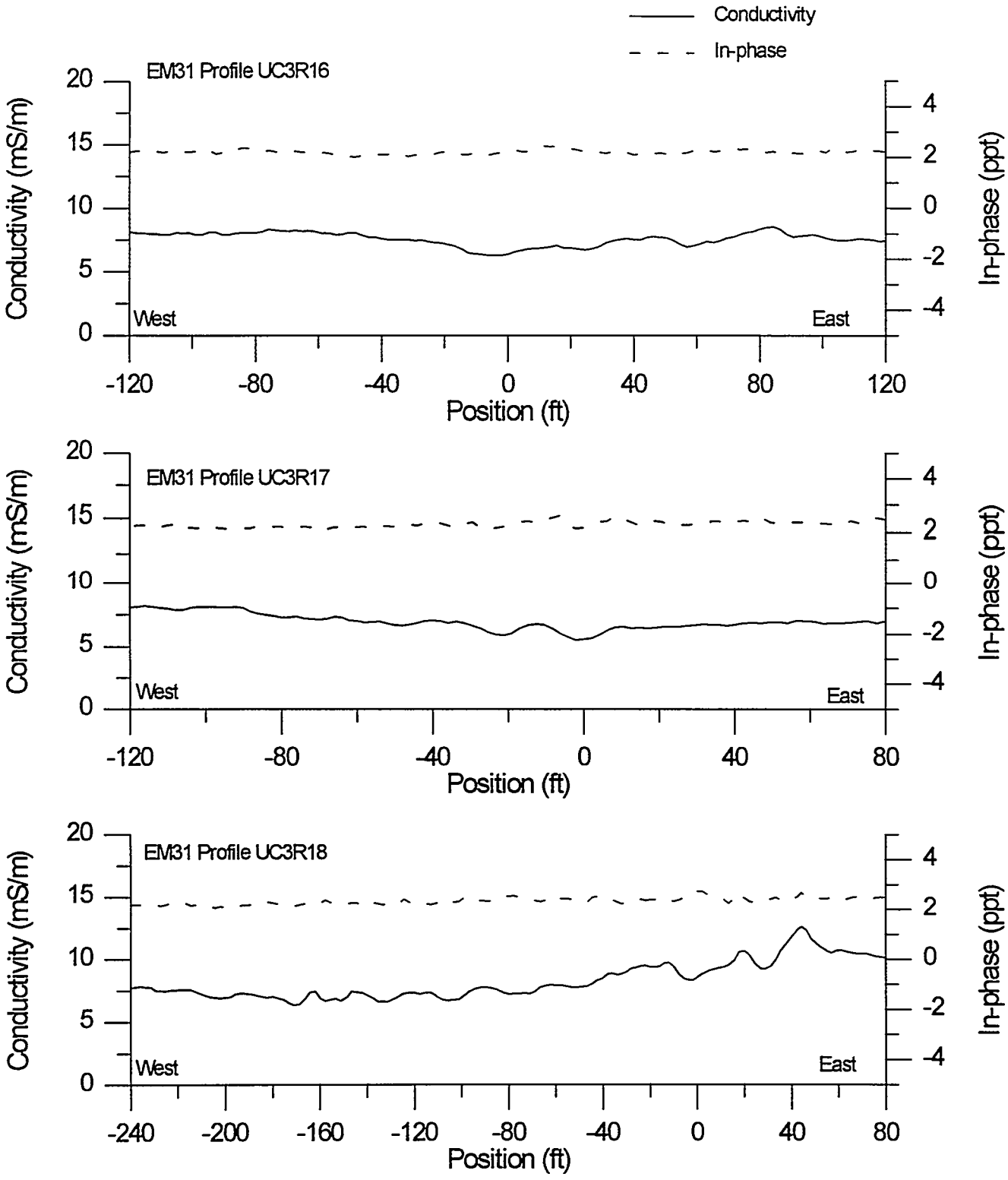

Conductivity
In-phase
EM31 Profile UC3R4
Conductivity (mS/m)
In-phase (ppt)
40
30
20
10
0
4
2
0
-2
-4
Southwest
Northeast
0
80
160
240
320
400
Position (ft)
EM31 Profile UC3R5
Conductivity (mS/m)
In-phase (ppt)
40
30
20
10
0
4
2
0
-2
-4
Southwest
Northeast
0
40
80
120
160
200
240
280
Position (ft)

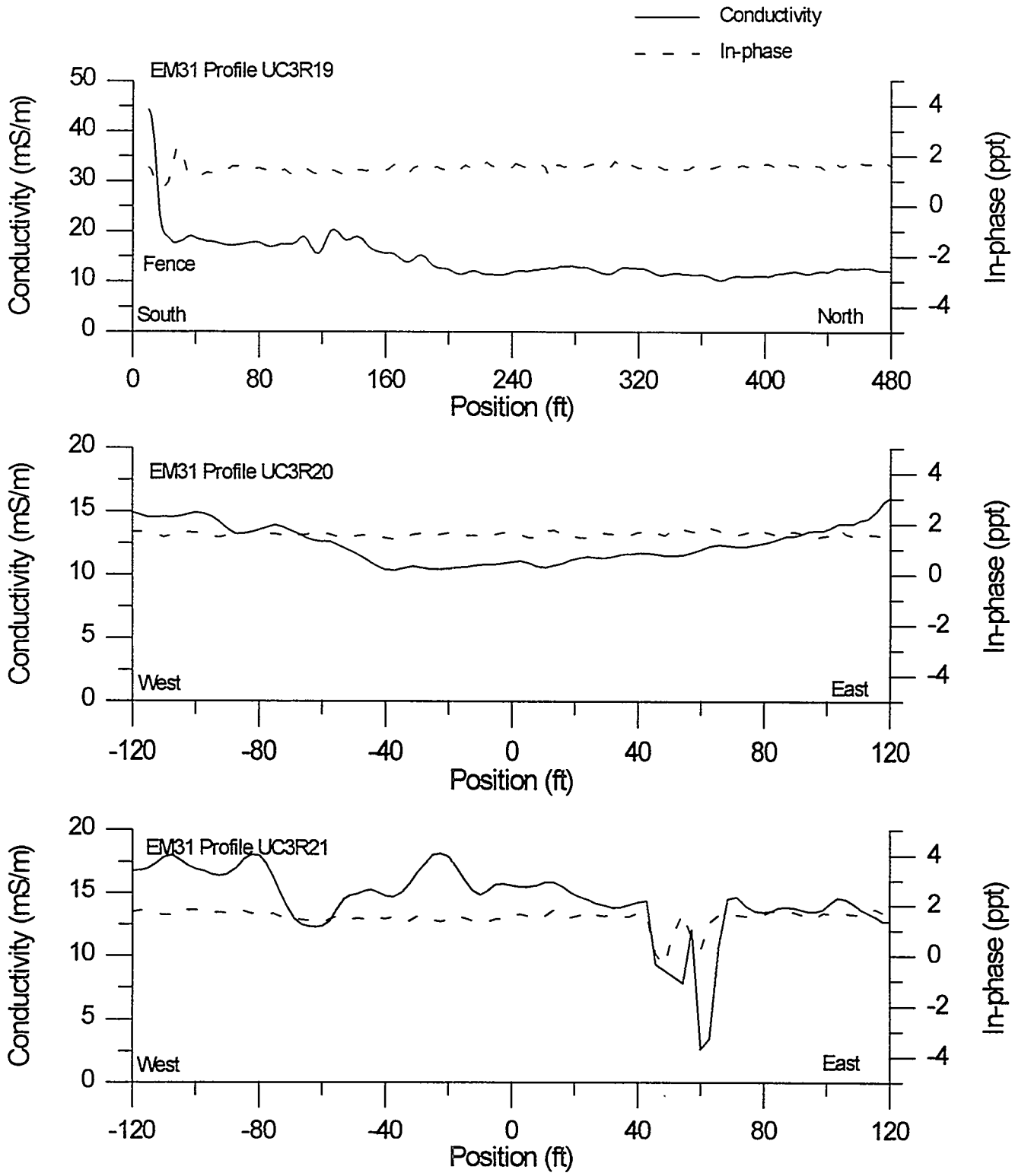

Conductivity
In-phase
EM31 Profile UC3R6
Conductivity (mS/m)
In-phase (ppt)
South
North
Position (ft)
EM31 Profile UC3R7
West
East
EM31 Profile UC3R8

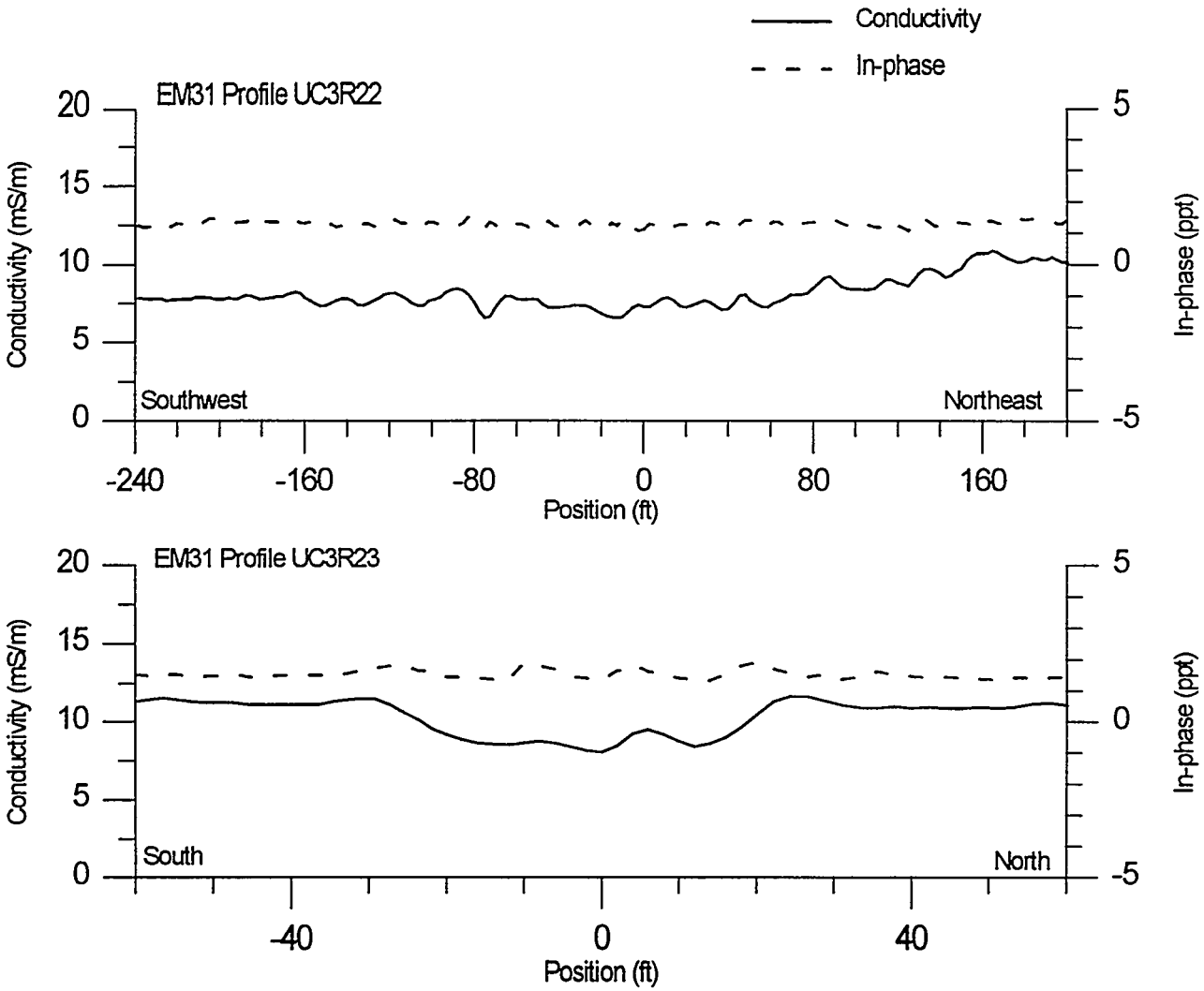

Conductivity
In-phase
EM31 Profile UC3R9
Conductivity (mS/m)
In-phase (ppt)
West
East
Position (ft)
EM31 Profile UC3R10
EM31 Profile UC3R11


Conductivity
In-phase
EM31 Profile UC3R12
Conductivity (mS/m)
In-phase (ppt)
20
15
10
5
0
4
2
0
-2
-4
West
East
-120
-80
-40
0
40
80
Position (ft)


Conductivity
In-phase
EM31 Profile UC3R13
Conductivity (mS/m)
In-phase (ppt)
South
North
Position (ft)
EM31 Profile UC3R14
West
East
EM31 Profile UC3R15


Conductivity
In-phase
EM31 Profile UC3R16
Conductivity (mS/m)
In-phase (ppt)
West
East
Position (ft)
EM31 Profile UC3R17
EM31 Profile UC3R18


Conductivity
In-phase
EM31 Profile UC3R19
Conductivity (mS/m)
In-phase (ppt)
Fence
South
North
Position (ft)
EM31 Profile UC3R20
West
East
EM31 Profile UC3R21


Conductivity
In-phase
EM31 Profile UC3R22
Conductivity (mS/m)
In-phase (ppt)
20
15
10
5
0
5
0
-5
Southwest
Northeast
-240
-160
-80
0
80
160
Position (ft)
EM31 Profile UC3R23
Conductivity (mS/m)
In-phase (ppt)
20
15
10
5
0
5
0
-5
South
North
-40
0
40
Position (ft)

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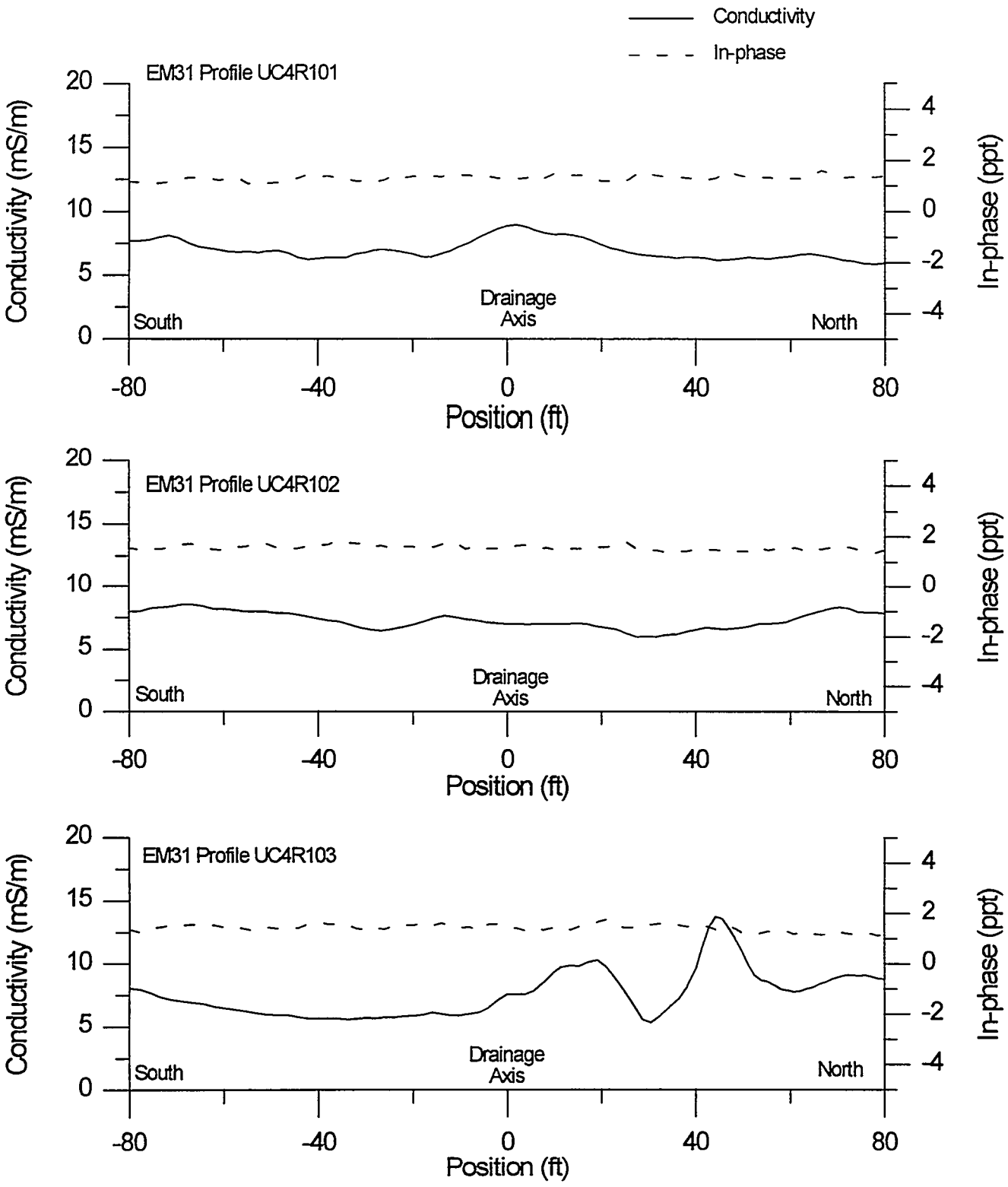
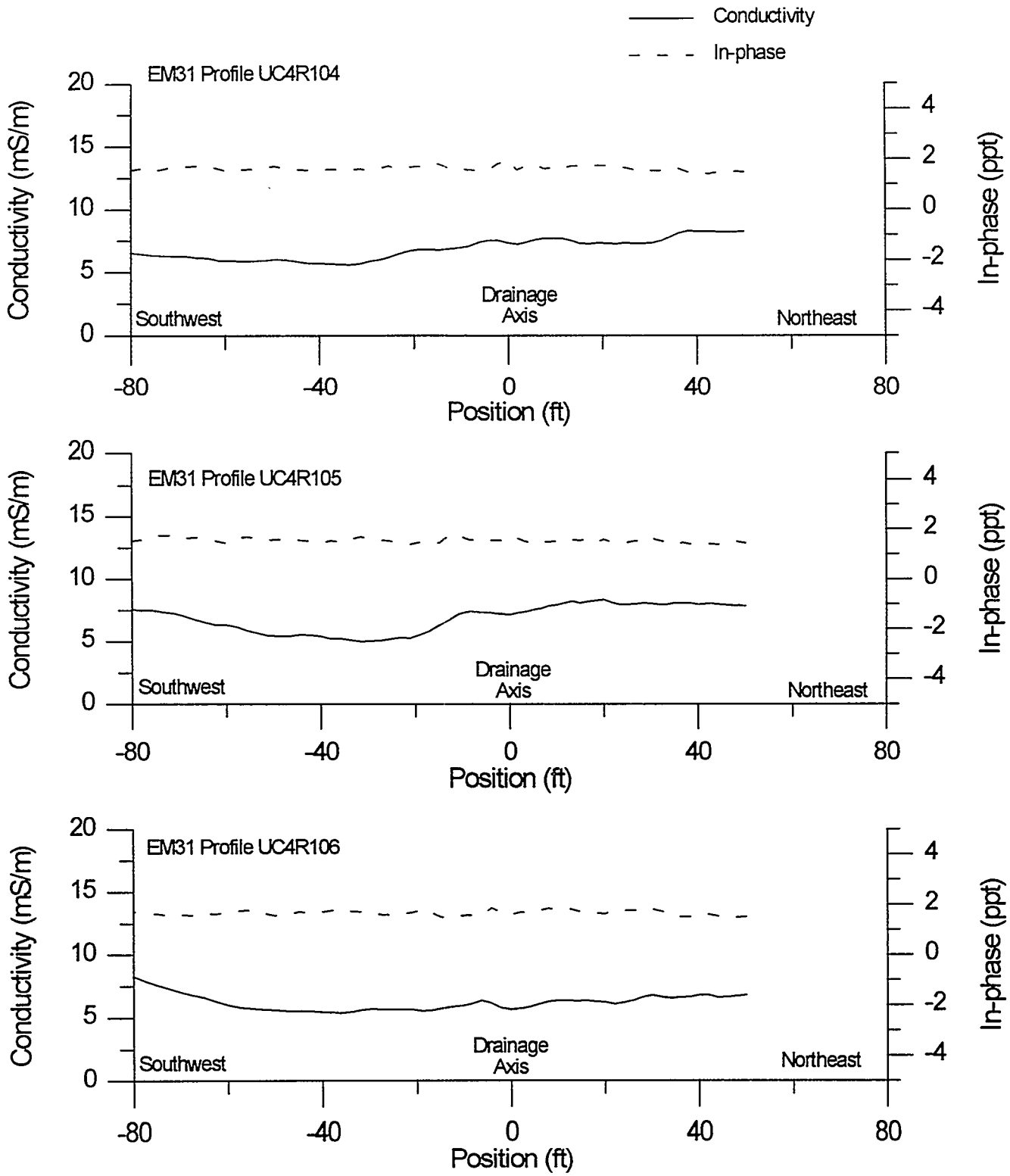
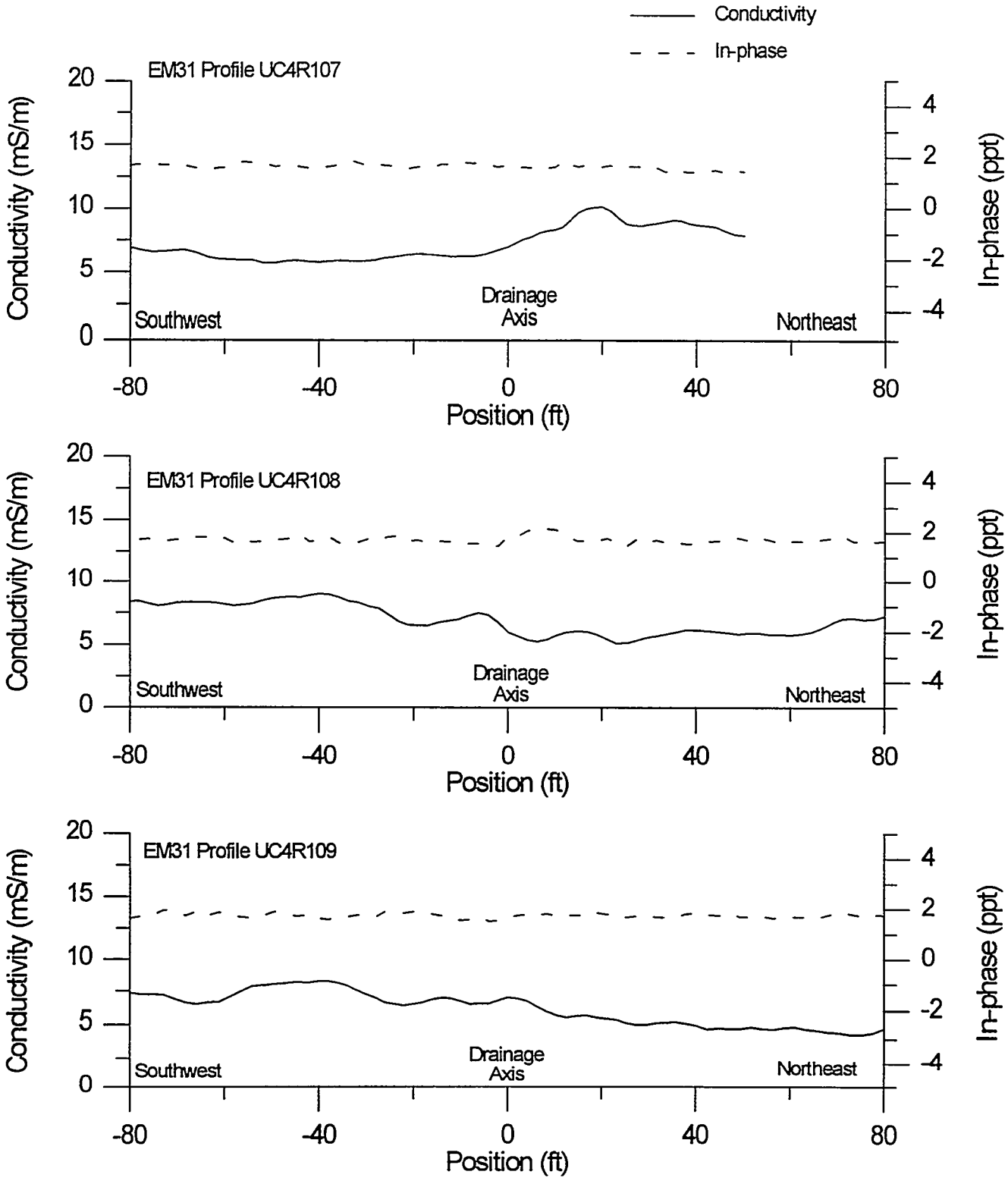
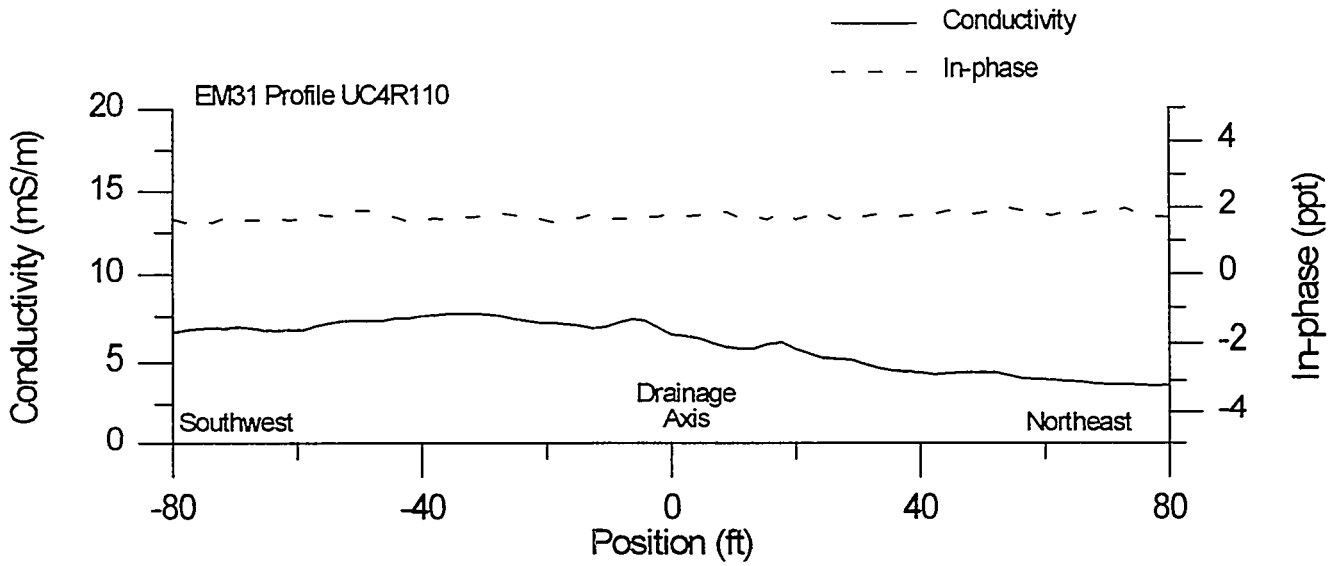
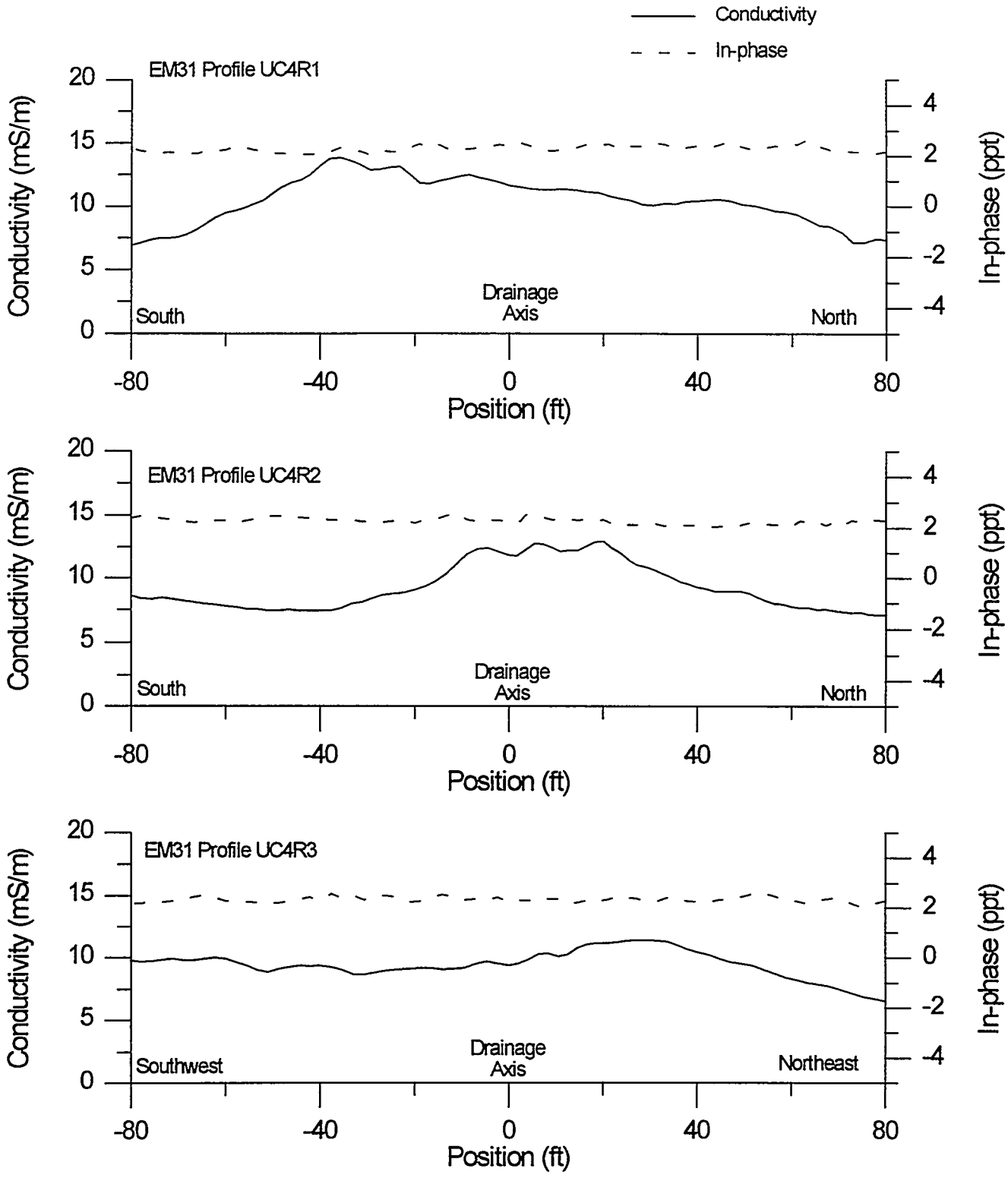
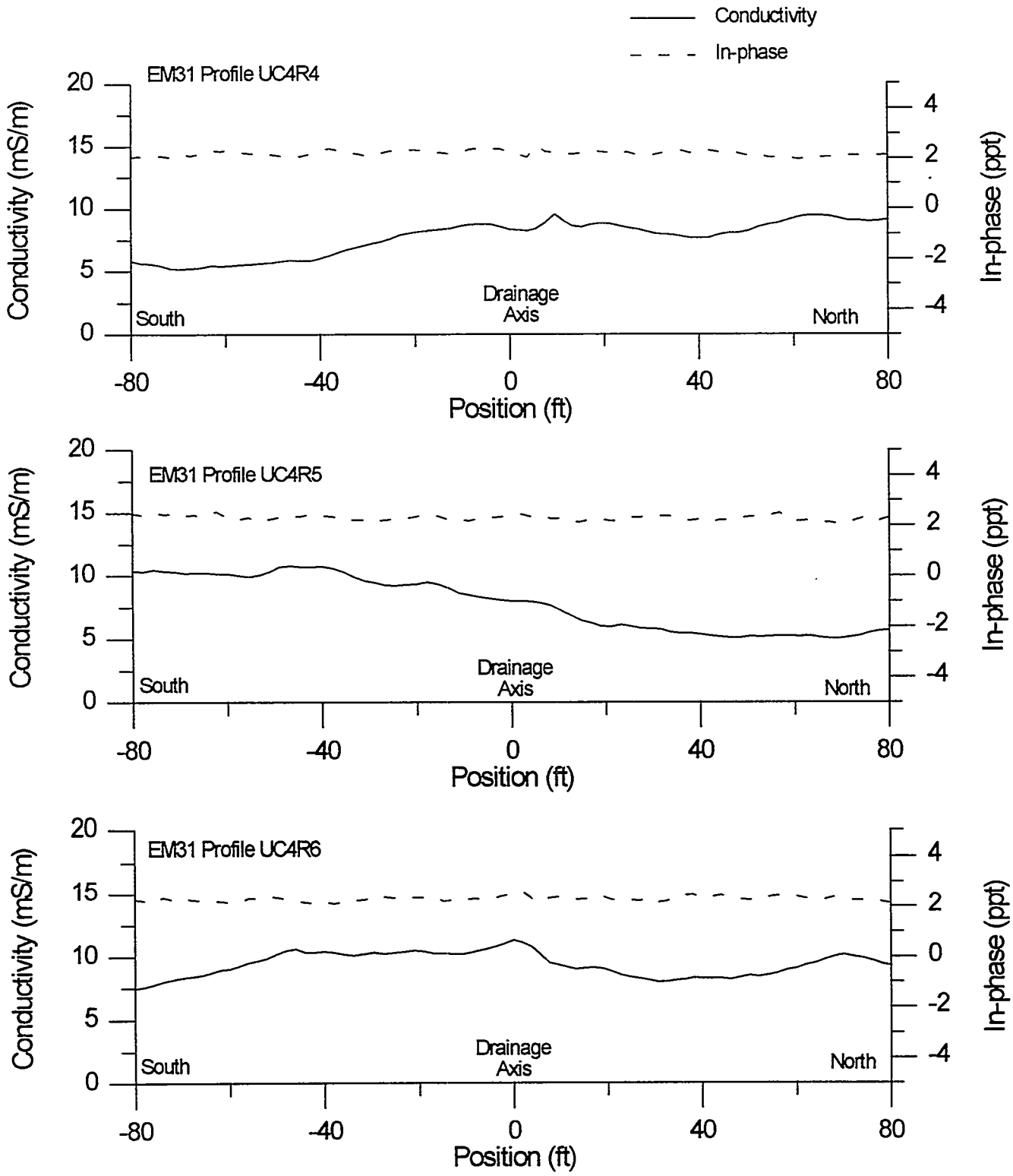

Conductivity
In-phase
EM31 Profile UC4R101
Conductivity (mS/m)
In-phase (ppt)
South
Drainage Axis
North
Position (ft)
EM31 Profile UC4R102
Conductivity (mS/m)
In-phase (ppt)
South
Drainage Axis
North
Position (ft)
EM31 Profile UC4R103
Conductivity (mS/m)
In-phase (ppt)
South
Drainage Axis
North
Position (ft)

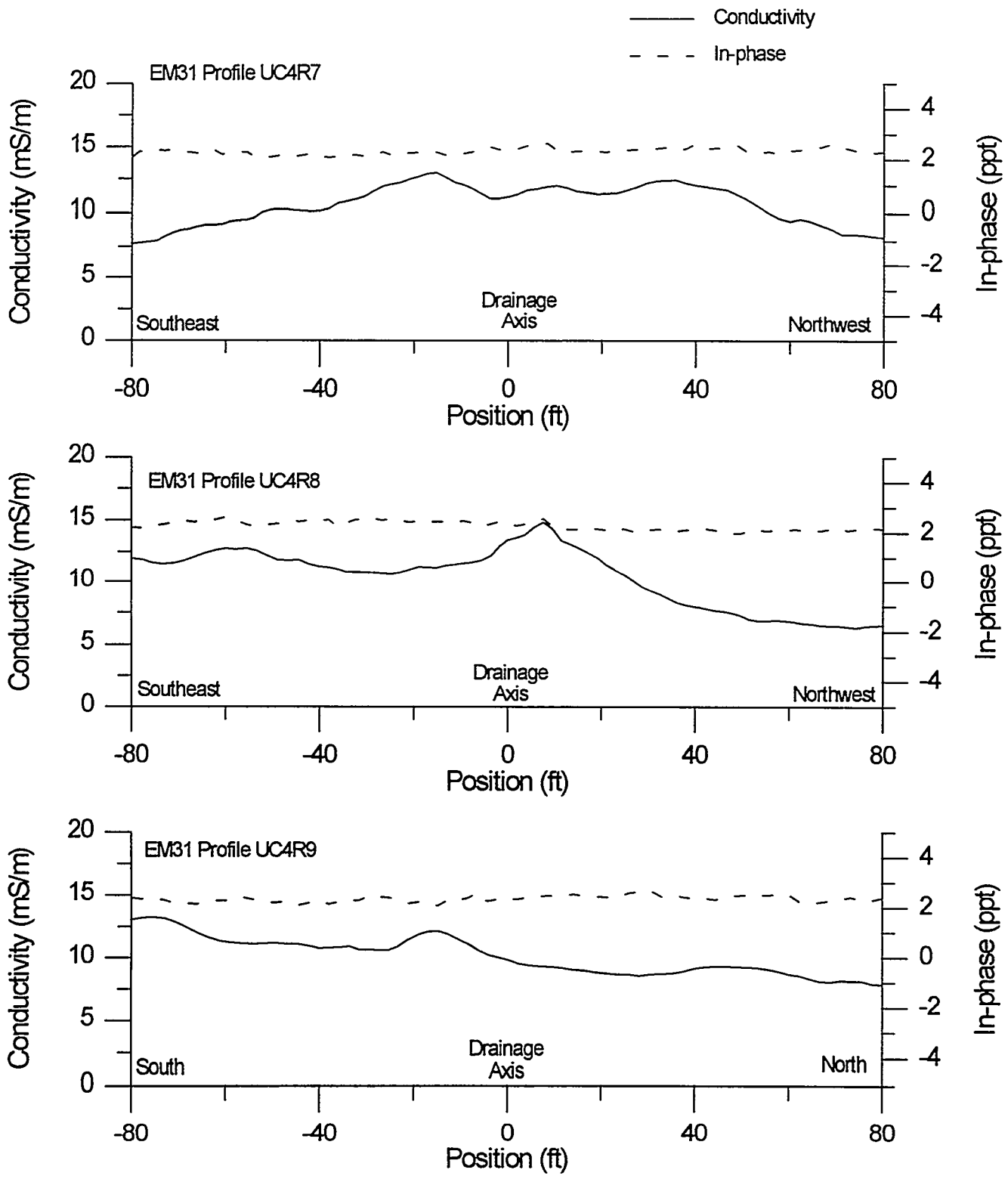

Conductivity
In-phase
EM31 Profile UC4R104
Conductivity (mS/m)
In-phase (ppt)
20
15
10
5
0
4
2
0
-2
-4
Southwest
Drainage Axis
Northeast
-80
-40
0
40
80
Position (ft)
EM31 Profile UC4R105
Conductivity (mS/m)
In-phase (ppt)
Southwest
Drainage Axis
Northeast
Position (ft)
EM31 Profile UC4R106
Conductivity (mS/m)
In-phase (ppt)
Southwest
Drainage Axis
Northeast
Position (ft)

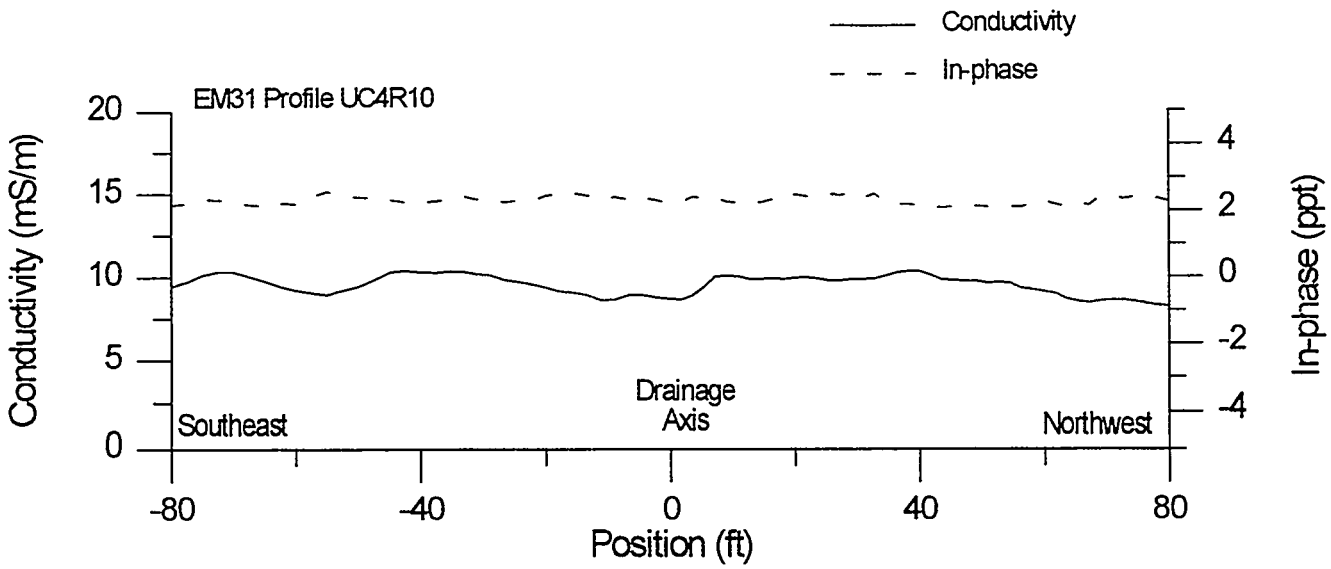

Conductivity
In-phase
EM31 Profile UC4R107
Conductivity (mS/m)
In-phase (ppt)
Southwest
Drainage Axis
Northeast
Position (ft)
EM31 Profile UC4R108
Conductivity (mS/m)
In-phase (ppt)
Southwest
Drainage Axis
Northeast
Position (ft)
EM31 Profile UC4R109
Conductivity (mS/m)
In-phase (ppt)
Southwest
Drainage Axis
Northeast
Position (ft)


Conductivity
In-phase
EM31 Profile UC4R110
Conductivity (mS/m)
In-phase (ppt)
20
15
10
5
0
4
2
0
-2
-4
Southwest
Drainage
Axis
Northeast
-80
-40
0
40
80
Position (ft)


Conductivity
In-phase
EM31 Profile UC4R1
Conductivity (mS/m)
In-phase (ppt)
South
Drainage Axis
North
Position (ft)
EM31 Profile UC4R2
Conductivity (mS/m)
In-phase (ppt)
South
Drainage Axis
North
Position (ft)
EM31 Profile UC4R3
Conductivity (mS/m)
In-phase (ppt)
Southwest
Drainage Axis
Northeast
Position (ft)


Conductivity
In-phase
EM31 Profile UC4R4
Conductivity (mS/m)
In-phase (ppt)
South
Drainage Axis
North
Position (ft)
EM31 Profile UC4R5
EM31 Profile UC4R6


Conductivity
In-phase
EM31 Profile UC4R7
Conductivity (mS/m)
In-phase (ppt)
Southeast
Drainage Axis
Northwest
Position (ft)
EM31 Profile UC4R8
Conductivity (mS/m)
In-phase (ppt)
Southeast
Drainage Axis
Northwest
Position (ft)
EM31 Profile UC4R9
Conductivity (mS/m)
In-phase (ppt)
South
Drainage Axis
North
Position (ft)


Conductivity
In-phase
EM31 Profile UC4R10
Conductivity (mS/m)
In-phase (ppt)
20
15
10
5
0
4
2
0
-2
-4
Southeast
Drainage
Axis
Northwest
-80
-40
0
40
80
Position (ft)

# APPENDIX D: RESISTIVITY

# Appendix D

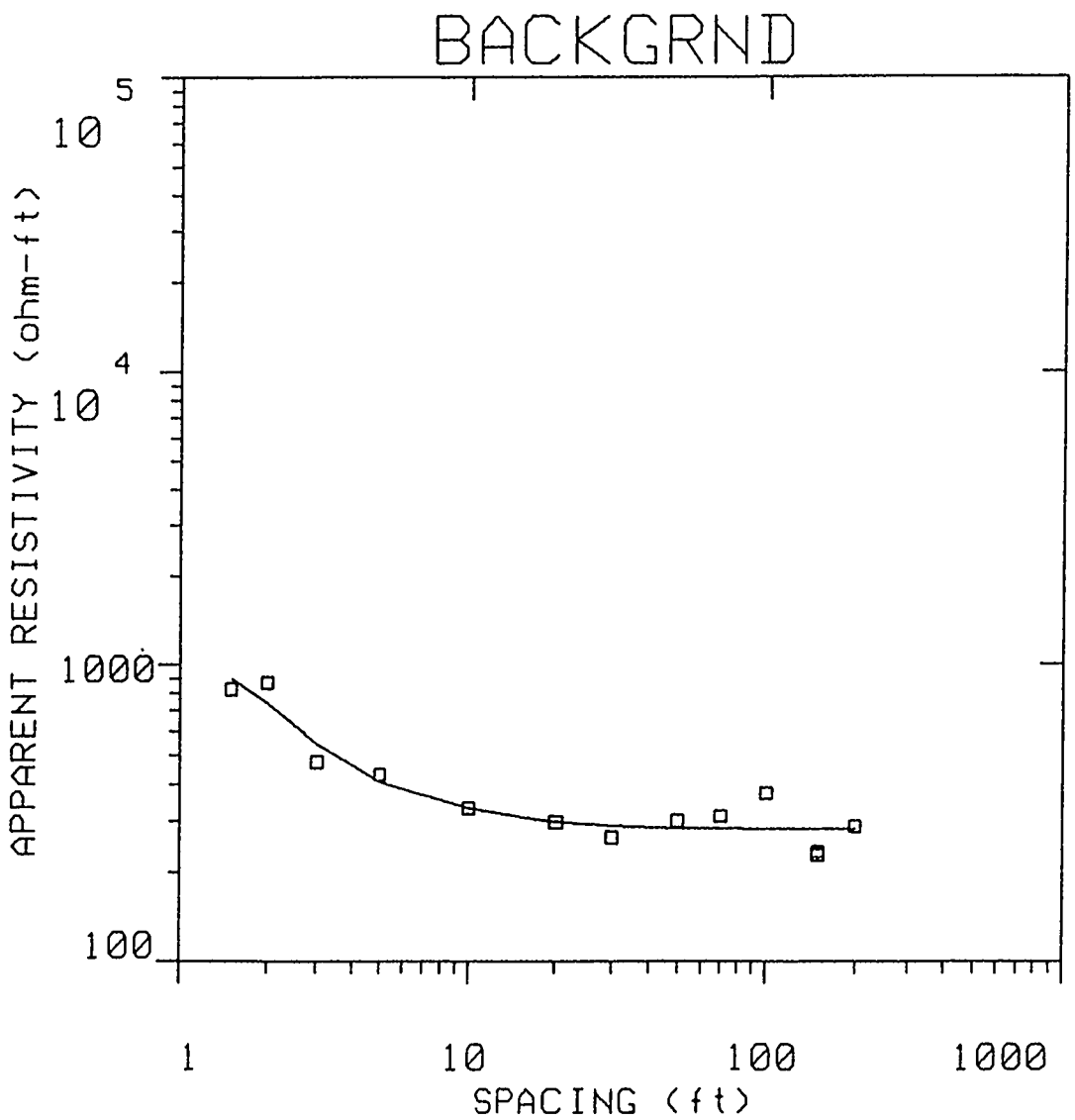
## Resistivity

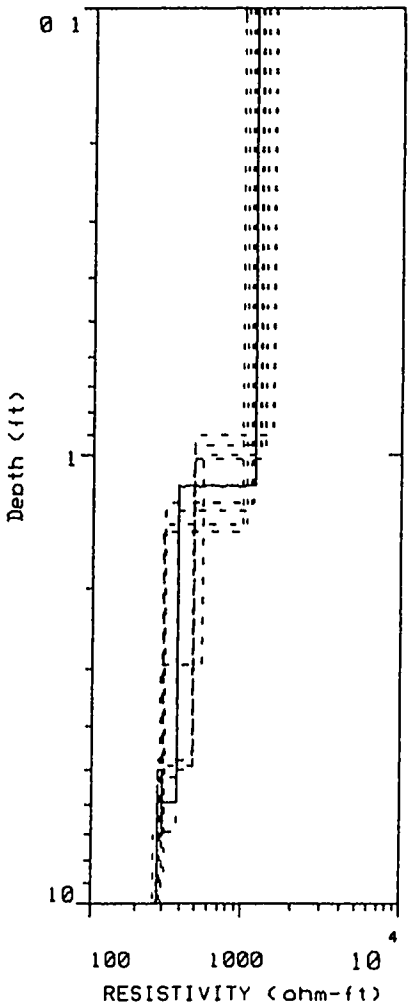
Resistivity soundings were acquired within the CMP to estimate the vertical extent of the mud at three different locations. One sounding was acquired north of the CMP in background conditions.

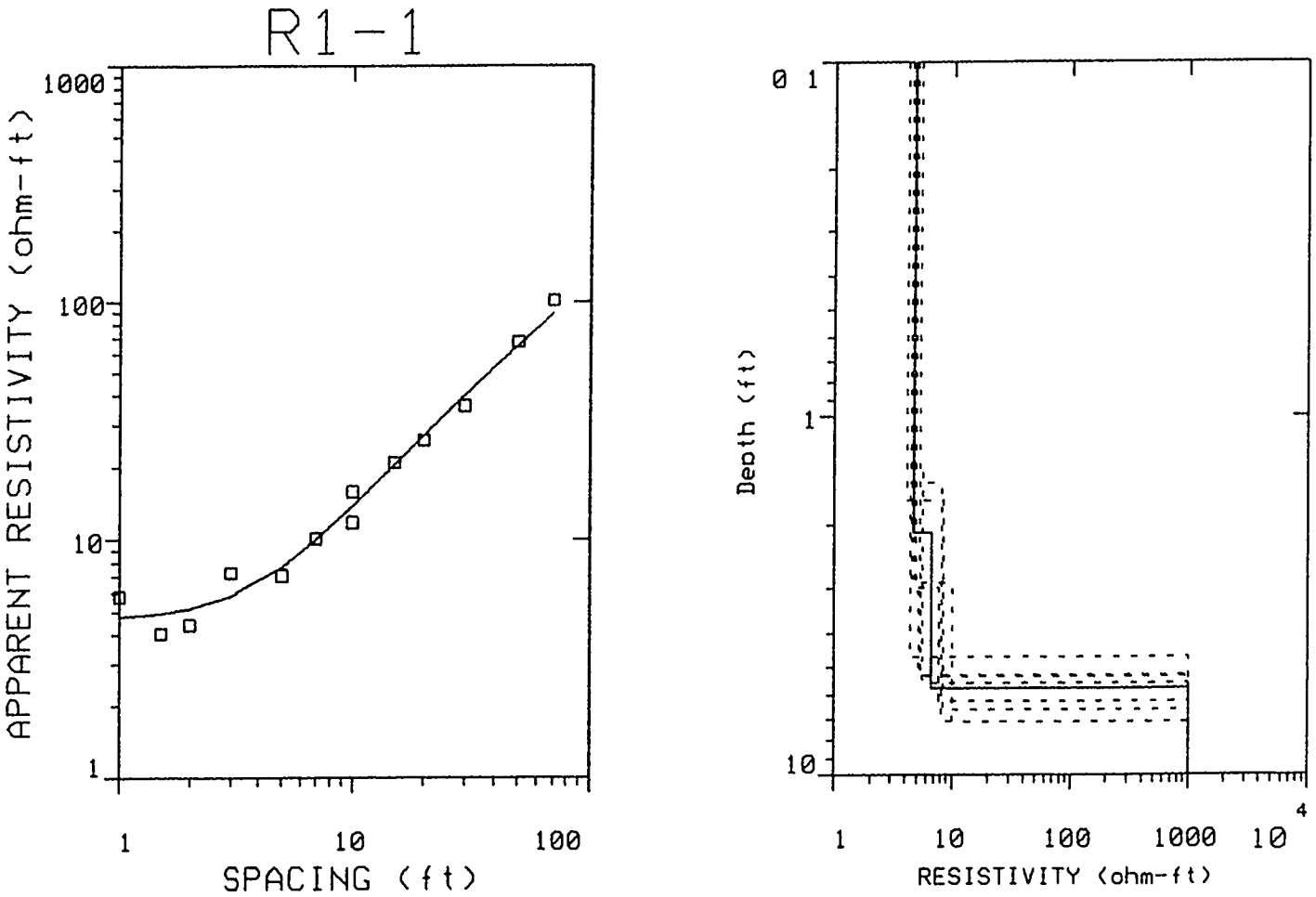
Resistivity measurements were acquired by placing four electrodes in contact with the soil or rock (mud in this case). A current was caused to flow in the earth between the outer pair of electrodes while the voltage across the inner pair of electrodes is measured. The resistivity measurement represents the apparent resistivity averaged over a volume of the earth determined by the soil, rock, and pore fluid resistivity, along with the electrode geometry and spacing.

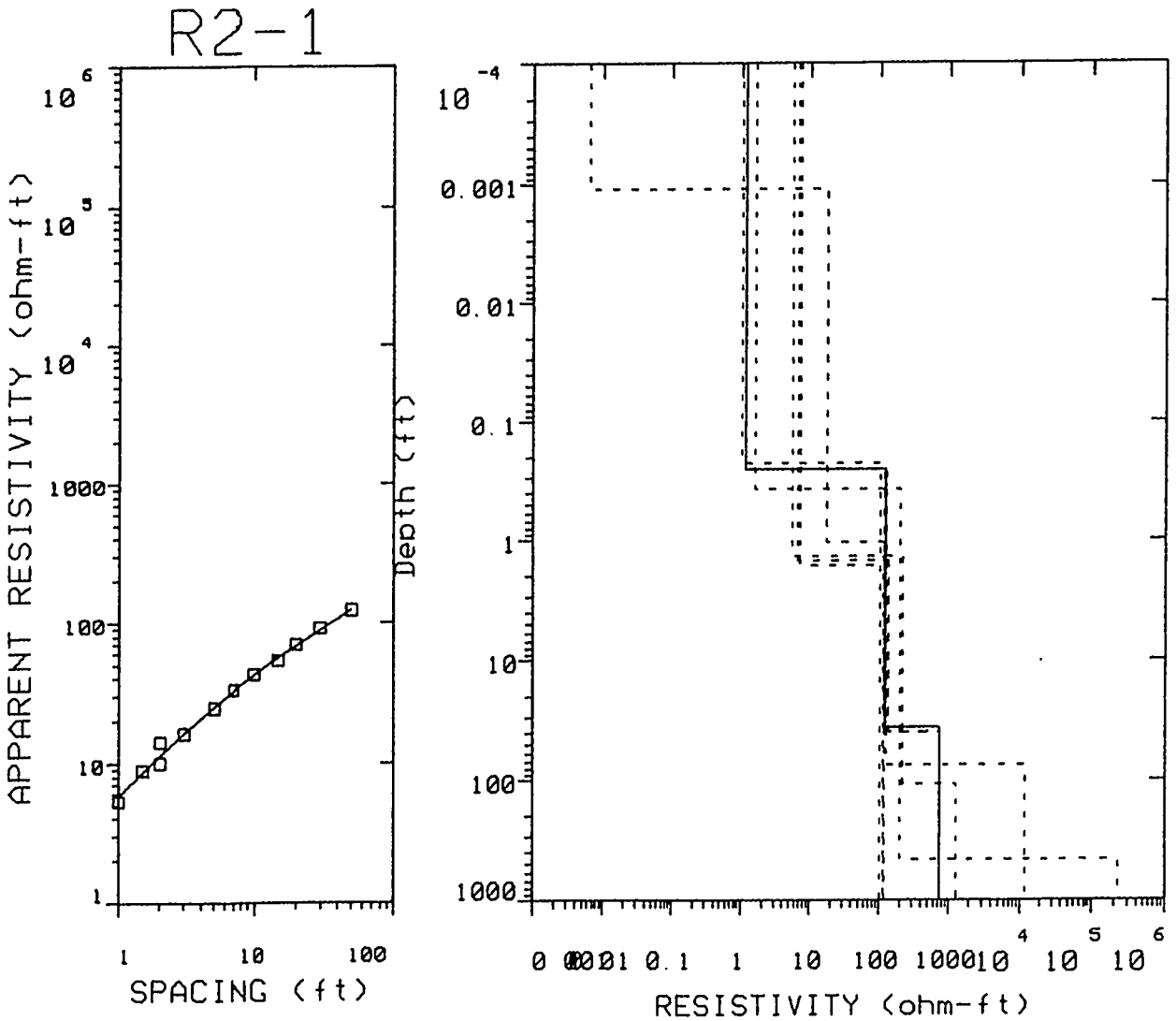
A Bison Instruments Model 2390 resistivity system was used to acquire the apparent resistivity data. Standard Wenner and Lee electrode geometries were used. Electrode spacings ("A" spacings) ranged from 1 ft. to 70 ft. within the CMP and from 1.5 ft. to 200 ft. in the background area.

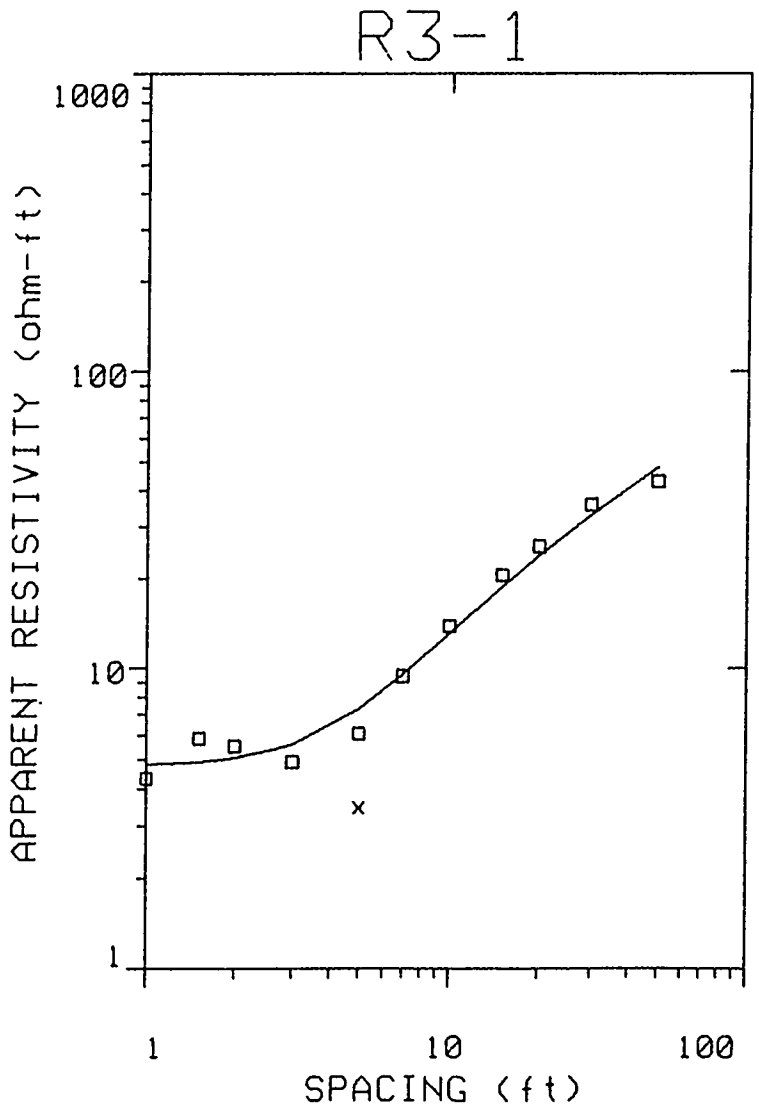
The apparent resistivities were modeled with RESIXP resistivity modeling software by Interpex Ltd. The modeling assumes two layers over a resistive half-space. Since the models generated for resistivity data are non-unique (different combinations of resistivities and thicknesses produce the same result), equivalence plots of all reasonable models were calculated. The apparent resistivity curves along with the equivalence models for each of the three soundings within the CMP and one sounding in background conditions are presented in this appendix.

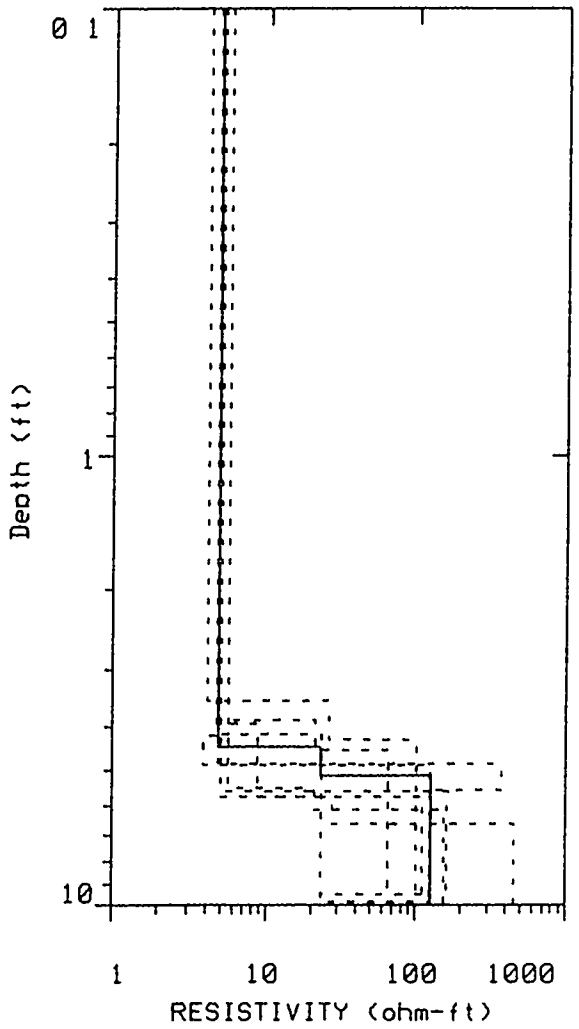

BACKGRND
APPARENT RESISTIVITY (ohm-ft)
10^5
10^4
1000
100
1
10
100
1000
SPACING (ft)


0 1
Depth (ft)
1
10
100
1000
10^4
RESISTIVITY (ohm-ft)


R1-1
APPARENT RESISTIVITY (ohm-ft)
1000
100
10
1
1
10
100
SPACING (ft)
Depth (ft)
0 1
1
10
1
10
100
1000
10
4
RESISTIVITY (ohm-ft)


R2-1
APPARENT RESISTIVITY (ohm-ft)
SPACING (ft)
Depth (ft)
RESISTIVITY (ohm-ft)


R3-1
APPARENT RESISTIVITY (ohm-ft)
1000
100
10
1
1
10
100
SPACING (ft)


0 1
Death (ft)
1
10
1
10
100
1000
RESISTIVITY (ohm-ft)

# APPENDIX E: GEOPROBE CONDUCTIVITY LOGS

## Appendix E
## Geoprobe Conductivity Pushes

A Geoprobe system was used to obtain electrical conductivity measurements as a function of depth at discreet locations within each of the four sites. Conductivity measurements were made with a probe that advances into the ground by the hydraulically driven percussion Geoprobe system.

A Wenner probe (Model SC-200) and Button probe (Model SC-300) were used to measure the conductivities. The Wenner probe averages the conductivities within a radius of approximately 1.75 inches from the probe, while the Button probe averages the conductivities within a radius of approximately 0.12 inches. In both cases, the probes provide a high resolution vertical profile of electrical conductivity.

### Quality Control

The Geoprobe was operated according to the manufacturer's instructions and detailed field notes were kept. During Phase 1B, a 1-ft. diameter area was used as a reoccupation point for conductivity pushes as an added measure of quality control. Conductivity data were obtained at this location before and after moving to a new site, and after system malfunctions. Three Button probes were destroyed during Phase 1B (due to the site conditions), and the quality control area provided a site where measurements from the different probes could be compared. Figure E-1 shows the quality control pushes obtained during Phase 1B.

### Conductivity Pushes

Table E-1 shows the Geoprobe conductivity push locations, file names, maximum depth, and any specific comments related to that push. Figures following the table show the Geoprobe conductivity profiles at each push location. Because of the wide range of conductivity values obtained, two scales are used (0-200 mS/m and 0-1000 mS/m). The speed of the Geoprobe push as a function of depth is shown to the left of each conductivity profile.

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Appendix E
Table E-1
Geoprobe Conductivity Pushes

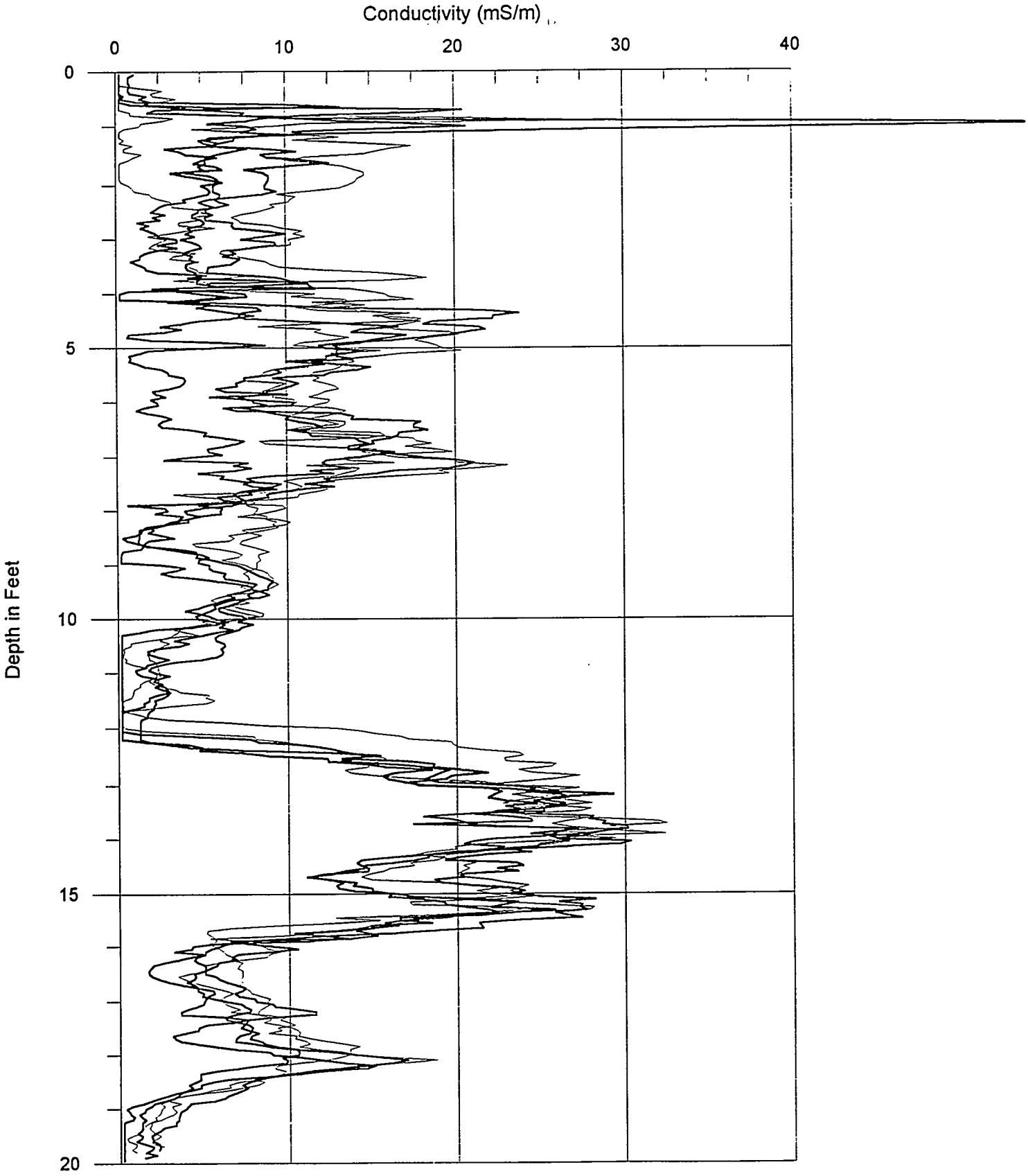
| Name | Easting | Northing | Depth (ft) | Probe | Comments |
|---|---|---|---|---|---|
| | | | | | |
| UC1-GC01 | 520 | 40 | 7.2 | Button | |
| UC1-GC02 | 520 | 60 | 19.7 | Button | |
| UC1-GC03 | 520 | 200 | 19.6 | Button | |
| UC1-GC04 | 520 | 330 | 19.8 | Button | |
| UC1-GC05 | 520 | 440 | 19.8 | Button | |
| UC1-GC06 | 280 | 440 | 3.9 | Button | |
| UC1-GC07 | 280 | 440 | 17.4 | Button | Repeat of UC1-GC06 |
| UC1-GC08 | 80 | 440 | 19.4 | Button | |
| UC1-GC09 | 840 | 440 | 19.8 | Button | |
| UC1-GC10 | 760 | 440 | 19.8 | Button | |
| UC1-GC11 | 620 | 450 | 17 | Button | |
| UC1-GC12 | 640 | 360 | 12.6 | Button | |
| UC1-GC13 | 640 | 580 | 16 | Button | |
| UC1-GC14 | 650 | 240 | 19.6 | Button | |
| | | | | | |
| CMP-GC01 | 930 | 550 | 19.7 | Button | |
| CMP-GC02 | 680 | 630 | 19.7 | Button | |
| CMP-GC03 | 570 | 320 | 19.8 | Button | |
| CMP-GC04 | 575 | 350 | 22.5 | Button | |
| CMP-GC05 | 610 | 160 | 24.4 | Button | |
| CMP-GC06 | 480 | 360 | 21 | Button | |
| CMP-GC07 | 330 | 400 | 19.8 | Button | |
| CMP-GC08 | 220 | 245 | 19.9 | Button | |
| CMP-GC09 | 200 | 380 | 19.8 | Button | |
| CMP-GC10 | 200 | 440 | 19.8 | Button | |
| CMP-GC11 | 190 | 520 | 19.7 | Button | |
| CMP-GC12 | 1145 | 270 | 19.7 | Button | |
| CMP-GC13 | 560 | 400 | 17.6 | Button | |
| CMP-GC14 | 920 | 510 | 19.7 | Button | Possible Bad Probe |
| CMP-GC15 | 920 | 510 | 24.2 | Button | Repeat of CMP-GC14 |
| CMP-GC16 | 680 | 550 | 3.5 | Button | Hit Rock |
| CMP-GC17 | 682 | 550 | 17.5 | Button | |
| | | | | | |
| UC3-GC01 | 490 | 420 | 20.6 | Button | |
| UC3-GC02 | 445 | 420 | 20.1 | Button | |
| UC3-GC03 | 385 | 420 | 20.3 | Button | |
| UC3-GC04 | 325 | 420 | 20.5 | Button | |
| DBB12 | 325 | 420 | 20.2 | Wenner | |
| UC3-GC05 | 240 | 420 | 20.3 | Button | |
| UC3-GC06 | 240 | 375 | 20.2 | Button | |
| UC3-GC07 | 240 | 325 | 20.2 | Button | |
| UC3-GC08 | 495 | 375 | 20.2 | Button | |
| UC3-GC09 | 585 | 375 | 20.9 | Button | |
| UC3-GC10 | 660 | 380 | 19.9 | Button | |
| UC3-GC11 | 680 | 440 | 20.1 | Button | |
| UC3-GC12 | 680 | 490 | 20.1 | Button | |
| UC3-GC13 | 540 | 515 | 20.7 | Wenner | |
| UC3-GC13A | 540 | 515 | 20.6 | Button | Repeat of UC3-GC13 |
| UC3-GC14 | 720 | 90 | 20.6 | Button | |
| UC3-GC15 | 720 | 145 | 20.1 | Button | |

Appendix E
Table E-1
Geoprobe Conductivity Pushes

| Name | Easting | Northing | Depth (ft) | Probe | Comments |
|---|---|---|---|---|---|
| UC3-GC16 | 720 | 195 | 20.4 | Button | |
| UC3-GC17 | 160 | 340 | 17.8 | Button | |
| UC3-GC18 | 240 | 220 | 16.7 | Button | |
| UC3-GC19 | 760 | 400 | 20 | Button | |
| UC3-GC20 | 580 | 450 | 19.9 | Button | |
| UC3-GC21 | 760 | 480 | 20 | Button | |
| UC3-GC22 | 240 | 140 | 17.8 | Button | |
| UC3-GC23 | 160 | 420 | 20 | Button | |
| UC3-GC24 | 100 | 200 | 17.6 | Button | |
| UC3-GC25 | 650 | 80 | 20 | Button | |
| UC3-GC26 | 640 | 145 | 19.9 | Button | |
| UC3-GC27 | 480 | 145 | 17.4 | Button | |
| UC3-GC28 | 360 | 145 | N/A | Button | No Data |
| UC3-GC29 | 720 | 240 | 20.1 | Button | |
| UC3-GC30 | 500 | 300 | 19.9 | Button | |
| UC3-GC31A | 440 | 350 | 19.8 | Button | |
| UC3-GC32 | 320 | 500 | 19.3 | Button | |
| UC3-GC33 | 400 | 500 | 20.1 | Button | |
| UC3-GC34 | 720 | 170 | 19.6 | Button | |
| UC3-GC35 | 190 | 240 | 19.8 | Button | |
| UC3-GC36 | 125 | 400 | 19.8 | Button | |
| UC3-GC37 | 125 | 480 | 19.8 | Button | |
| UC3-GC38 | 240 | 480 | 19.7 | Button | Possible Bad Probe |
| UC3-GC39 | 480 | 550 | 19.7 | Button | Possible Bad Probe |
| UC3-GC-40 | 240 | 480 | 19.7 | Button | Repeat of UC3-GC38 |
| | | | | | |
| UC4-GC01 | 80 | 510 | 19.1 | Wenner | |
| UC4-GC02 | 80 | 430 | 15.7 | Wenner | |
| UC4-GC03 | 80 | 370 | 20 | Wenner | |
| UC4-GC04 | 80 | 285 | 9.5 | Wenner | |
| UC4-GC05 | 80 | 195 | 18.9 | Wenner | |
| UC4-GC06 | 80 | 90 | 19.5 | Wenner | |
| UC4-GC07 | 200 | 150 | 20.1 | Wenner | |
| UC4-GC08 | 290 | 150 | N/A | N/A | Aborted |
| UC4-GC09 | 340 | 100 | 17.8 | N/A | |
| UC4-GC10 | 420 | 100 | 19.4 | Button | |
| UC4-GC10A | 420 | 100 | 15.8 | Wenner | Repeat of UC4-GC10 |
| UC4-GC11 | 495 | 100 | 10.9 | Button | |
| UC4-GC12 | 590 | 100 | 13.2 | Button | |
| UC4-GC13 | 850 | 625 | 21 | Button | |
| UC4-GC14 | 725 | 645 | 20.7 | Button | |
| UC4-GC15 | 590 | 625 | 16.3 | Button | |
| UC4-GC16 | 450 | 590 | 15.7 | Button | |
| UC4-GC17 | 590 | 520 | 16.8 | Button | |
| UC4-GC18 | 590 | 690 | 9.7 | Button | |
| UC4-GC19 | 345 | 615 | 13.8 | Button | |
| UC4-GC20 | 270 | 635 | 12.8 | Button | |
| UC4-GC21 | 155 | 610 | 16.9 | Button | |
| UC4-GC22 | 50 | 615 | 17.5 | Button | |
| UC4-GC23 | 120 | 60 | 12.5 | Button | |

# Figure E-1

Phase 1B Quality Control
Conductivity Pushes



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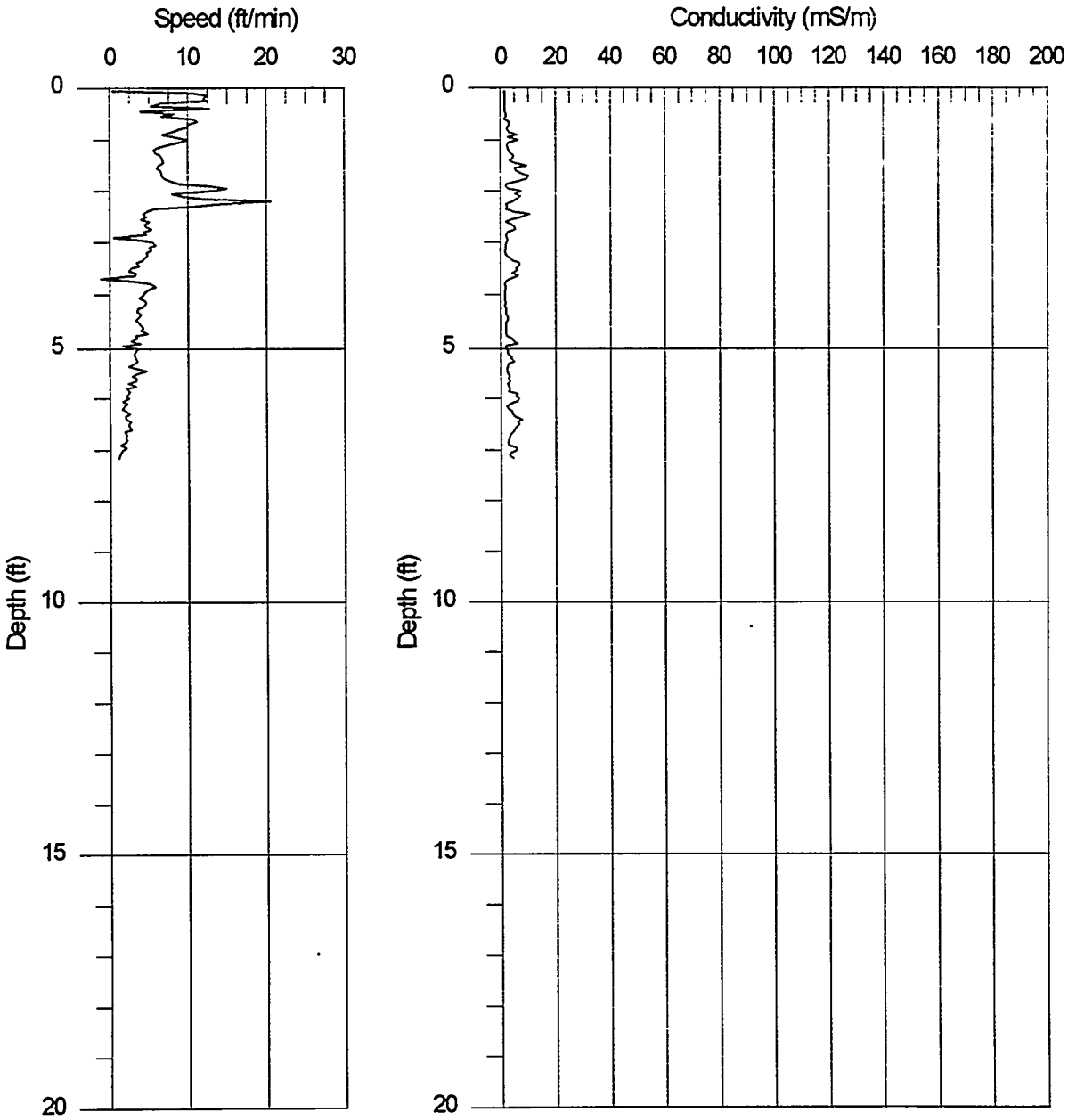
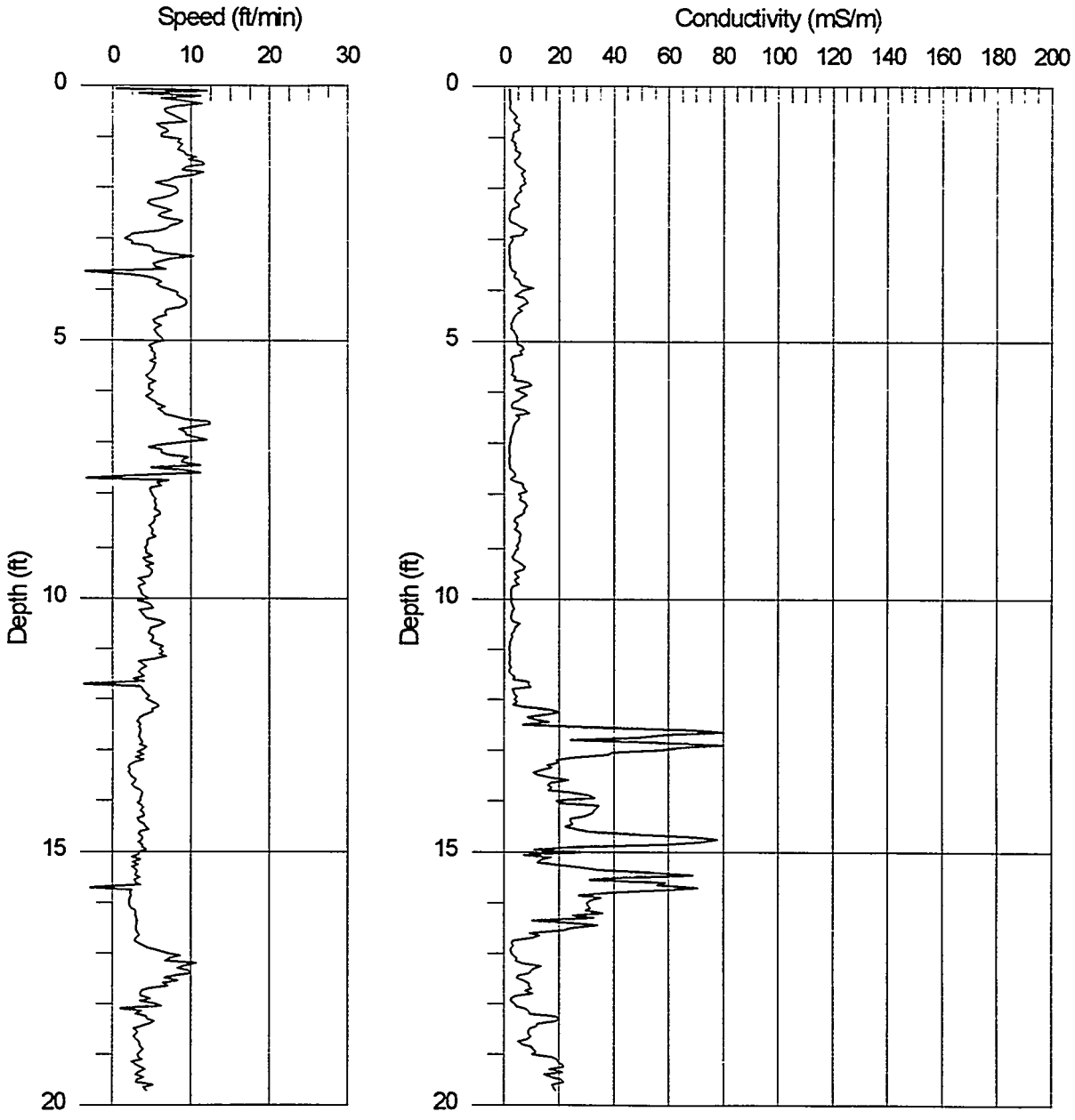
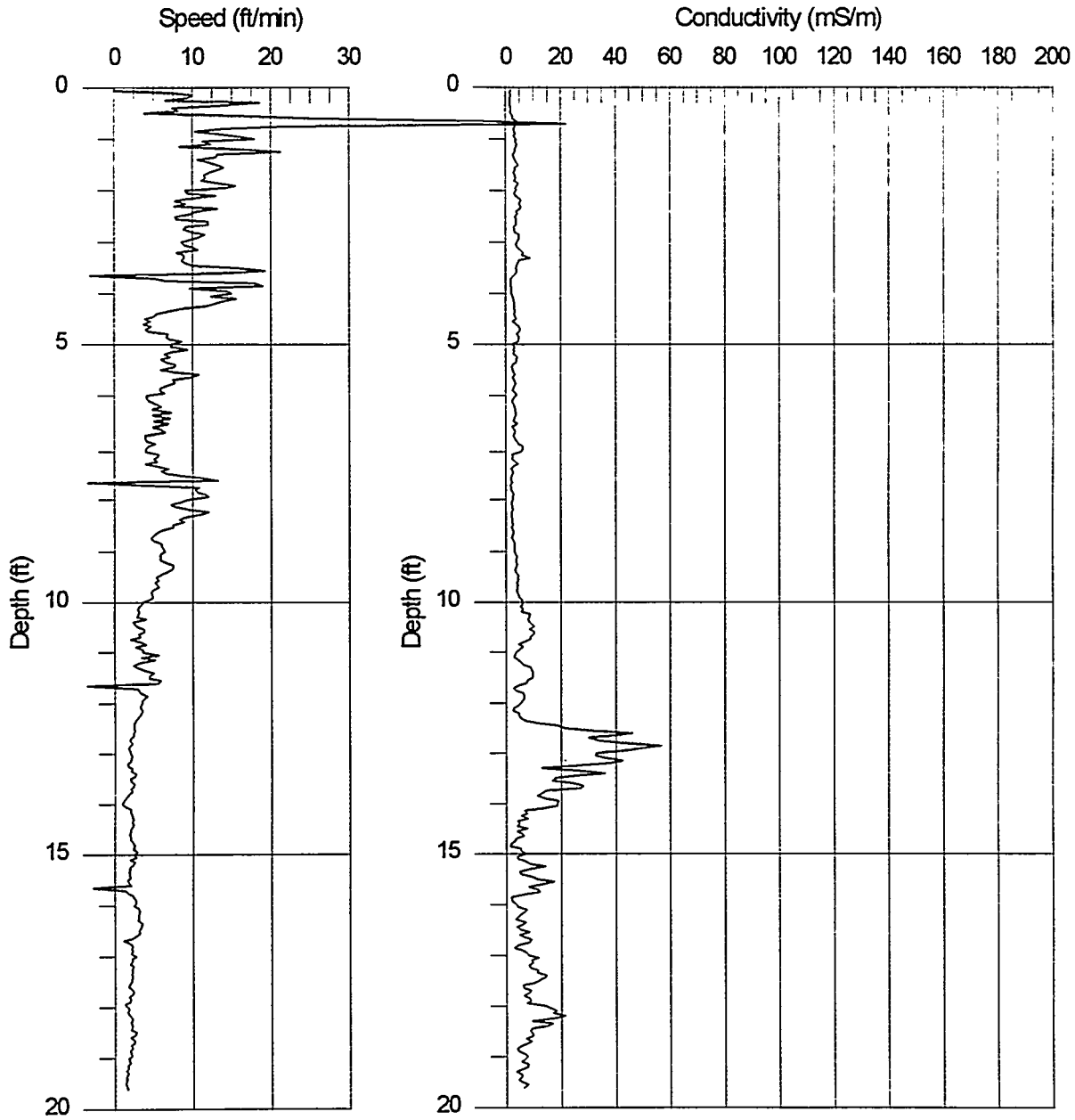
UC1-GC01
Geoprobe Conductivity Push



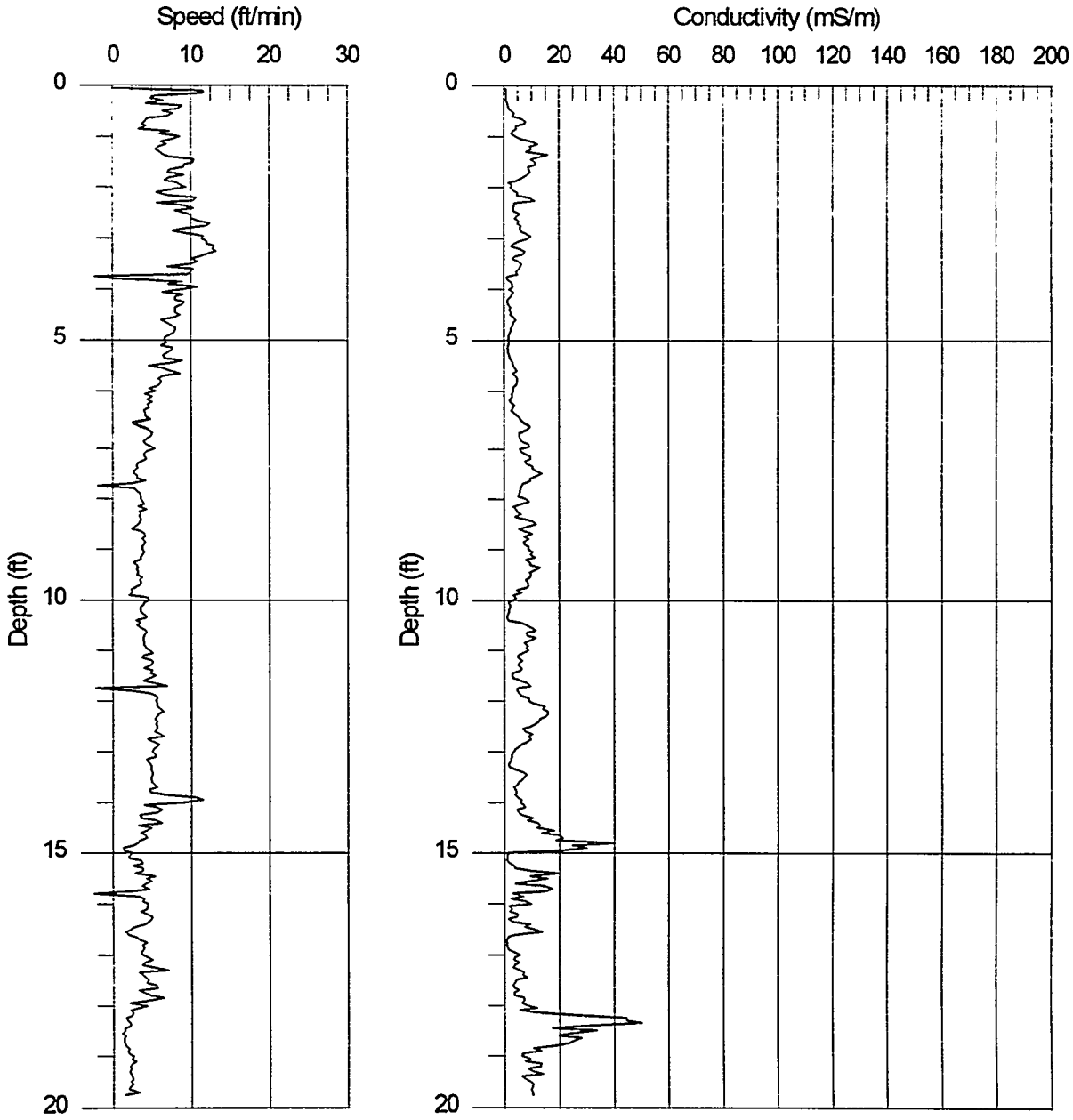
UC1-GC02
Geoprobe Conductivity Push



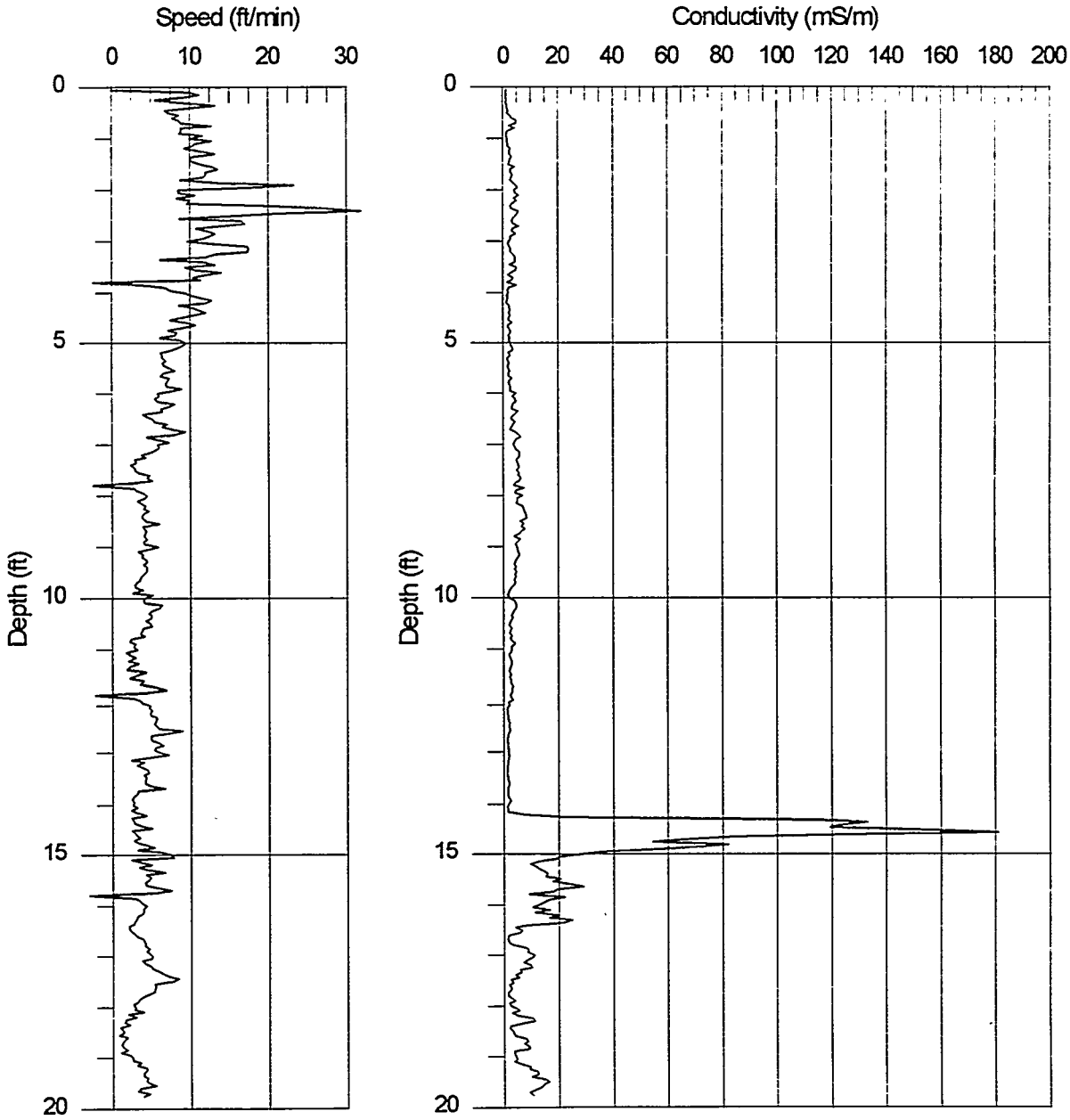
UC1-GC03
Geoprobe Conductivity Push



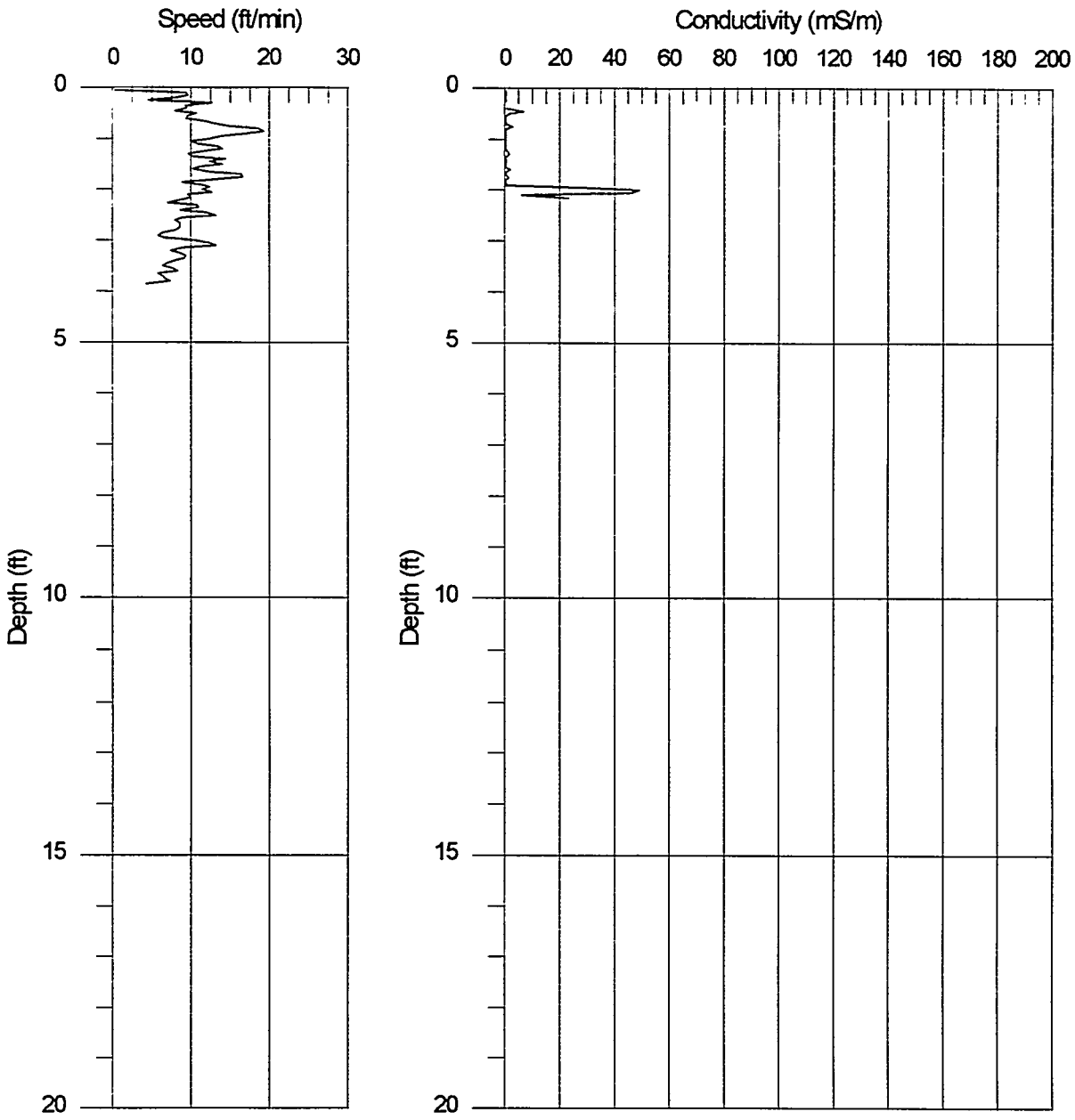
UC1-GC04
Geoprobe Conductivity Push



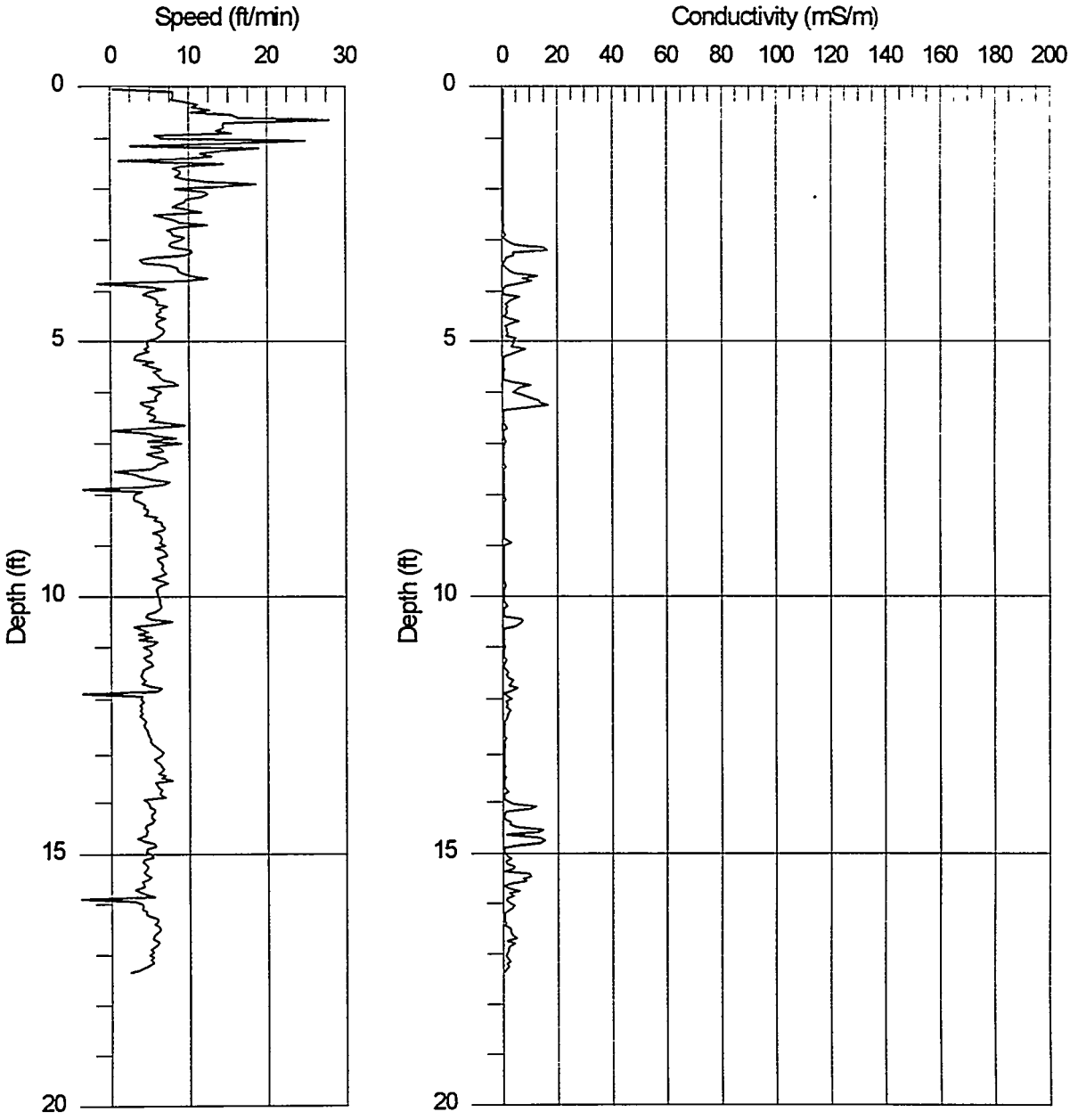
UC1-GC05
Geoprobe Conductivity Push



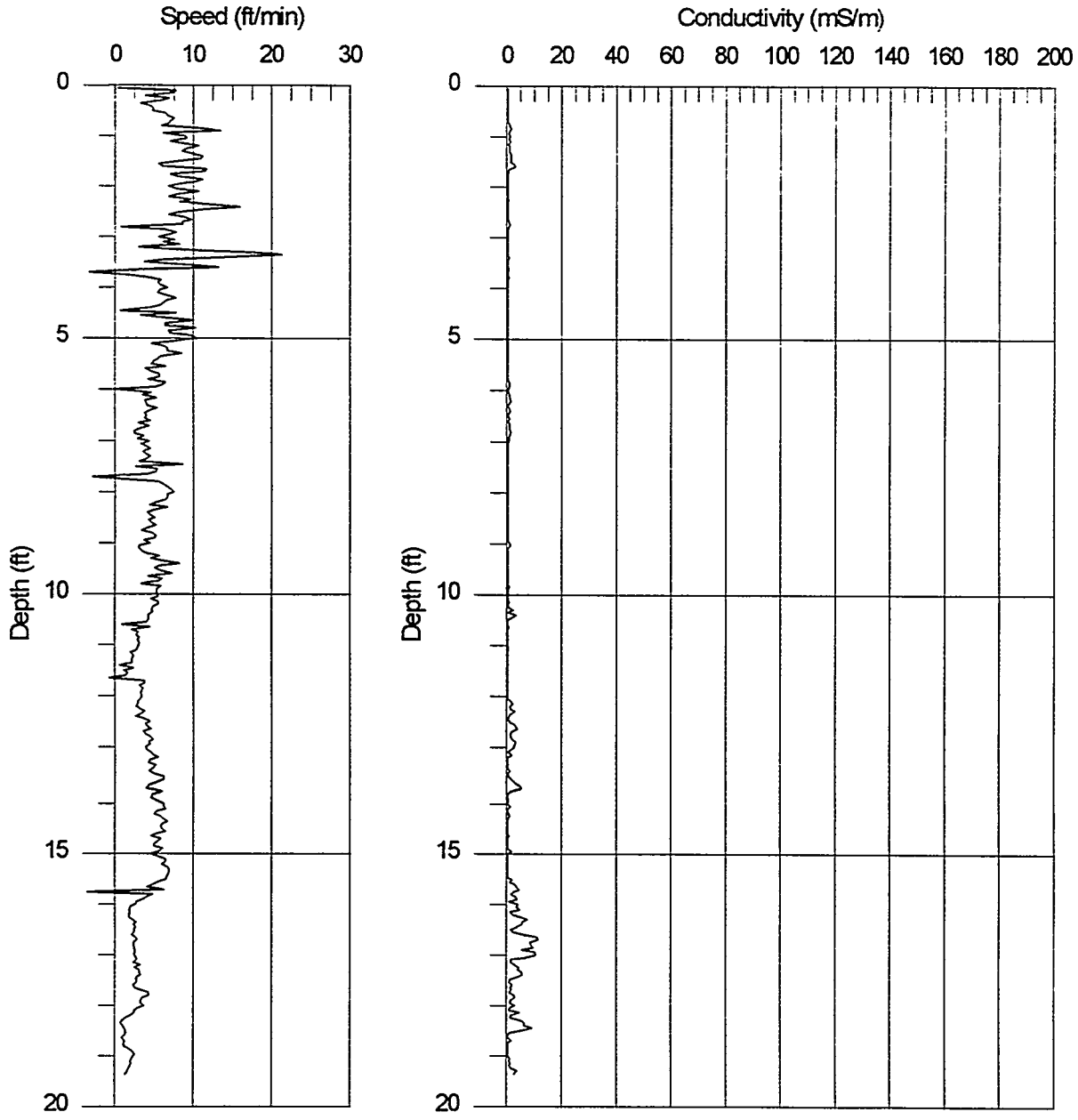
UC1-GC06
Geoprobe Conductivity Push



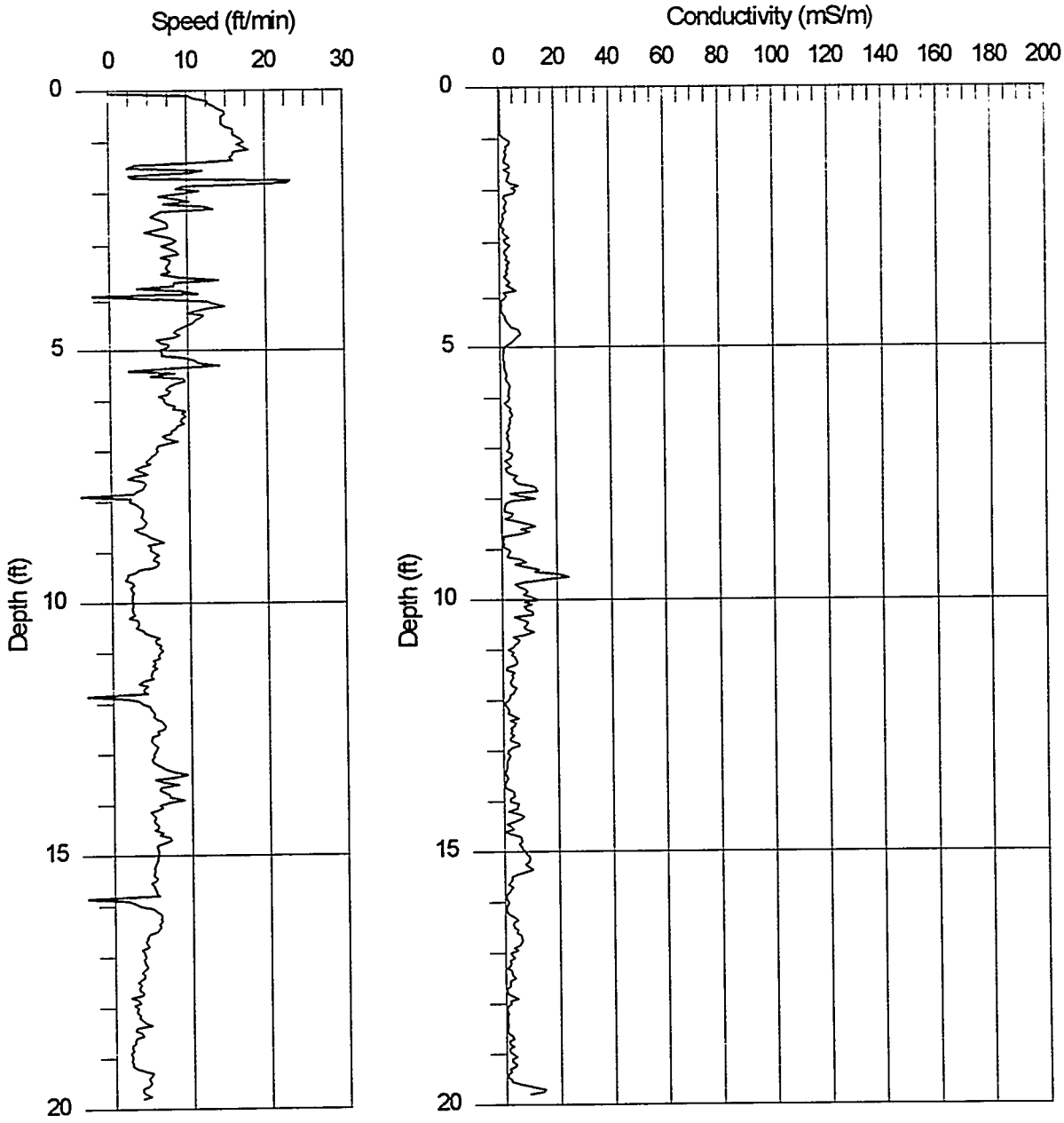
UC1-GC07
Geoprobe Conductivity Push



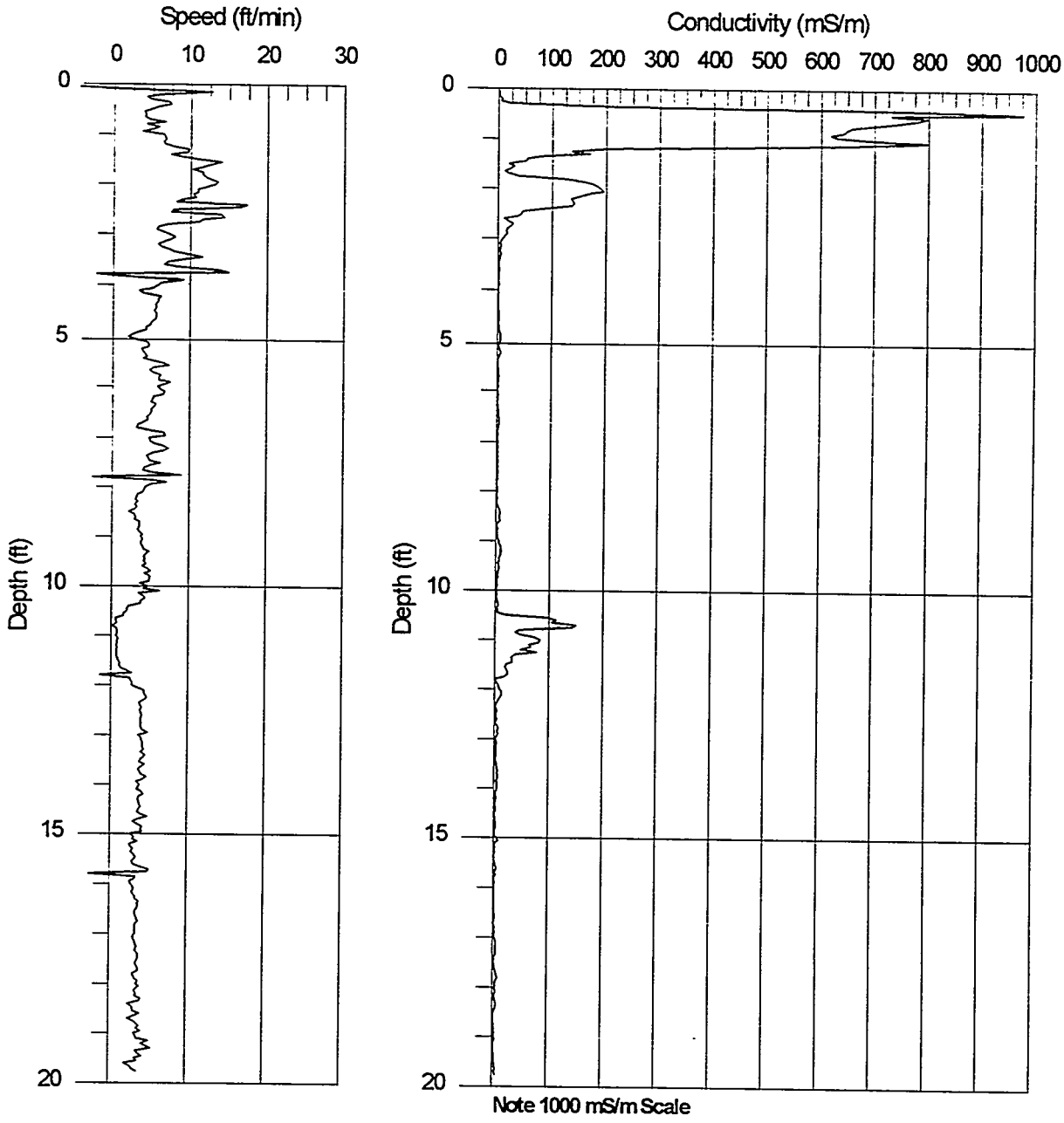
UC1-GC08
Geoprobe Conductivity Push



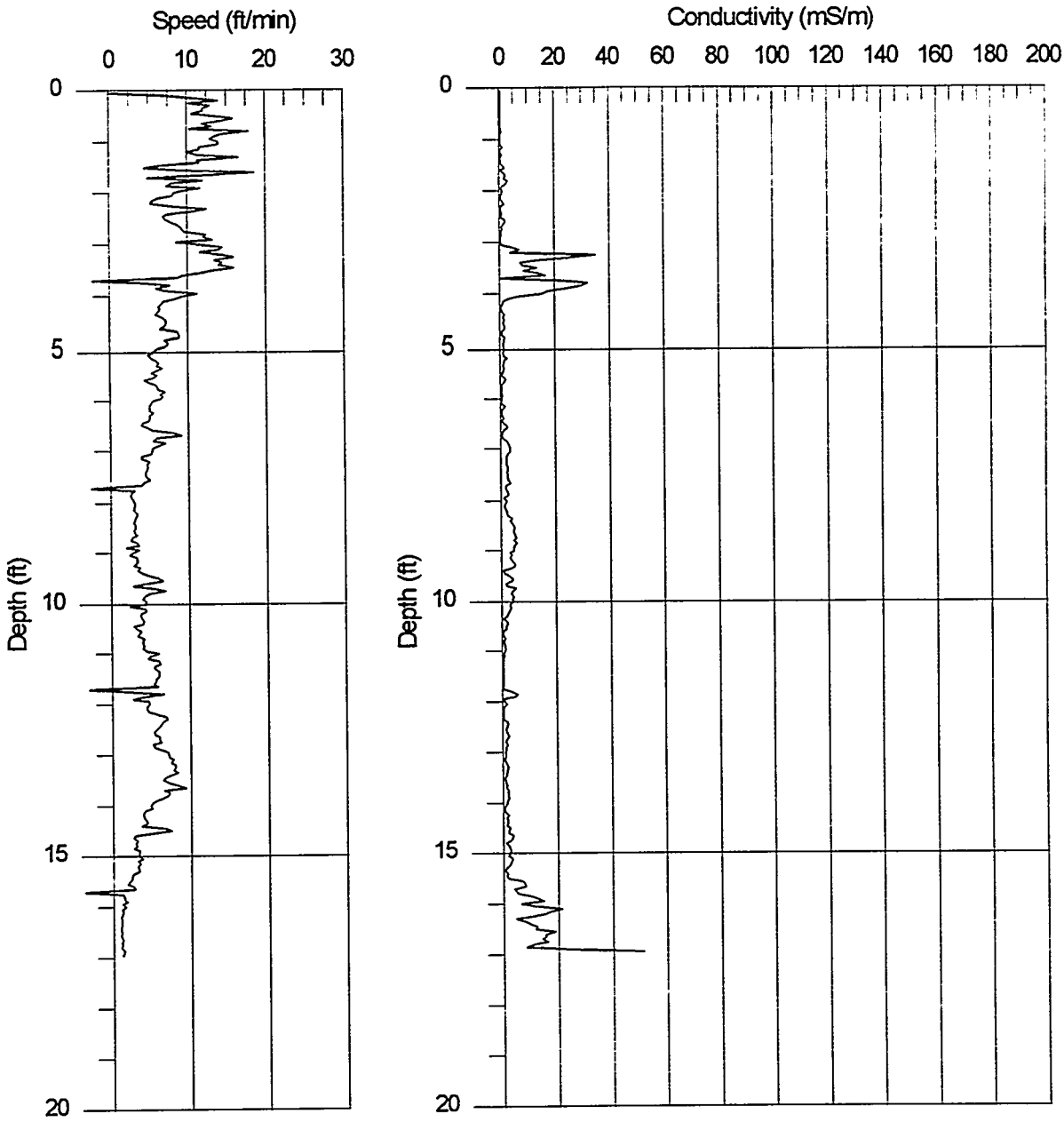
UC1-GC09
Geoprobe Conductivity Push



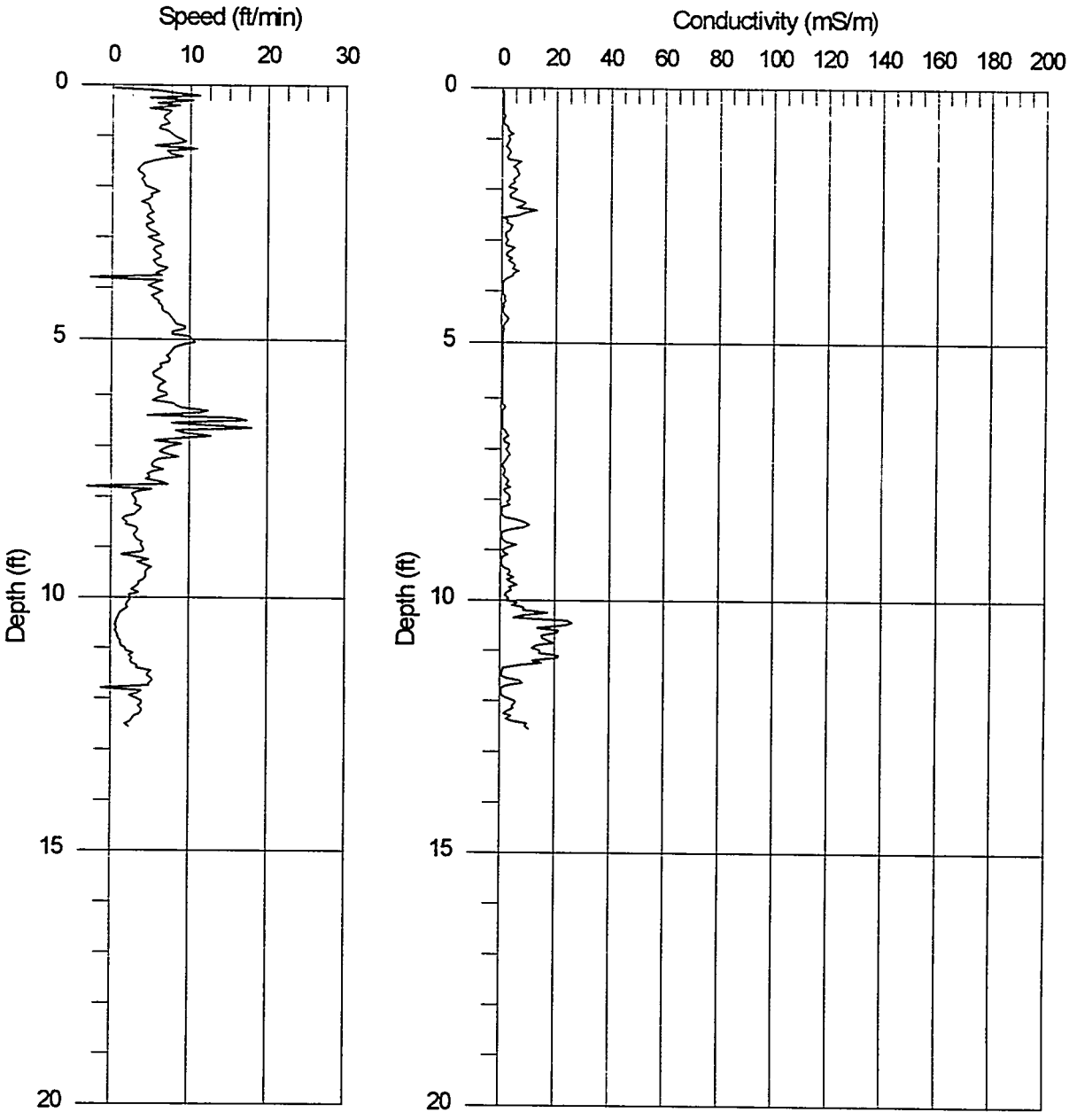
UC1-GC10
Geoprobe Conductivity Push



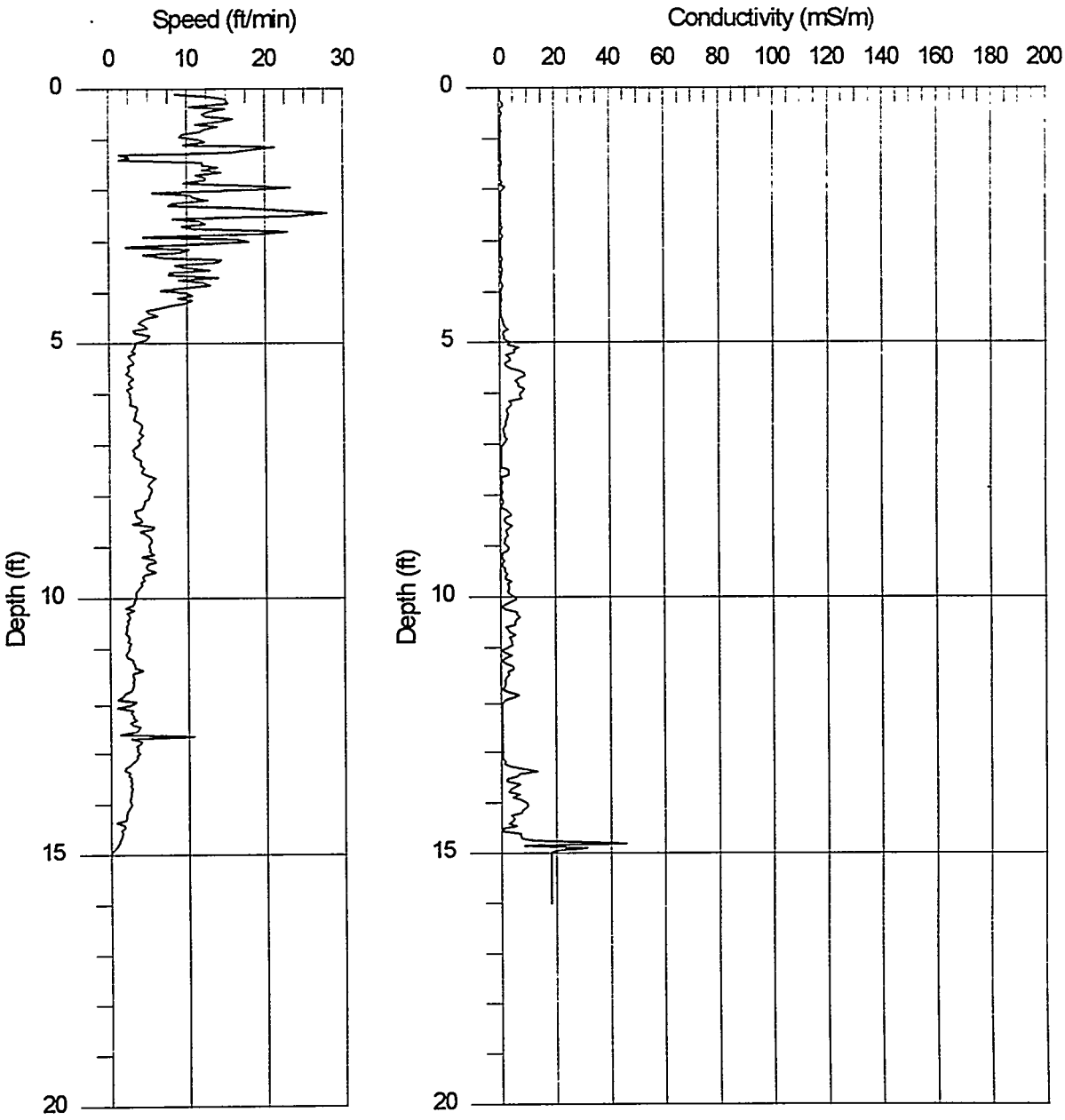
UC1-GC11
Geoprobe Conductivity Push



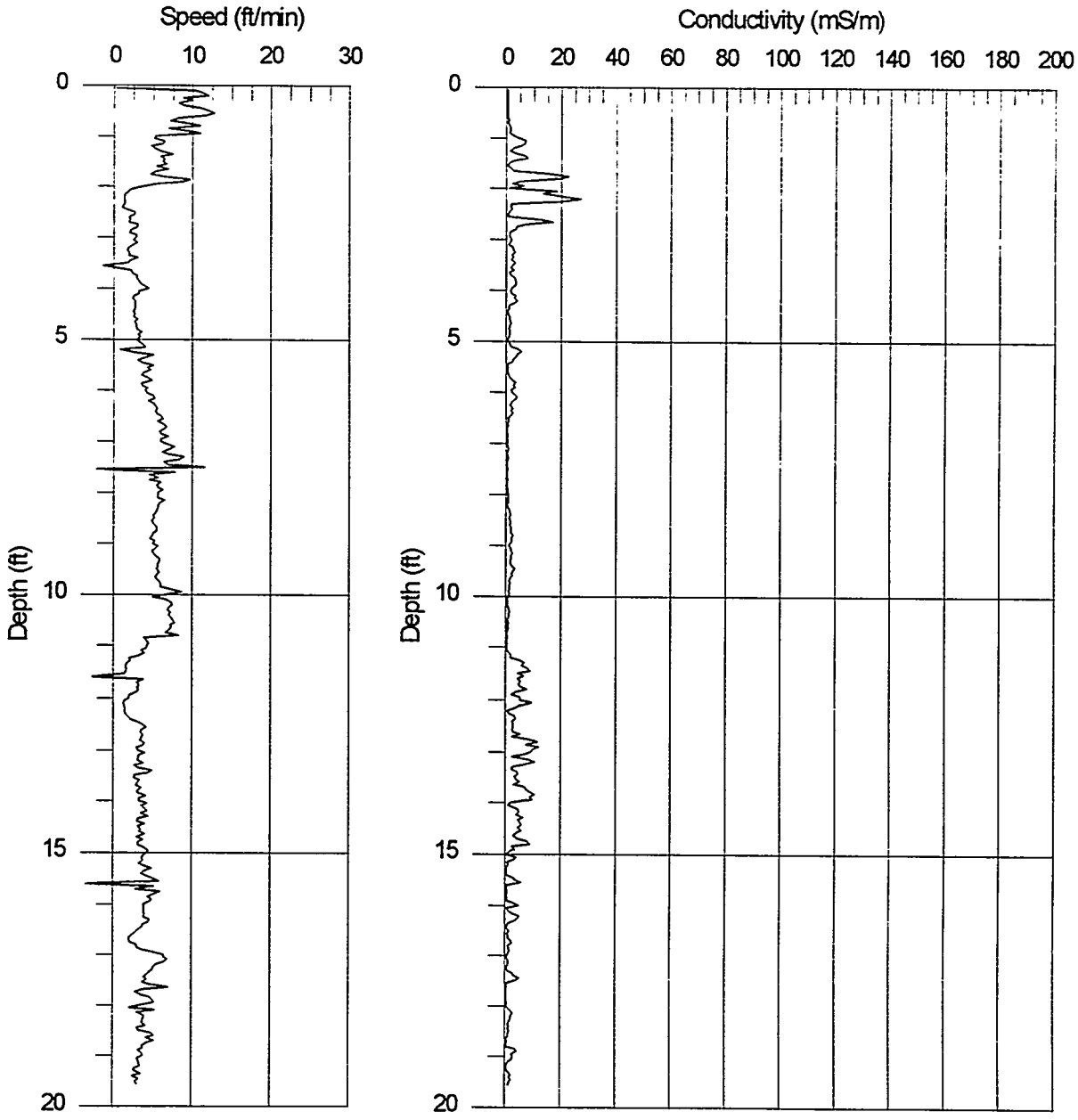
UC1-GC12
Geoprobe Conductivity Push



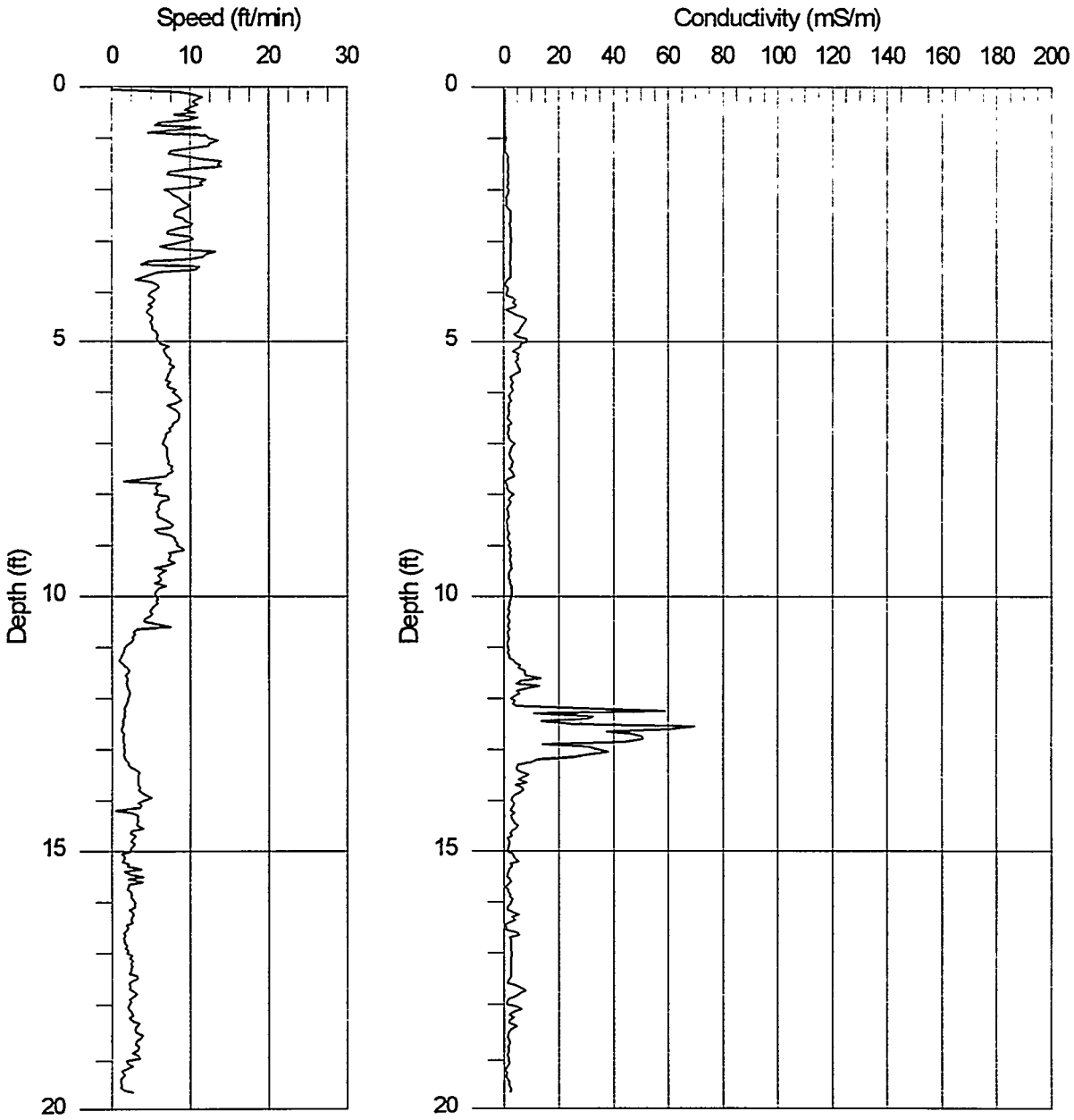
UC1-GC13
Geoprobe Conductivity Push



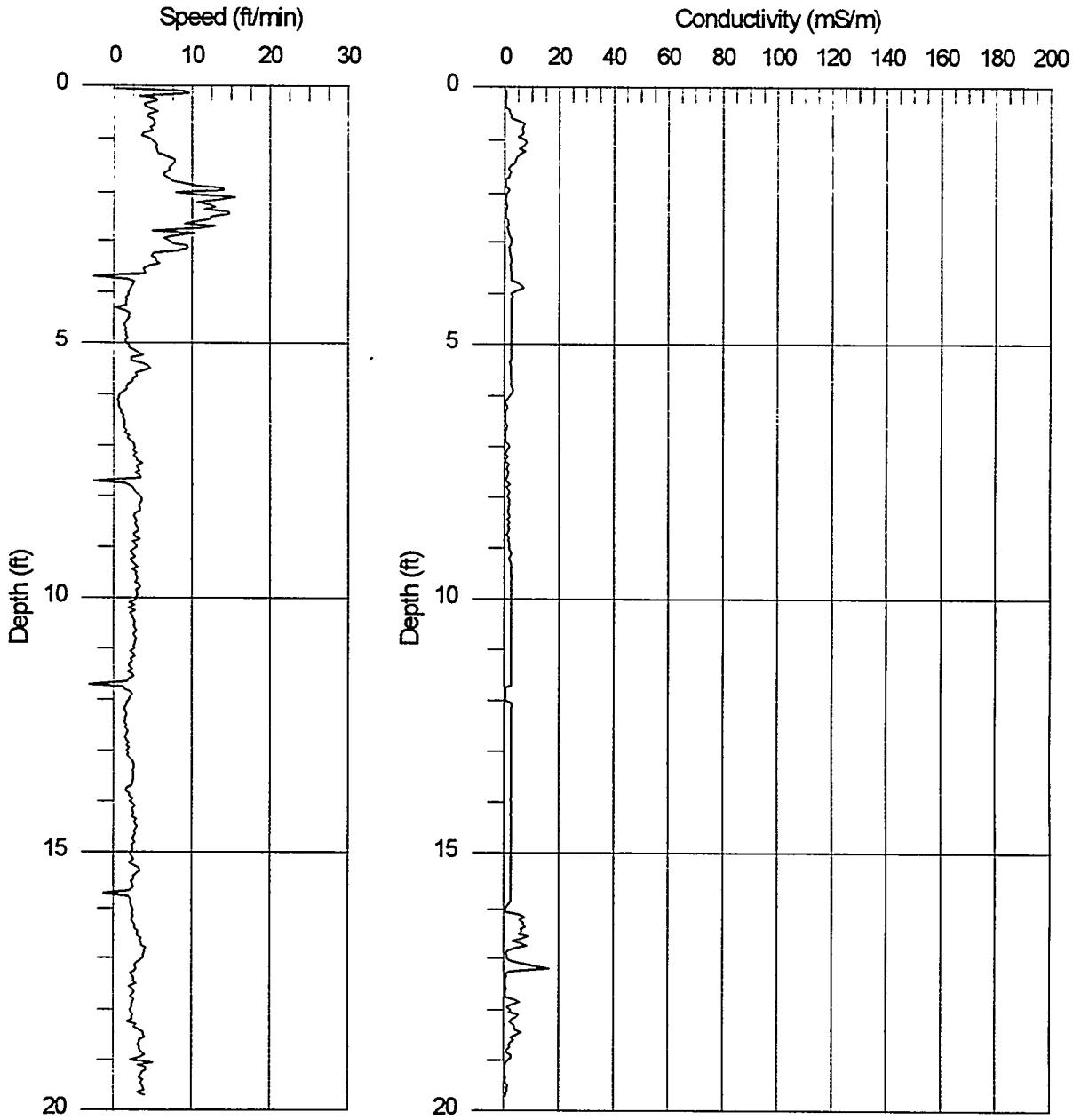
UC1-GC14
Geoprobe Conductivity Push



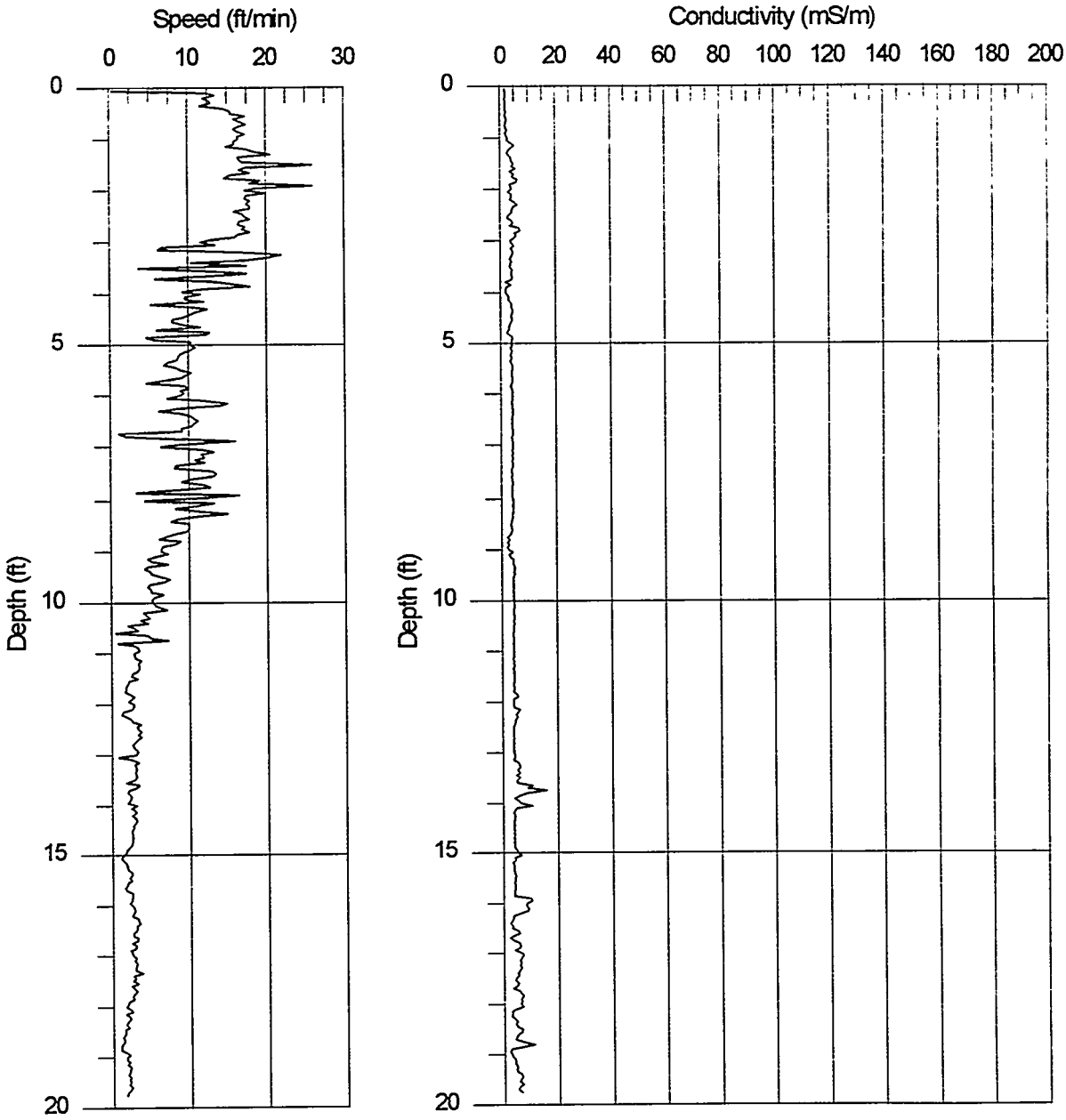
CMP-GC01
Geoprobe Conductivity Push



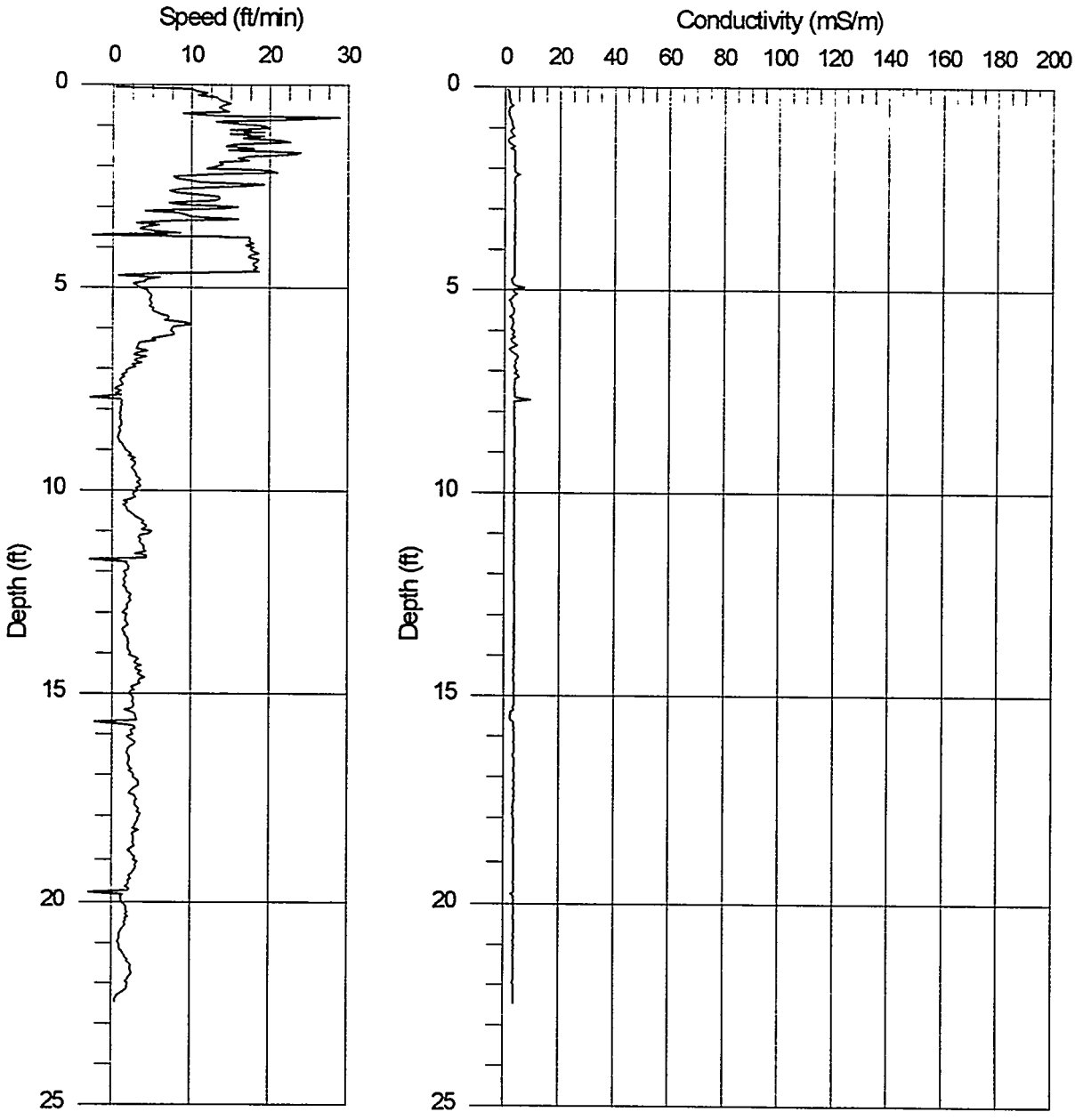
CMP-GC02
Geoprobe Conductivity Push



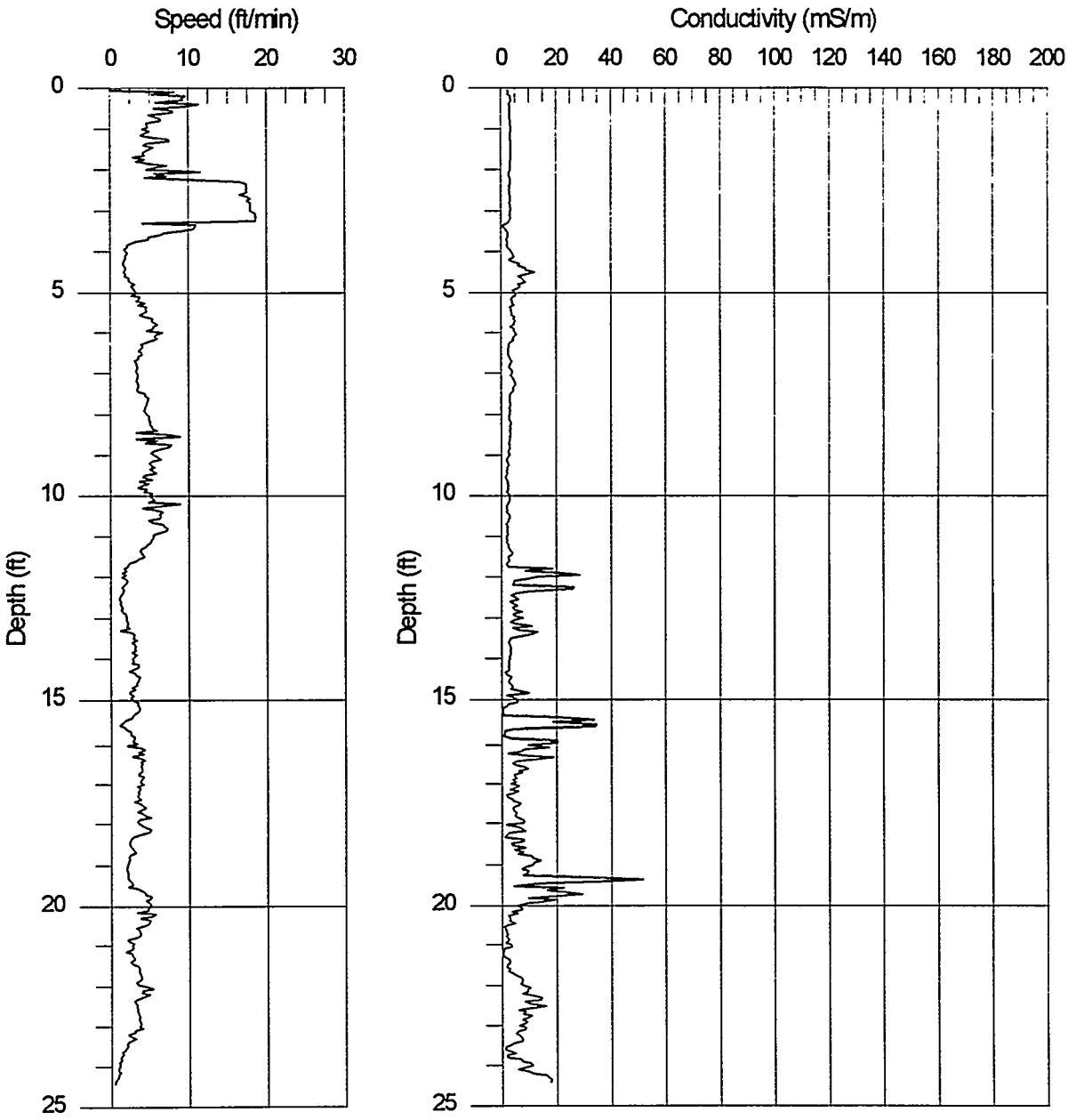
CMP-GC03
Geoprobe Conductivity Push



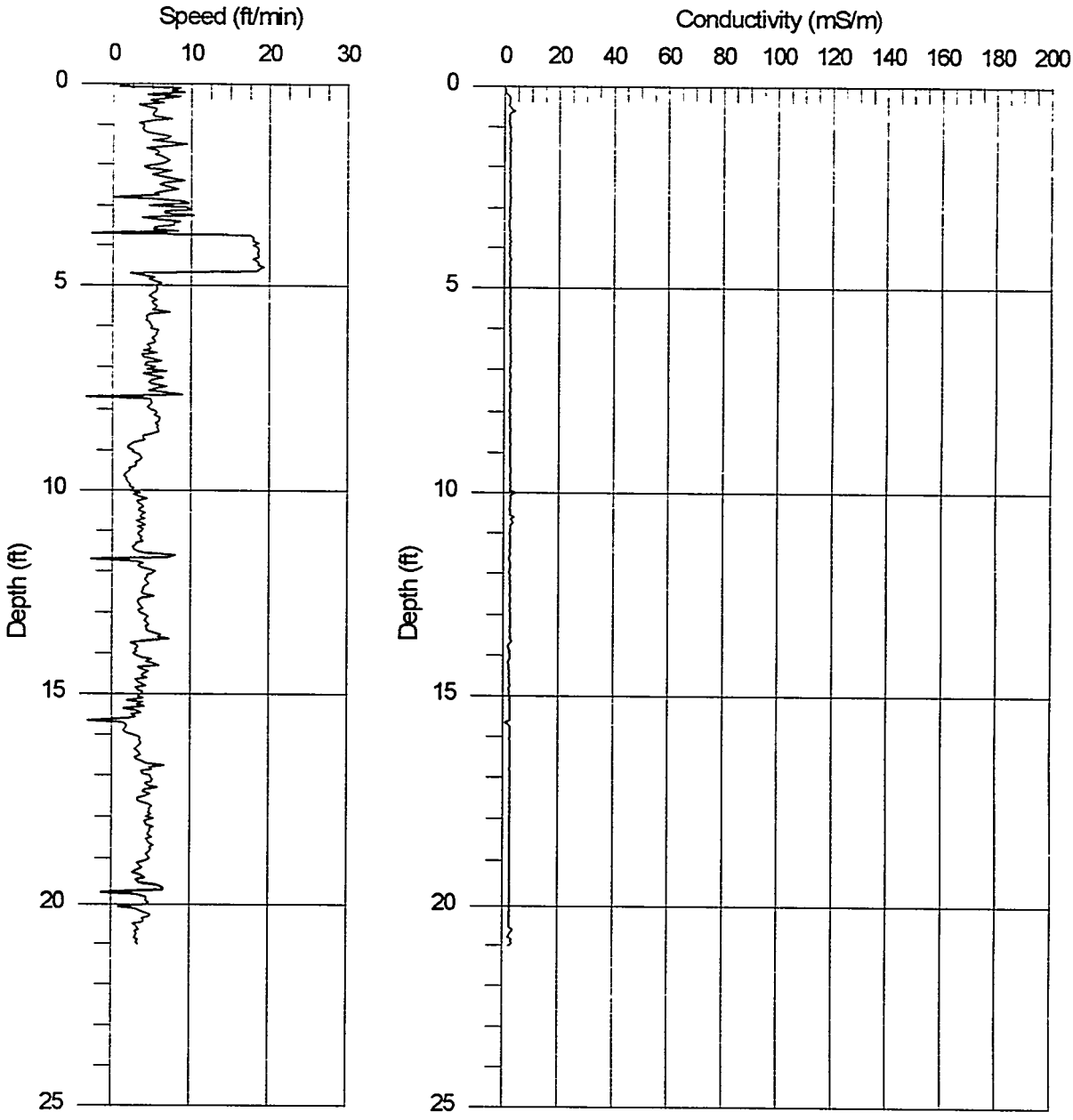
CMP-GC04
Geoprobe Conductivity Push



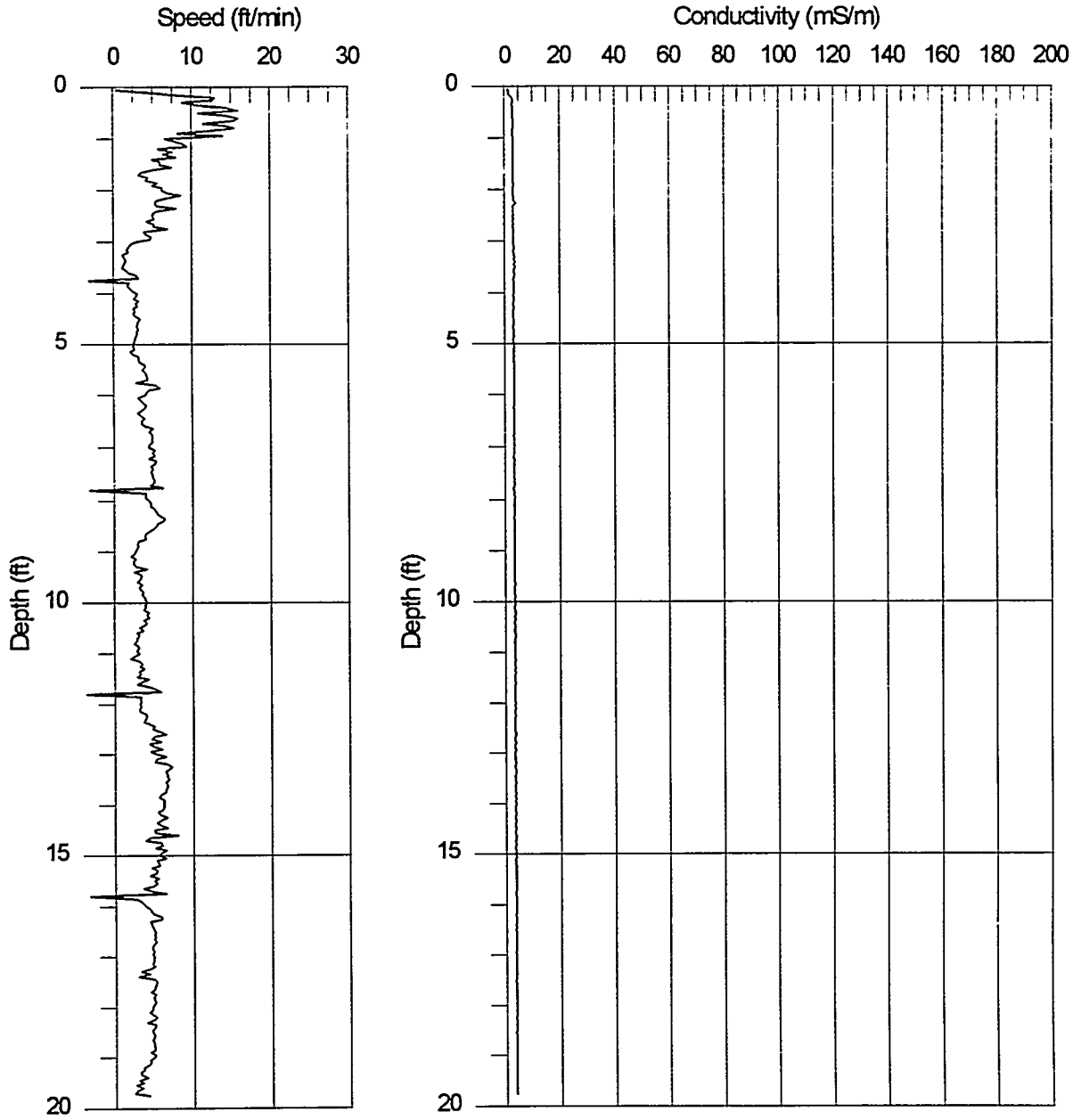
CMP-GC05
Geoprobe Conductivity Push



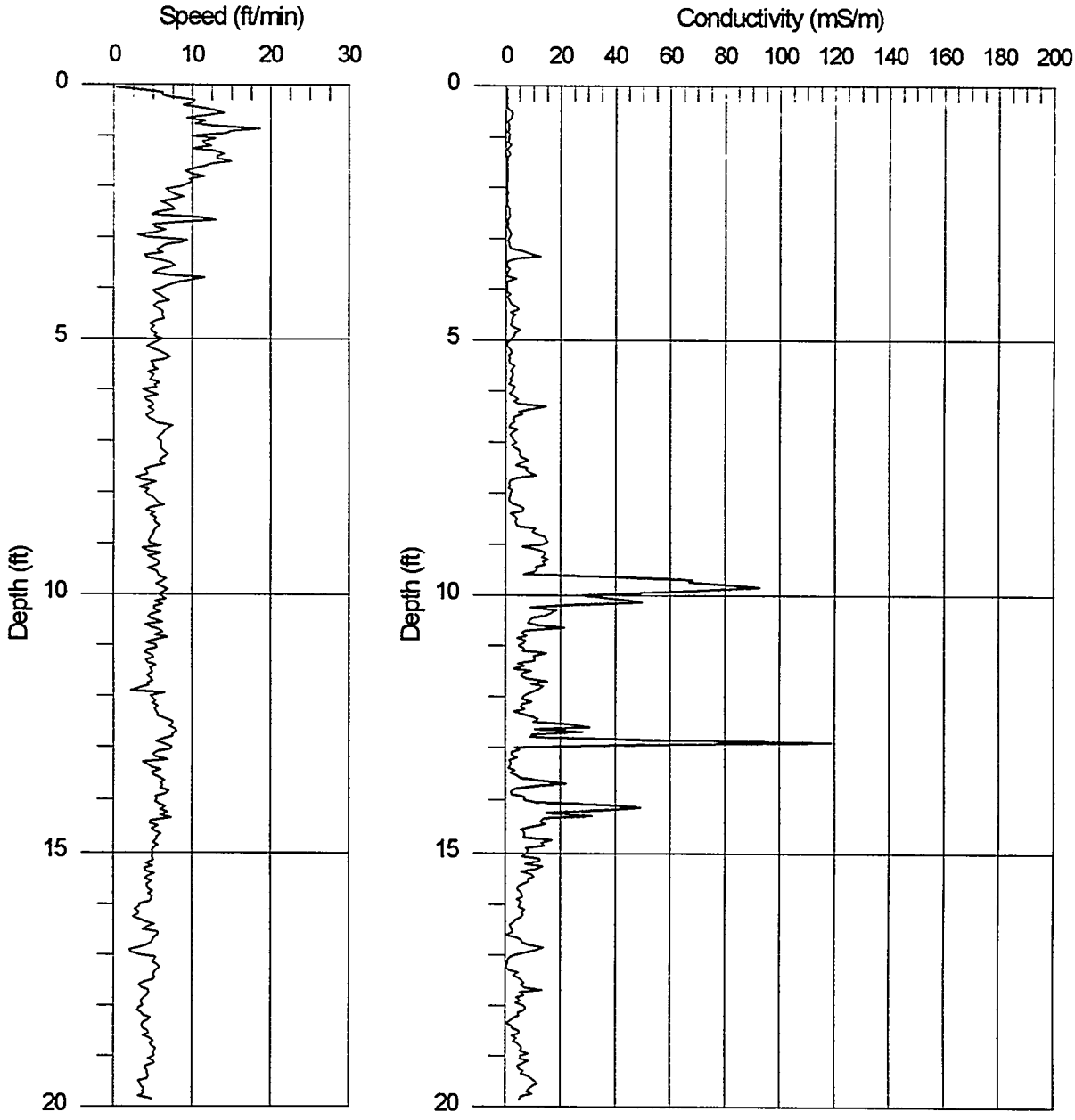
CMP-GC06
Geoprobe Conductivity Push



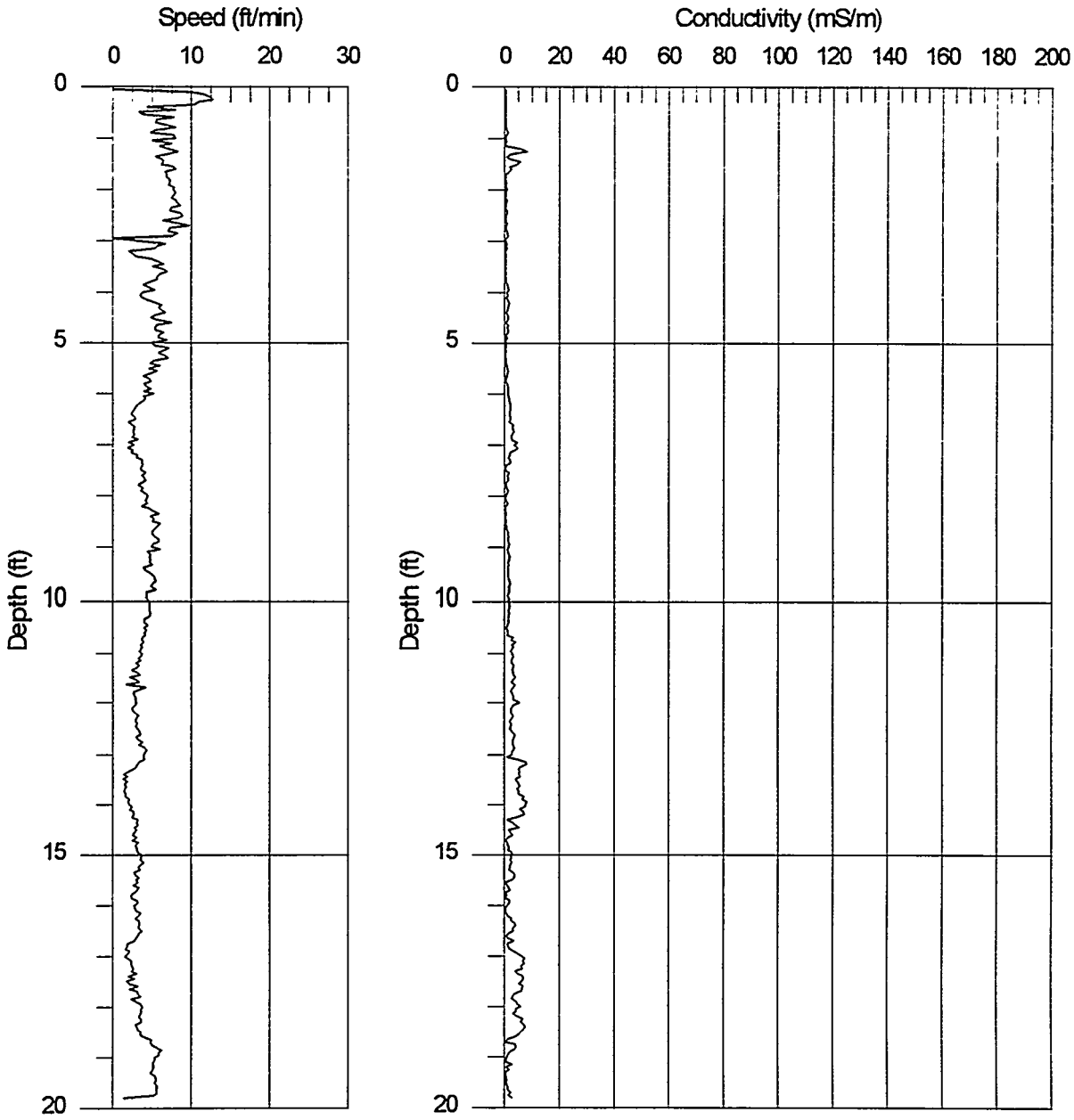
CMP-GC07
Geoprobe Conductivity Push



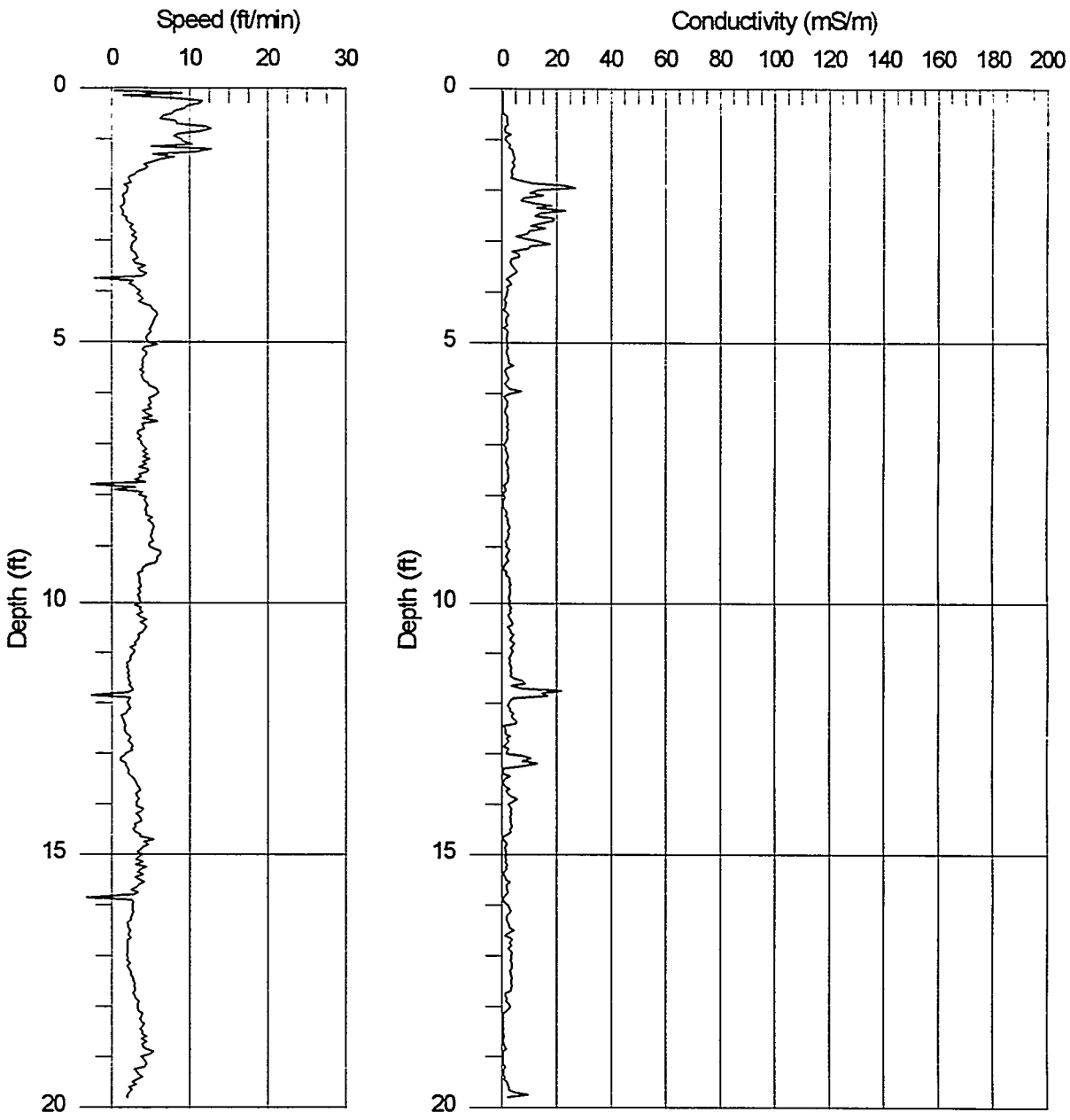
CMP-GC08
Geoprobe Conductivity Push



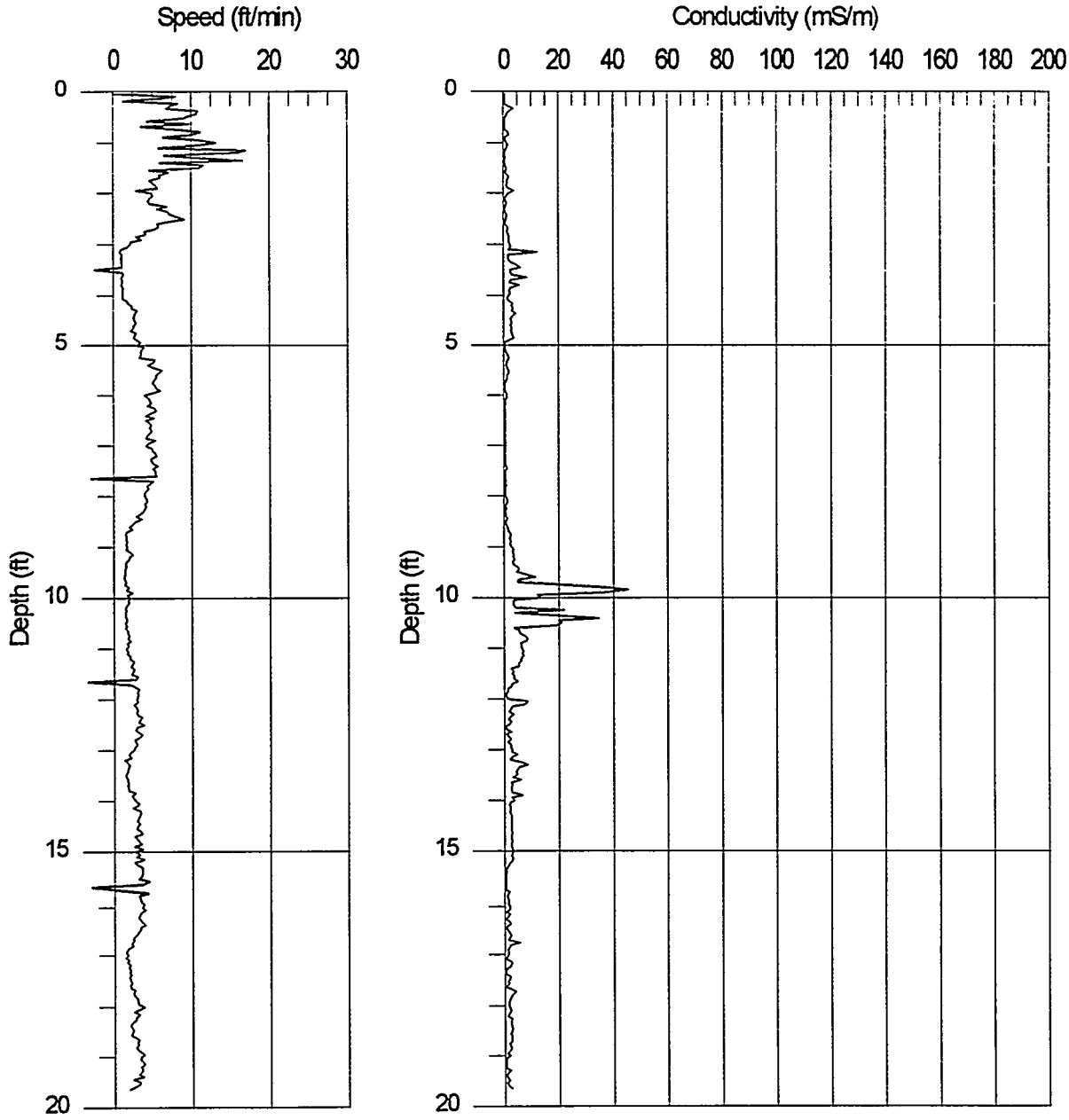
CMP-GC09
Geoprobe Conductivity Push



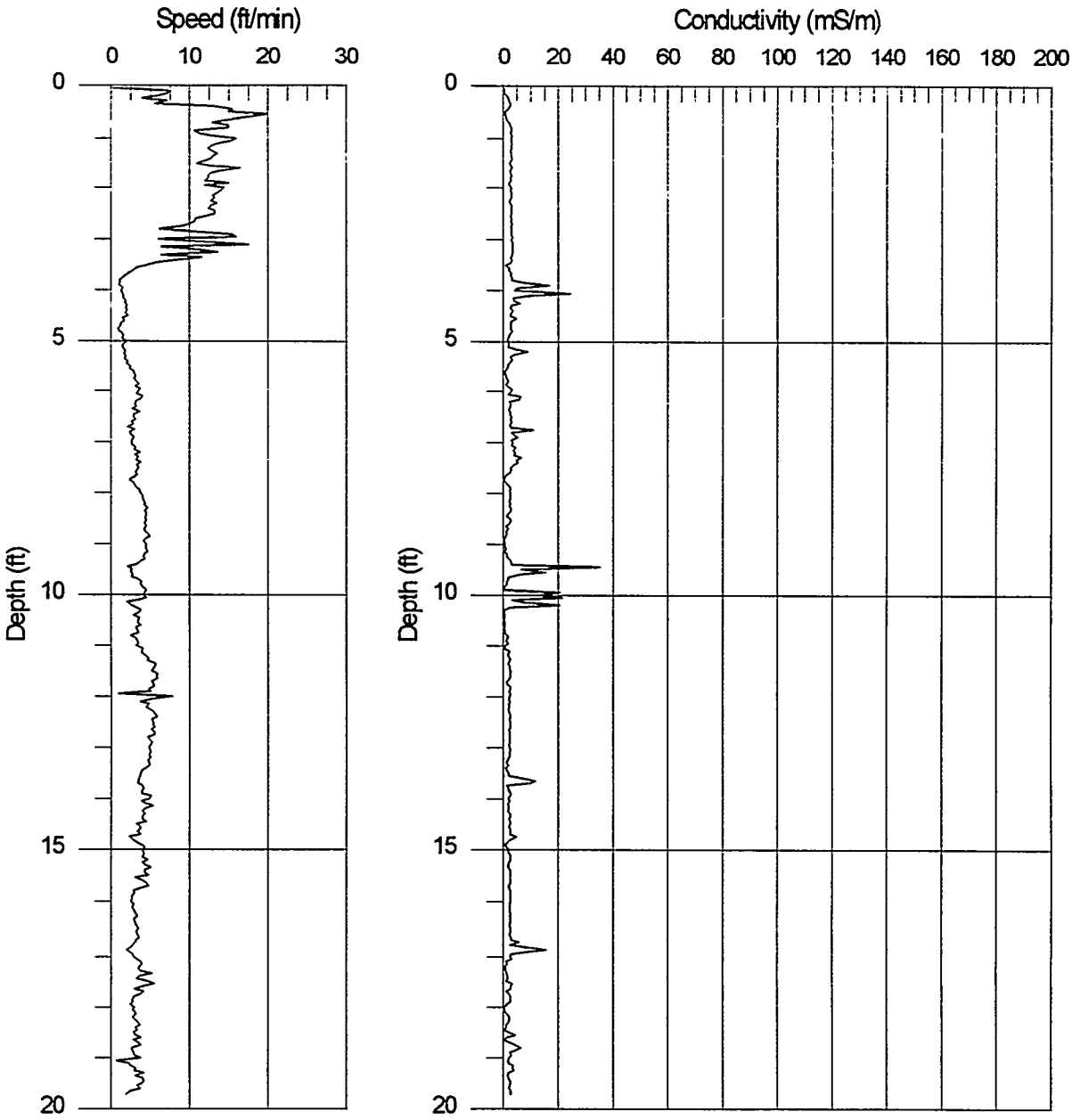
CMP-GC10
Geoprobe Conductivity Push



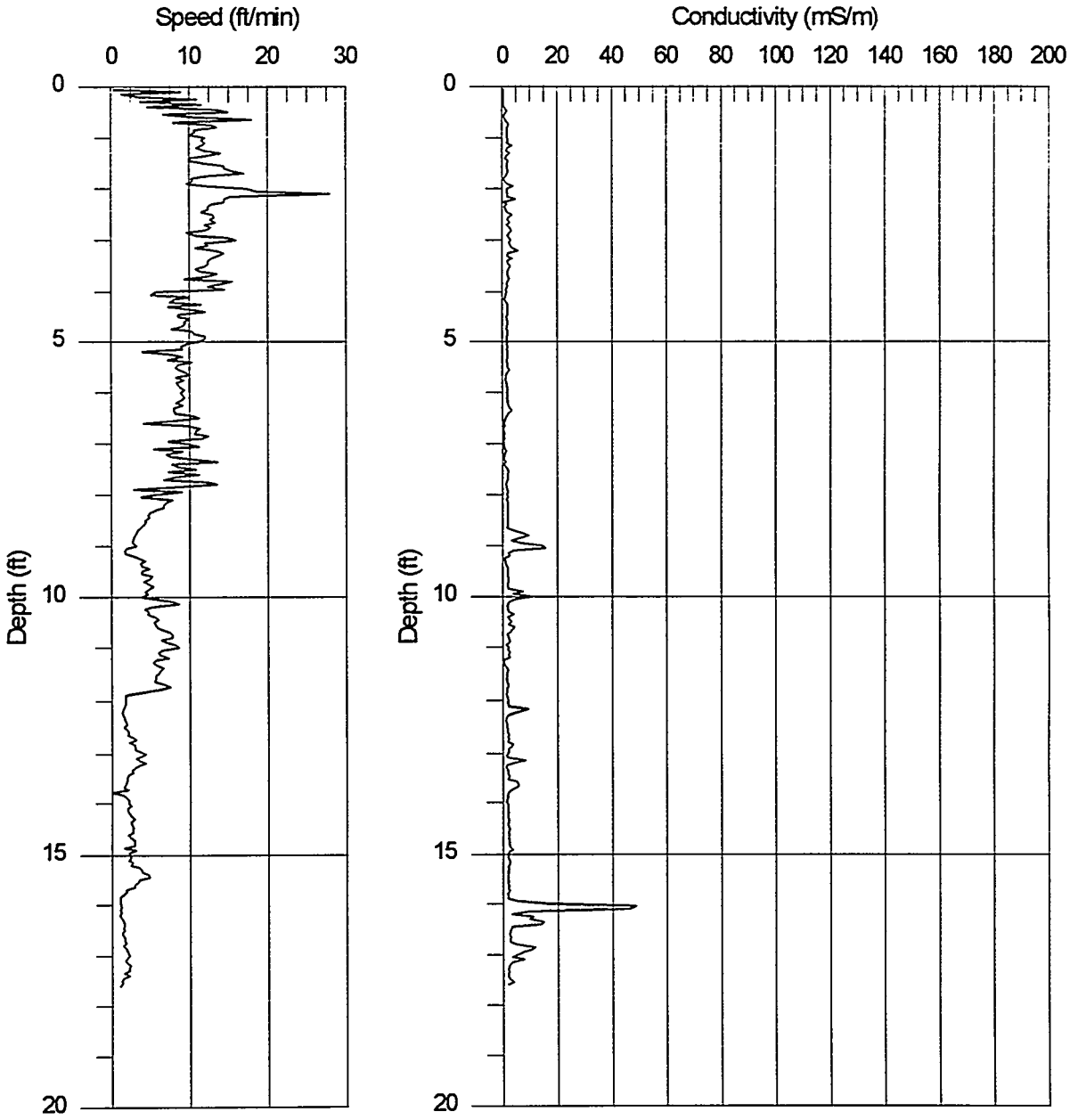
CMP-GC11
Geoprobe Conductivity Push



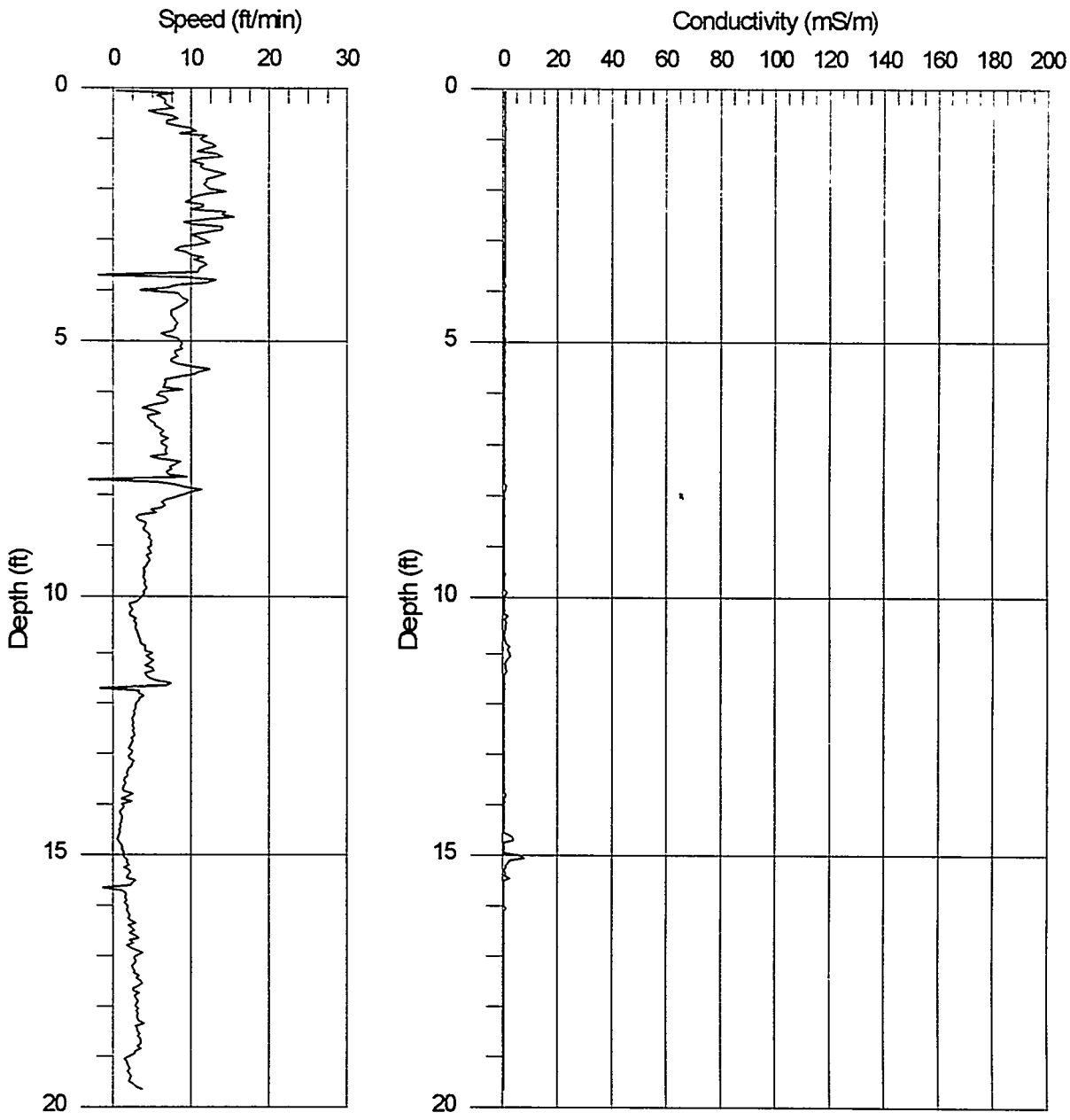
CMP-GC12
Geoprobe Conductivity Push



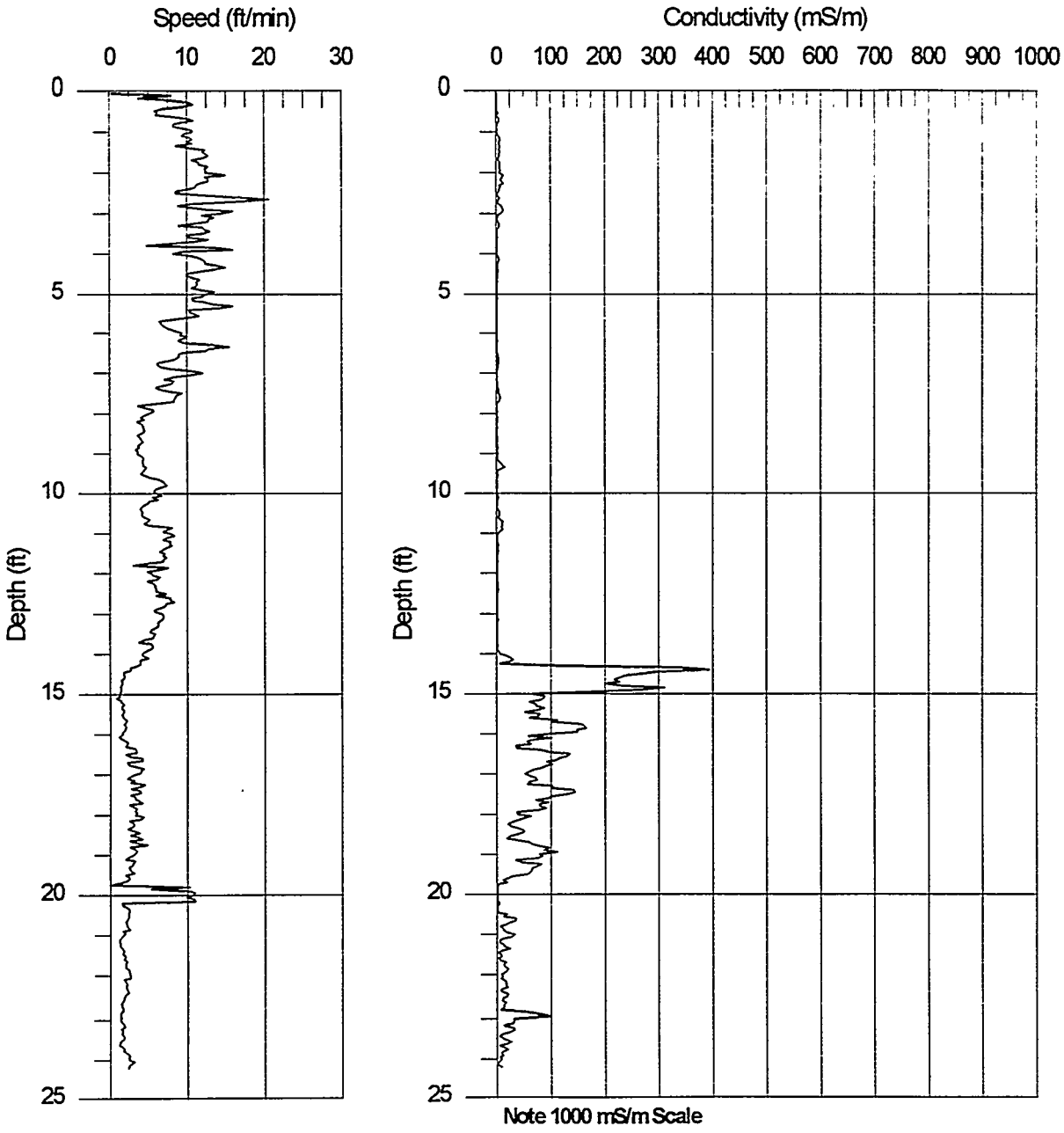
CMP-GC13
Geoprobe Conductivity Push



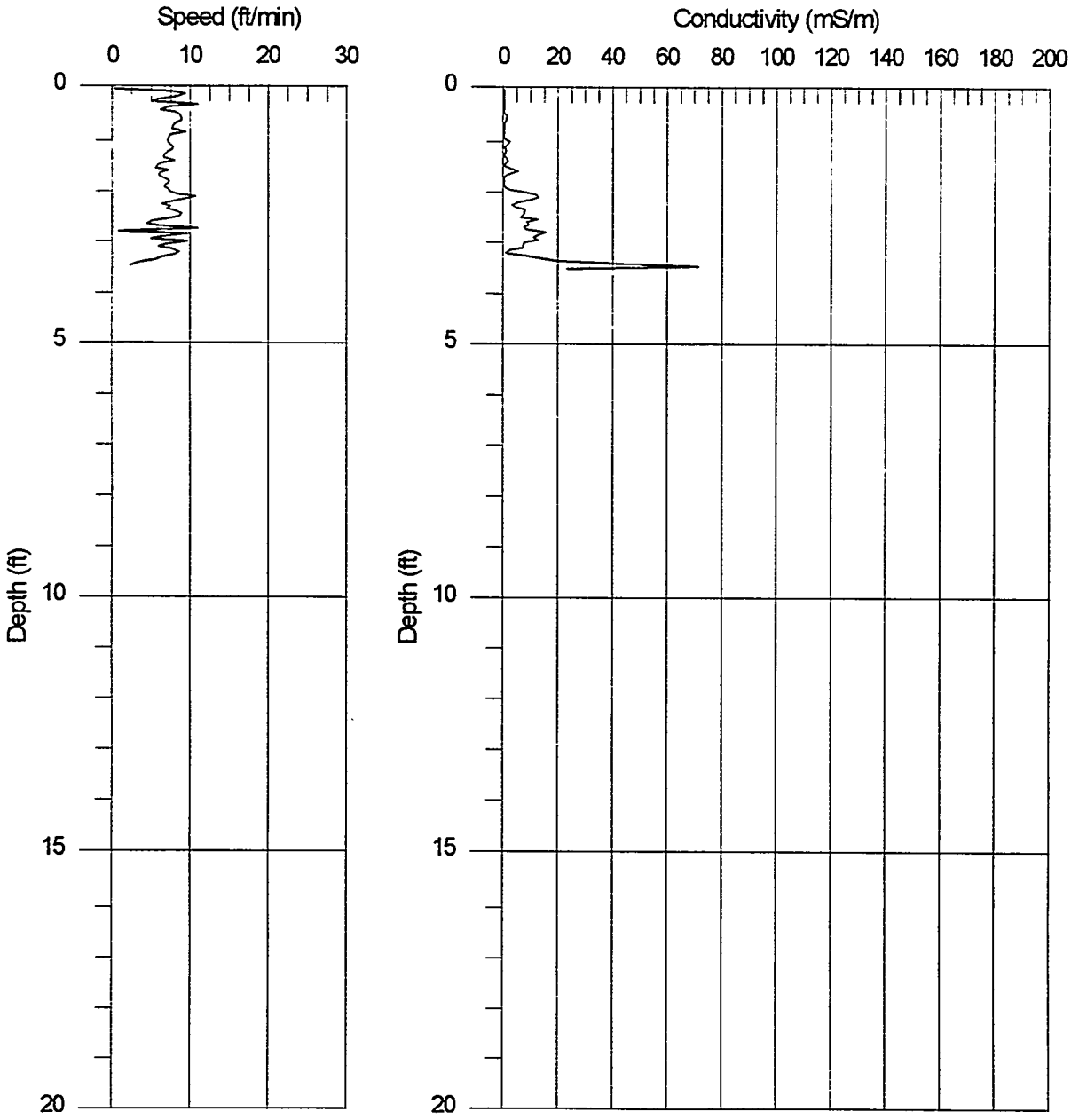
CMP-GC14
Geoprobe Conductivity Push



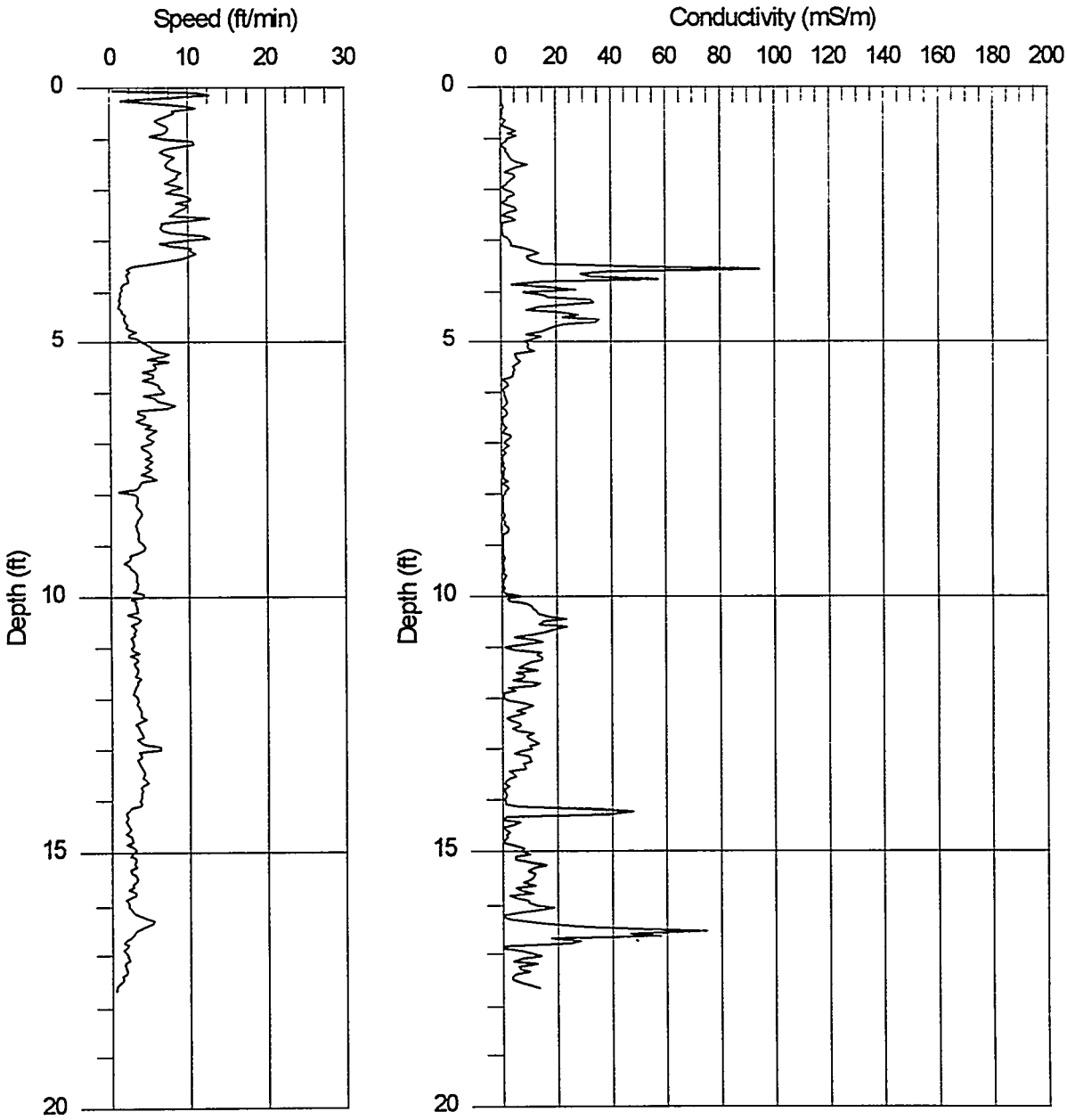
CMP-GC15
Geoprobe Conductivity Push



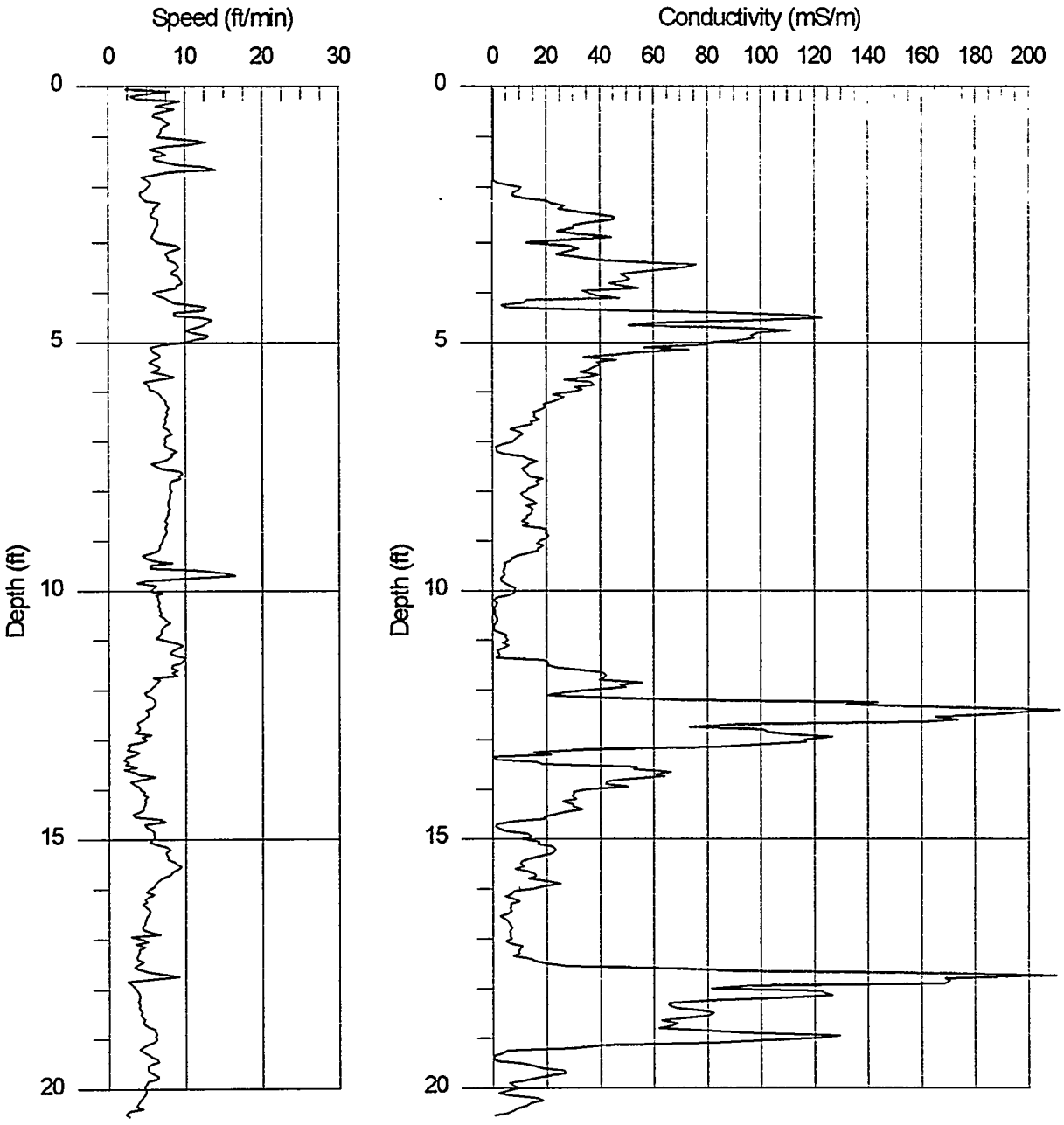
CMP-GC16
Geoprobe Conductivity Push



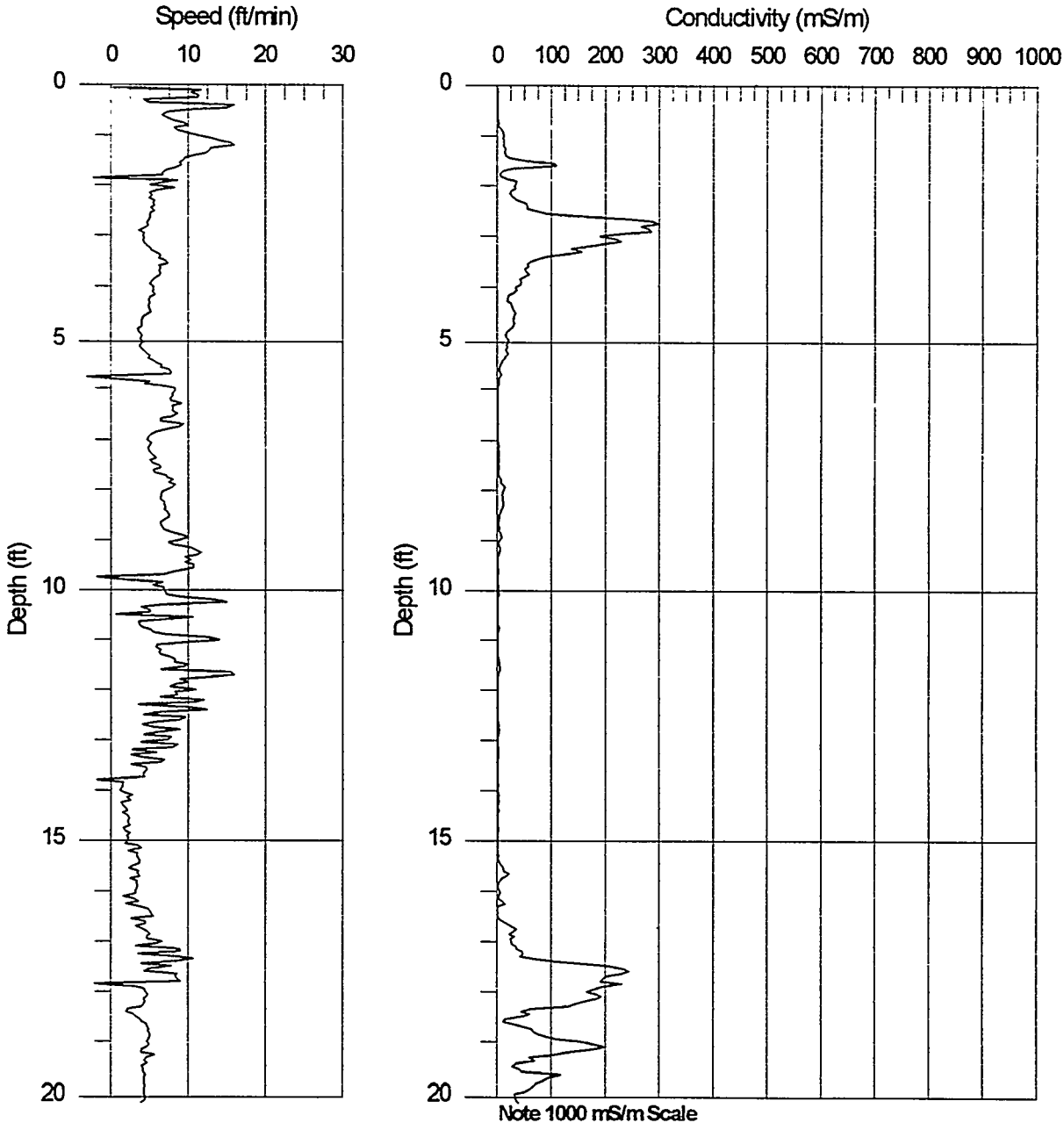
CMP-GC17
Geoprobe Conductivity Push



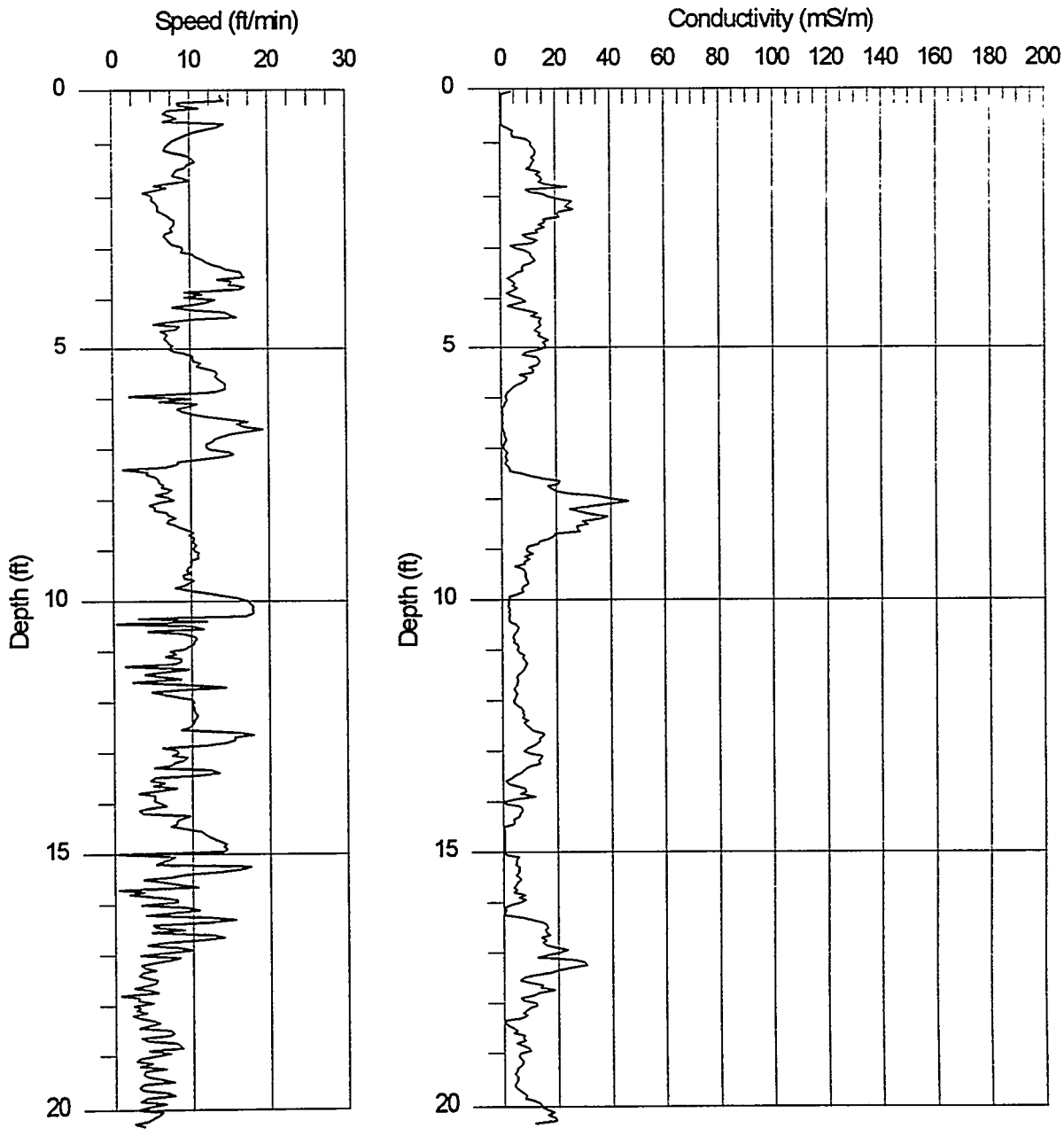
UC3-GC01
Geoprobe Conductivity Push



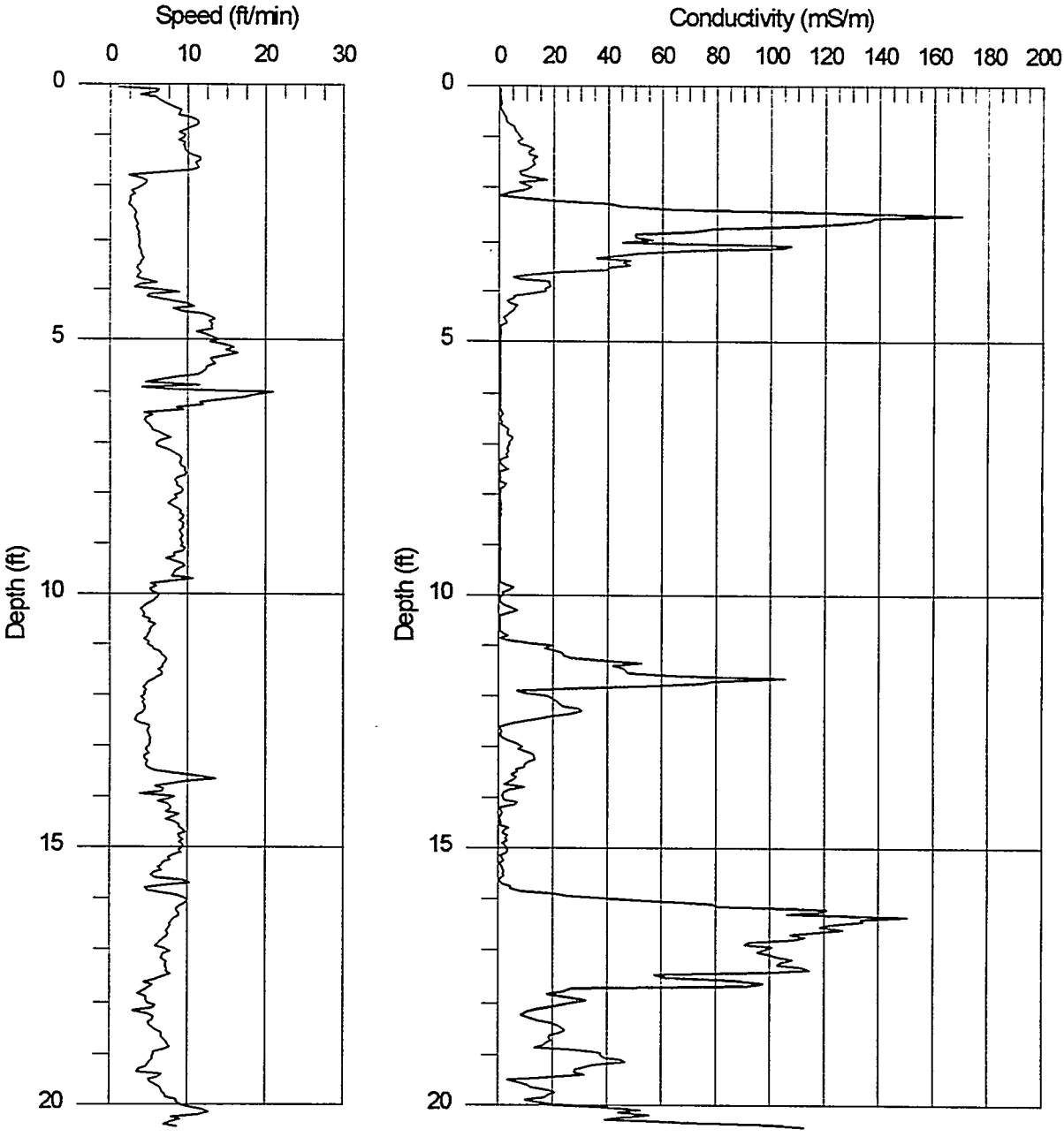
UC3-GC02
Geoprobe Conductivity Push



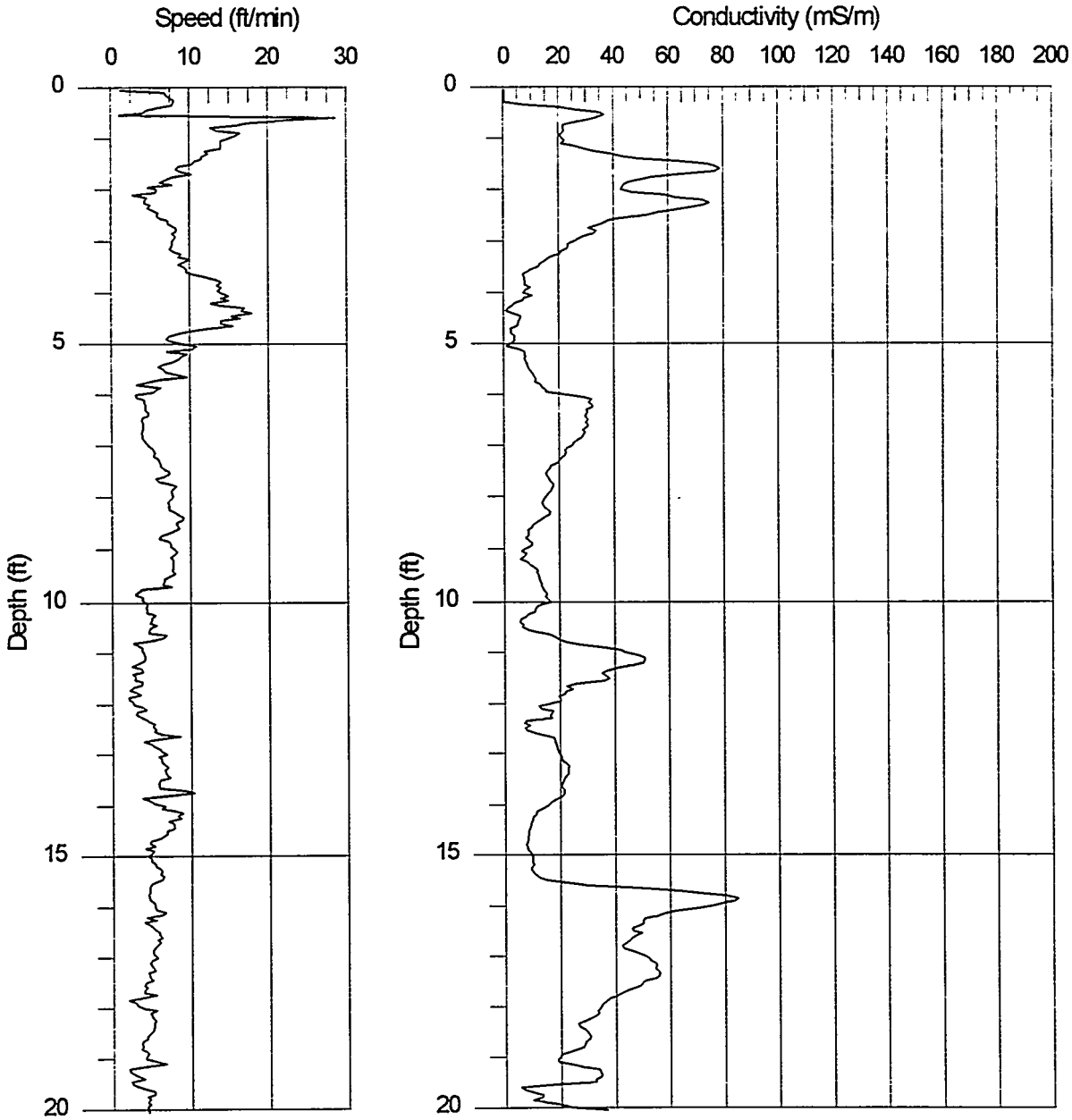
UC3-GC03
Geoprobe Conductivity Push



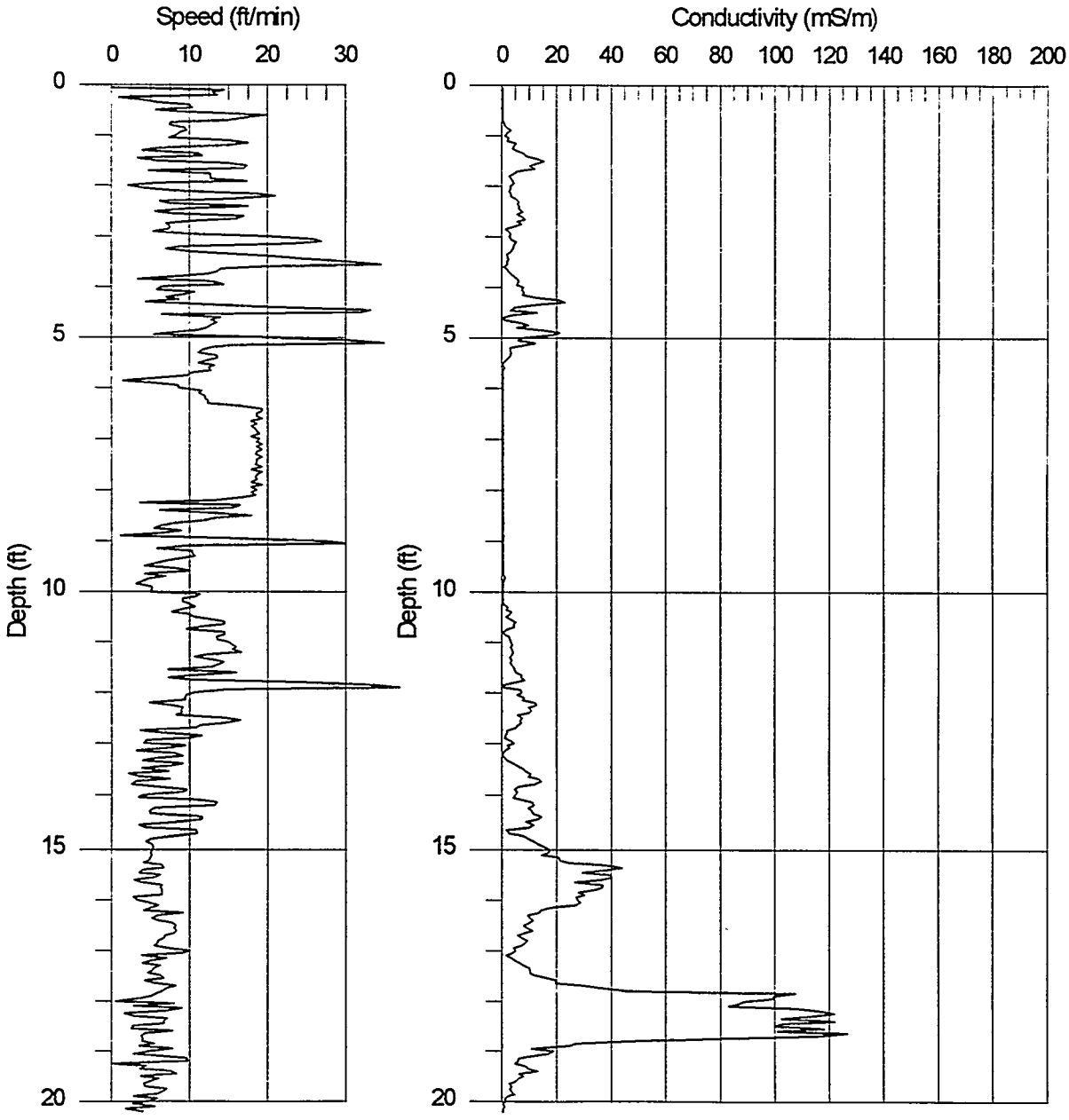
UC3-GC04
Geoprobe Conductivity Push



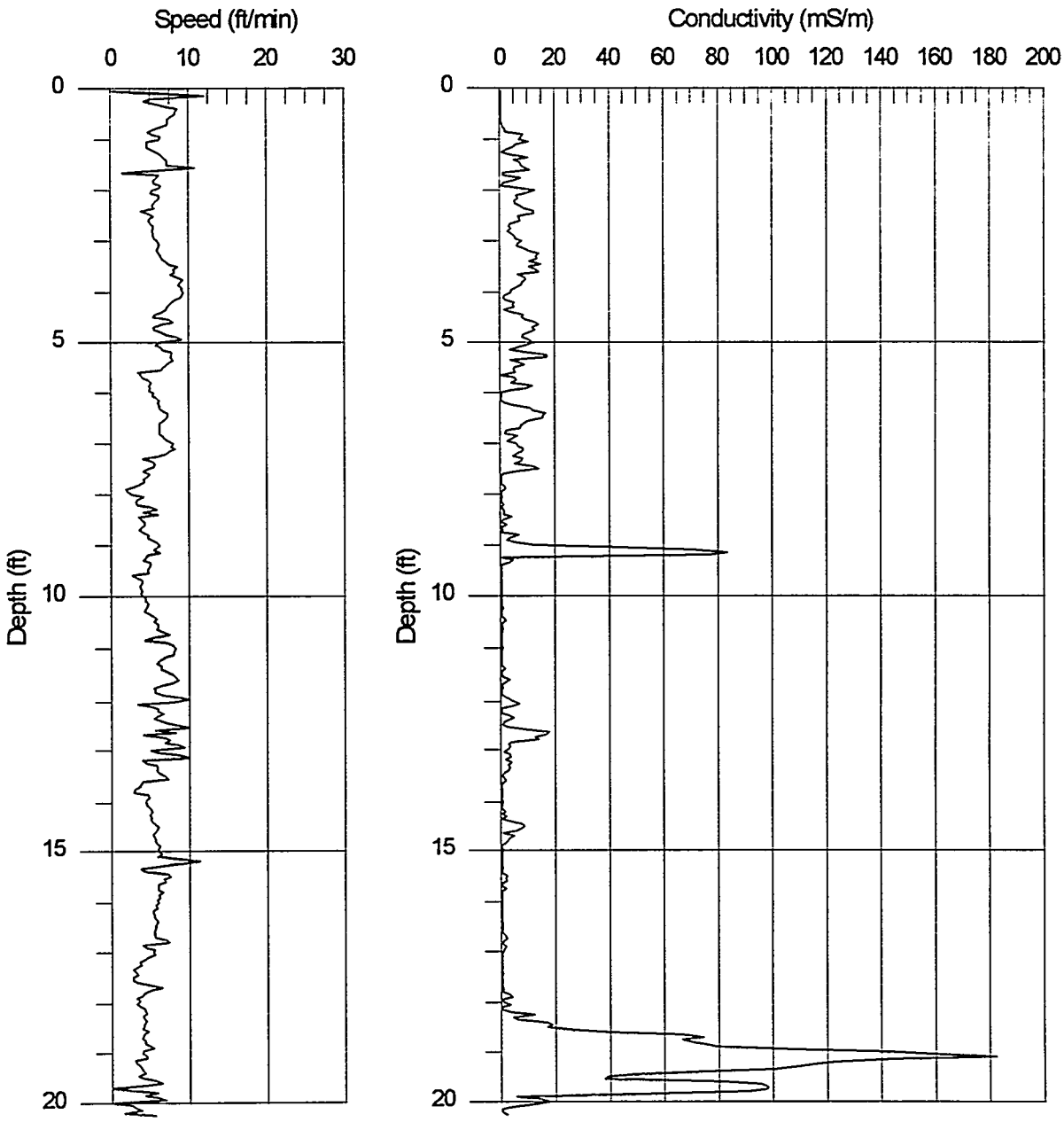
DBB12 (Repeat of UC3-GC04 w/Wenner Probe)
Geoprobe Conductivity Push



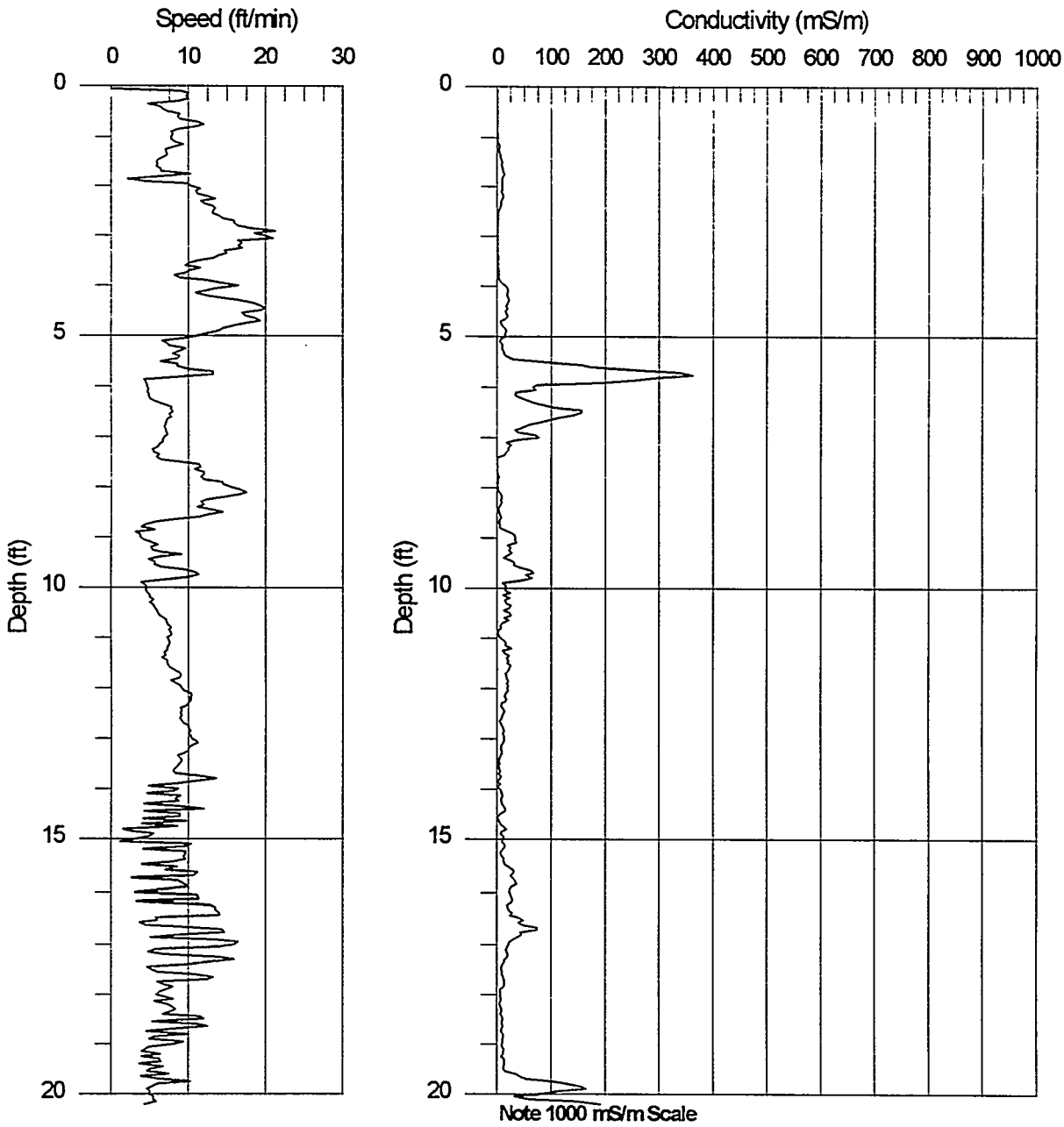
UC3-GC05
Geoprobe Conductivity Push



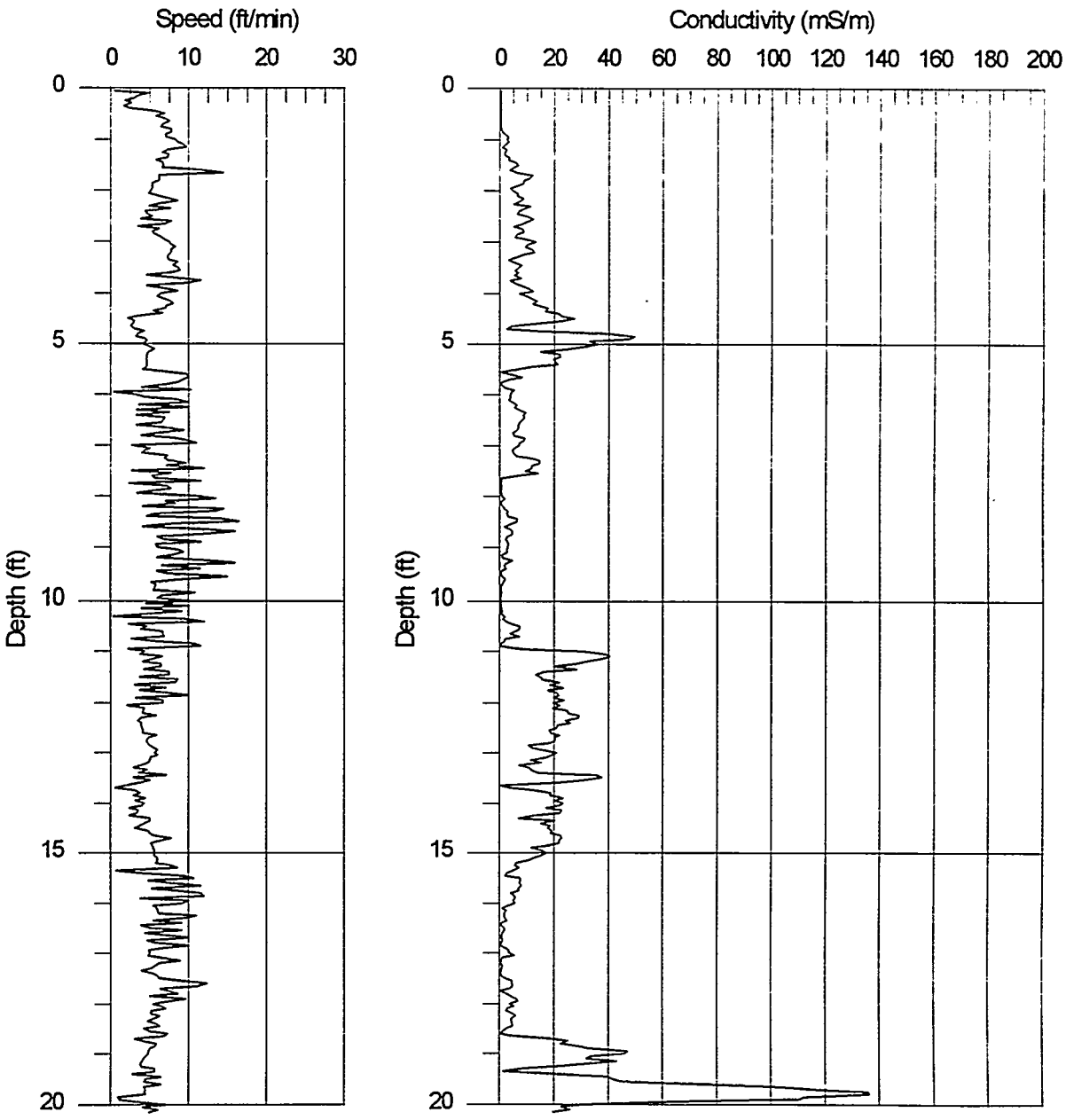
UC3-GC06
Geoprobe Conductivity Push



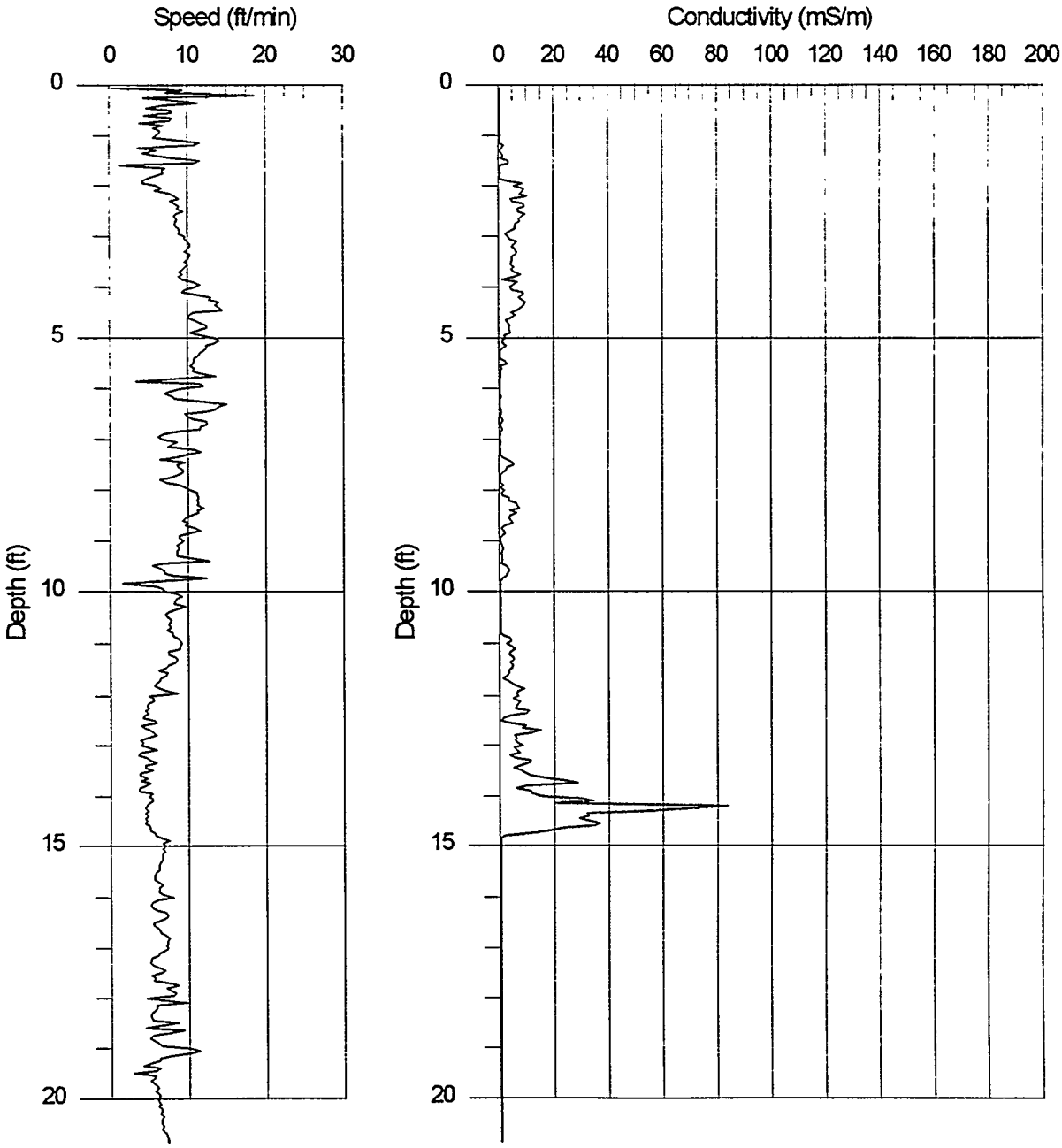
UC3-GC07
Geoprobe Conductivity Push



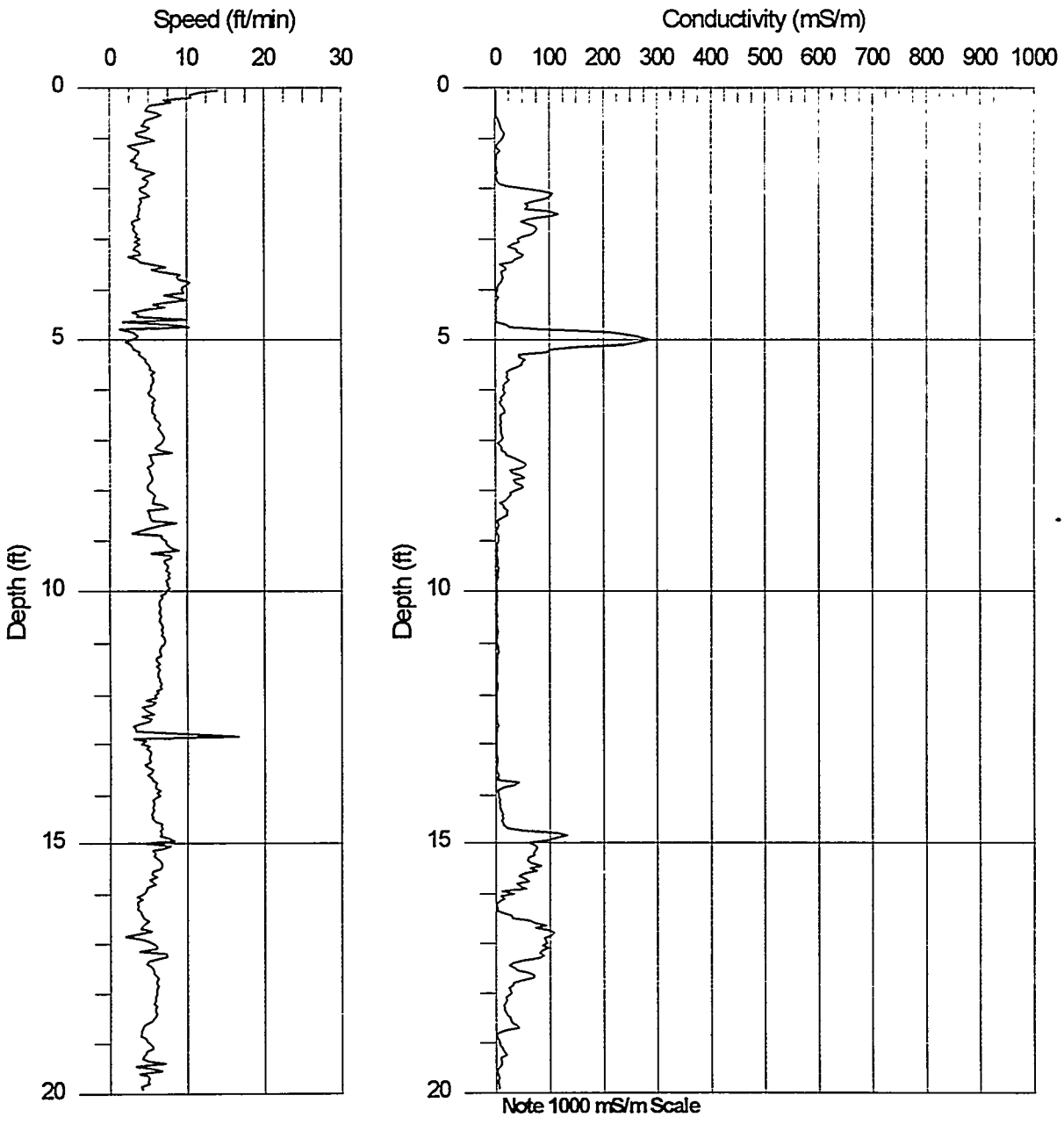
UC3-GC08
Geoprobe Conductivity Push



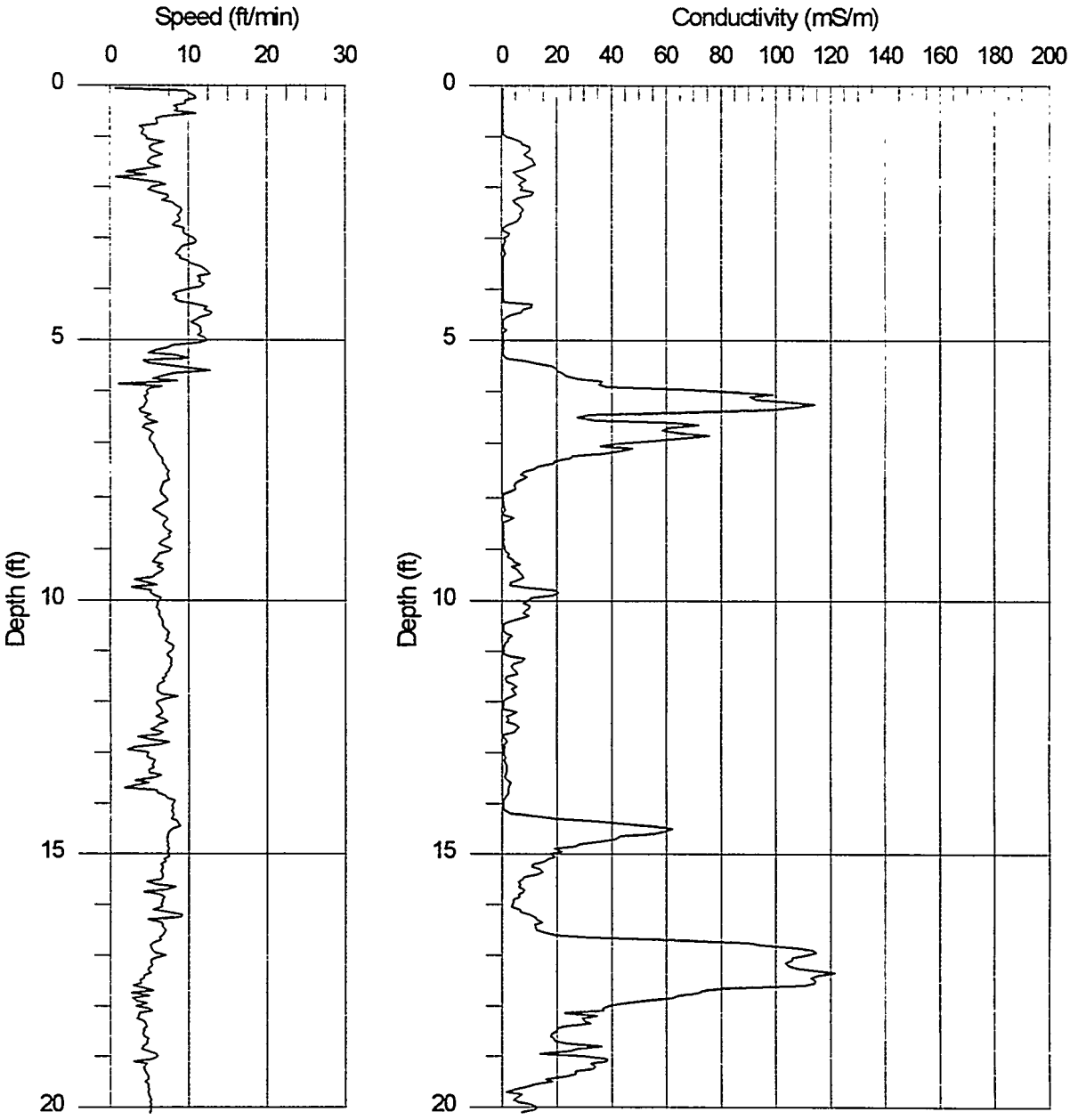
UC3-GC09
Geoprobe Conductivity Push



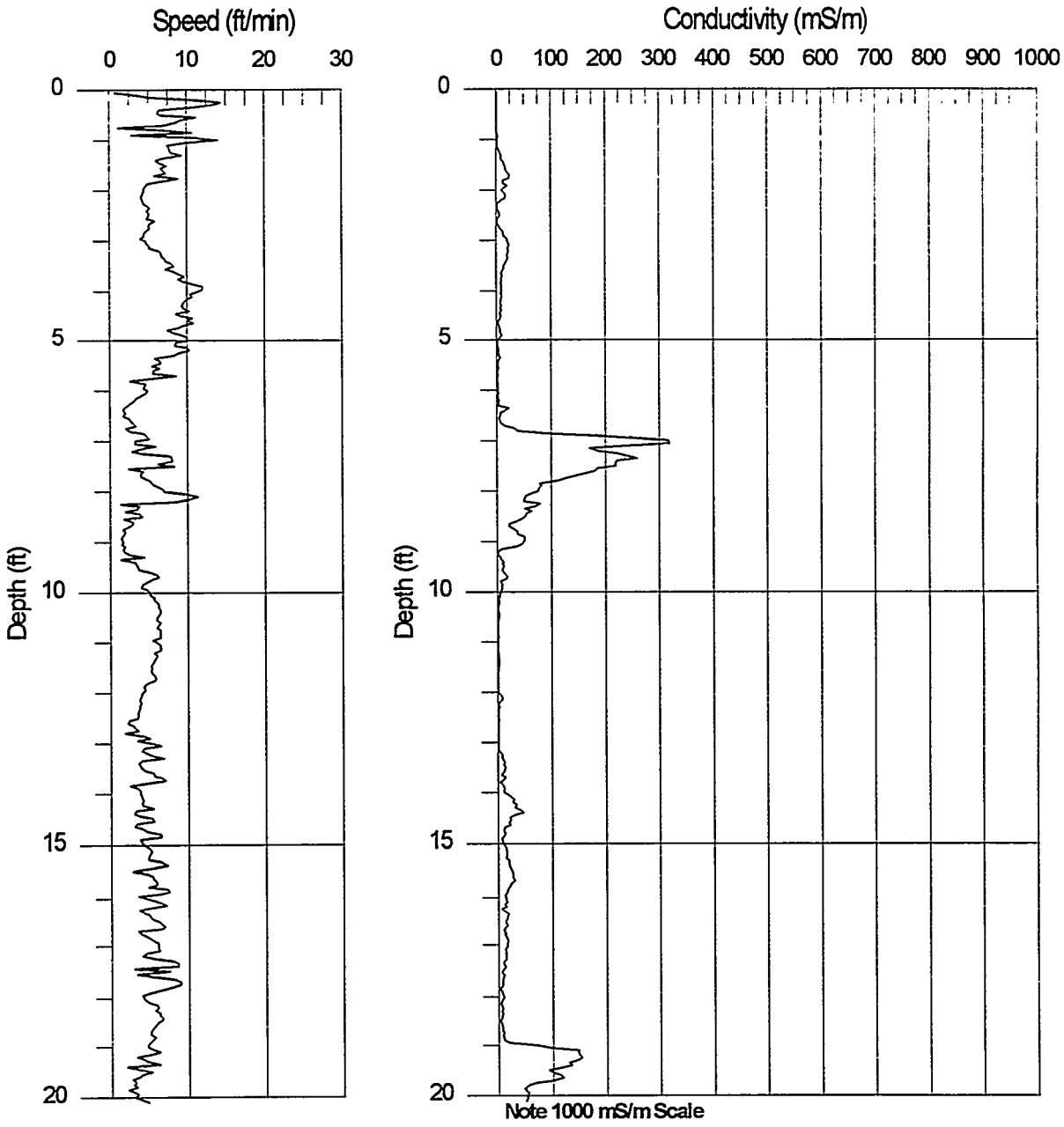
UC3-GC10
Geoprobe Conductivity Push



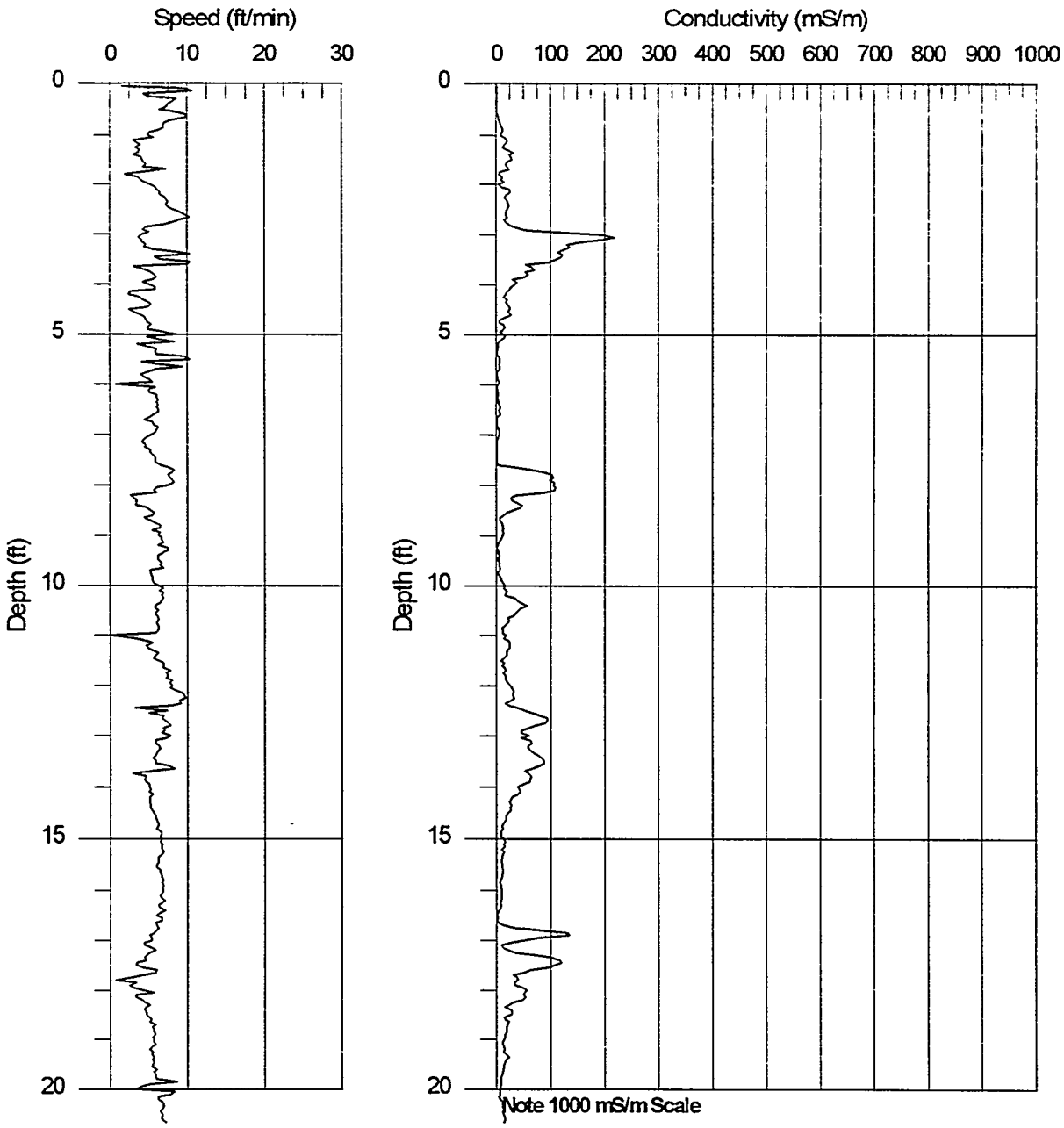
UC3-GC11
Geoprobe Conductivity Push



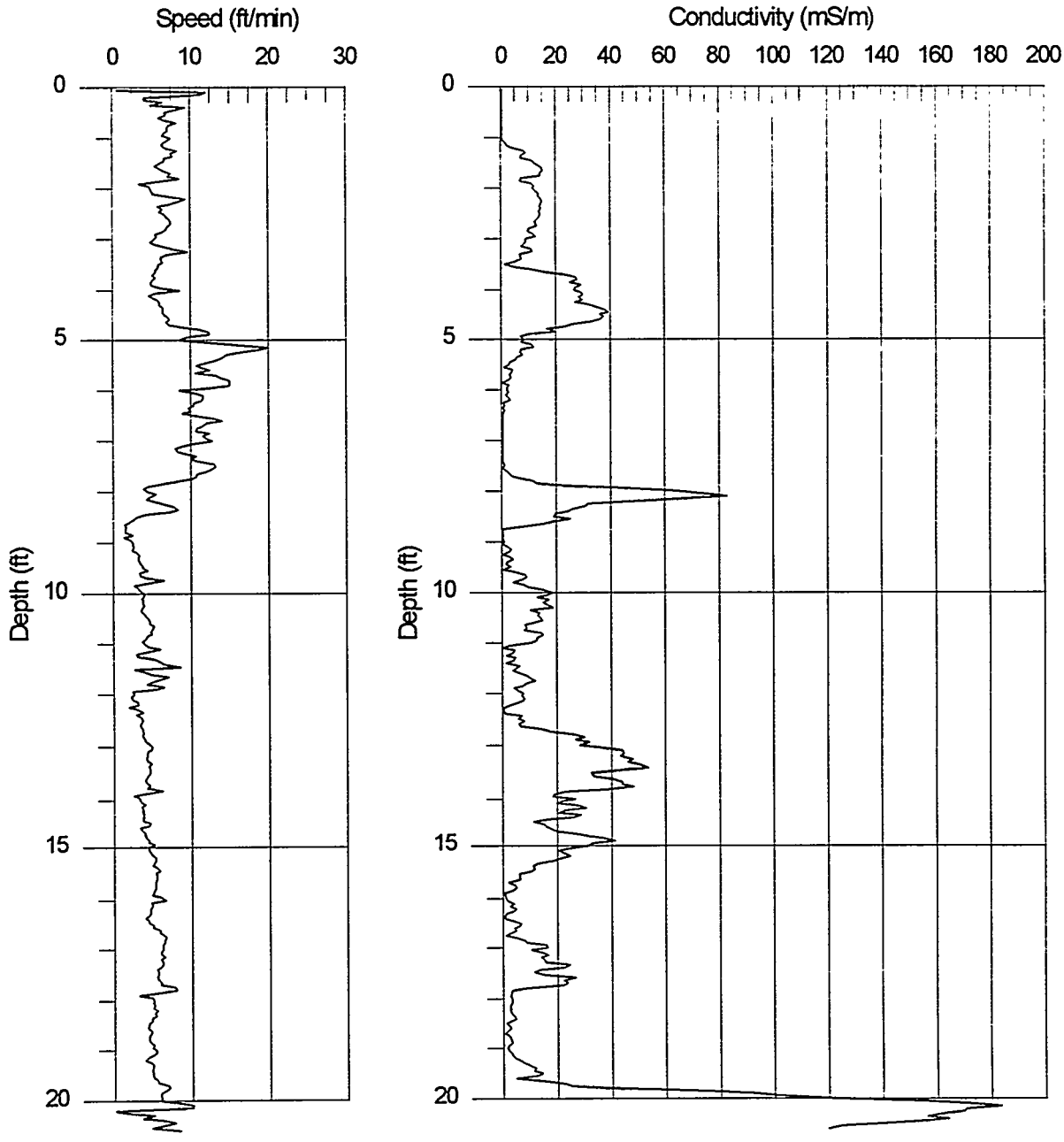
UC3-GC12
Geoprobe Conductivity Push



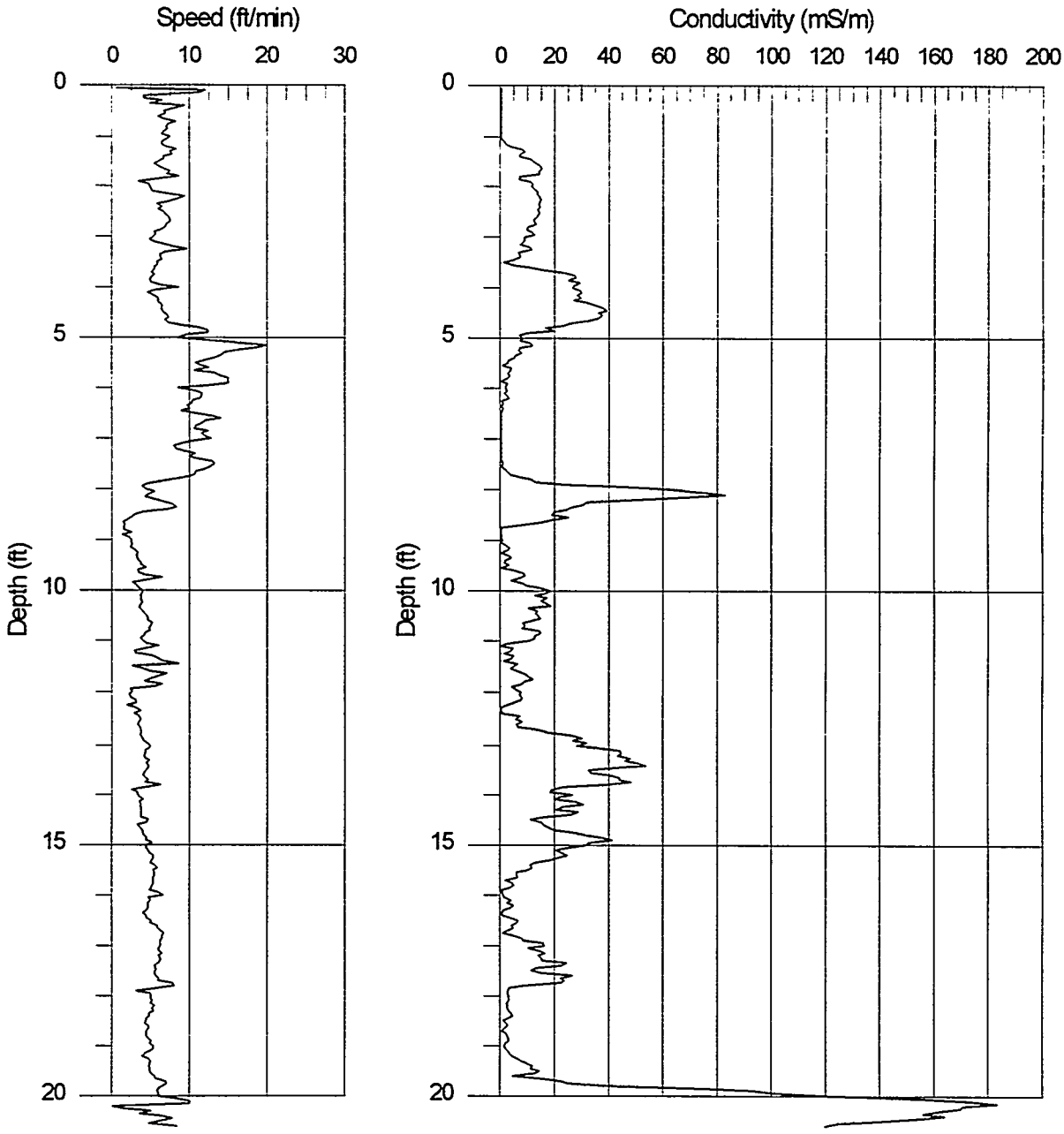
UC3-GC13
Geoprobe Conductivity Push



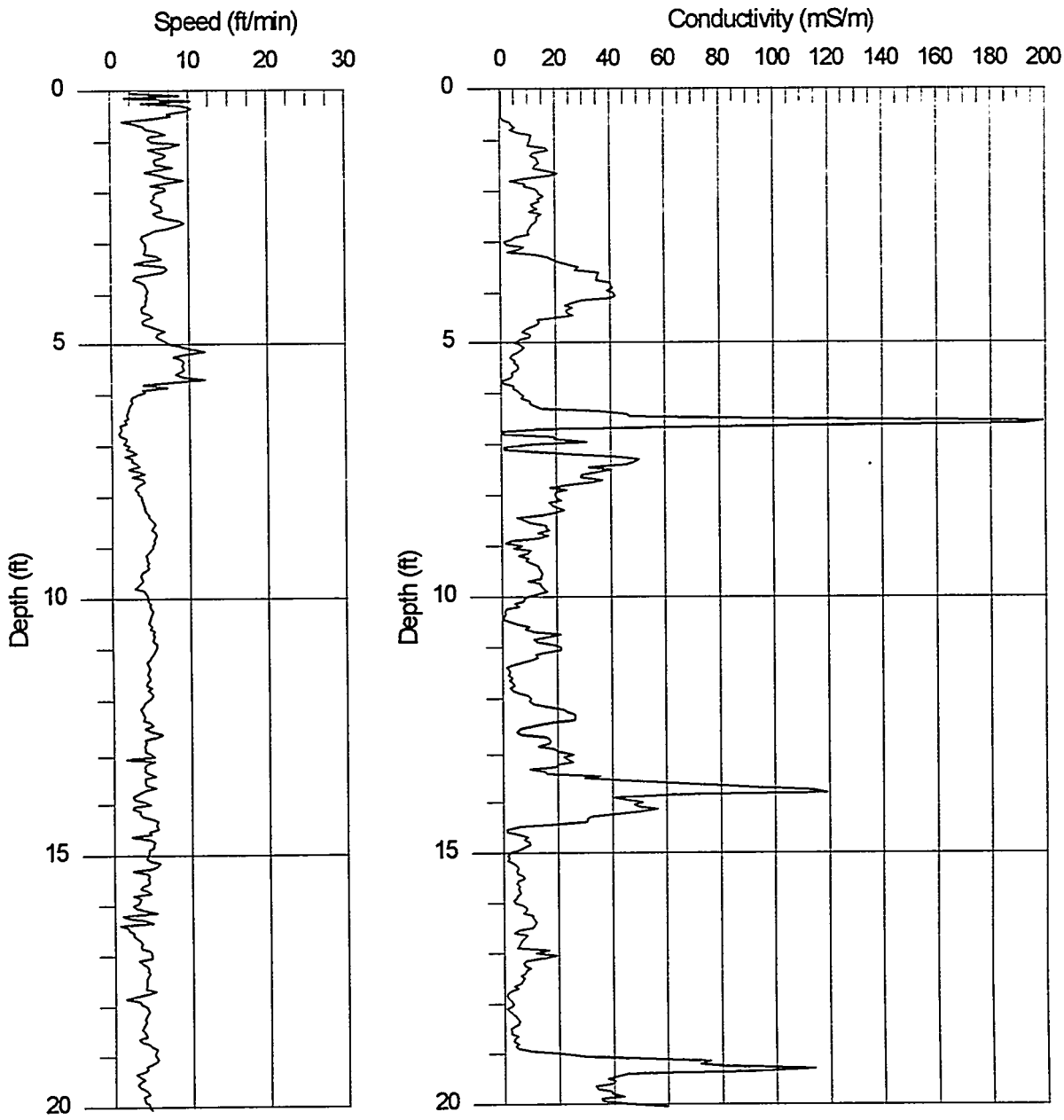
UC3-GC13A
Geoprobe Conductivity Push



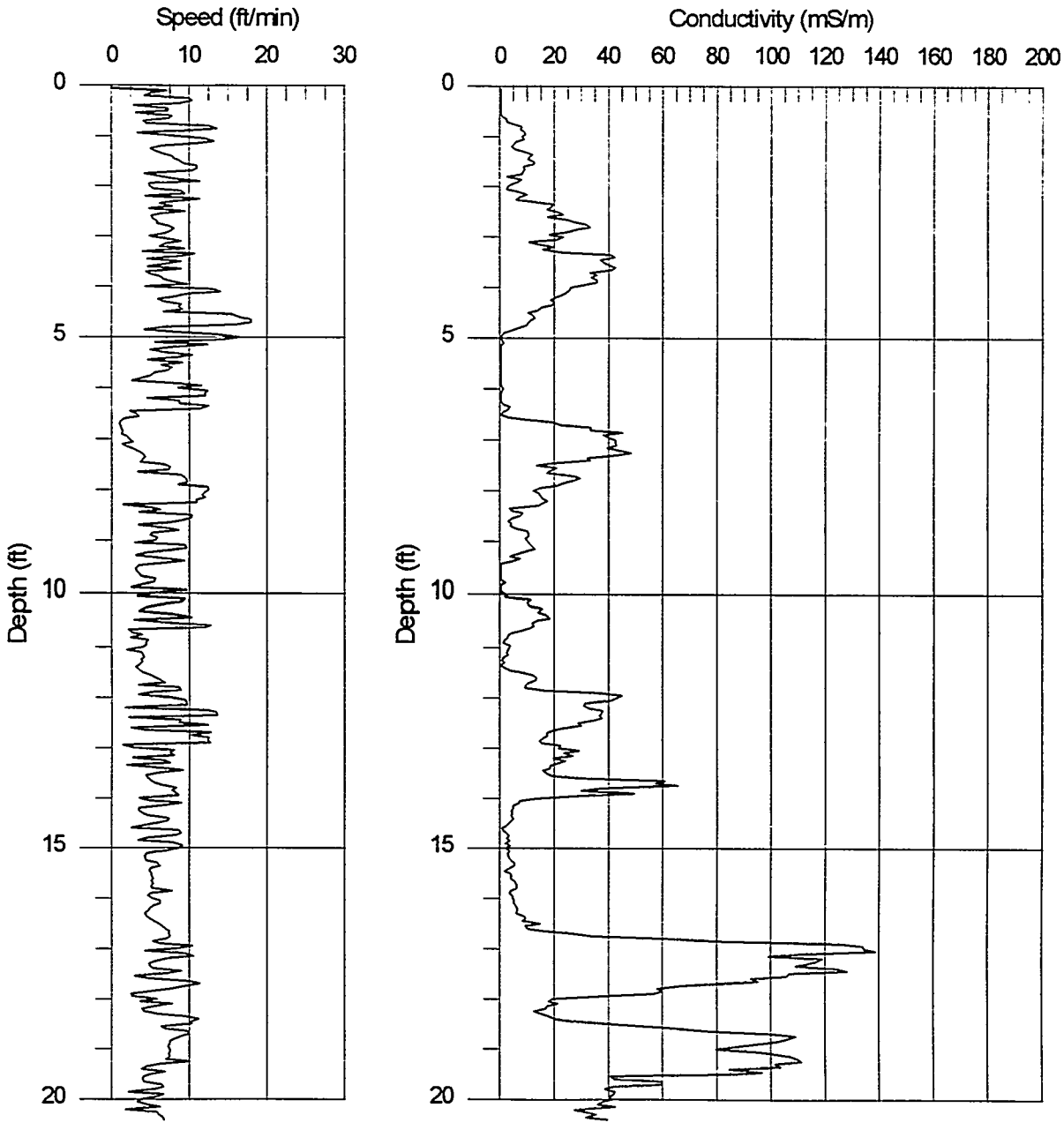
UC3-GC14
Geoprobe Conductivity Push



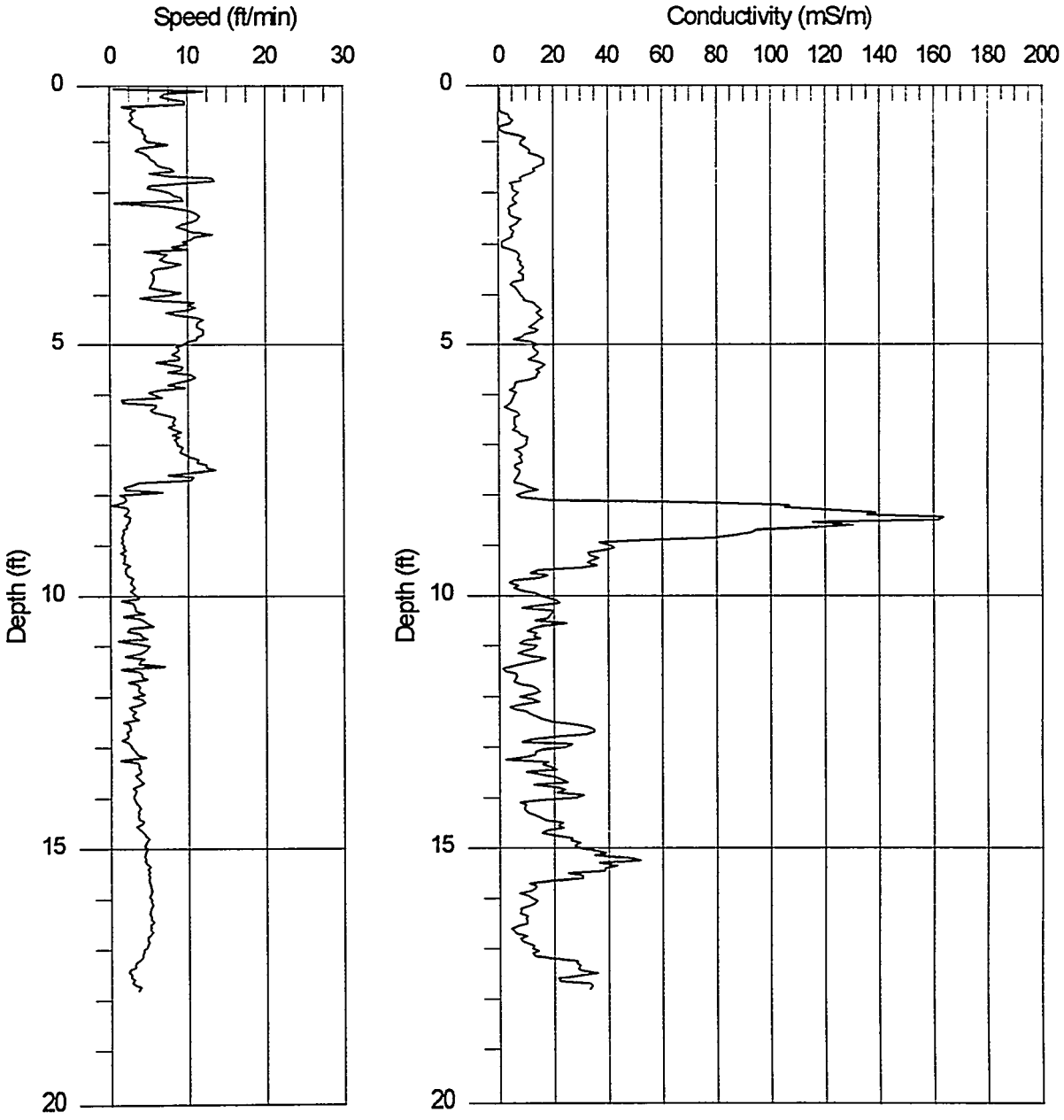
UC3-GC15
Geoprobe Conductivity Push



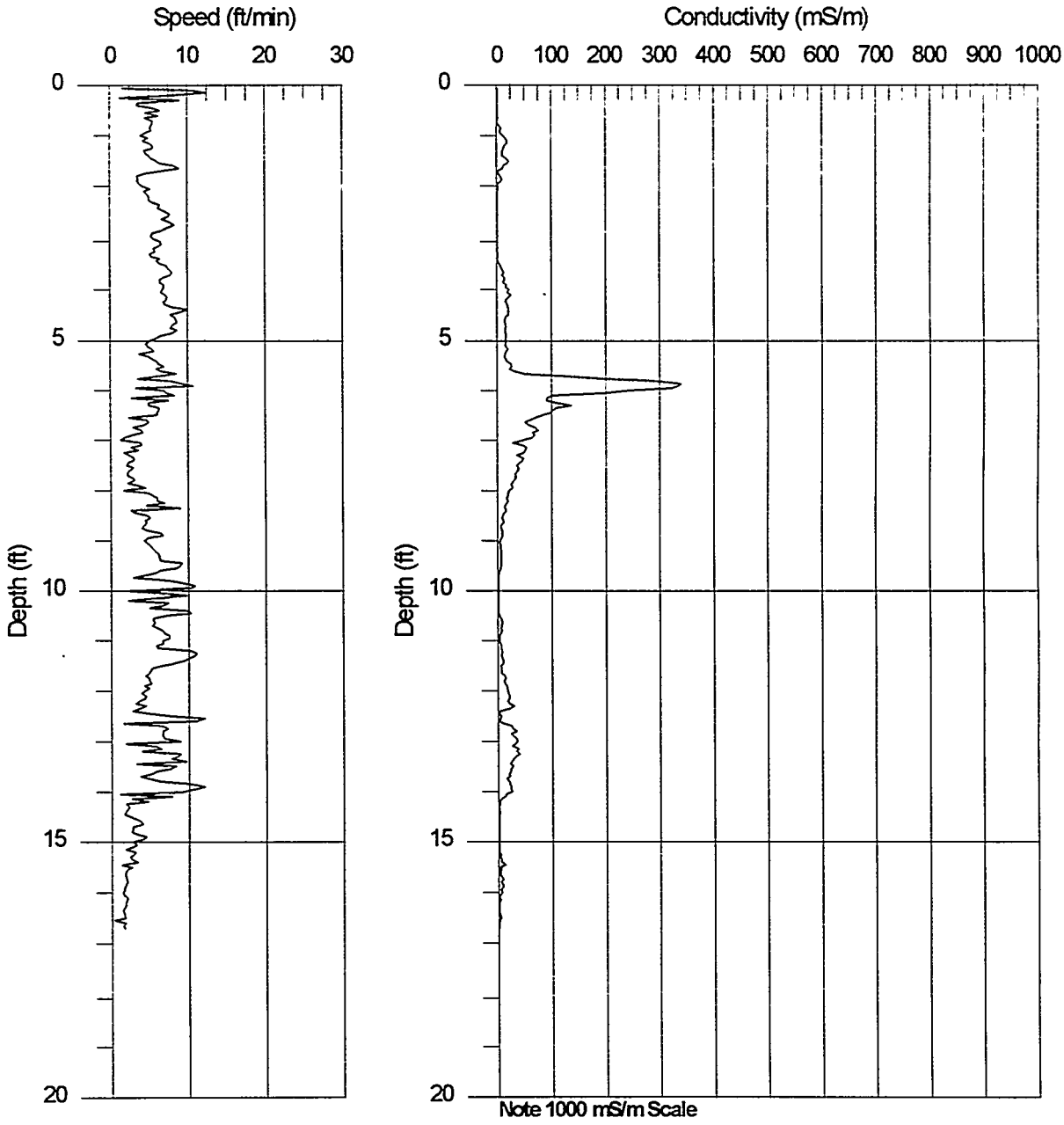
UC3-GC16
Geoprobe Conductivity Push



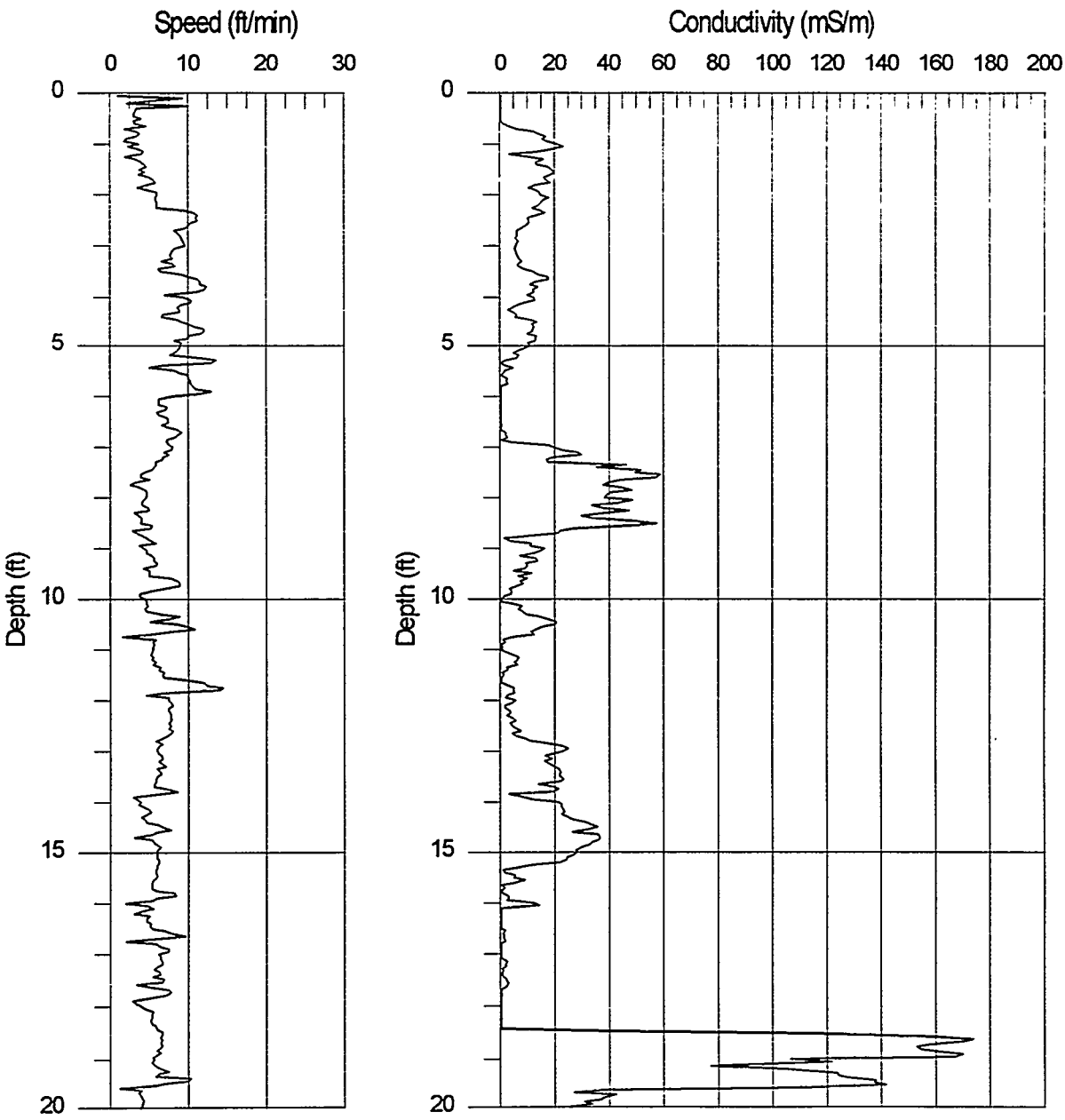
UC3-GC17
Geoprobe Conductivity Push



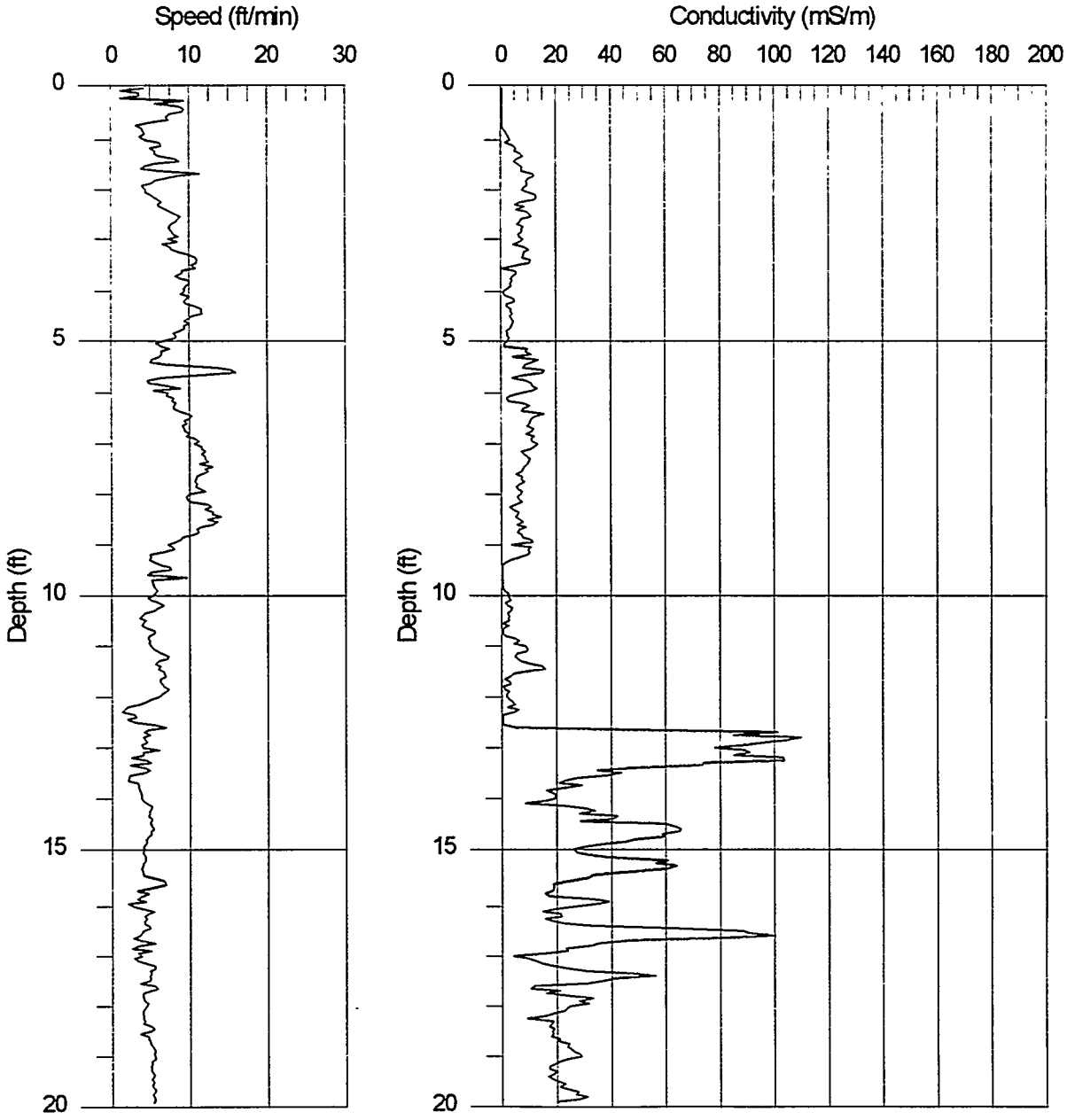
UC3-GC18
Geoprobe Conductivity Push



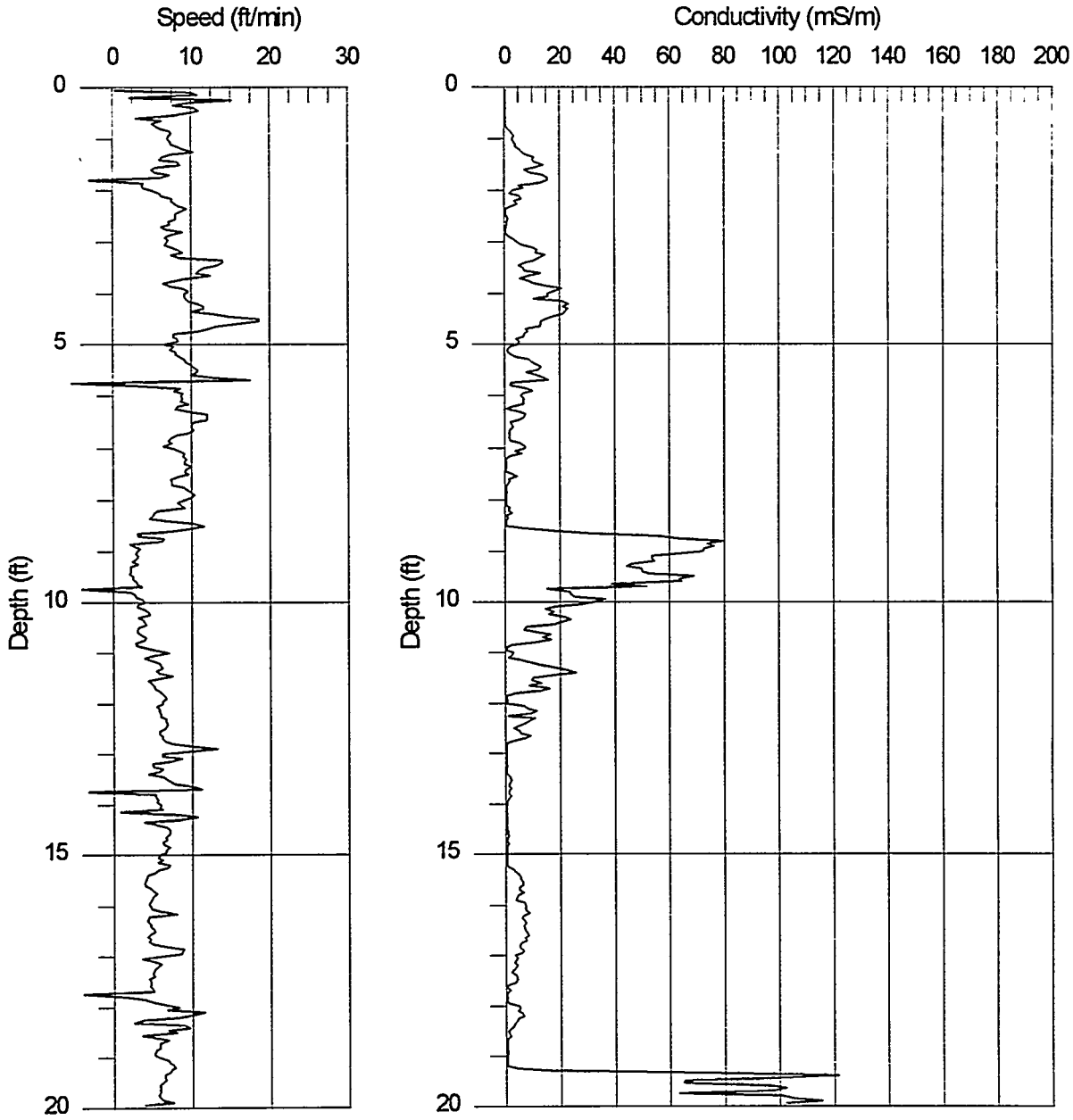
UC3-GC19
Geoprobe Conductivity Push



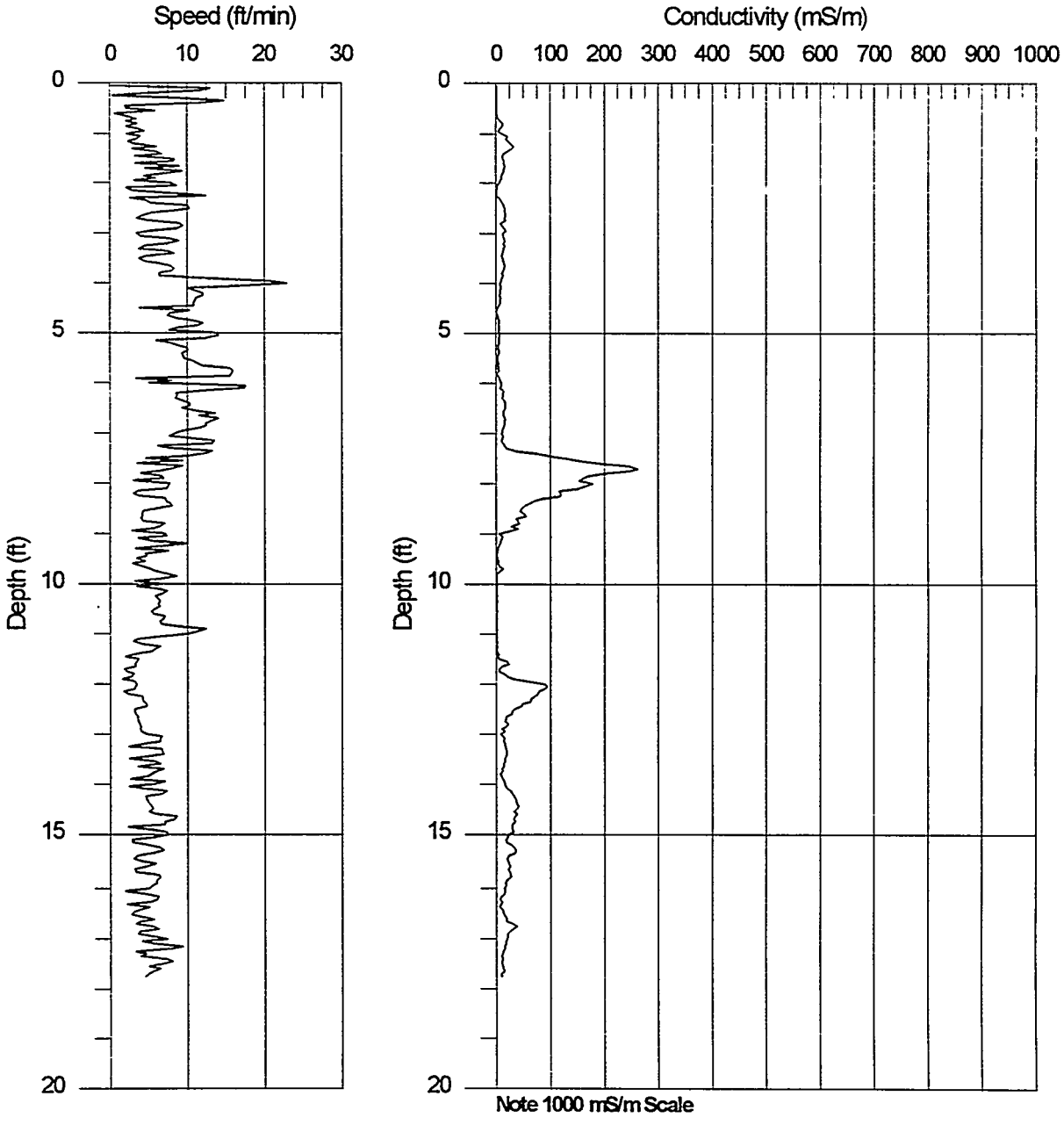
UC3-GC20
Geoprobe Conductivity Push



UC3-GC21
Geoprobe Conductivity Push



UC3-GC22
Geoprobe Conductivity Push



UC3-GC23
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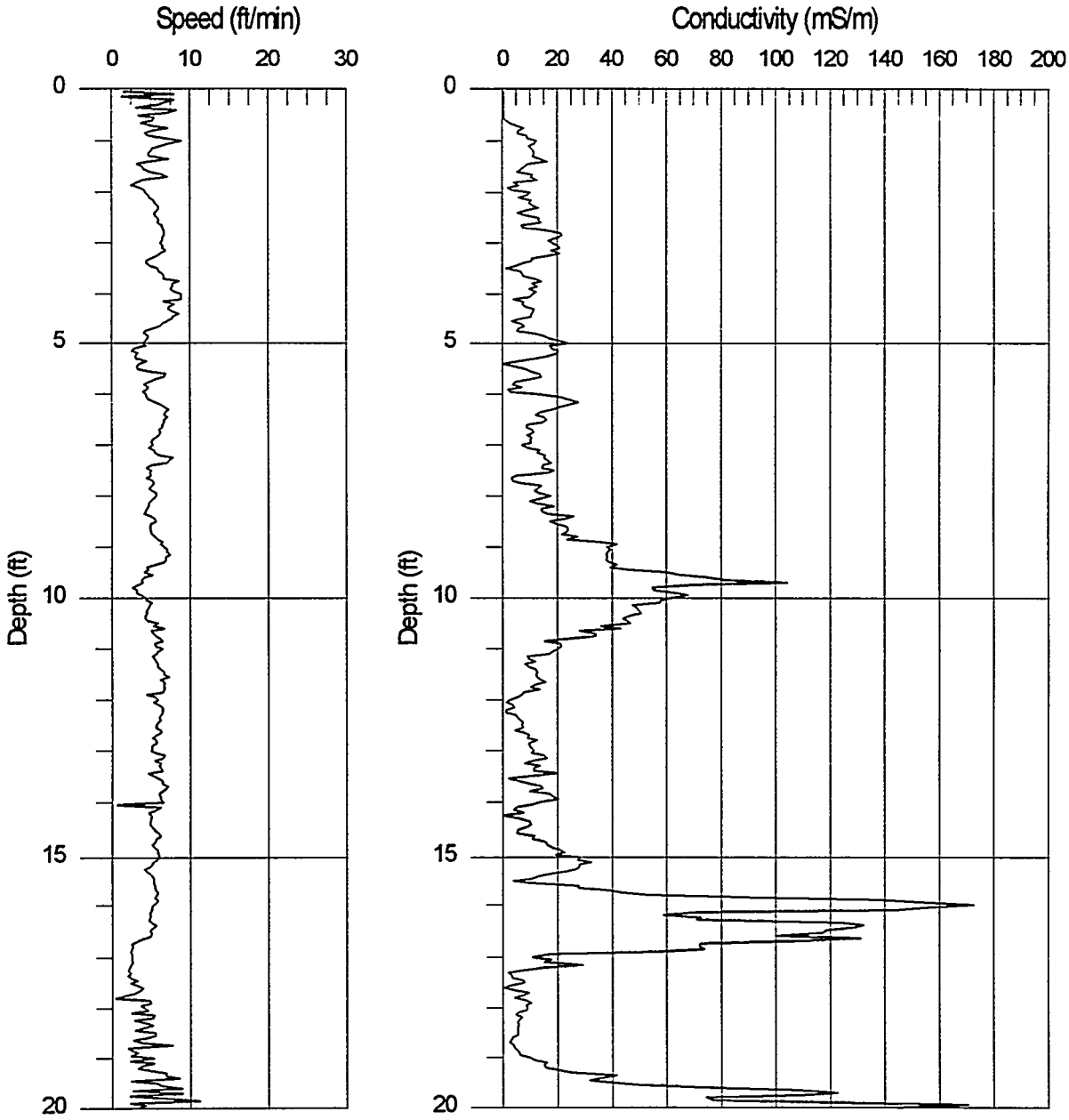
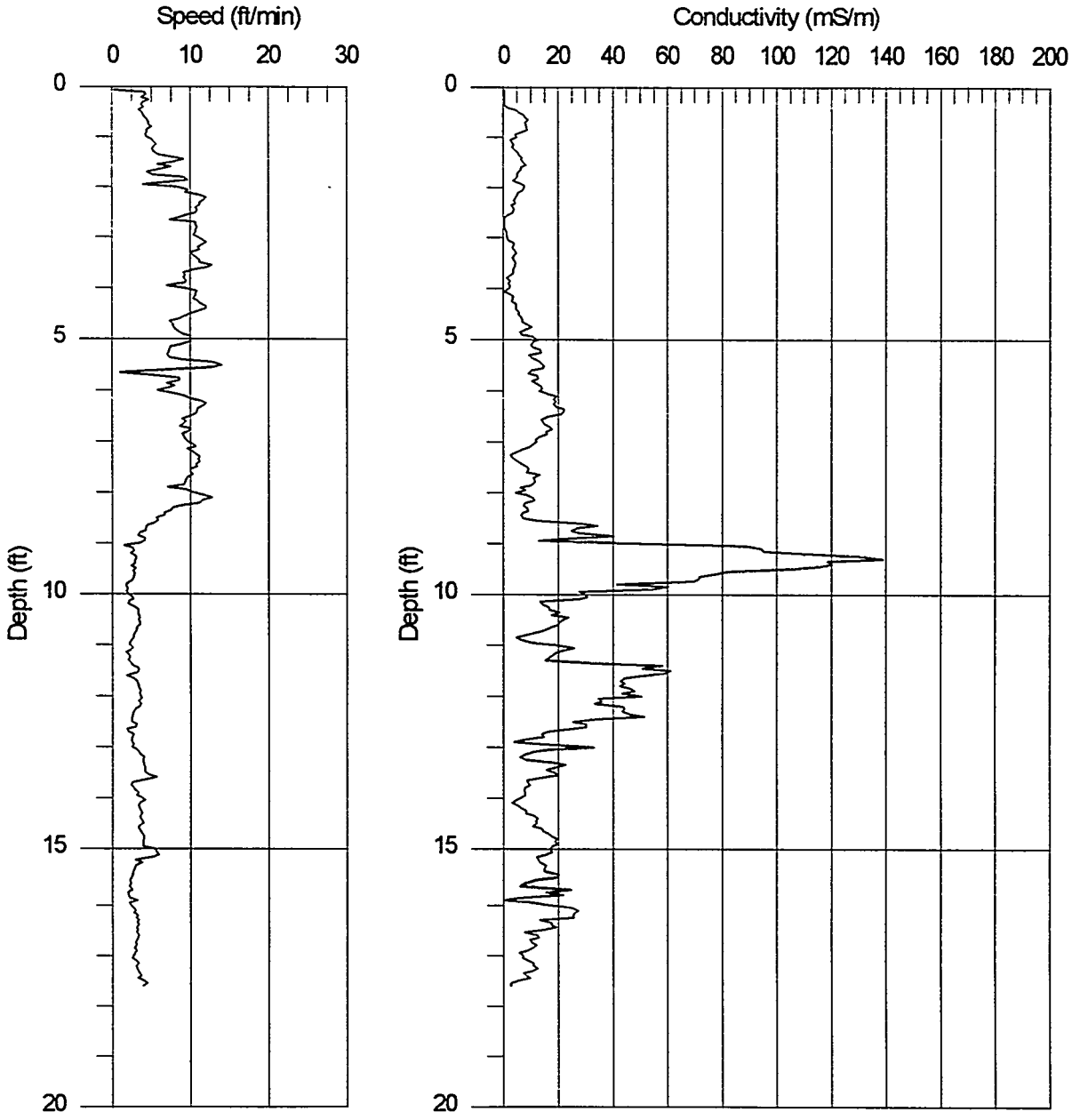
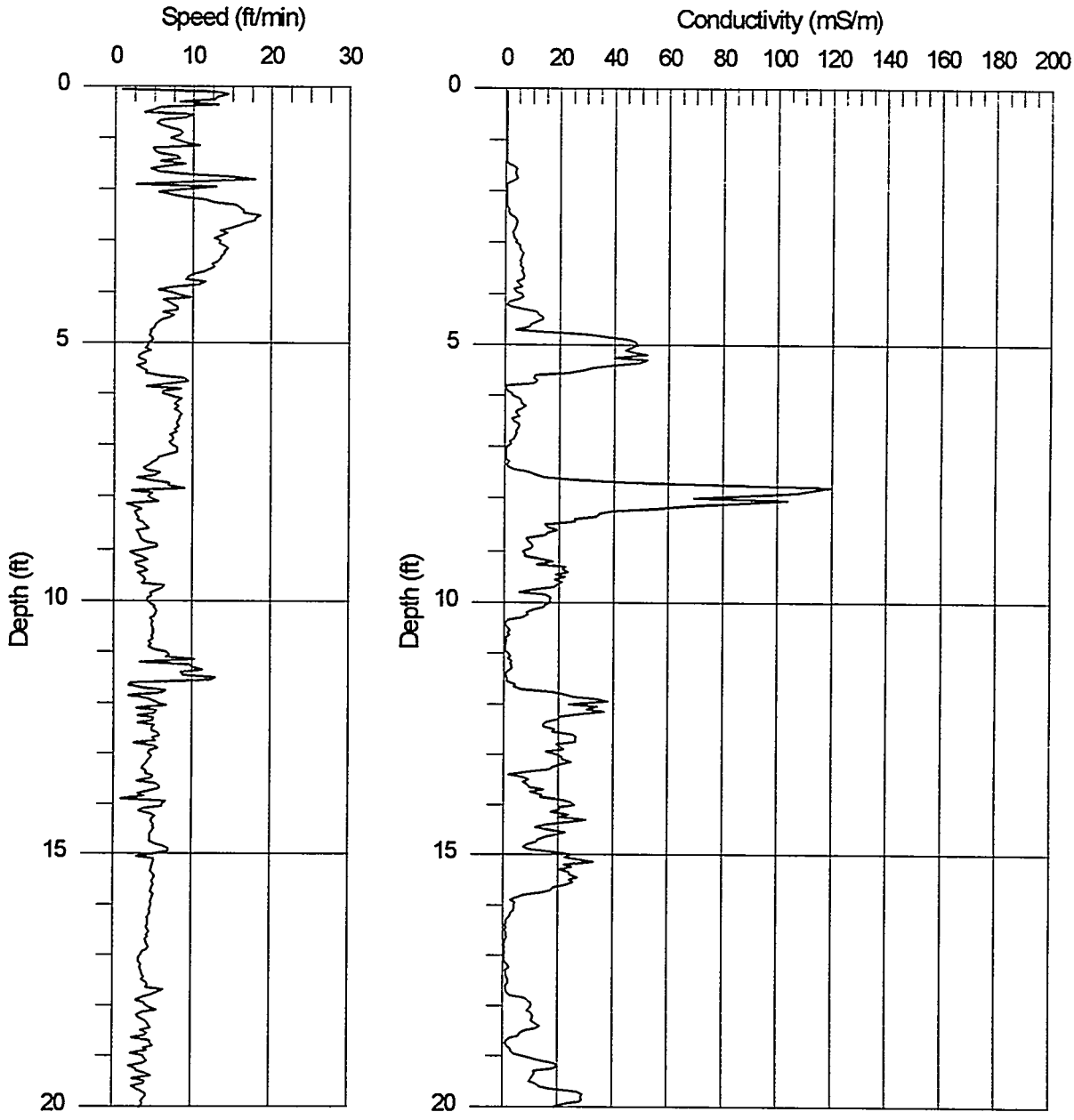


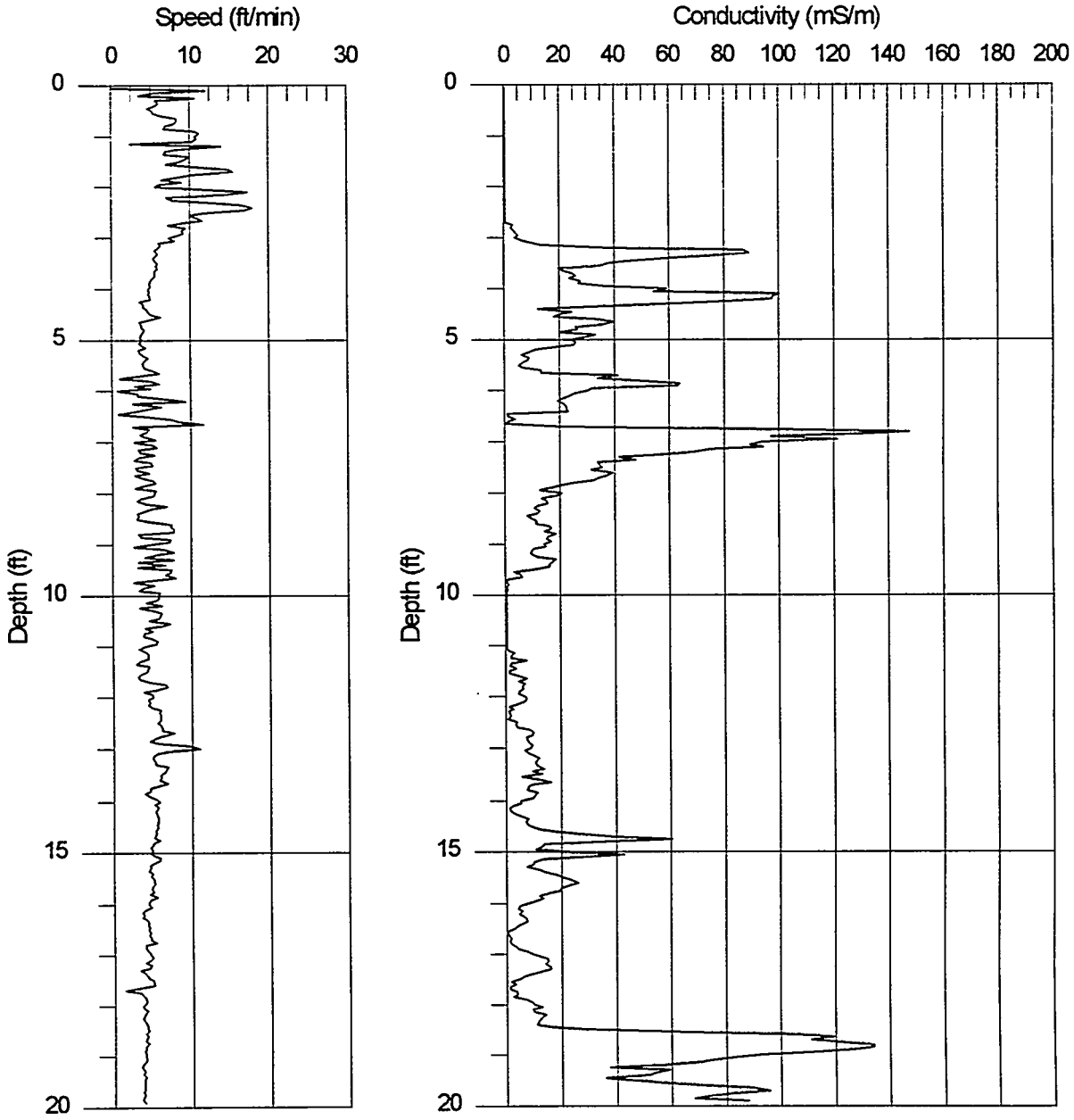
UC3-GC24
Geoprobe Conductivity Push



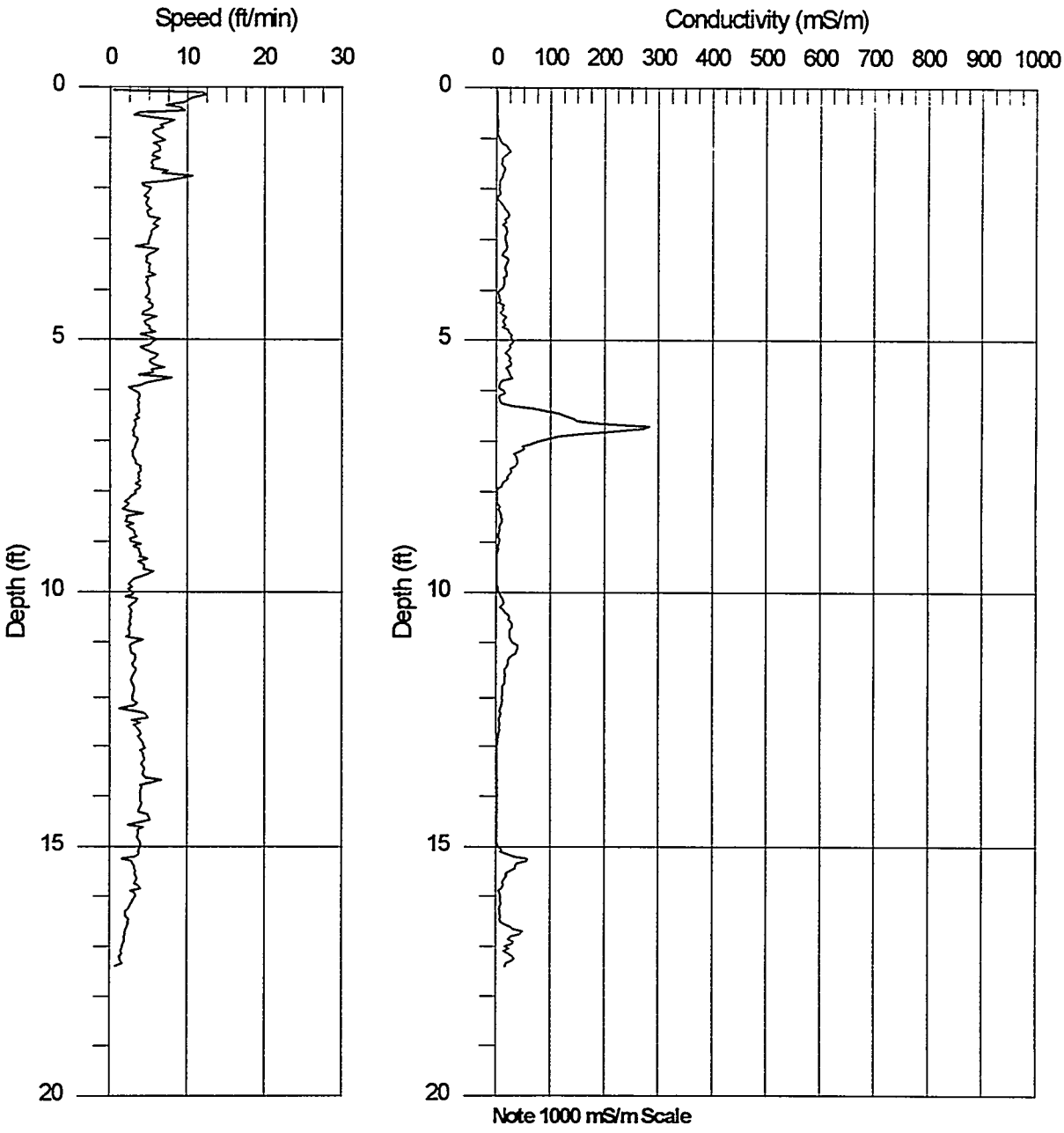
UC3-GC25
Geoprobe Conductivity Push



UC3-GC26
Geoprobe Conductivity Push



UC3-GC27
Geoprobe Conductivity Push

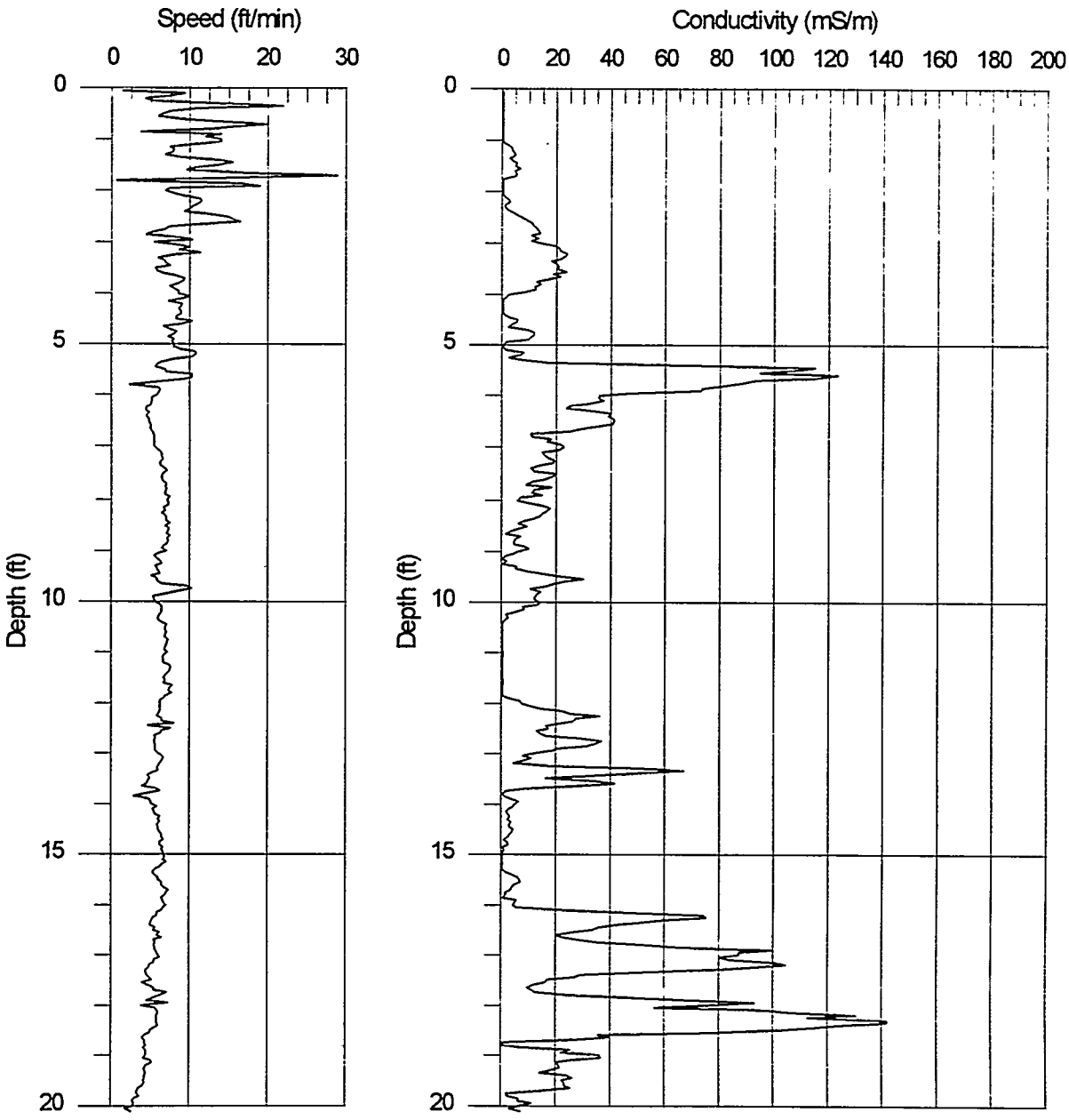


Since there was refusal on the surface,

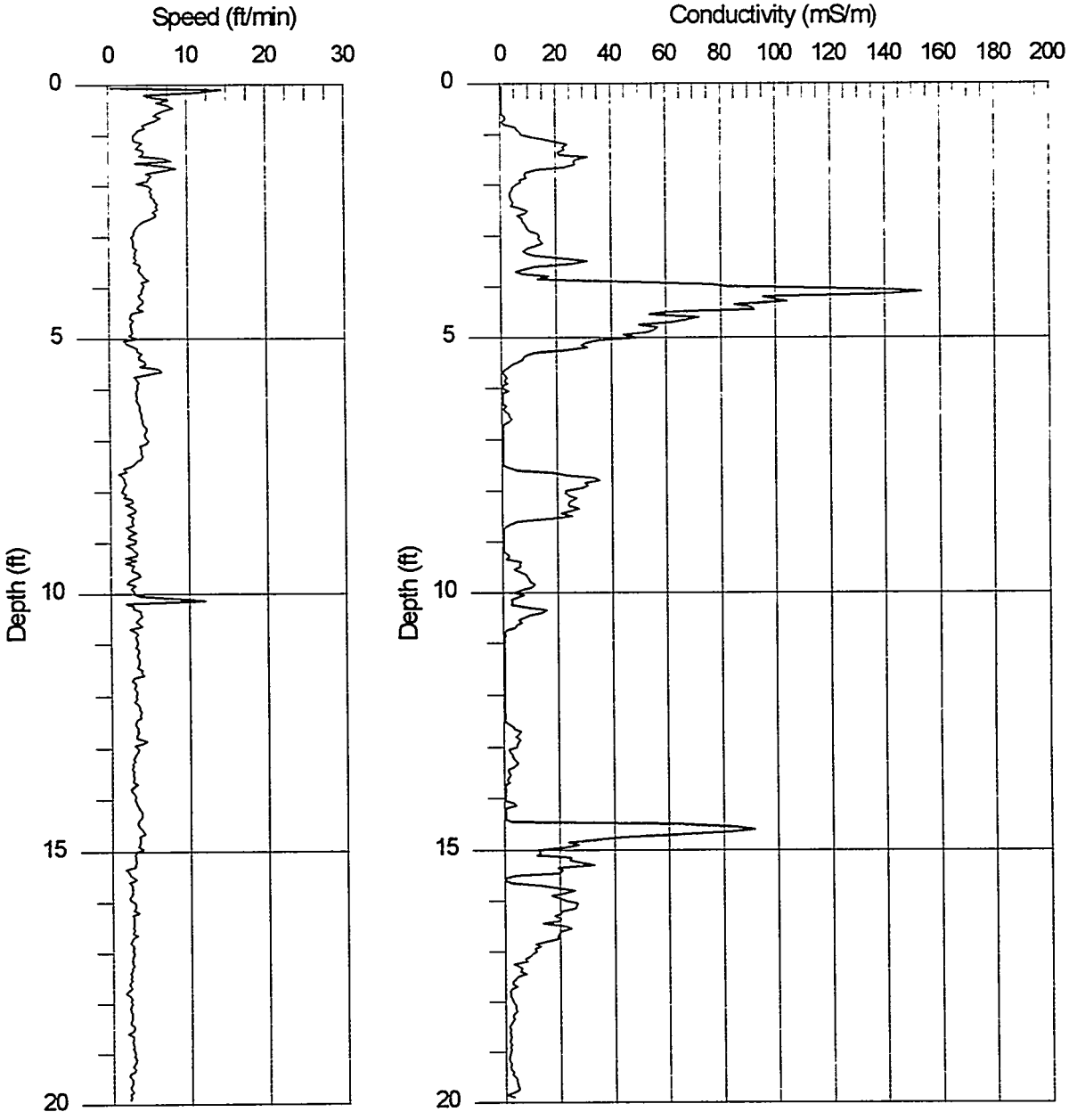
there was no UC-3-GC28

Geoprobe Conductivity Push made.

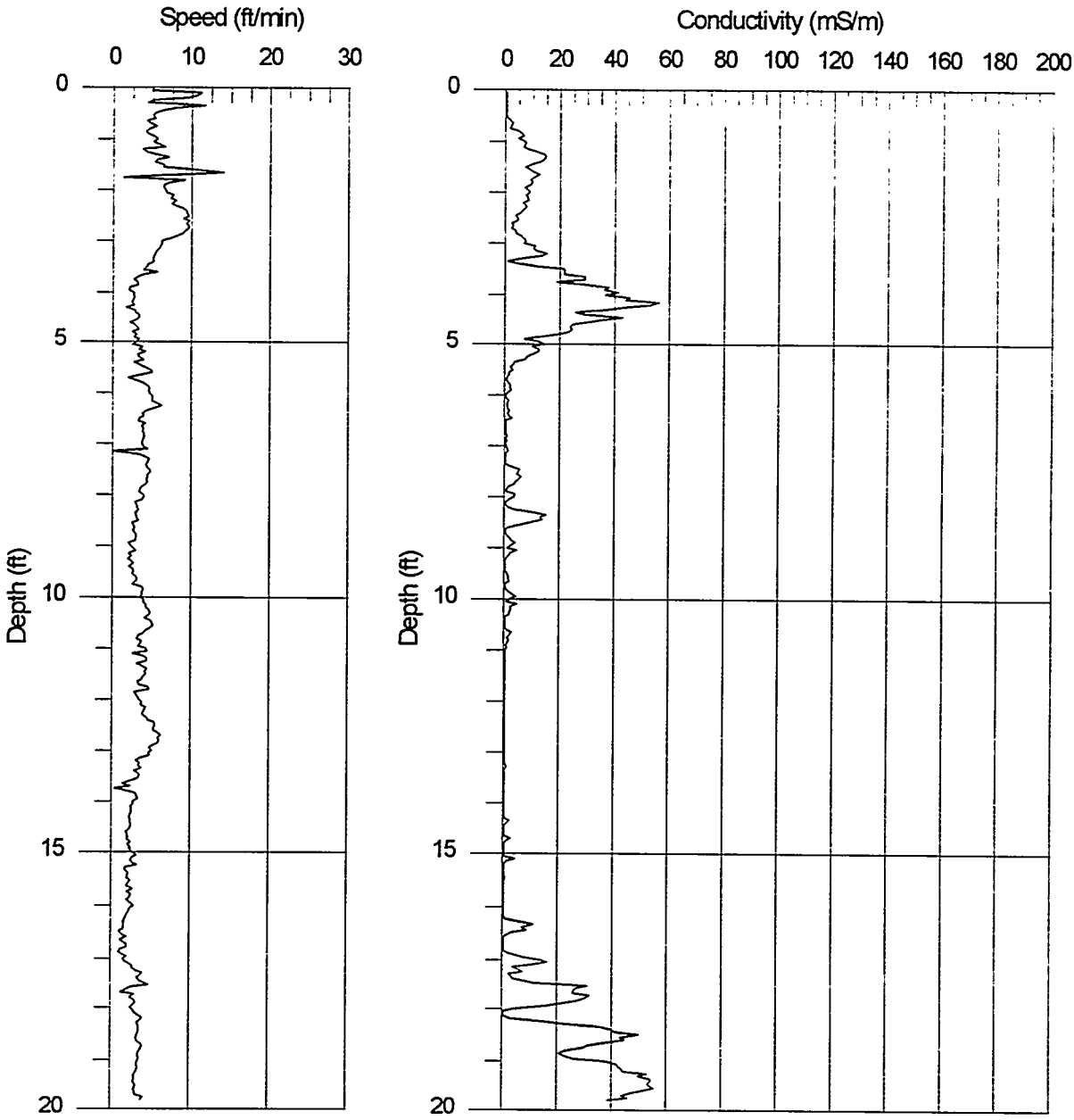
UC3-GC29
Geoprobe Conductivity Push



UC3-GC30
Geoprobe Conductivity Push



UC3-GC31A
Geoprobe Conductivity Push



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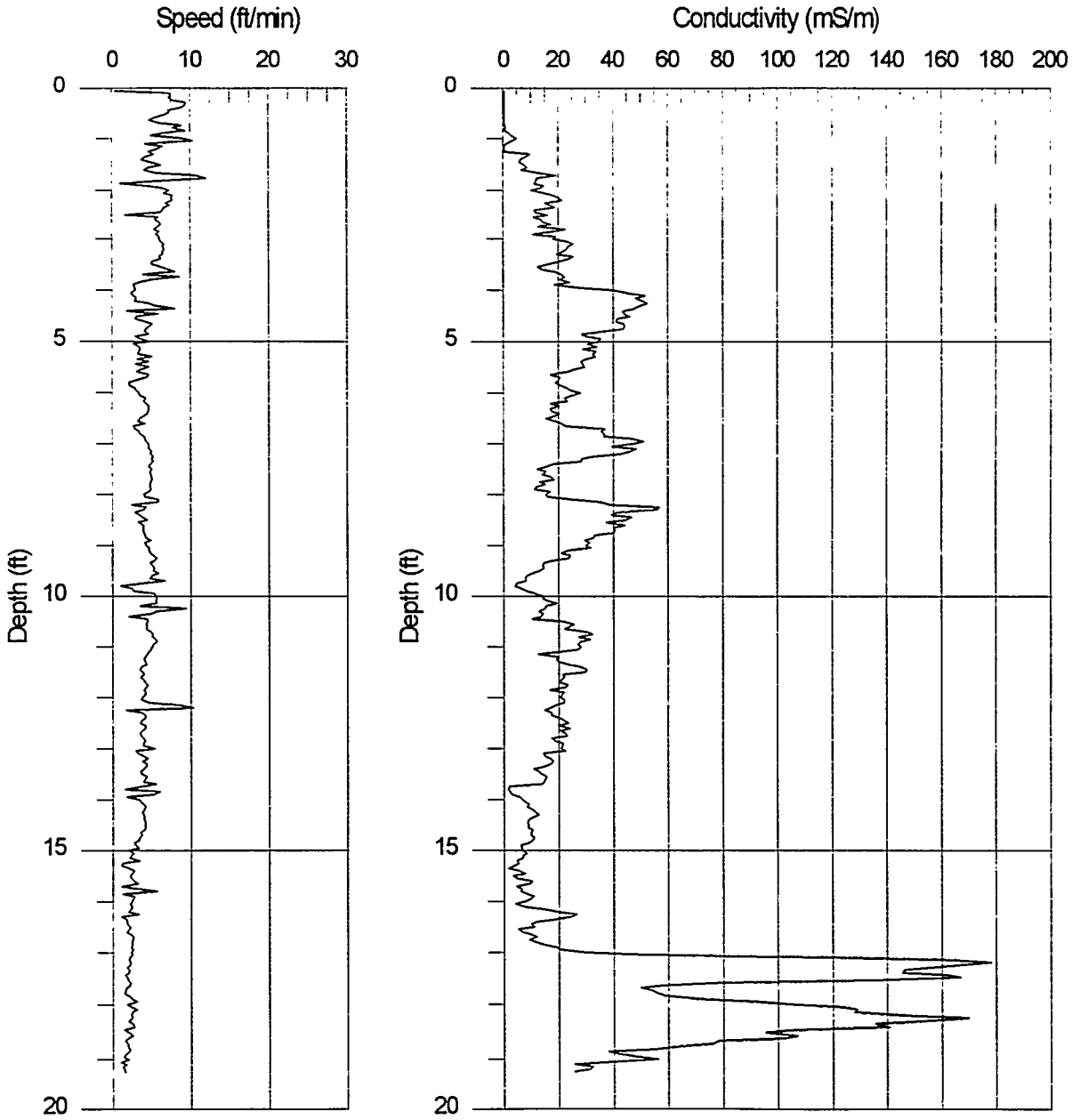

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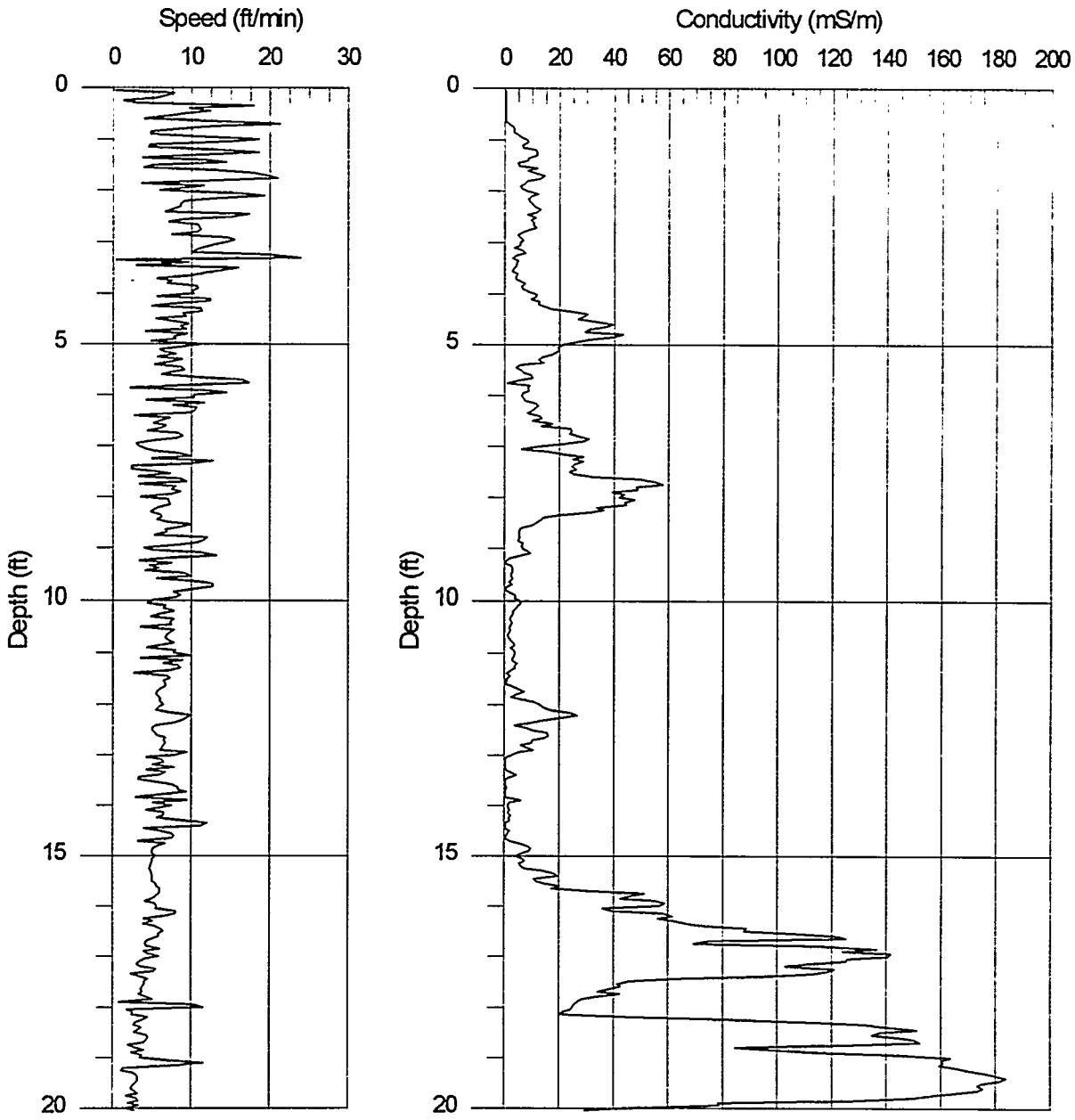

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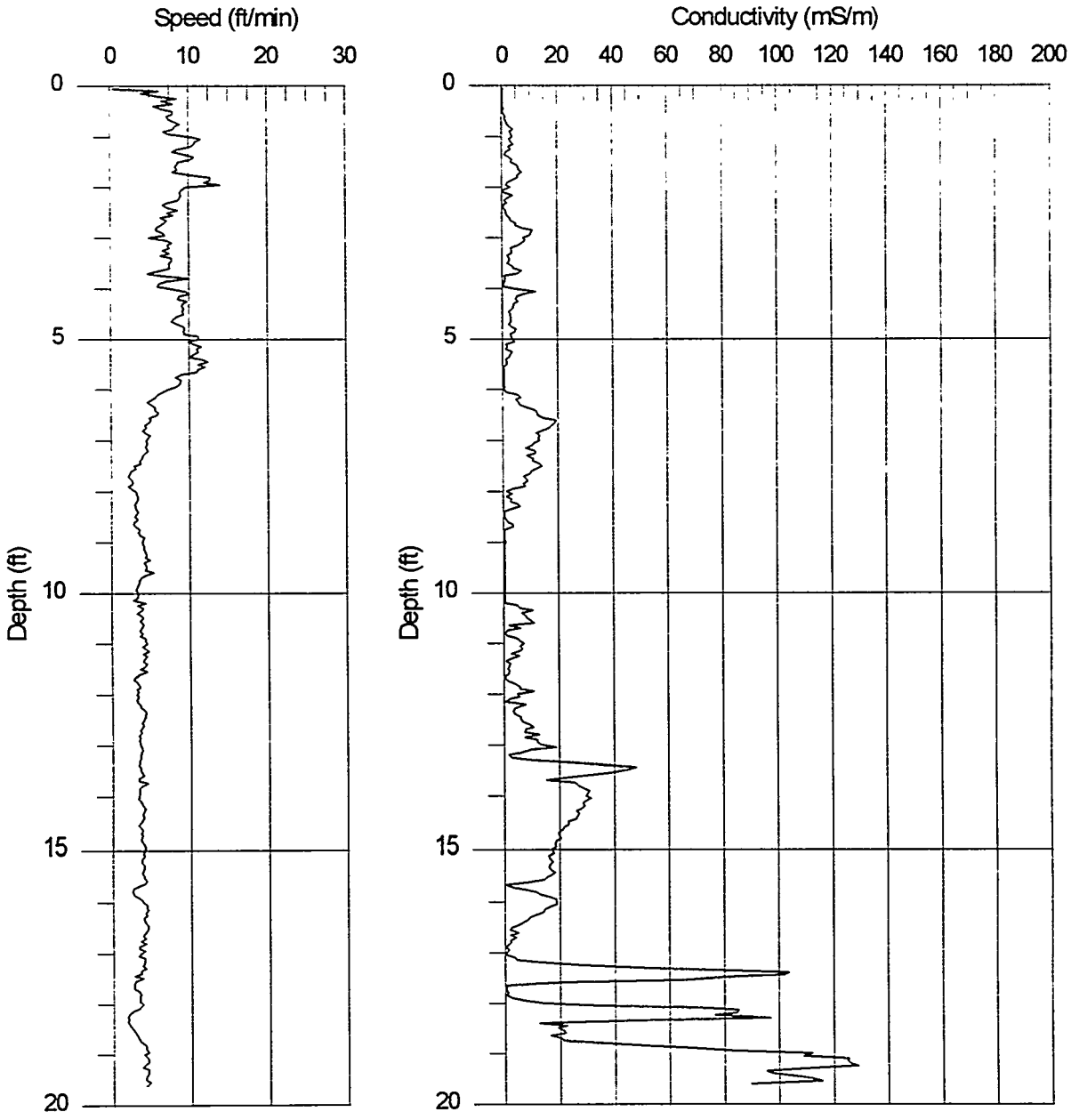

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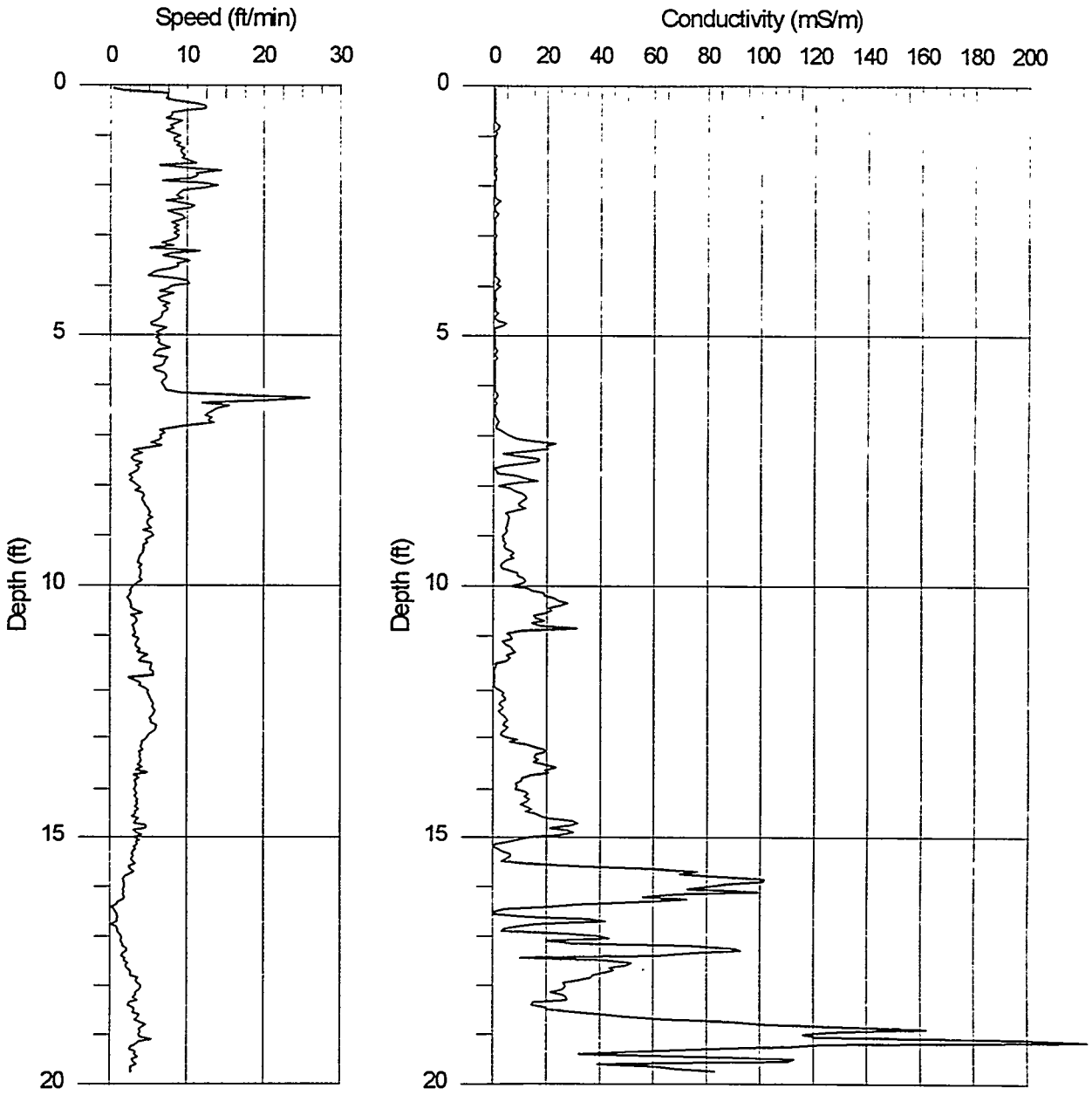

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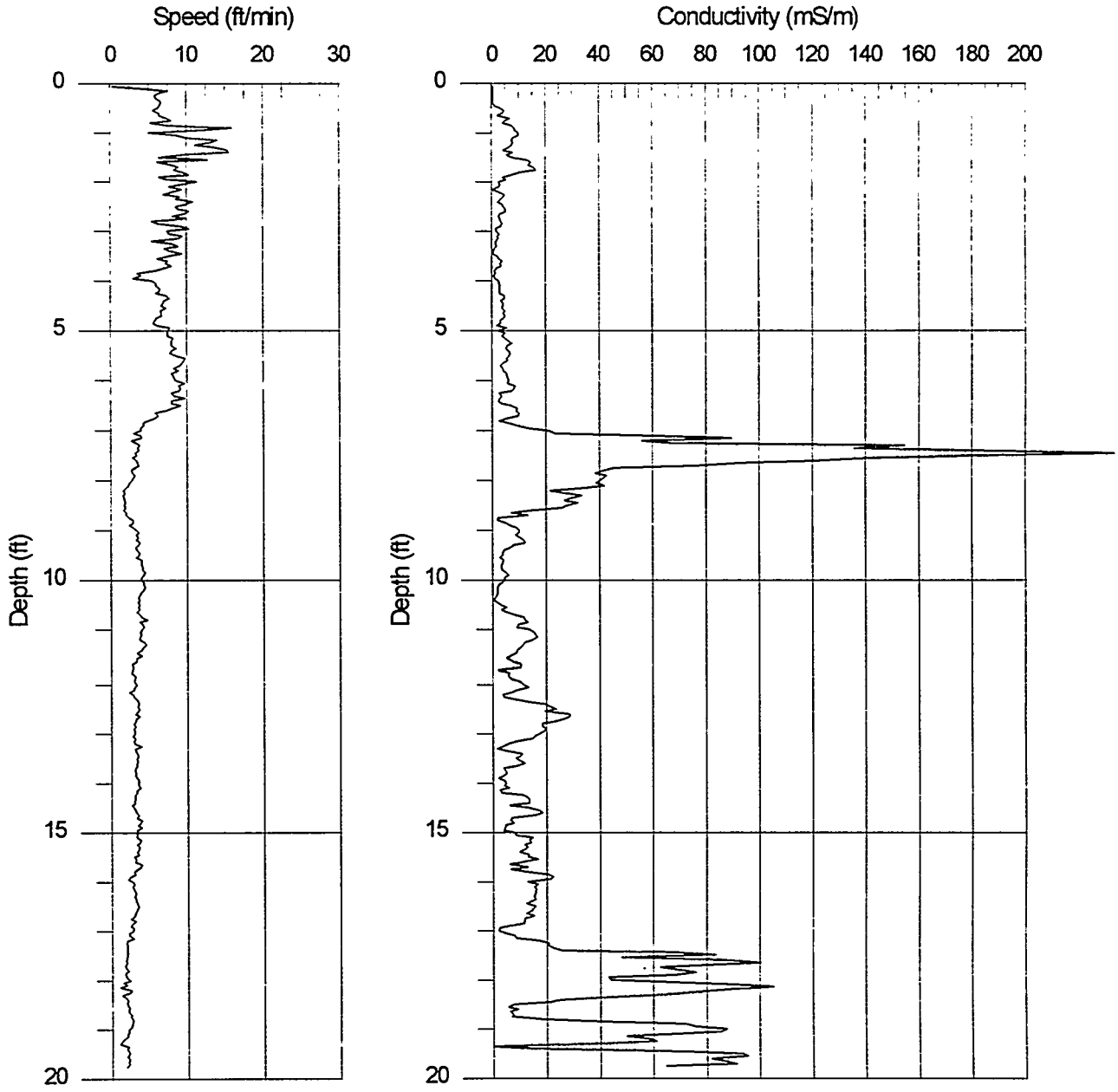

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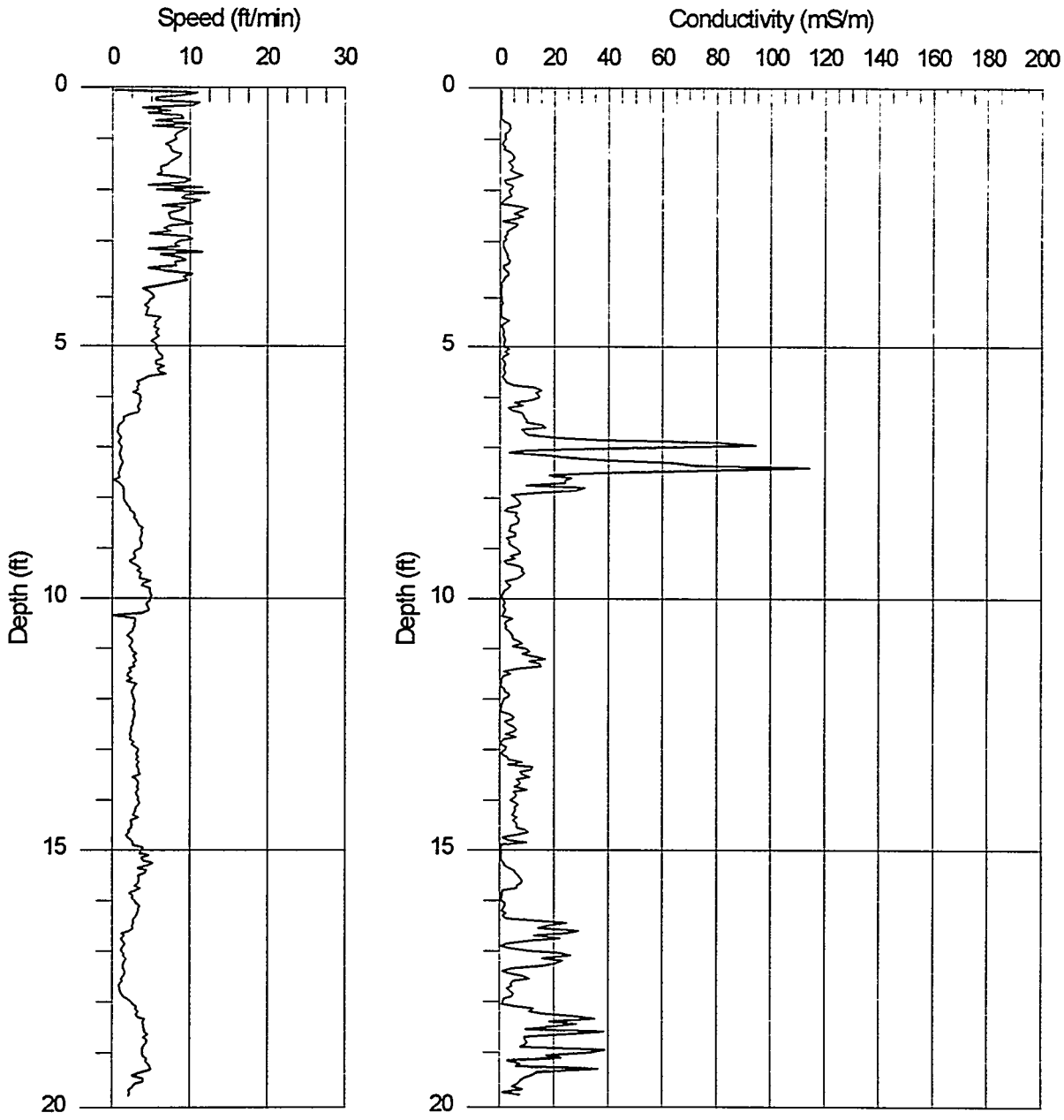

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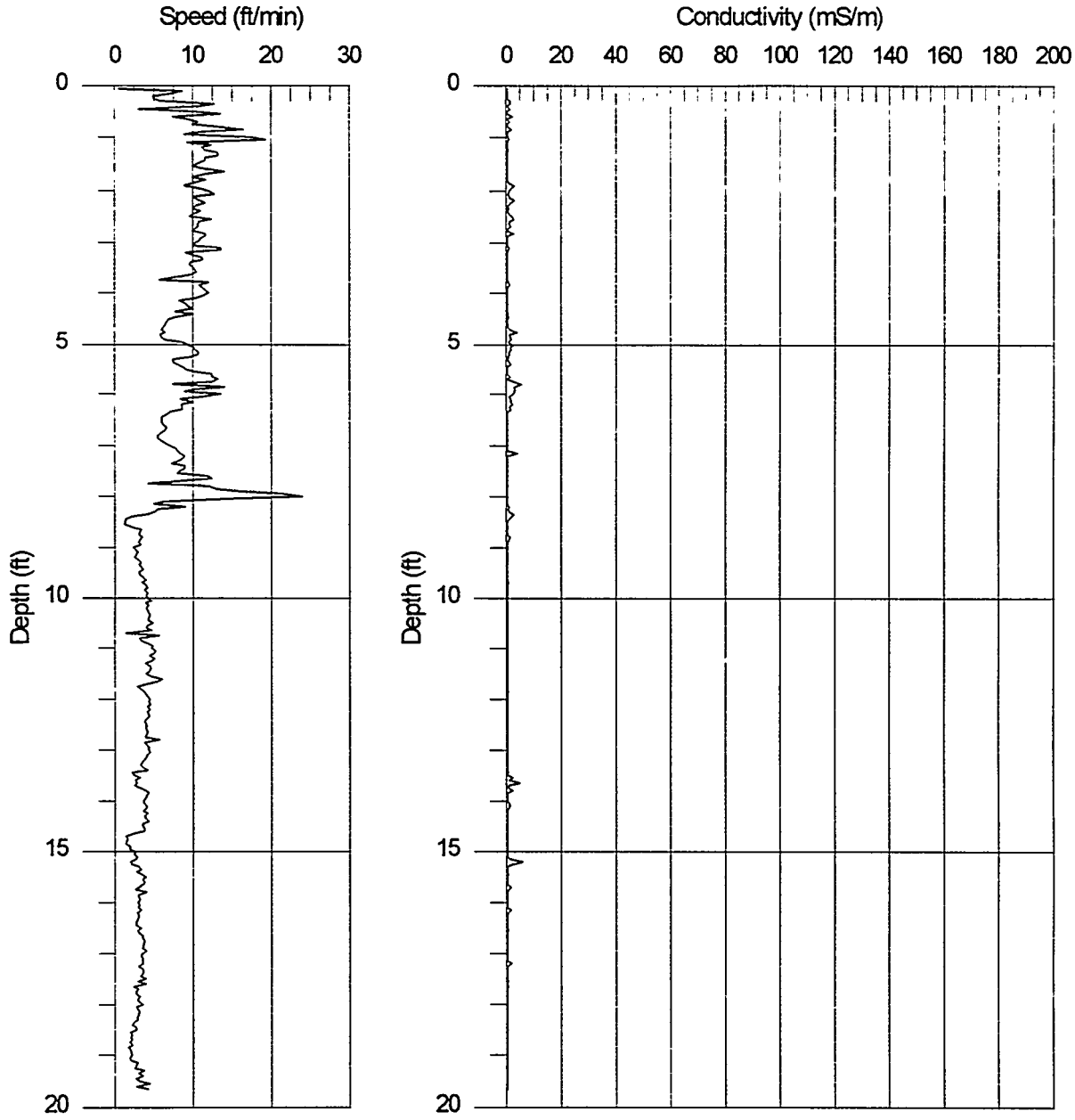

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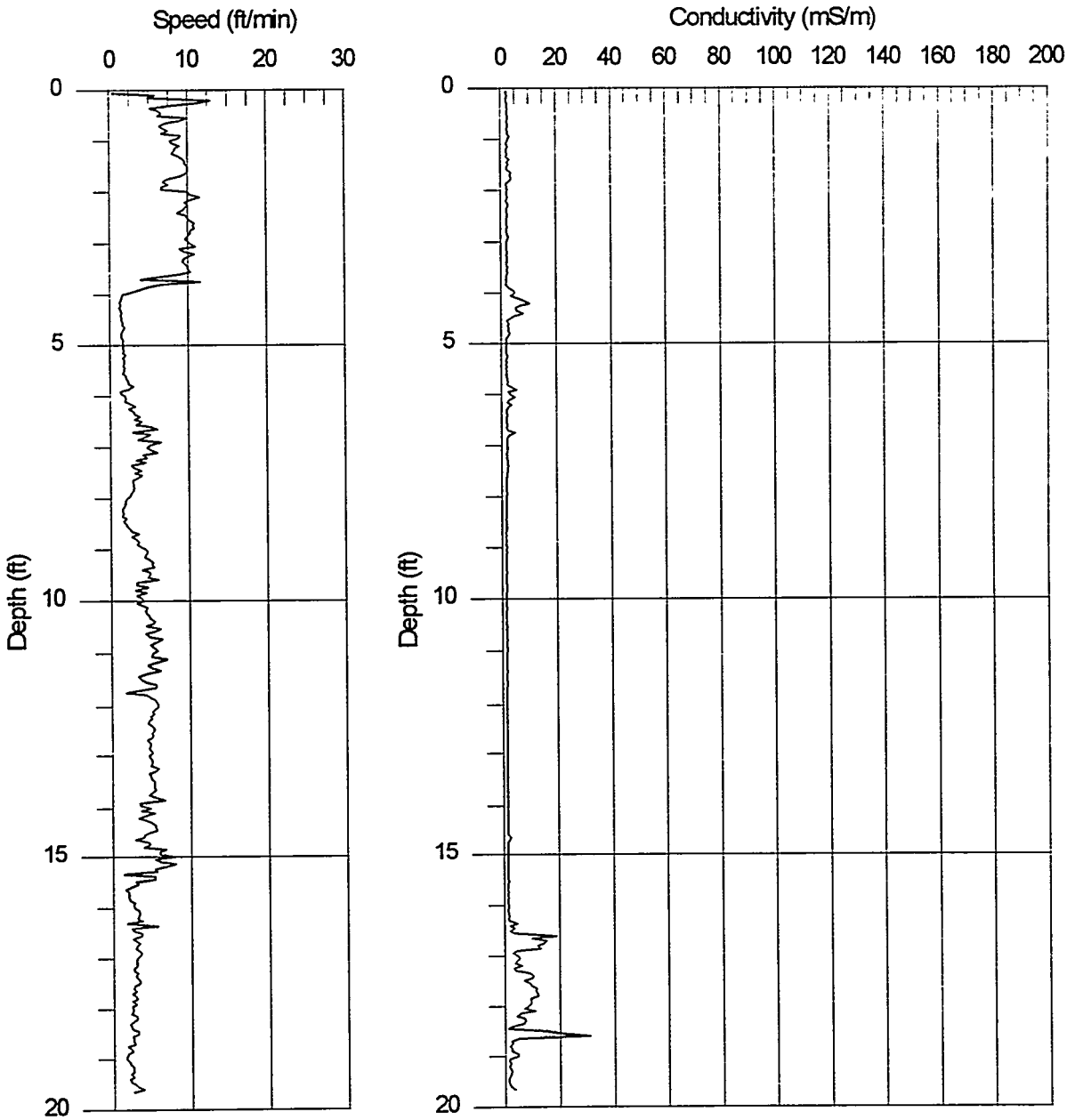

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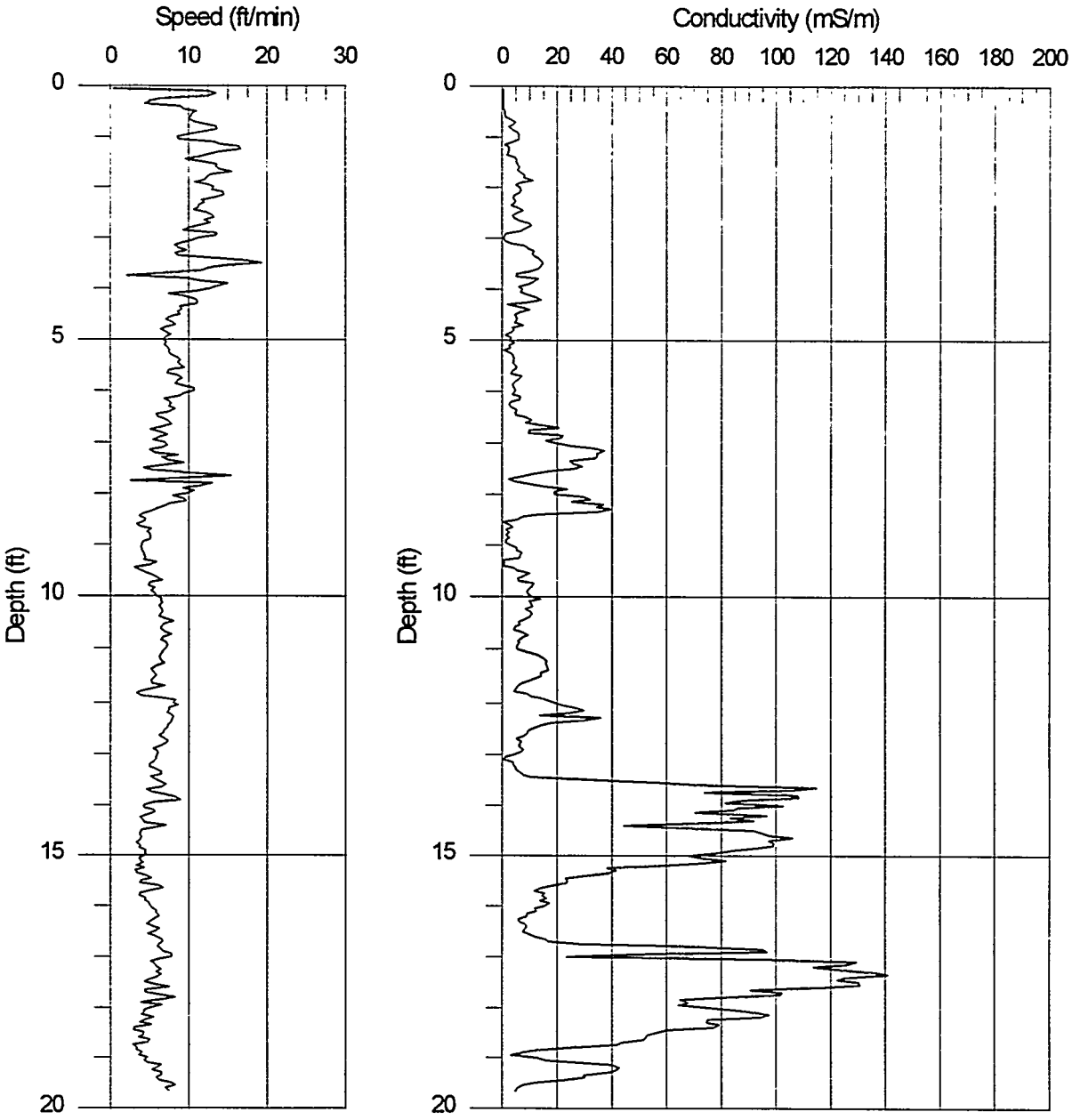

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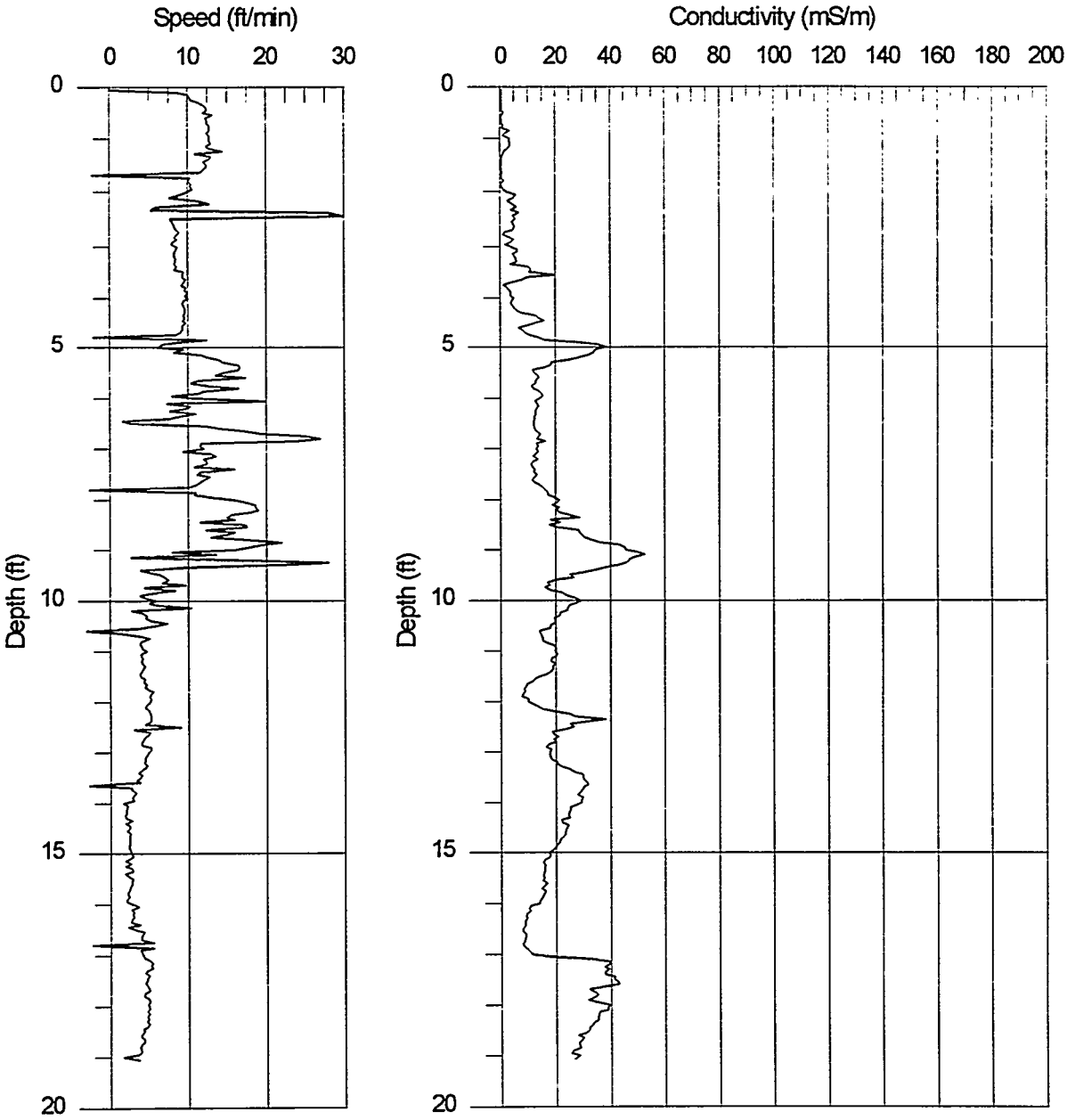

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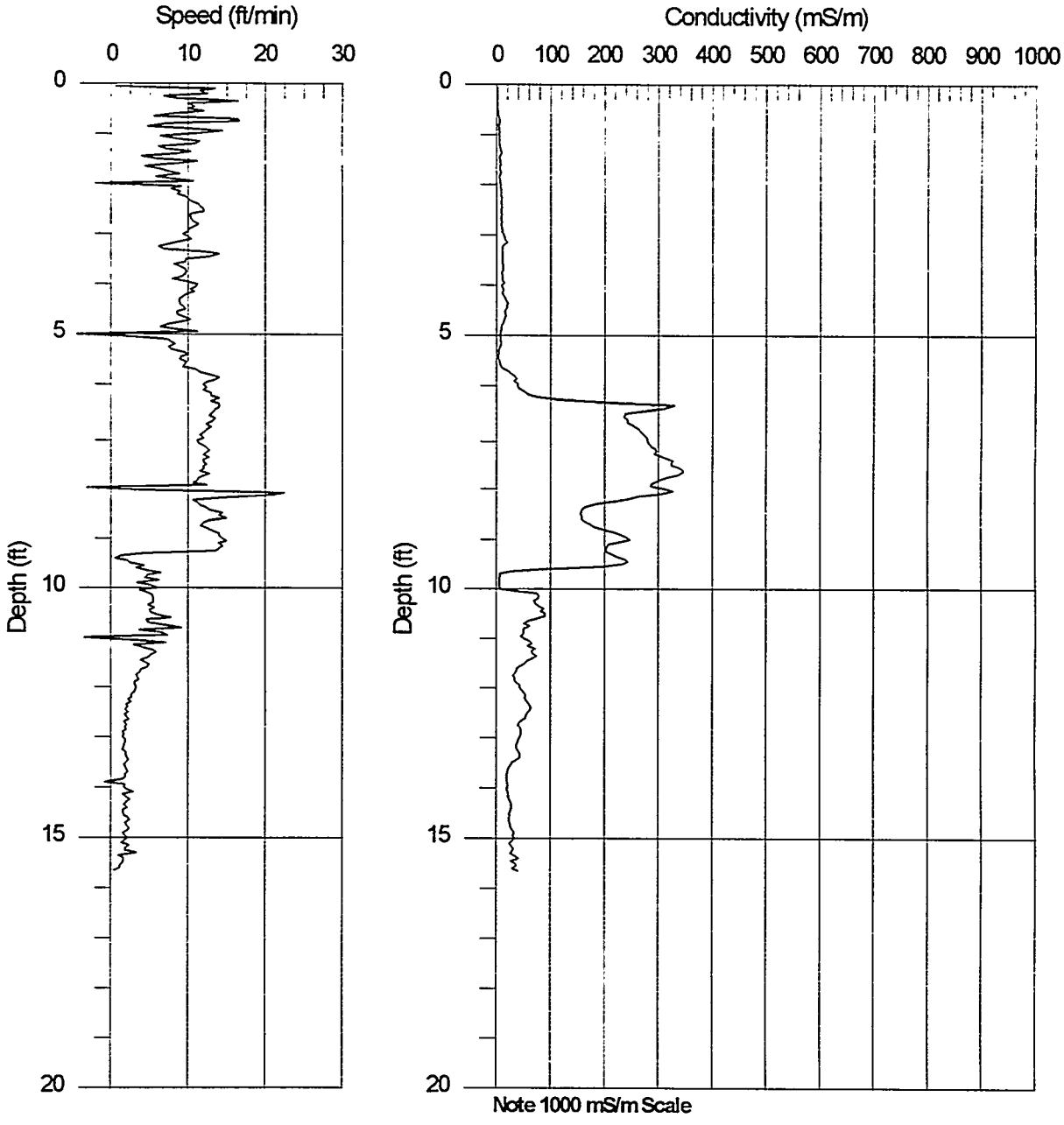

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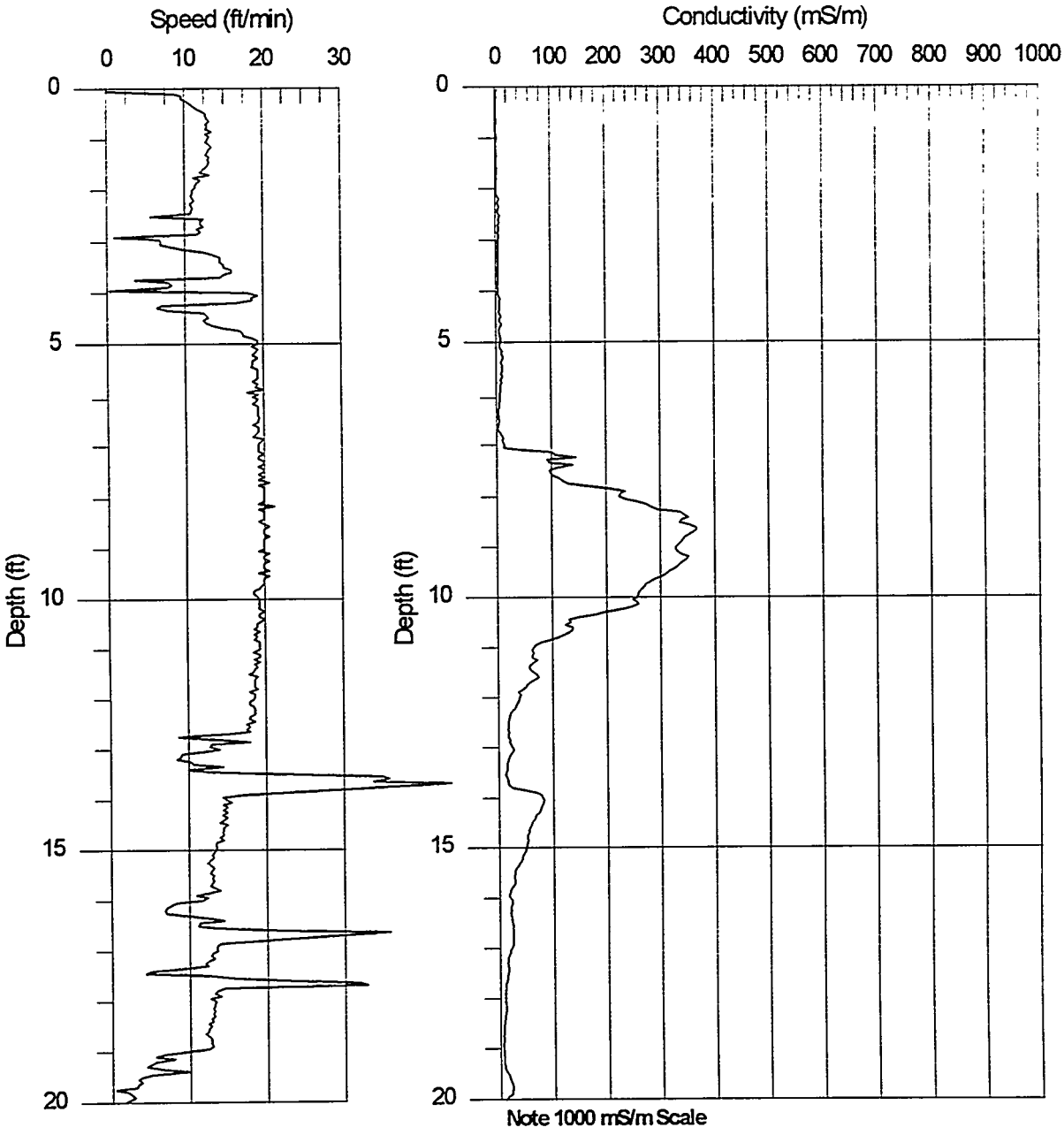

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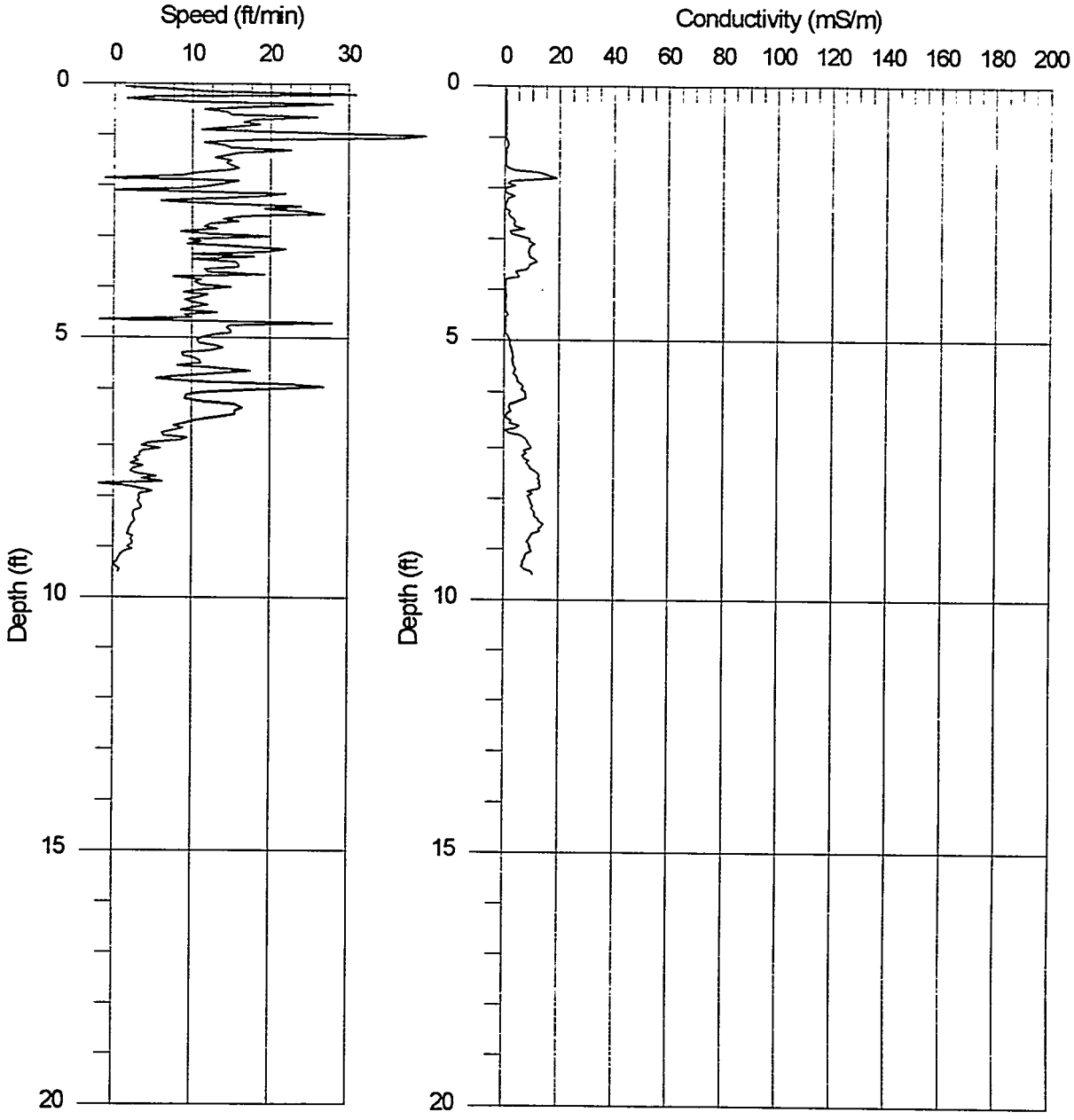

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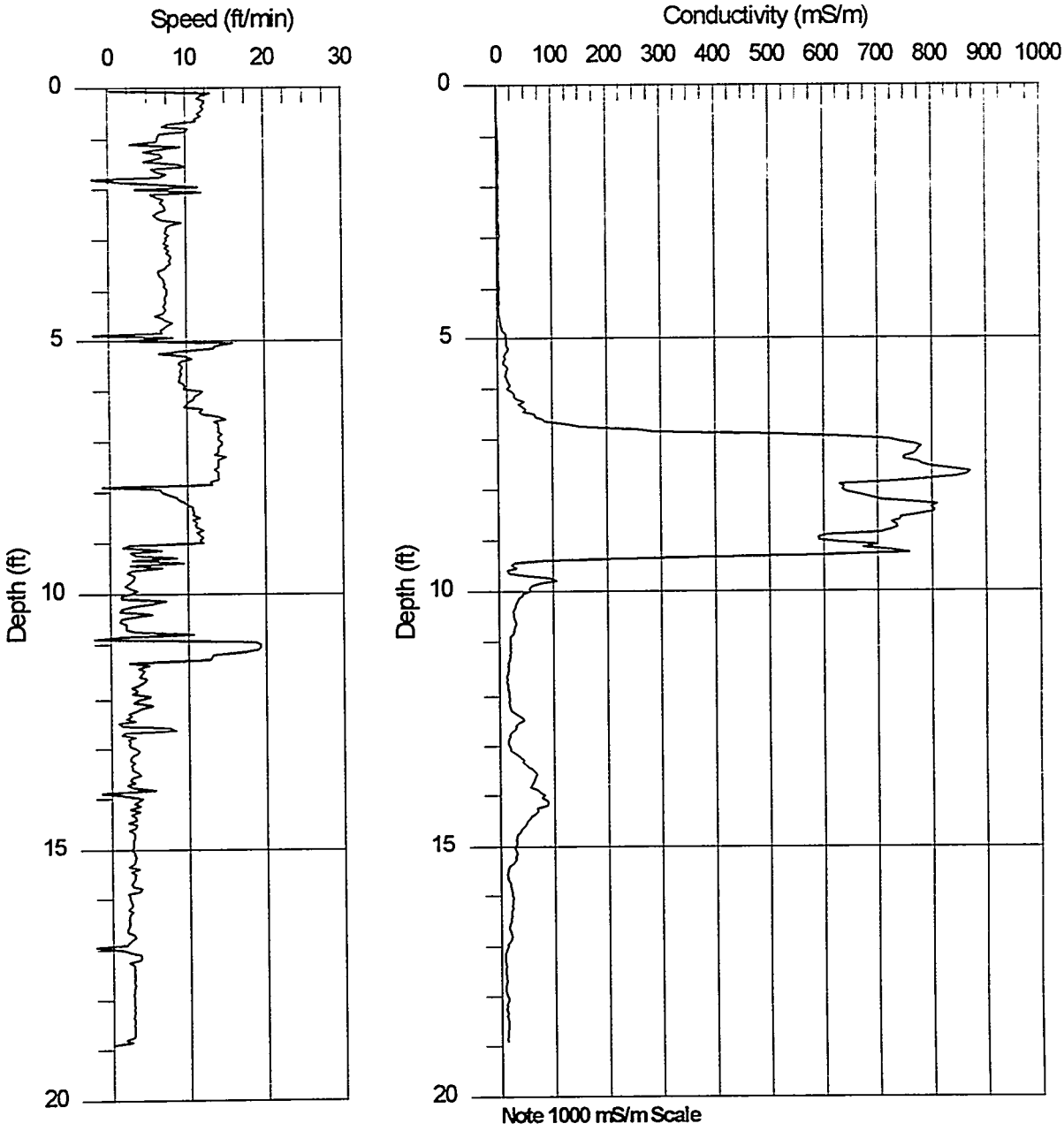

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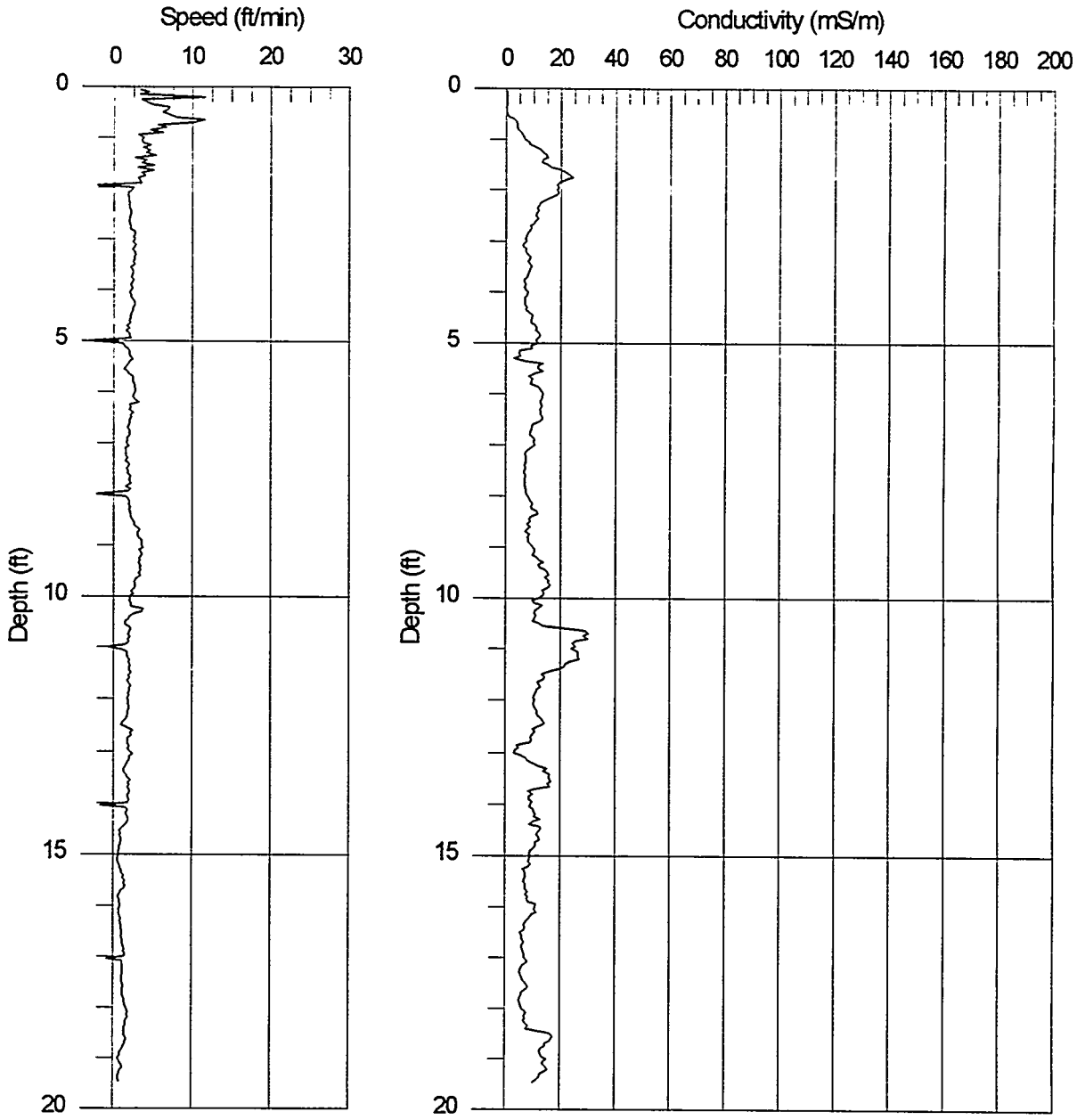

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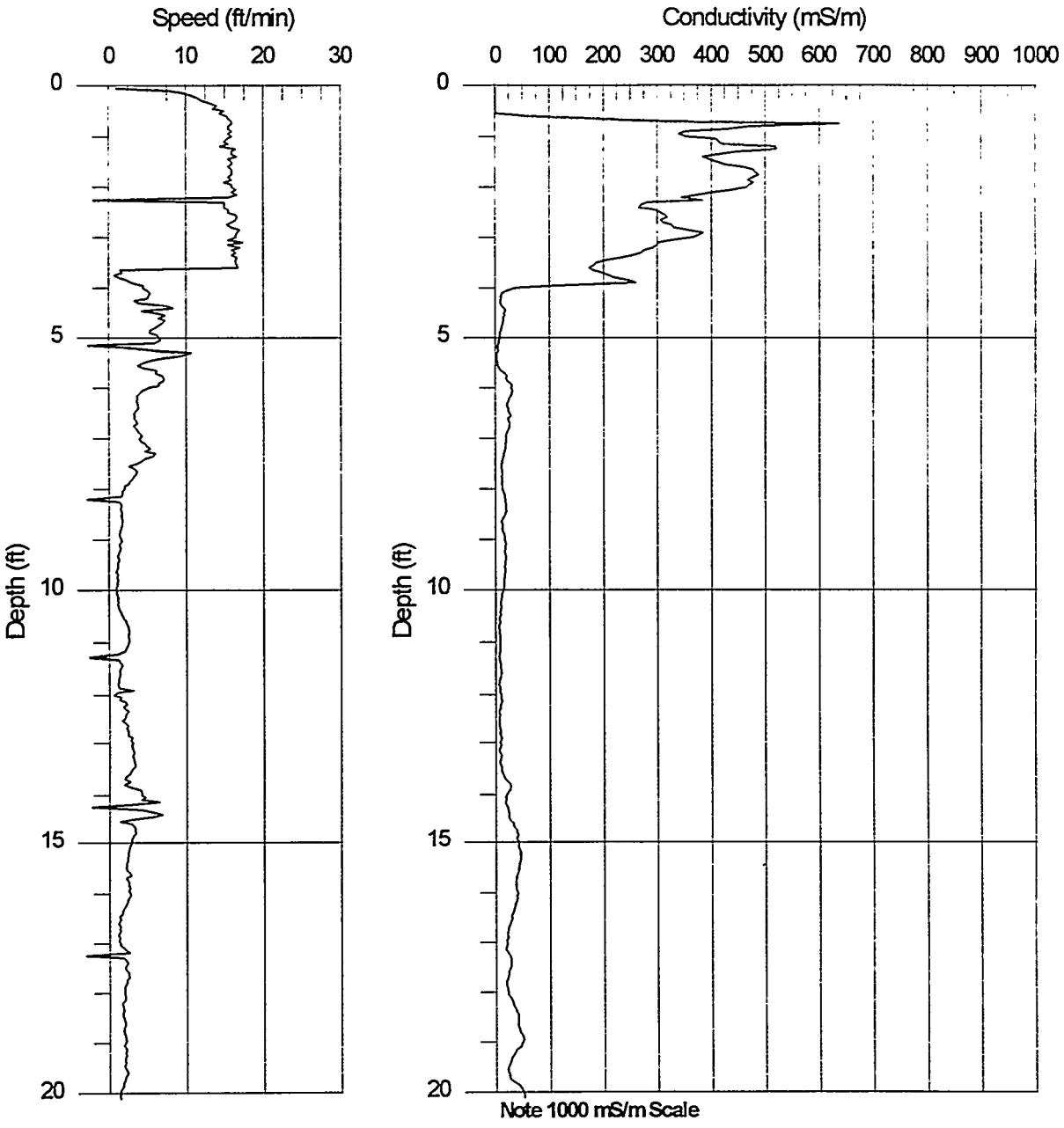

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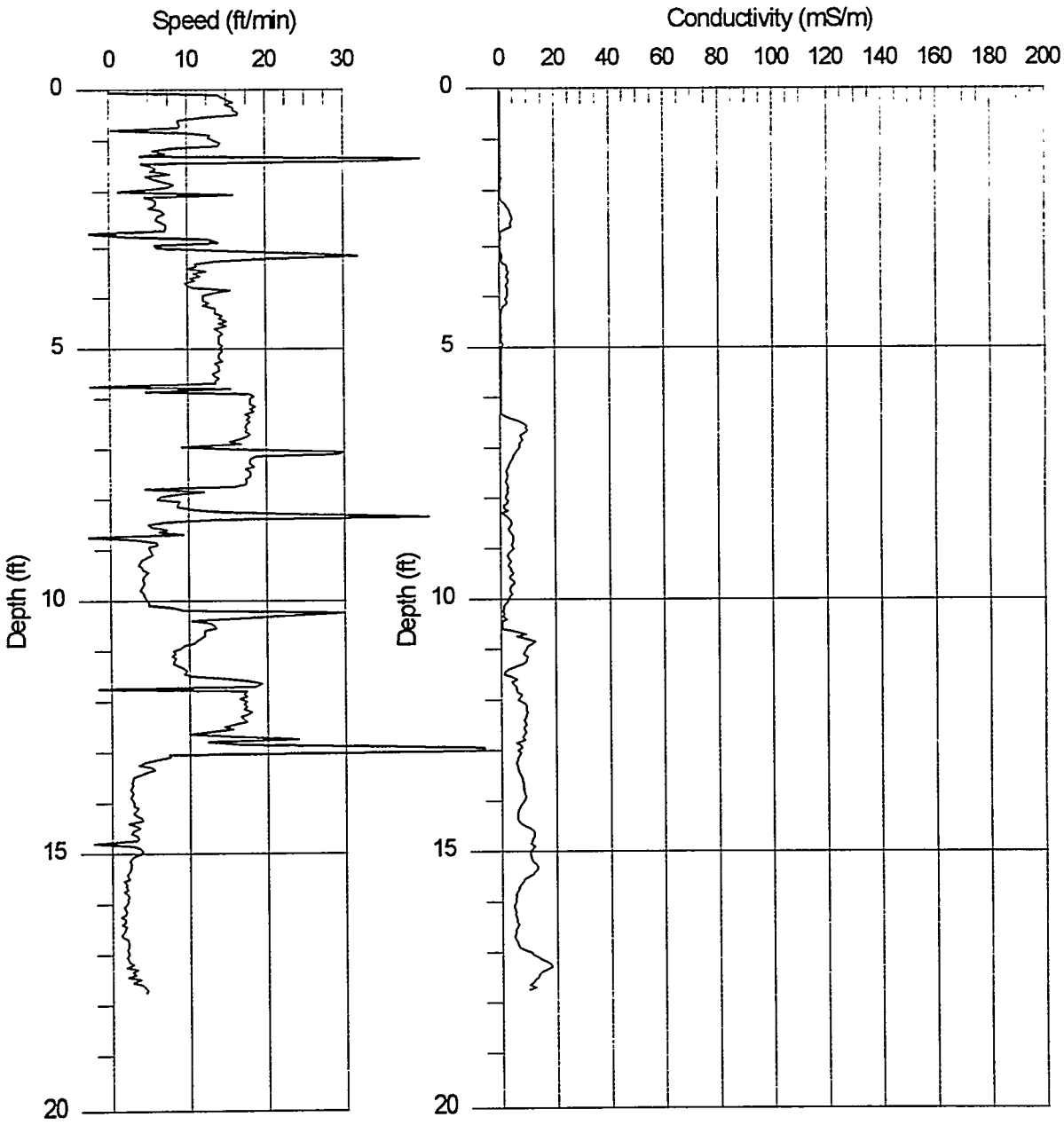

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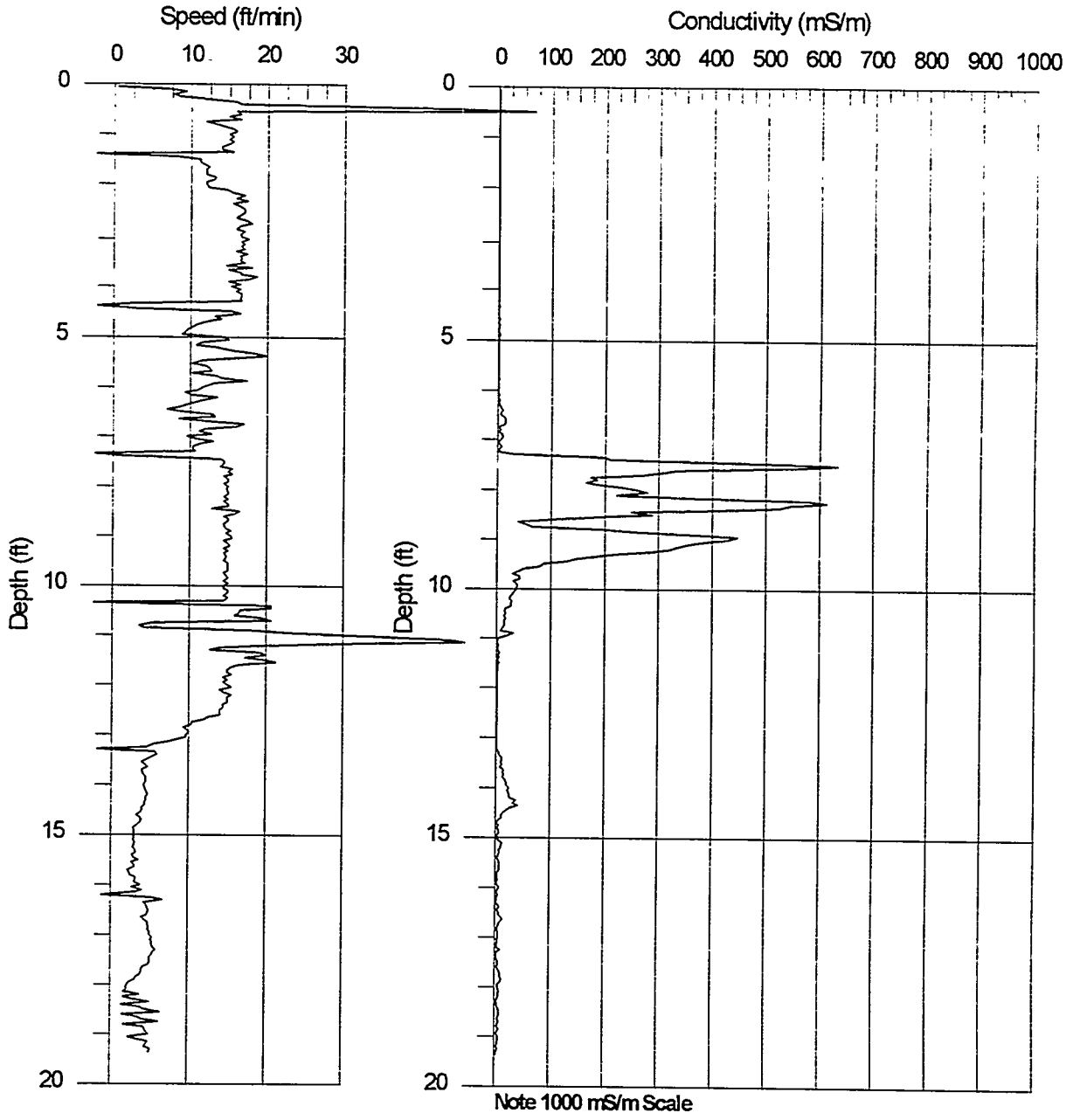

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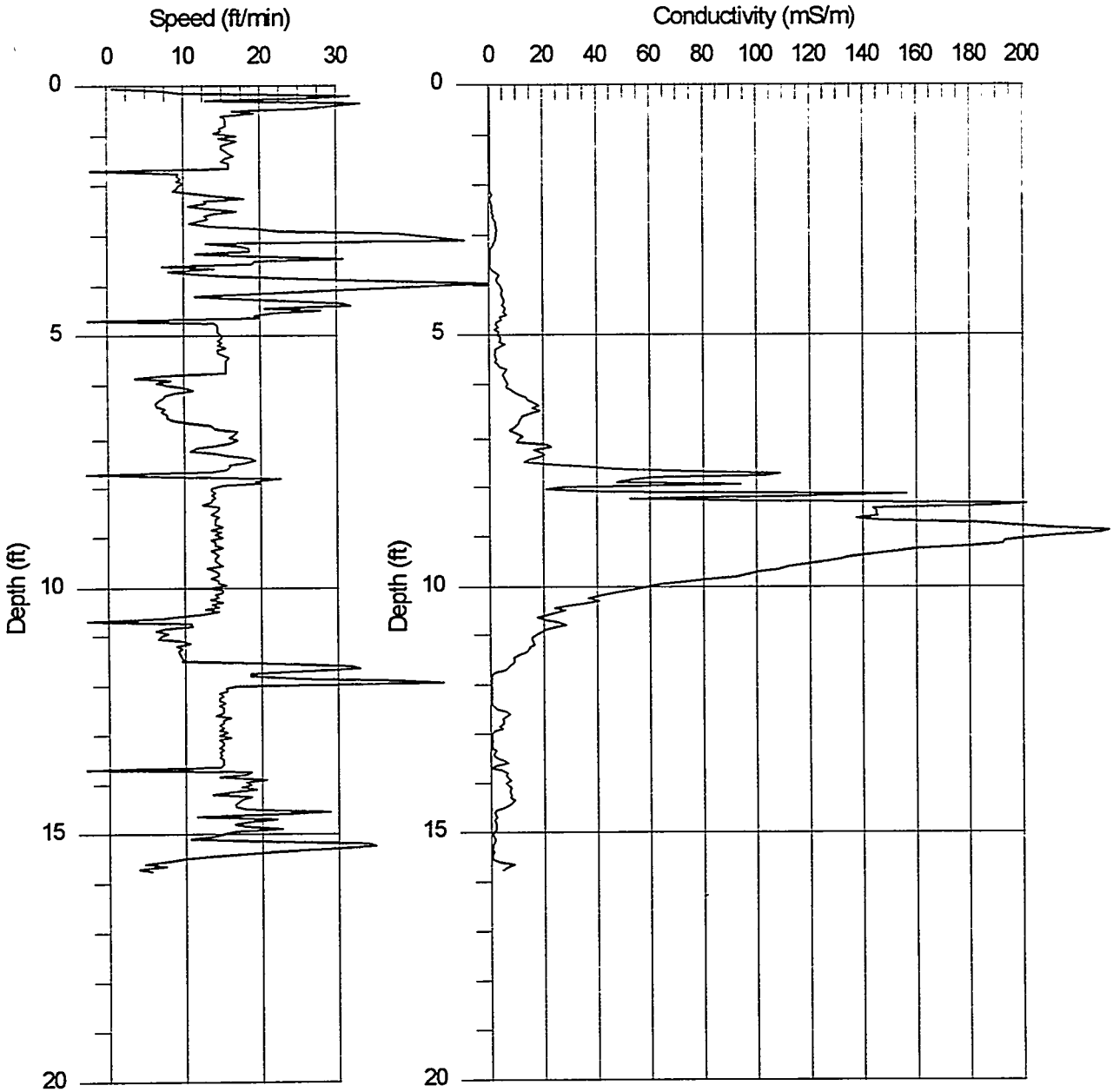

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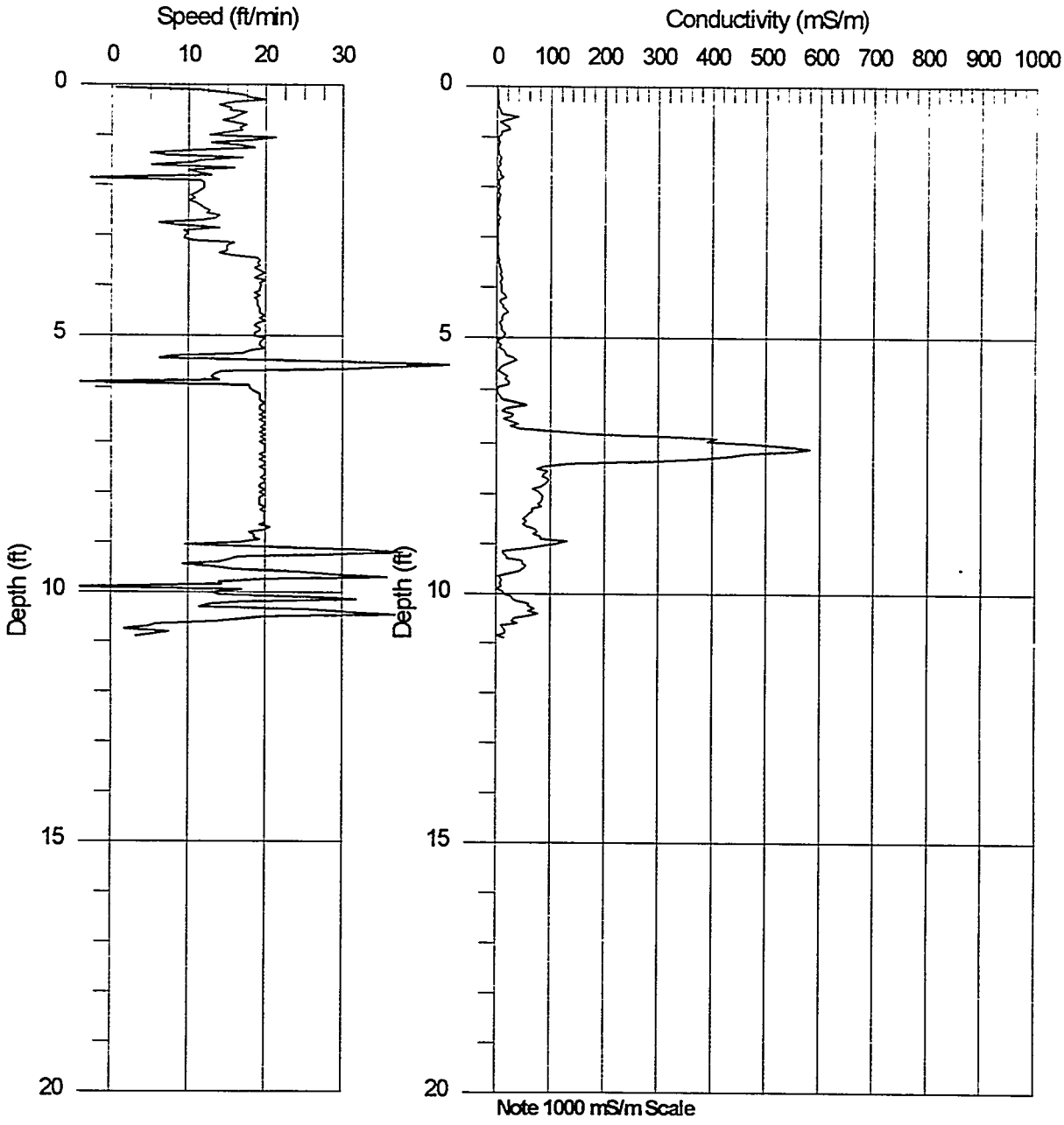

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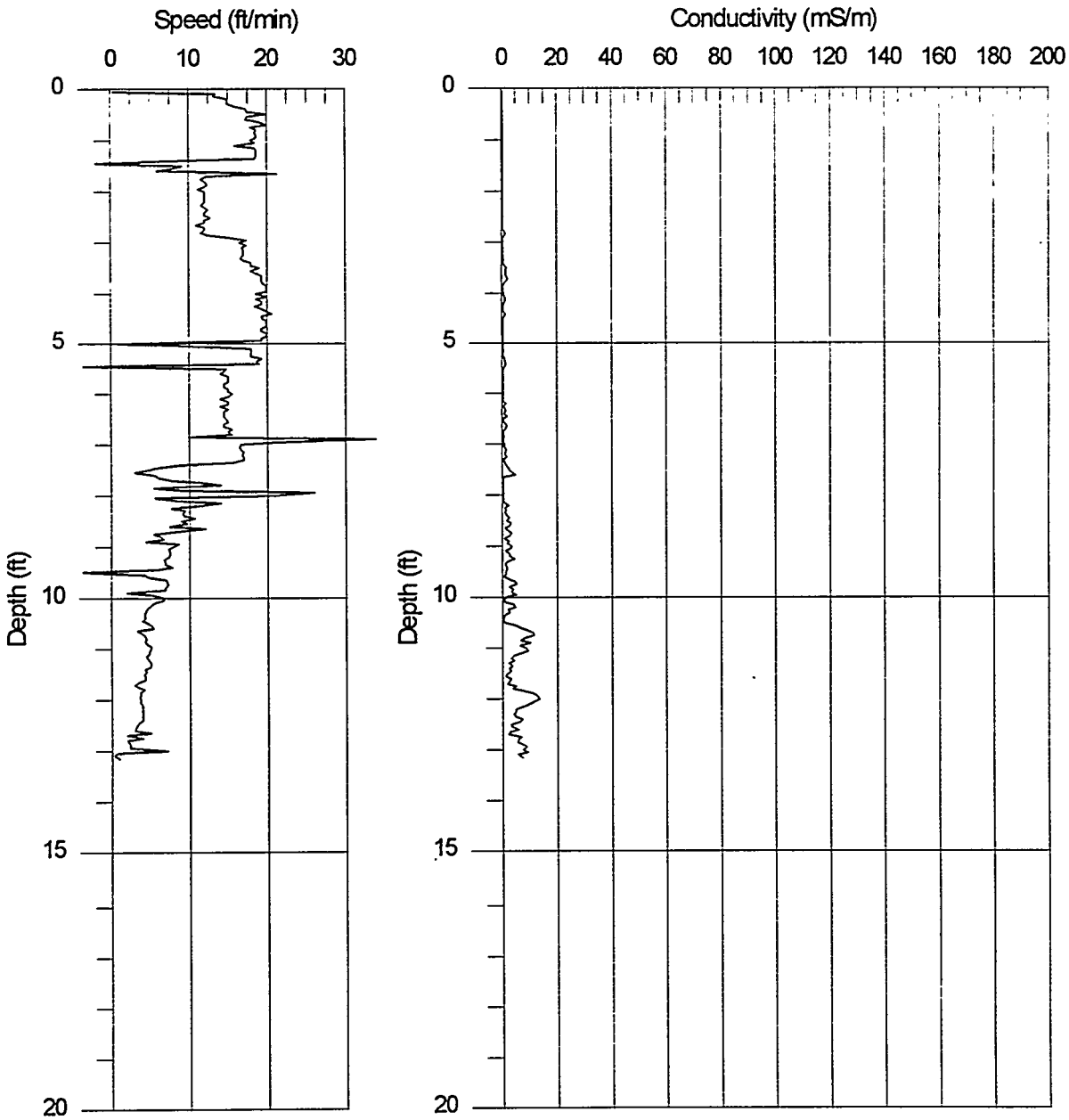

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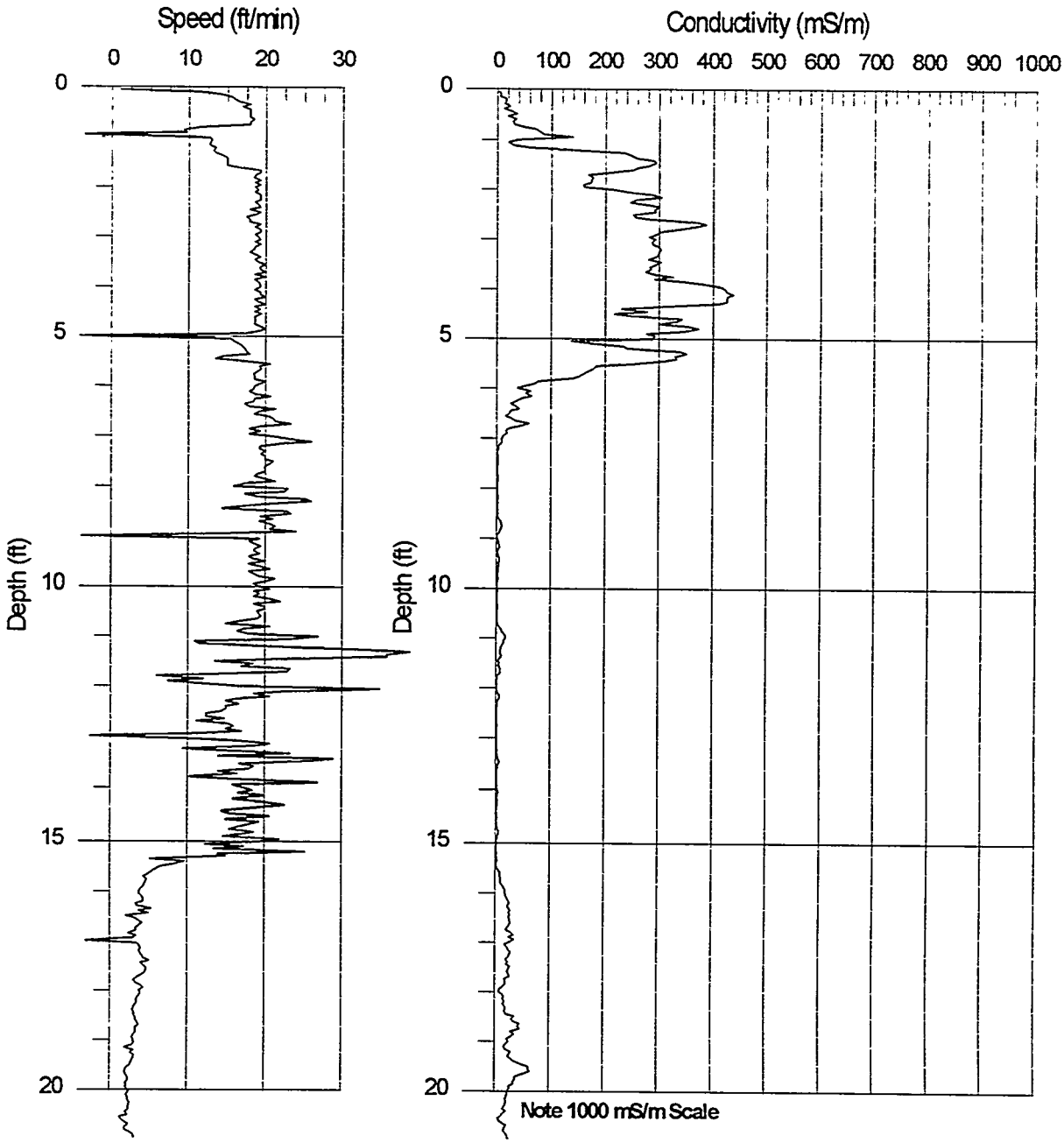

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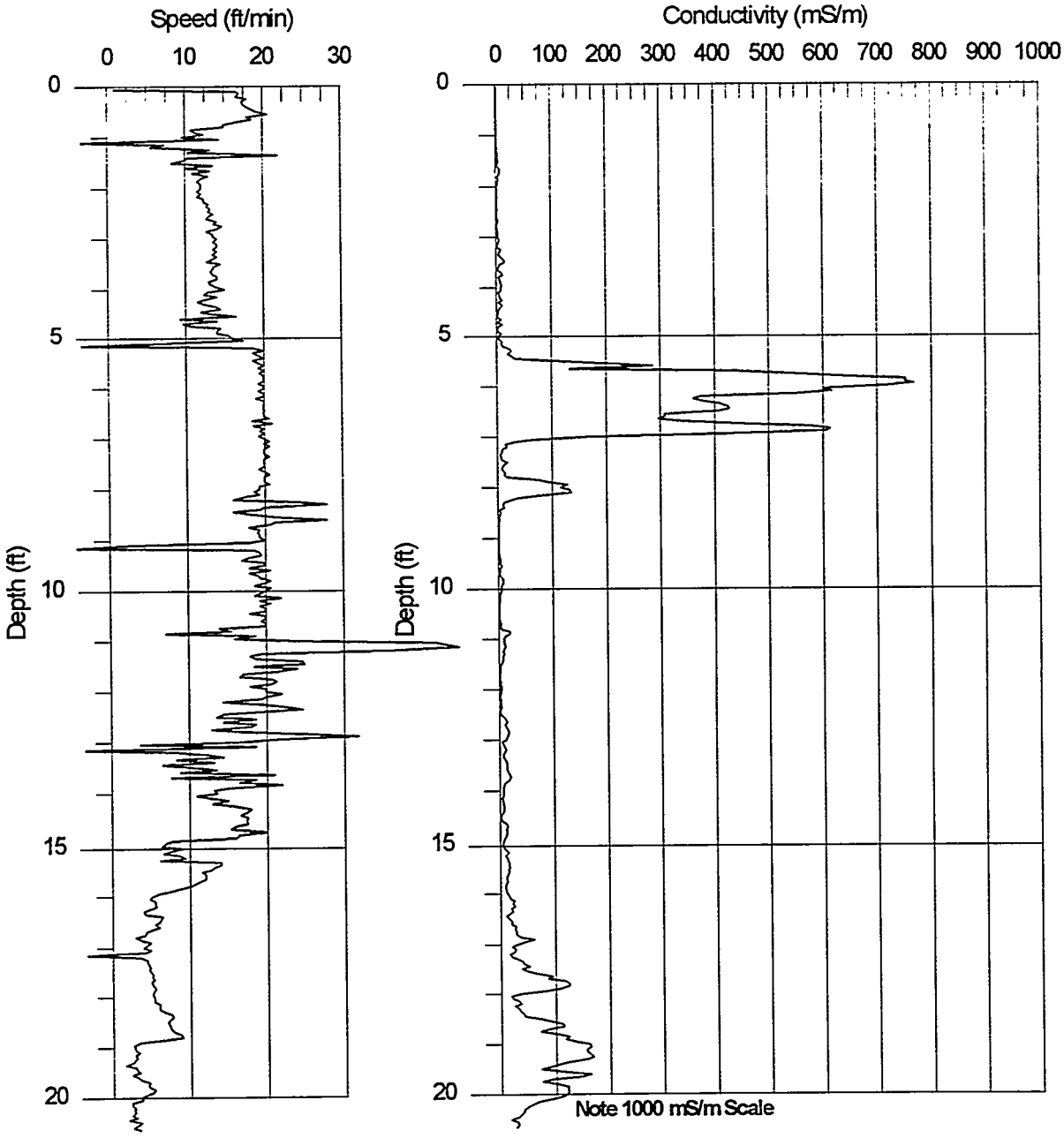

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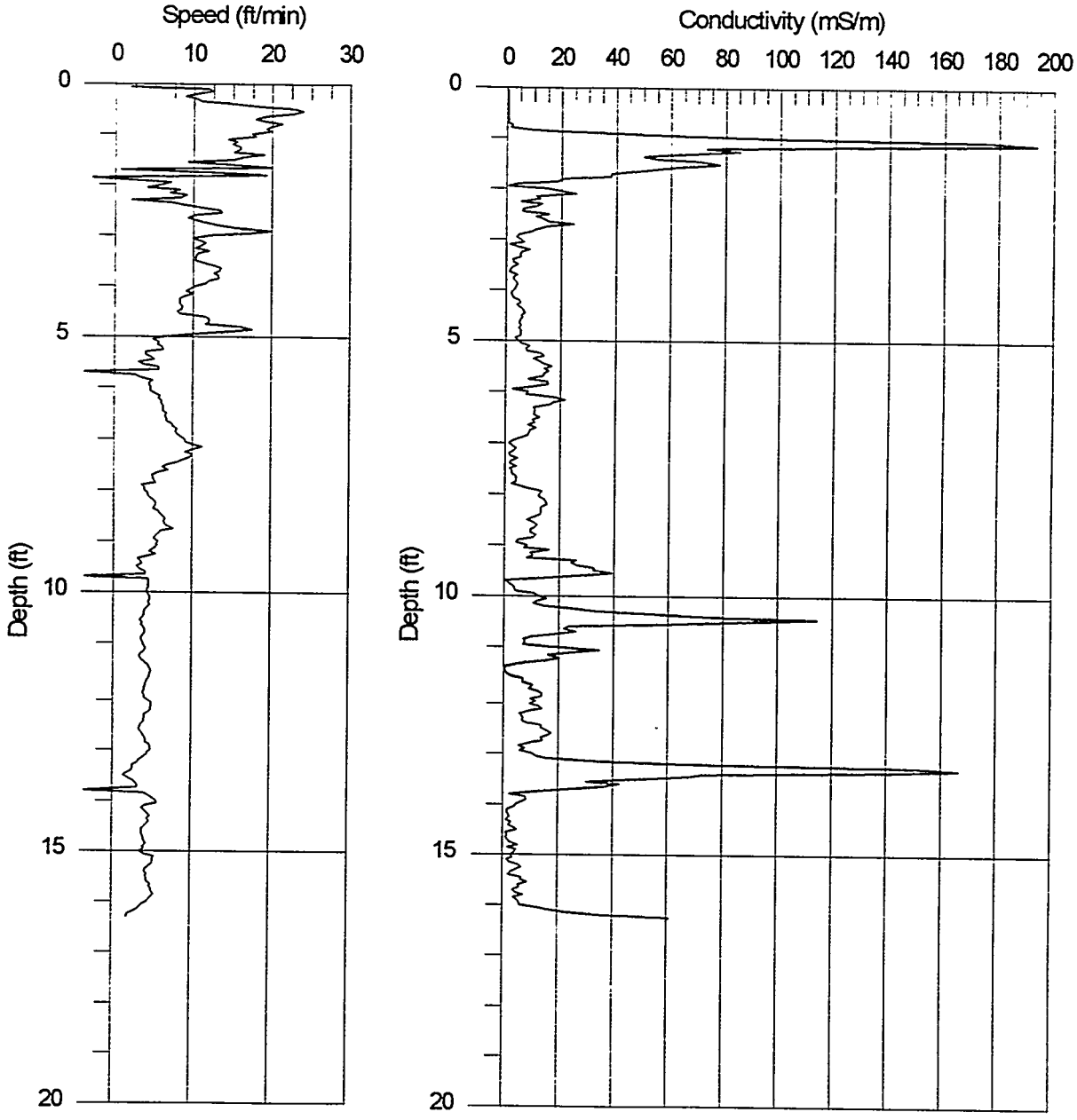

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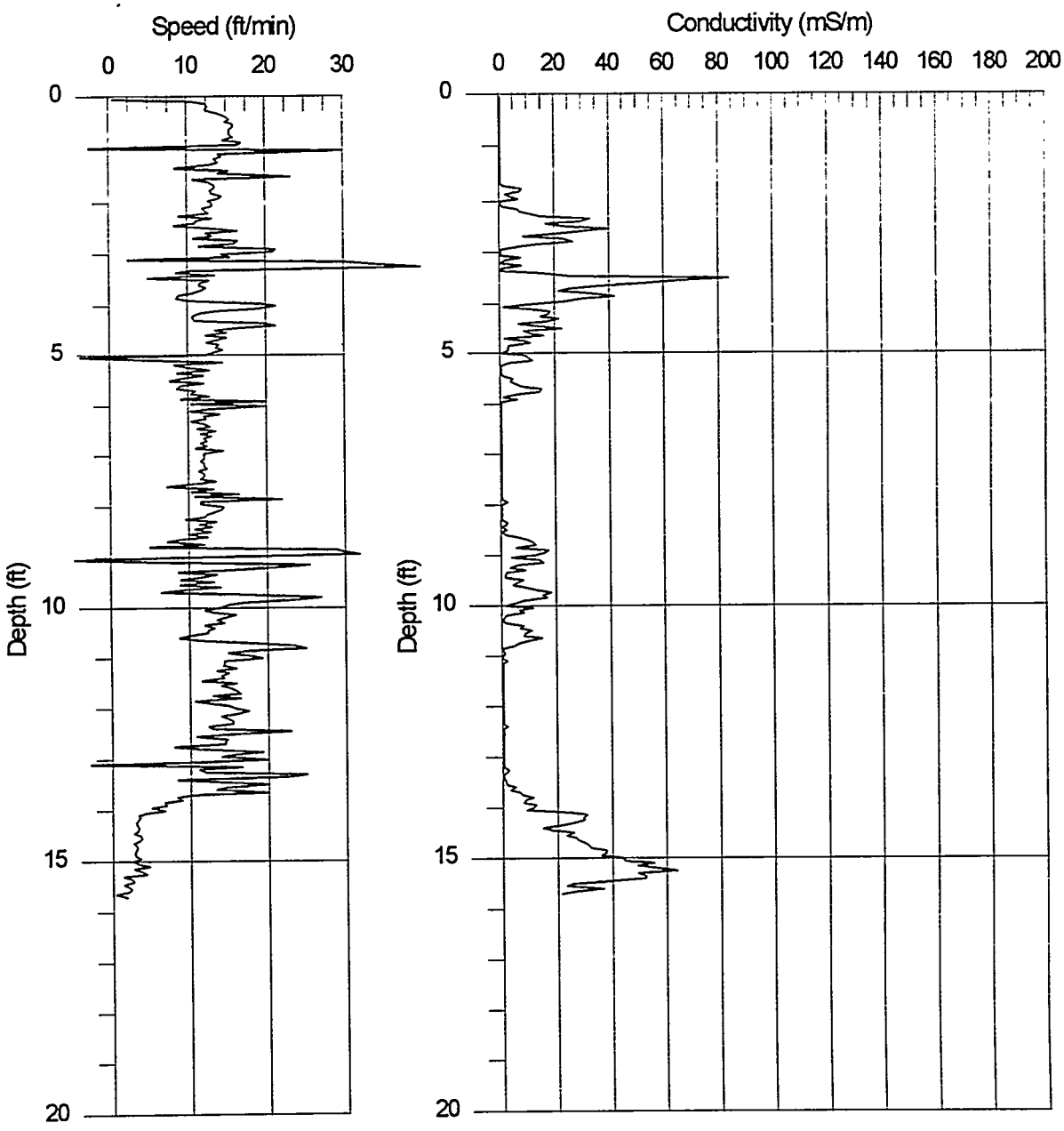

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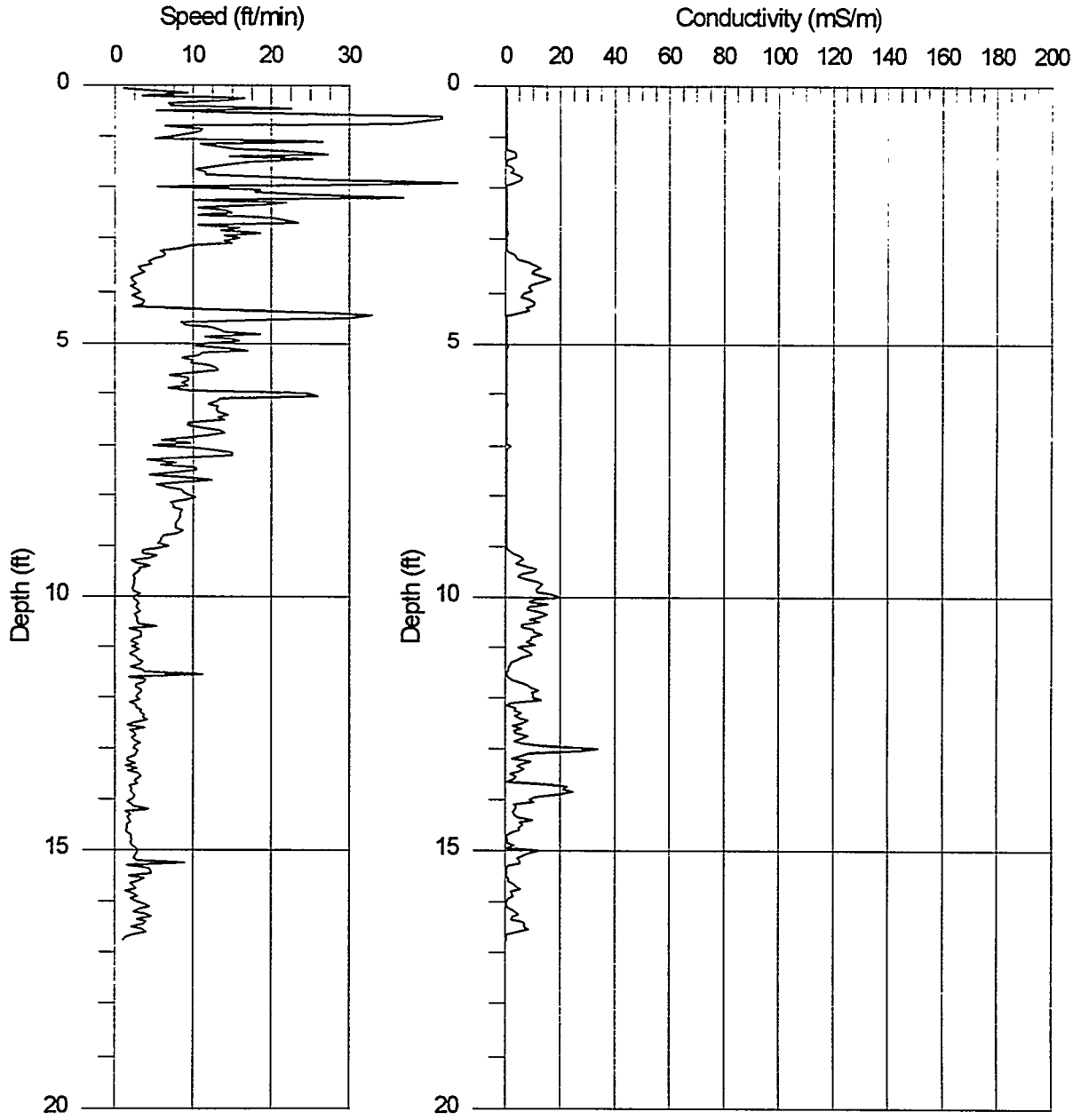

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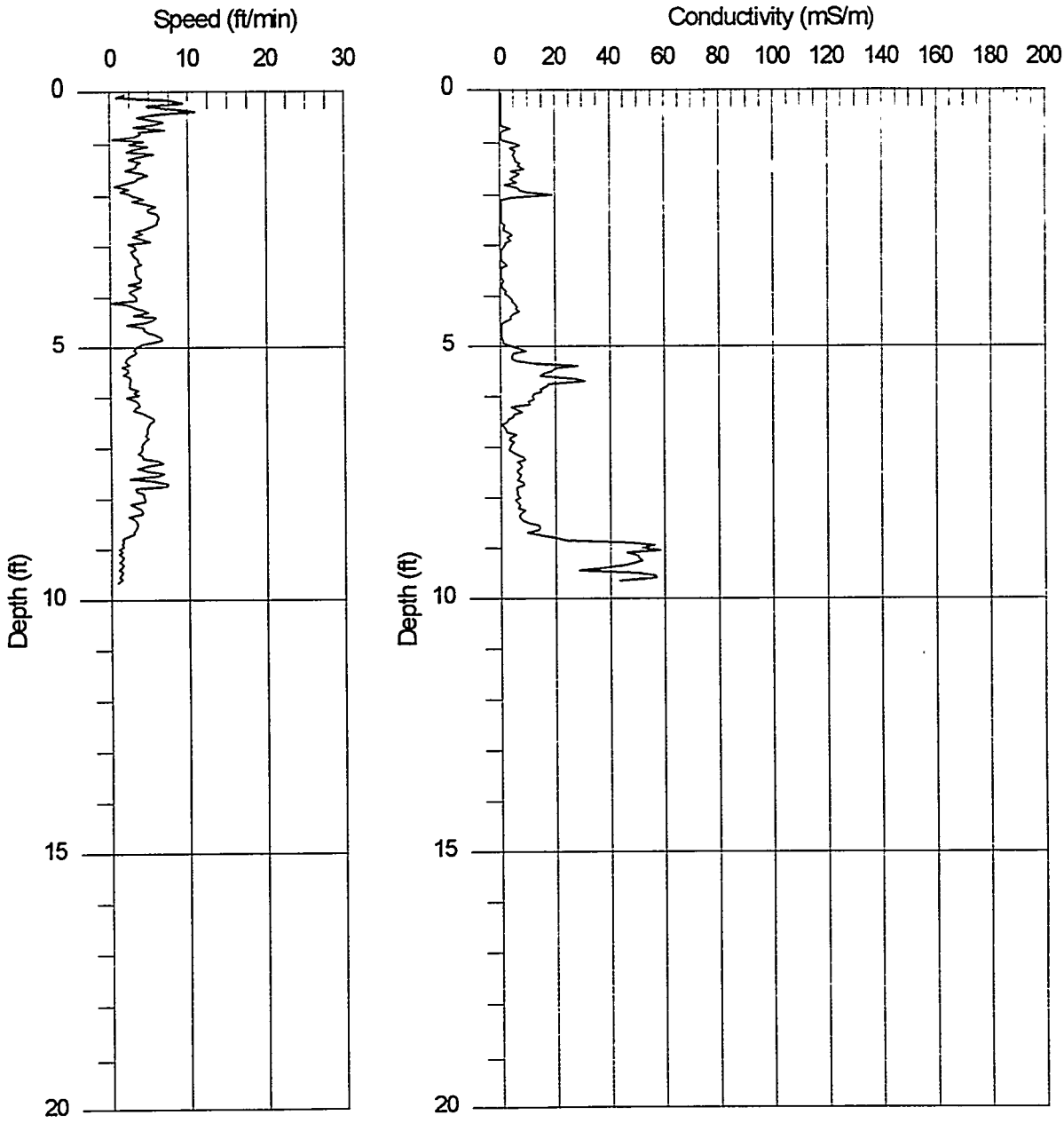

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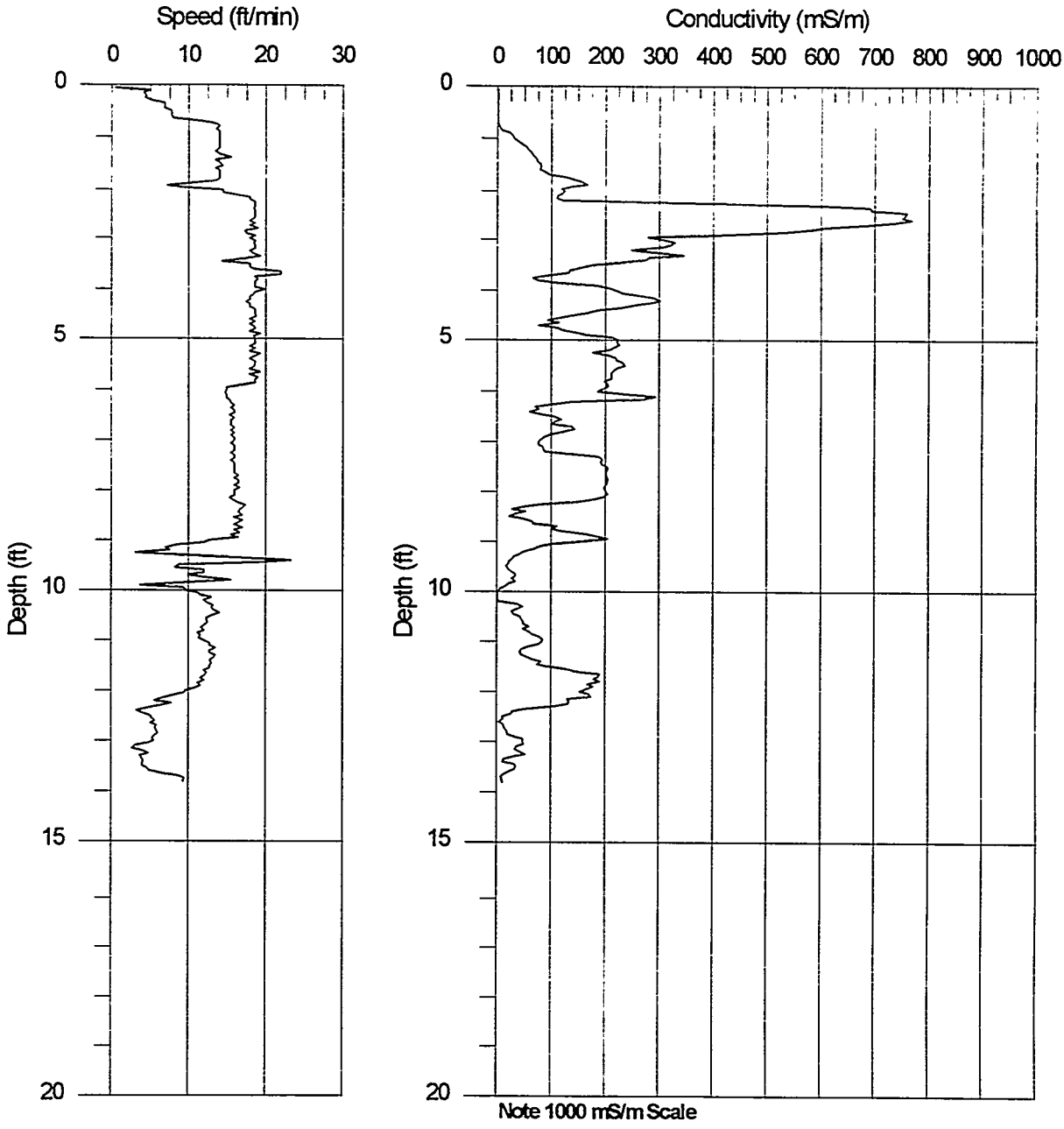

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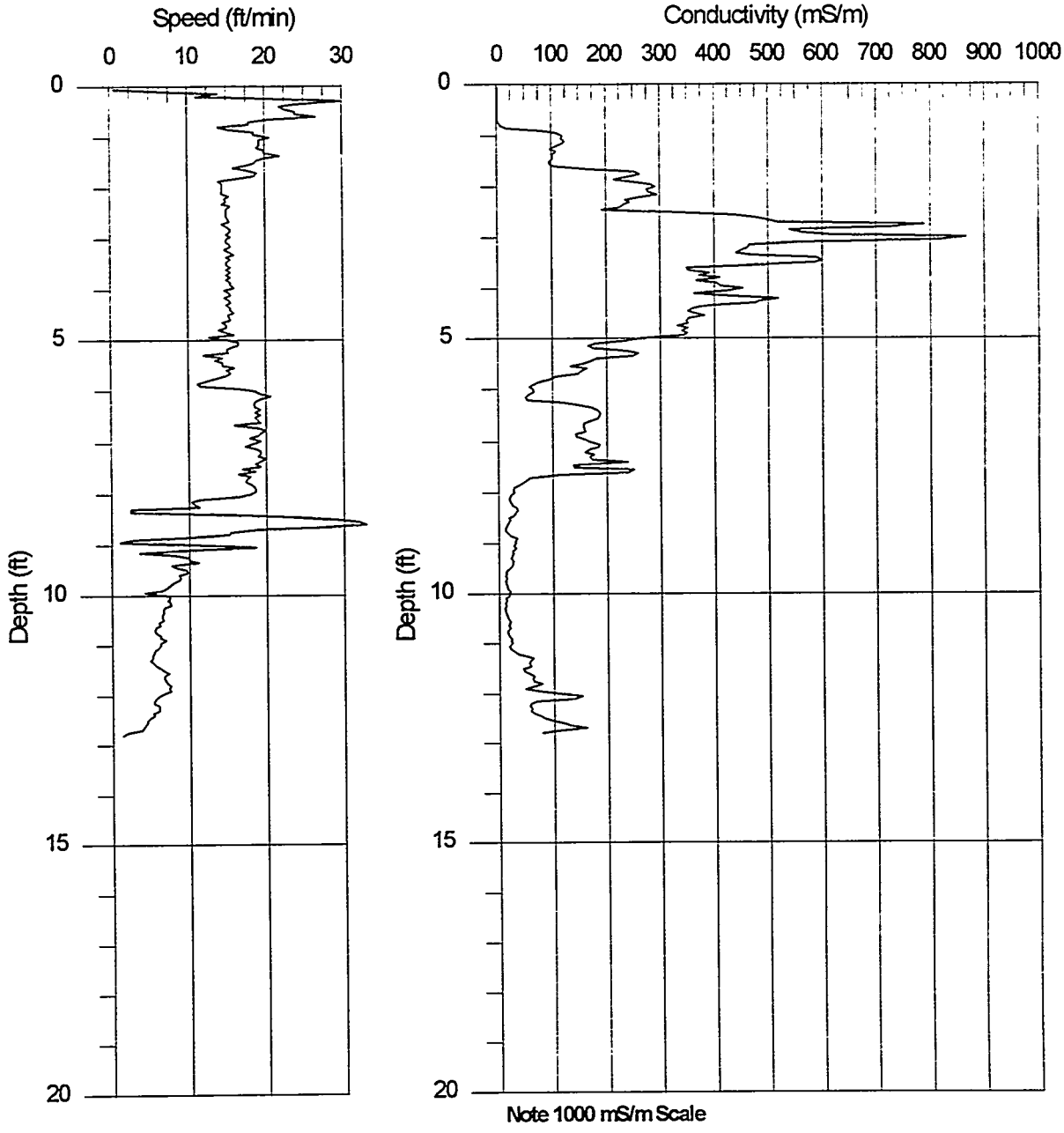

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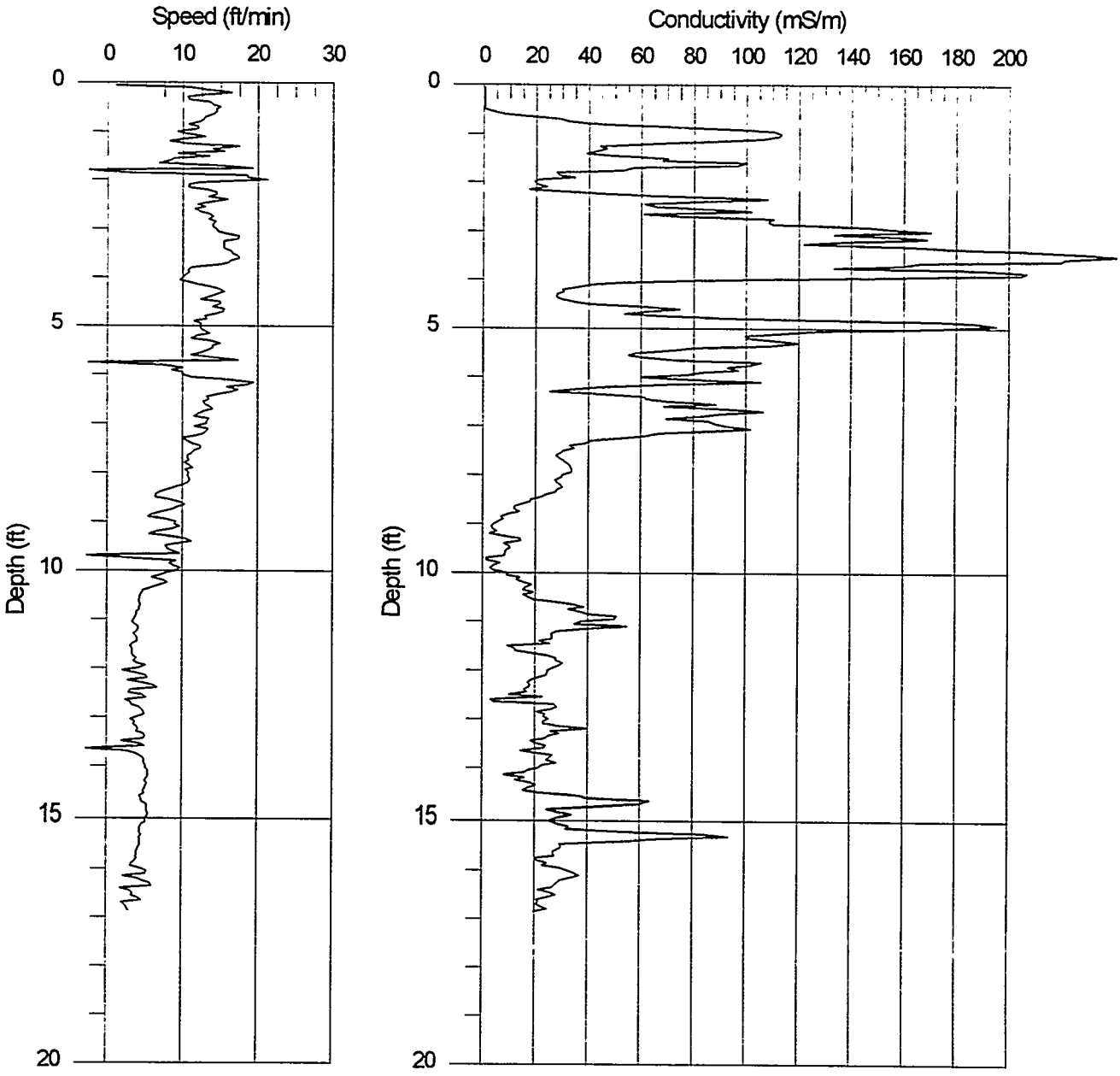

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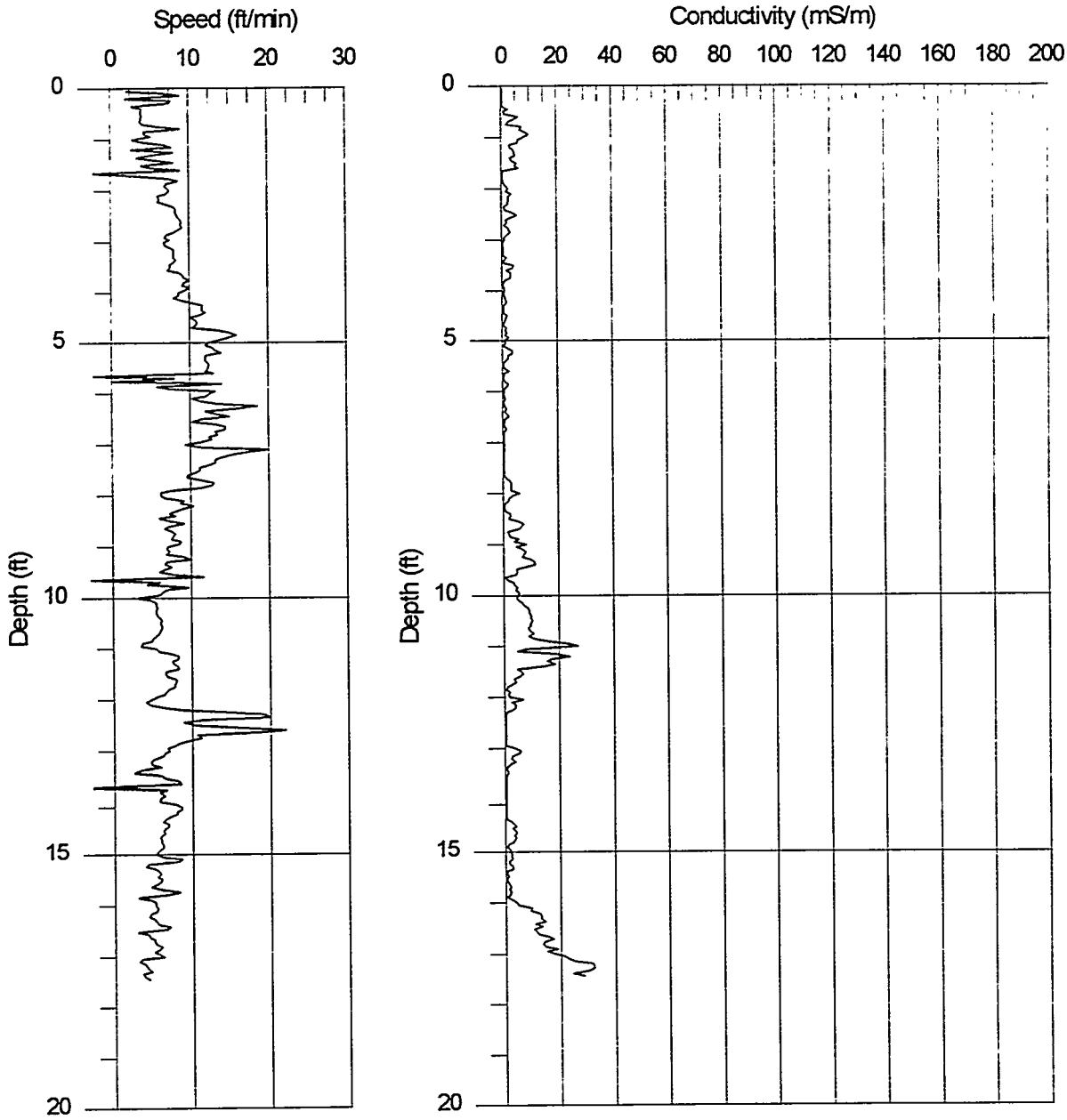

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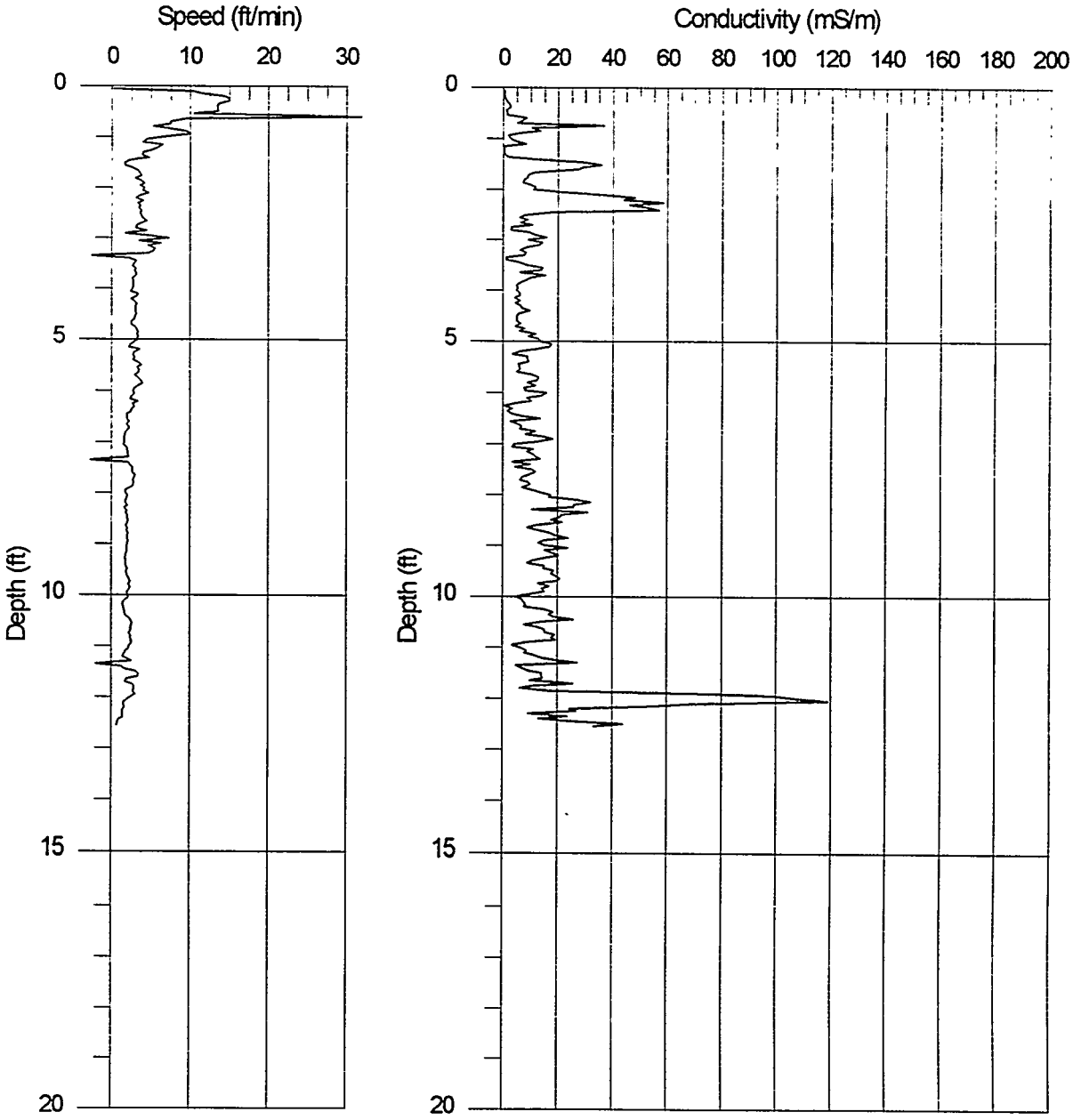

# APPENDIX F: CHEMICAL SOIL SAMPLING AND BORING LOGS

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# McLaren/Hart Field Services Division
# Standard Operating Procedure GPSA-001

Prepared by: M a Lahrman
Reviewed by:
Date: 8/12/96

METHOD #: GPSA-001 (August 1996)

TITLE: COLLECTION OF SOIL SAMPLES USING A GEOPROBE

## 1.0 SCOPE AND APPLICATION

The Geoprobe is a truck mounted hydraulically-powered soil probing machine, that utilizes static force, as well as, percussion to advance small diameter sampling tools into the subsurface. Discrete soil samples can be collected continuously or at prescribed intervals. This sampling system is low impact, maneuverable, easily operated and generates very little waste.

## 2.0 SUMMARY OF SAMPLING PROCEDURE

2.1 Soil samples are obtained by driving either two foot (Large bore), or four foot (Macro core) long steel samplers into the subsurface. The steel samplers are loaded with an acetate liner sleeve prior to subsurface intrusion. In addition to the acetate liner sleeve, the steel samplers are equipped with a retractable piston tip and rod. The piston tip and rod are locked in place during advancement to prevent soil from entering the sampler prematurely. The steel sampler will remain closed until reaching a depth just above the discrete interval of interest.

2.2 Once fully assembled, the hollow steel sampler is threaded to driving rods. The driving rods are in turn, and sequentially fitted with a push pin. The push pin allows the entire configuration to be hydraulically driven by the geoprobe system to a desired depth. The geoprobe system relies on it's own weight, the weight of the truck, as well as, the probe hammer to advance the assembled rods and sampler. Through operation of the geoprobes positioning levers and foot support, the rods maintain a straight pathway while driven.

Note: If adjustments of the positioning levers and probe foot, in conjunction with increased drive force, can not overcome subsurface resistance, off setting the point may be necessary to avoid damage to the geoprobe and or sampling equipment.

2.3 Once the assembled sampler is driven 2-4 feet (depending on the sampler's length) above the desired sample point, the probe hammer is maneuvered off of the existing rods. The push cap is removed, while gathering and assembling the extension rods. Using extension rods,



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the tip and rod are unlocked and the sampler is advanced two or four feet to collect the sample. Each soil sample collects into a the clear acetate liner housed in the steel sampler.

2.4 The push rods and assembled steel sampler are hydraulically extracted from depth by fitting the rod collection with a pull cap. The acetate liner is removed from the steel sampler. Depending on the application, the liner may either be capped and/or sliced open for immediate inspection and screening.

2.5 Capping consists of covering each end of the liner with Teflon squares followed by plastic caps. All samples are labeled with complete information. Pertinent information consists of the date/time of collection, sample depth, a unique identification number, site location, and sampler's initials. Samples are placed in a cooler, or refrigerator, at 4°C. Samples are transferred under complete chain of custody procedure to either an on-site mobile laboratory, or an off-site laboratory facility.

2.6 Additionally, an aliquot from each sample is inspected. Observations, such as, texture, color, moisture content, hydrocarbon odor, as well as other distinguishing characteristics are noted along with the information collected in section 2.5. Sample lithology is logged using the Unified Soils Classification System and recorded on a soil boring log form. If applicable to the project's scope, a second aliquot of the sample may be collected for screening purposes. Small soil amounts may be placed into a sample container for headspace analysis. The container is sealed immediately and left to stand for five minutes to allow volatile gases to enter the headspace. A photo ionization detector (PID) or flame ionization detector (FID) may be used in the field to analyze the headspace gases. Headspace readings may be included on the soil boring logs.

2.7 Upon completion of soil sampling, each boring is backfilled with hydrated bentonite granules. The borings are sealed at the surface with either bentonite, concrete, or asphalt, depending on preexisting conditions. Excess or unused sample soil is temporarily stored in 5 gallon containers and left on site, pending the receipt of final laboratory data.

## 3.0 APPARATUS AND MATERIALS

3.1 Geoprobe hydraulic sampling device: Model 8-MU.

3.2 Probe rods (1-4 foot).

3.3 Drive cap.

3.4 Pull cap.

3.5 Extension rod.

3.6 Extension rod coupler.

3.7 Extension rod handle.

3.8 Acetate liners.

3.9 Large bore sample tube w/ cutting shoe.

3.10 Large bore drive head.

3.11 Macro-core sample tube w/ cutting shoe.

3.12 Macro-core drive head.

3.13 Additional tools: locking pliers, pipe wrenches, complete set of allen wrenches, combination wrench and brushes for rods and tubes.

## 4.0 REAGENTS

4.1 Analyte-free distilled water.

4.2 Reagent grade (high-purity) methanol, if necessary.

4.3 Reagent grade (high-purity) hexane, if necessary.

4.4 Reagent grade (high-purity) acetone, if necessary.

## 5.0 QUALITY CONTROL

5.1 Before sampling, as well as, between sample locations, all reusable sampling equipment undergoes rigorous decontamination steps. One of two techniques may be employed to satisfy proper decontamination procedures. Either the use of a steam cleaner, or manual washings are carried out to decontaminate all rods, pins, sampler tips and all sampling components. All sampling items which are not reusable are discarded after each sampling point.

5.2 Based on the field program's analytical parameter list, an appropriate sequence of washes and rinses are completed using a detergent, various organic solvents, and/or acidic solutions.

5.2.1 A detergent and distilled water wash is performed to remove all visible particulate matter and residual contamination. This step may be replaced, or used in conjunction with a high pressure steam cleaner. Follow with a thorough rinsing of distilled water to remove all detergent.

5.2.2 If subsequent analytical parameters are to target metals, rinse sampling equipment with a 10% nitric acid solution. An acidic rinse will provide a low pH media to help facilitate the removal of trace metals. Follow the acid rinse with another thorough rinsing of distilled water. This step is only necessary when metals contamination is of concern.

5.2.3 The final stage in the decontamination process is the rinsing of sampling equipment with a high purity organic solvent. Most commonly used solvents are acetone, methanol, and hexane. Depending on associated analytical parameters, the chosen solvent may be one or more of those mentioned. Once again, the organic solvent rinse is followed by a thorough distilled water rinse.

5.3 Appropriate field quality assurance (QA) samples are collected and incorporated into the sample groups delivered to the laboratory. The type and frequency of the QA samples collected is dictated by each project's individual work plan. Depending on the field program's application, data quality objectives, and the end use for the subsequent data sets, type and frequency of QA samples will vary on a case per case basis. However, the following QA samples are typically incorporated into a sampling plan along with environmental samples.

5.3.1 Field Blank: This is an aqueous sample which is collected using the same sampling equipment used to collect environmental samples. The field blank is acquired by passing analyte-free deionized water over and through a complete set of sampling hardware. The deionized water is then collected into a sample container and submitted to the laboratory for an identical analytical parameters list as the environmental samples. The field blank data is used to determine the analyte-free nature of both the sampling equipment, as well as, the sampling technique.

5.3.2 Matrix Spike/Matrix Spike Duplicates (MS/MSD): The MS/MSD samples are environmental samples which are collected to meet data quality measures dictated by a particular analytical method. Depending on sample volume requirements of the associated analytical method, it may or may not be necessary to collect additional volumes at one sample location.

Once it has been determined that the collection of a MS/MSD is necessary, the result is three environmental samples from the same interval; one environmental sample, one matrix spike sample and one matrix spike duplicate sample.

5.3.3 Field Duplicate: A field duplicate is an environmental sample taken a second time from an interval which has already been sampled. Typically, an environmental sample and the associated field duplicate are sampled concurrently.

## 6.0 REFERENCES

1. SOP GEOPROBE AT-660 Series Large Bore Soil Sampler (93-660), Geoprobe Systems, November 1995.

2. SOP GEOPROBE Macro-Core Sampler Operation, Geoprobe Systems, October 1994.

3. Field Sampling Procedures Manual, New Jersey Department of Environmental Protection, May 1992.

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INTERNATIONAL
TECHNOLOGY
CORPORATION

ITLV

STANDARD QUALITY PRACTICE

NUMBER: ITLV-0601

TITLE: Shallow Subsurface Soil Sampling with Hand Auger and Coring Device

APPROVED: _____ DATE: 1 Dec 93
Corporate Director
Quality Assurance

APPROVED: _____ DATE: 11/29/93
ITLV Program Manager

APPROVED: _____ DATE: 11/24/93
ITLV Quality Assurance Officer

CONTROLLED COPY NO.: _____

| Revision No. | Date |
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## 1.0 SCOPE AND OBJECTIVE

1.1 Scope - This procedure provides instructions and establishes requirements for the IT Corporation, Las Vegas (ITLV) collection and documentation of shallow subsurface (6 inch to 6 feet in depth) soil samples and is applicable to the collection of all shallow subsurface soil samples collected for physical and chemical analyses.

1.2 Objective - The objective if this procedure is to establish a uniform method for the collection of subsurface soil samples using a hand auger and core sampler.

## 2.0 DEFINITIONS

2.1 Disturbed Soil Sample - A soil sample whose in situ physical structure and fabric has been disturbed as the result of sample collection.

2.2 Shallow Subsurface Soil Sample - Soil collected from 6 inches to 6 feet in depth.

2.3 Subsurface Soil Sample - Soil collected at any depth interval greater than 6 inches.

2.4 Surface Soil Sample - Soil collected from the surface to a depth of no more than 6 inches.

2.5 Undisturbed Soil Sample - A soil sample whose in situ physical structure and fabric has been disturbed to the minimum possible as the result of sample collection.

## 3.0 RESPONSIBILITIES AND QUALIFICATIONS

3.1 Project Manager - The Project Manager is responsible for the collection of subsurface soil samples that meet project requirements. This will be accomplished through staff training and by fulfilling defined quality assurance/quality control (QA/QC) requirements. At a minimum, the Project Manager shall:

3.1.1 Verify that personnel have reviewed, and are familiar with, site specific work plans which address subsurface soil sampling, this procedure, and associated procedures.

3.1.2 Provide personnel with training in the operation of subsurface soil sampling equipment and the requirements of this procedure.

3.1.3 Periodically review field generated documentation associated with subsurface soil sampling to verify compliance with project requirements and implement corrective action if necessary.

3.2 Field Sampling Personnel - Field sampling personnel are responsible for the proper sample collection and documentation of the subsurface soil sampling event.

## 4.0 EQUIPMENT/MATERIALS AND CALIBRATION

### 4.1 Equipment/Materials

- Stainless-steel core sampler and appropriate sleeves
- Hand auger
- Teflon® tape

### 4.2 Calibration

None

## 5.0 METHOD

### 5.1 Shallow Subsurface Soil Sampling With Auger and Core Sampler

The best non-drilling method for the collection of shallow subsurface soil samples, both disturbed and undisturbed, is with a core sampler. The core sampler is a hollow, stainless steel cylinder, tapered at the leading end. The hand auger is used to bore a pilot hole down to sampling depth. When using a hand auger and core sampler to obtain shallow subsurface soil samples the following steps must be performed:

5.1.1 Survey or map and clearly mark sampling points prior to sampling. The sample should be collected at the marked location. If the collection point must be moved, the new location must be approved.

5.1.2 Clear the area to be sampled of surface debris and vegetation using equipment that will not be used for sample collection.

5.1.3 Prior to sampling and between sampling locations decontaminate the sampling equipment according to the procedures outlined in SQP ITLV-0405, Sampling Equipment Decontamination.

5.1.4 Using the hand auger, bore down to the determined sampling depth placing all excavated soil in an area/container as specified by the work plan.

5.1.5 Place the sampling sleeve (brass, stainless-steel, lexan, etc.) into the coring device and drive the assembly into the excavated hole using a drive hammer connected to the trailing end. Drive the device into the soil until the trailing end of the sleeve has reached the bottom of the hole excavated by the auger.

5.1.6 Remove the intact sleeve from the coring device and determine if soil recovery was adequate. Be sure to mark which end of the sleeve was the leading end. Record the physical description of the sample on the Sample Collection Log in accordance with Unified Soil Classification System, as stated in ITLV-0401, Field Activities Documentation.

5.1.7 Place Teflon tape over each end of the sleeve and seal each end with a plastic end cap. With a permanent marker, write a T for top on the trailing end and a B for bottom on the leading end.

5.1.8 Document the sampling event according to the procedures outlined in SQP ITLV-0401, Field Activities Documentation and SQP ITLV-0402, Chain of Custody.

5.1.9 Handle the sample according to the procedures outlined in the SQP ITLV-0403, Sample Handling, Packaging, and Shipping.

5.1.10 Fill the sample hole as required by the site specific work plan.

5.2 Sample Collection Log

Sampling activities shall be documented on a Sample Collection Log and recorded in the Field Activity Daily Log per SQP ITLV-0401, Field Activities Documentation.

## 6.0 REQUIRED INSPECTION/ACCEPTANCE CRITERIA

Volume of soil recovered from sampling device must be adequate for required analyses.

## 7.0 RECORDS

The following records generated as a result of implementation of this procedure shall be maintained in a safe manner and submitted to project central files for storage and disposition.

7.1 Field Activity Daily Log

7.2 Sample Collection Log

7.3 Analysis Request/Chain of Custody

## 8.0 REFERENCES

8.1 Requirements and Specifications

None

8.2 Related Procedures

8.2.1 ITLV-0401, Field Activities Documentation

8.2.2 ITLV-0402, Chain of Custody

8.2.3 ITLV-0403, Sample Handling, Packaging, and Shipping

8.2.4 ITLV-0405, Sampling Equipment Decontamination

8.3 Others

8.3.1 EPA, September 1987, EPA Compendium of Superfund Field Operations Methods, EPA 540/P-87/001a, OSWER 9355.0-14

8.3.2 EPA, August 1988, EPA Guidance for Conducting Remedial Investigation and Feasibility Studies under CERCLA, Interim Final OSWER Directive 9355.3-01.

## 9.0 ATTACHMENTS

None

INTERNATIONAL
TECHNOLOGY
CORPORATION

IT LAS VEGAS

STANDARD QUALITY PRACTICE

NUMBER: ITLV-0405

TITLE: Sampling Equipment Decontamination

APPROVED: _____ DATE: 29 Nov 95
IT Corporate Director
Quality Assurance

UNCONTROLLED

APPROVED: _____ DATE: 11-15-95
ITLV Program Manager

APPROVED: _____ DATE: 10/31/95
ITLV Quality Assurance Officer

CONTROLLED COPY NO.: _____

| REVISION NO. | DATE |
|---|---|
| 1 | 05/02/94 |
| 2 | 04/21/95 |
| 3 | 12/01/95 |

## 1.0 SCOPE AND OBJECTIVE

1.1 Scope - This procedure provides requirements for the decontamination of field sampling equipment used by IT Corporation, Las Vegas (ITLV) personnel during field investigations. This procedure applies to all field equipment used for the collection of samples for physical and chemical analysis.

1.2 Objective - The objective of this procedure is to establish a uniform method for the decontamination of field sampling equipment to provide sample integrity by preventing cross-contamination between samples.

## 2.0 DEFINITIONS

2.1 Approved Solvent - A cleaning solvent, such as isopropanol, which has been approved for use by the IT Health and Safety Officer and the IT Environmental Compliance Manager.

2.2 Cross Contamination - A type of positive contamination caused by the introduction of contamination from one source into that of a sample during sampling or storage.

2.3 Deionized analyte-free water - Ion-free, analyte-free water purchased from a supplier with a deionization chamber equipped with a carbon filter.

2.4 Detergent - A standard brand of laboratory grade detergent such as "Alconox®" or "Liquinox®".

2.5 Negative Contamination - A type of contamination which occurs when the measured concentration of an analyte is artificially reduced as a result of volatilization, adsorption, and related losses.

2.6 Positive Contamination - Occurs when the measured concentration of an analyte is artificially high due to leaching, or the introduction of foreign matter into the sample.

2.7 Tap Water - Potable water.

## 3.0 RESPONSIBILITIES

3.1 Project Management - Project Management is responsible for verifying that decontamination of sampling equipment is properly performed. This will be accomplished through staff training and by maintaining appropriate quality control practices. At a minimum, project management shall:

3.1.1 Verify that personnel have reviewed, and are familiar with, appropriate site specific work plans and any associated procedures which address the decontamination of sampling equipment.

3.1.2 Provide training in the equipment decontamination process.

3.1.3 Periodically review field-generated documentation to verify compliance with project requirements and implement corrective action, if necessary.

3.2 Field Personnel - Field sampling personnel are responsible for the proper decontamination, storage, and handling of equipment to maintain sample integrity.

## 4.0 EQUIPMENT/MATERIALS AND CALIBRATION

4.1 Equipment/Materials

- Laboratory grade detergent
- Deionized (DI) water
- Ten-percent solution of reagent-grade nitric acid and DI water
- Tap water
- Cleaning brushes
- Cleaning containers (Plastic buckets and tubs)
- Sprayers for tap and DI water
- Squirt bottles for nitric acid
- Chemical resistant disposable gloves
- Appropriate personal protective equipment
- Appropriate forms
- One-percent solution of reagent-grade hydrochloric acid and DI water
- Chem-Wipes®
- Heavy-duty plastic sheeting or bags or aluminum foil

4.2 Calibration

None.

## 5.0 METHOD

All sampling equipment shall be decontaminated before sample collection, between sample collection, after sample collection, and prior to removal from the work site. Decontamination procedures for inorganics shall be followed when sampling for inorganics. Decontamination procedures for organics shall be followed when sampling for organics. Radiological decontamination procedures shall be used when sampling for both inorganic and organic parameters. Samplers may add additional steps to the decontamination process as needed to increase the effectiveness of the decontamination. These modifications may include the addition of a pre-wash or extra rinse tubs to minimize cross-contamination. Decontamination activities shall be documented in the Field Activity Daily Log or logbook.

### 5.1 General Requirements

5.1.1 During decontamination operations, the substitution of a higher-grade water, such as distilled or organic-free water, for tap water is permitted and need not be noted as a variation. However, a lesser grade may not be substituted. If the wash and/or rinse water become dirty, mucky, or contains loose soils, it may be necessary to replace it with clean water.

5.1.2 Solvents and laboratory detergent solutions used to clean equipment shall not be reused.

5.1.3 Field equipment and/or materials in need of decontamination shall be segregated from the clean equipment/materials. Decontamination shall be performed as soon as possible following equipment use. Field equipment and materials that are exposed to contamination may not be transported from the work site prior to being cleaned.

5.1.4 Sample containers and field equipment/materials that are cleaned in accordance with this procedure shall be stored in a clean controlled area that protects them from possible exposure to contaminants.

5.1.5 Solvents, including acids and water, used for equipment decontamination shall be approved by the DOE/NV and documented in the Field Activity Daily Log or site-specific logbook.

5.2 Decontamination Facility

When space and logistics allow, decontamination should take place in an area designated exclusively for decontamination. This area will ideally be located outside of the defined contamination zone on the project site. The area should be constructed so that waste generated during decontamination is contained until proper disposal can be arranged. Solvents and acids used in the decontamination process must be properly containerized and labeled.

5.3 Decontamination of Equipment for Organic Sample Collection

Decontamination for organic sample collection shall be performed in accordance with the site specific work plans. The rinses must be thorough; additional tubs will minimize potential cross-contamination. The general procedure is as follows:

5.3.1 Remove solid particles from equipment or material by brushing then rinsing with tap water.

5.3.2 Wash and scrub with laboratory grade detergent.

5.3.3 Rinse thoroughly with tap water.

5.3.4 Rinse thoroughly with deionized, analyte-free water.

5.3.5 Rinse with approved solvent. If analyzing for pesticides, use a pesticide grade solvent.

5.3.6 Rinse thoroughly with deionized, analyte-free water.

5.3.7 Air dry.

5.3.8 Wrap equipment with heavy-duty plastic sheeting or bags or aluminum foil.

5.3.9 Repeat the procedure prior to and between each sample collection to avoid positive, negative, and cross contamination.

5.4 Decontamination of Equipment for Inorganic Sample Collection

The specific requirements for decontamination of equipment for inorganic sample collection should be stated in the site specific work plans. The general procedure is as follows:

5.4.1 Remove solid particles from the equipment or material by brushing then rinsing with tap water.

5.4.2 Wash and scrub equipment with laboratory grade detergent. Rinse at least 3 times with tap water.

5.4.3 Rinse plastic or teflon® with a 10 percent nitric acid solution; rinse stainless-steel equipment with a 1 percent hydrochloric acid solution.

5.4.4 Rinse thoroughly with deionized, analyte-free water.

5.4.5 Air dry.

5.4.6 Wrap equipment in heavy-duty plastic sheeting or bags or aluminum foil.

5.4.7 Repeat the procedure prior to and between each sample collection to avoid positive, negative, and cross contamination.

5.5 Decontamination of Equipment for Radiological Sample Collection

Decontamination shall be performed in accordance with the project-specific work plans. The general procedure shall be as follows:

5.5.1 Remove any solid particles from equipment by brushing, then rinsing with tap water.

5.5.2 Wash and scrub with laboratory-grade detergent.

5.5.3 Rinse thoroughly with tap water.

5.5.4 Rinse plastic or Teflon® with a 10 percent nitric acid solution; rinse stainless-steel equipment with a 1 percent hydrochloric acid solution.

5.5.5 Rinse thoroughly with deionized, analyte-free water.

5.5.6 Rinse with approved solvent. If analyzing for pesticides, use a pesticide grade solvent.

5.5.7 Air dry.

5.5.8 Wrap equipment in heavy-duty plastic sheeting or bags or aluminum foil.

5.5.9 Repeat the procedure prior to, between, and after each sample collection to avoid positive, negative, and cross contamination.

5.5.10 Prior to removing the sampling equipment from the site, a radiation survey must be conducted and equipment recleaned as necessary.

## 6.0 REQUIRED INSPECTION/ACCEPTANCE CRITERIA

Sampling equipment shall be decontaminated to the levels/concentration stipulated in the site-specific work plan. Rinsate blanks shall be used to verify the adequacy of the decontamination process. These blanks shall be taken at a frequency specified in the site-specific work plan and submitted to the analytical laboratory. The source of blank rinsate waters shall be analyzed periodically to ensure that sources are contaminant free.

## 7.0 RECORDS

The following record generated as a result of implementation of this procedure shall be maintained in a safe manner and submitted to project central files for storage.

Field Activity Daily Log or Site-Specific Logbook

## 8.0 REFERENCES

### 8.1 Requirements and Specifications

None.

### 8.2 Related Procedures

ITLV-0401, Field Activities Documentation.

### 8.3 Others

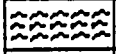
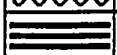
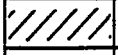
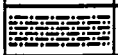
8.3.1 EPA, September 1987, EPA Compendium of Superfund Field Operations Methods, EPA 540/P-87/001a, OSWER 9355.0-14.

8.3.2 EPA, August 1988, EPA Guidance for Conducting Remedial Investigation and Feasibility Studies under CERCLA, Interim Final OSWER Directive 9355.3-01.

## 9.0 ATTACHMENTS

None.

# CNTA Soil Boring Explanation

| Symbol | Name | Description |
|---|---|---|
|  | BR | Bedrock. |
| | BR?/SM | Bedrock, unsure due to refusal, or poor quality sample. Silty sand. Silty sand with gravel. |
| | CL | Lean clay. Lean clay with sand or gravel. Sandy lean clay. Sandy lean clay with gravel. Gravelly lean clay. Gravelly lean clay with sand. |
| | DC | Drill cuttings. |
|  | DM | Drilling mud. |
| | DM-DC | Mixed drilling mud and cuttings. |
| | DM-SP | Mixed drilling mud and poorly graded sand. Poorly graded sand with gravel. |
| | GP | Poorly graded gravel. Poorly graded gravel with sand. |
| | GW | Well-graded gravel. Well-graded gravel with sand. |
|  | ML | Silt. Silt with sand or gravel. Sandy silt. Sandy silt with gravel. Gravelly silt. Gravelly silt with sand. |
|  | OM | Organic material, black, fiberous, wet. |
| | SC | Clayey sand. Clayey sand with gravel. |
| | SC-SW | Clayey sand. Clayey sand with gravel to well-graded sand, or well-graded sand with gravel. |
| | SM | Silty sand. Silty sand with gravel. |
| | SM-ML | Silty sand. Silty sand with gravel to silt, or silt with sand or gravel. Sandy silt. Sandy silt with gravel. Gravelly silt. Gravelly silt with sand. |
| | SM-SP | Silty sand. Silty sand with gravel to poorly graded sand, or poorly graded sand with gravel. |
| | SP | Poorly graded sand. Poorly graded sand with gravel. |
| | SP-SC | Poorly graded sand. Poorly graded sand with gravel to clayey sand, or clayey sand with gravel. |
| | SP-SM | Poorly graded sand. Poorly graded sand with gravel to silty sand, or silty sand with gravel. |
| | SW-SM | Well-graded sand. Well-graded sand with gravel to silty sand, or silty sand with gravel. |
| | No Sample | No sample was collected from this interval. |
| | UNK | Unknown. |

# CNTA Map Explanation

| Symbol | Explanation | | Symbol | Explanation |
|---|---|---|---|---|
| ○ | Cannister | | ⊠ | Post Shot (Long Term Hydraulic Monitoring Project) Well |
| | Emplacement Hole | | ● | Soil Boring Direct Push Location |
| | Exploratory Hole | | ⊠ | Surface Sample |
| | Instrument Hole | | | Borings with samples above 100 mg/kg total TPH. |
|  | Post Shot | |  | Geoprobe Conductivity Push Location |

Soil descriptions were based on IT Corporation's "Visual Field Classificaiton of Subsurface Materials, Classification Log Legend, Manual of Practice, Revision No. 0, February 1988, which is based on the Unified Soil Classification System (USCS) (ASTM D2487-85).

SOIL BORING LOG

BORING NUMBER: CMP1 Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 630033.90 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1414259.60 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6033.60 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 7.50 |
| DATE HOLE STARTED: 05/12/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/12/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Drilling materials, 0 to 1.6 ft: Dark yellowish brown (NYR 4/4), clay, dry. Clay is lean with trace of fine sand, loosely consolidated in upper 3 inches. | CMP10002 | Consistency: Soft PID in breathing zone: 1 ppm Scan of sample with Electra: 1122 dpm Scan: uR/hr Gamma |
| 1.0 | 0.2 | | | | | |
| 2.0 | 0.4 | | | | | |
| | 0.6 | | | Drilling Materials. At 1.6 ft, same - becomes black (2.5YR 2 5/1), petroleum odor. | CMP10204 | Consistency: Soft PID in breathing zone: 0.8 ppm Scan of sample with Electra: 1148 dpm Scan: uR/hr Gamma |
| 3.0 | 0.8 | | | | | |
| 4.0 | 1.0 | | SM | Drilling Materials. Very dark brown (10YR 2/2), sandy clay, sand is fine to medium grained, poorly graded, dry. Clay is lean. | | |
| 5.0 | 1.2 | | | | CMP10406 | Consistency: Firm breathing zone. PID in 0.8 ppm Scan of sample with Electra: 1150 dpm Scan: 18 uR/hr Gamma |
| 6.0 | 1.4 | | | Native Material. Light olive brown (2.5 YR 5/4), silty sand, dry. Sand is fine to medium grained, poorly graded, subangular native material. | | |
| 7.0 | 1.6 | | | | | |
| | 1.8 | | | | CMP10608 | Consistency: Firm breathing zone: PID in 0.6 ppm Scan of sample with Electra: 1158 dpm Scan: 16 uR/hr Gamma |
| | 2.0 | | | | | |
| | 2.2 | | | | | |

| Sample No | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|
| | 0 0 3000.0 | 0 0 4000 0 | 10 0 1000 0 | 10 0 4000 0 |
| CMP10002 | 692.0 | 1290 0 | | 692.0 |
| CMP10204 | 6.9 | 69.6 | | 6.9 |
| CMP10406 | 28.3 | 102.0 | 124.0 | 152.0 |
| CMP10608 | 6.3 | 30.0 | | 6.3 |

| SOIL BORING LOG | BORING NUMBER: CMP2 Page #1 of 2 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT Corp |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 630193.30 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1414244.80 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6034.30 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 2.80 |
| DATE HOLE STARTED: 05/12/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/12/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0 0 3000 0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 4000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Drilling Materials. Dark brown (7.5 YR 3/2) clay, dry. Clay is lean. | CMP20002 | Consistancy Soft<br>PID in breathing zone: NA<br>Scan of sample with Electra: 1053 dpm<br>Scan 20 uR/hr Gamma | | | | |
| | 0.2 | | | Drilling Materials. Same - becomes black (2.5 YR 2.5/1), petroleum odor. | | | | | | |
| 1.0 | | | | | | | 1230.0 | 1670.0 | | 1230.0 |
| | 0.4 | | | | | | | | | |
| | 0.6 | | | | | | | | | |
| 2.0 | | | SM | Native Material. Light olive brown (2.5 YR 5/4), silty sand, dry. Sand is fine to medium grained, poorly graded, subangular native material. Total depth is 2.8 ft due to refusal. | CMP20204 | Consistancy: Soft to firm<br>PID in breathing zone: 0.7 PPM<br>Scan of sample with Electra: NA dpm<br>Scan: NA uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |

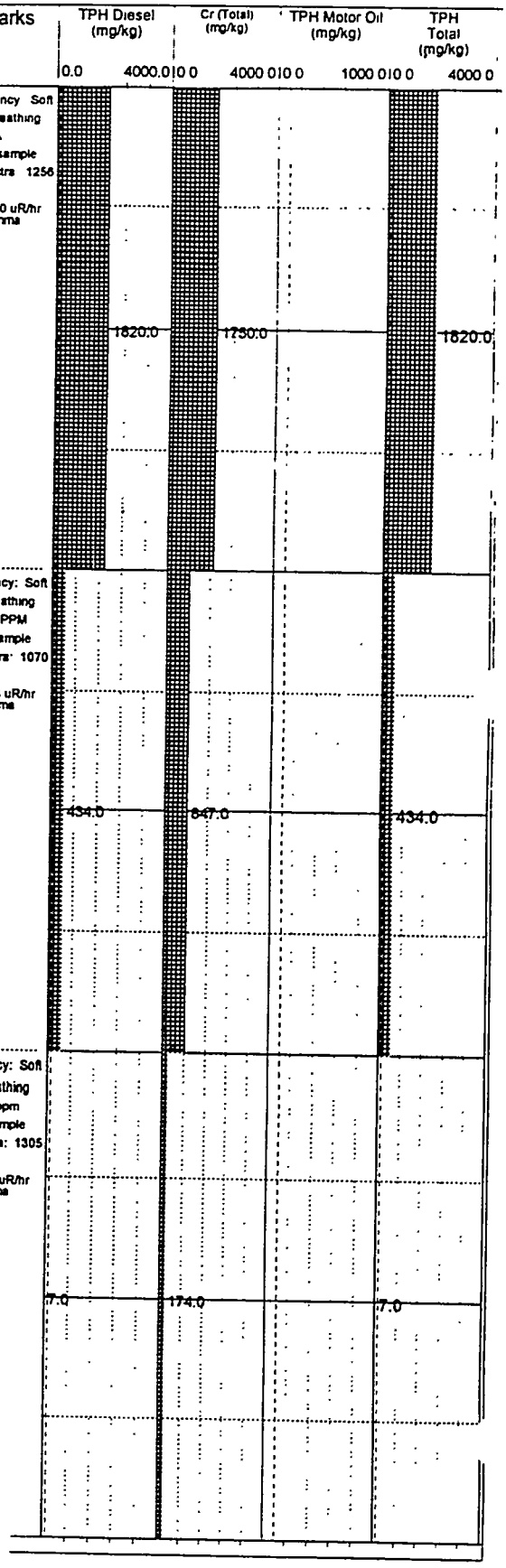
SOIL BORING LOG

BORING NUMBER: CMP3 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 630349.00
UTM NORTHING: 1414190.00
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/13/97
DATE HOLE COMPLETED: 05/13/97

ENVIRONMENTAL CONTRACTOR: IT Corp
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 6032.50
TOTAL DEPTH OF HOLE: 6.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Drilling Materials. Very dark grayish brown (10YR 3/2), clay, dry. Clay is lean with fine grained sand, loosely consolidated in upper 0 to 3 inches, odorless. | CMP30002 | Consistancy Soft PID in breathing zone: NA Scan of sample with Electra 1256 dpm Scan 20 uR/hr Gamma |
| | 0.2 | | | | | |
| 1.0 | | | | | | |
| | 0.4 | | | Drilling Materials. Same as above, becomes black (2.5Y 2.5/1), petroleum odor, moist. | | |
| 2.0 | 0.6 | | | Drilling Materials. Dark yellowish brown (10YR 4/4), silt sand with gravel. Trace | CMP30204 | Consistancy: Soft PID in breathing zone: 0.8 PPM Scan of sample with Electra: 1070 dpm Scan: 18 uR/hr Gamma |
| | | | | Drilling Materials. Black (2.5Y 2.5/1) clay, wet, clay is lean, petroleum odor. | | |
| | 0.8 | | | | | |
| 3.0 | | | | | | |
| | 1.0 | | | | | |
| | 1.2 | | SM | Native material. Light olive brown (2.5Y 5/4) silty sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, native soil, odorless. | CMP30406 | Consistancy: Soft PID in breathing zone: 0.9 ppm Scan of sample with Electra: 1305 dpm Scan: 17 uR/hr Gamma |
| 4.0 | | | | | | |
| | 1.4 | | | | | |
| 5.0 | | | | | | |
| | 1.6 | | | | | |
| | 1.8 | | | | | |



| SOIL BORING LOG | BORING NUMBER: CMP4 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT Corp |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 630019.10 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1414100.20 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6032.40 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 7.40 |
| DATE HOLE STARTED: 05/12/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/12/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Drilling Materials. Very dark gray (10YR 3/1), bentonite clay, dry on top 3 inches. | CMP40002 | Consistancy. Soft PID in breathing zone: NA Scan of sample with Electra: 1133 dpm Scan: background Gamma (22uR/hr) |
| 1.0 | 0.2 | | | Drilling Materials. Very dark gray (10YR 3/1), bentonite clay~. Moist to saturated rest of boring, streaks of diesel throughout boring, slight diesel odor. | | |
| 2.0 | 0.4 | | | | | |
| 3.0 | 0.6 | | | Drilling Materials. Black (N2.5) slight diesel odor bentonite clay, saturated. | CMP40204 | Consistancy: Soft PID in breathing zone: NA Scan of sample with Electra: 1078 dpm Scan: 18 uR/hr Gamma |
| 4.0 | 0.8 | | | | | |
| 5.0 | 1.0 | | | | | |
| 6.0 | 1.2 | | SM | At 3.8 ft native or fill soil. Dk yellowish brown (10YR 4/6), sl. moist, silty sand, fine to med grained, subrounded. Becomming dry at around 5 ft. | CMP40406 | Consistancy. PID in breathing zone: NA Scan of sample with Electra: 1055 dpm Scan: 20 uR/hr Gamma |
| 7.0 | 1.4 | | | | | |
| | 1.6 | | | Dk yellowish brown (10YR 4/6) silty sand, dry with gray (10YR6/1) angular detrital material. | CMP40608 | Consistancy PID in breathing zone: NA Scan of sample with Electra: 1158 dpm Scan: Gamma: 16 |
| | 1.8 | | | | | |
| | 2.0 | | | | | |
| | 2.2 | | | | | |

| TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|
| 0.0 4000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 4000.0 |
| 382.0 | 1980.0 | | 382.0 |
| 401.0 | 998.0 | | 401.0 |
| 6.2 | 103.0 | | 6.2 |
| 6.5 | 30.0 | | 6.5 |

SOIL BORING LOG

BORING NUMBER: CMP5 : Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 630178.40
UTM NORTHING: 1414085.30
GEOLOGIST: C. Birney
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/12/97
DATE HOLE COMPLETED: 05/12/97

ENVIRONMENTAL CONTRACTOR: IT Corp
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 6032.30
TOTAL DEPTH OF HOLE: 10.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 4000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | DM | Drilling Materials. Brown (10YR 4/3), grayish brown (10YR 5/2), bentonite drilling mud; saturated. | CMP50002 | Consistancy: Soft PID in breathing zone: NA Scan of sample with Electra: 1140 dpm Scan: 18 uR/hr Gamma | 676.0 | 2300.0 | | 676.0 |
| 2.0 | 0.6 | | | Drilling Materials. Black (N 2.5) saturated, bentonite drilling mud. | CMP50204 | Consistancy: Soft PID in breathing zone: NA Scan of sample with Electra: 1183 dpm Scan: 18 uR/hr Gamma | 673.0 | 1130.0 | | 673.0 |
| 3.0 | 1.0 | | | Yellowish brown (10YR 5/4), silty sand, fine to coarse grained, poorly sorted, some gravel, dry. | | | | | | |
| 4.0 | 1.2 | | SM | | CMP50406 | Consistancy: PID in breathing zone: NA Scan of sample with Electra: 1056 dpm Scan: 18 uR/hr Gamma | 7.1 | 102.0 | | 7.1 |
| | 1.4 | | | Same as above but moist. Some mud slough from 2-4 ft. interval. | | | | | | |
| 5.0 | 1.6 | | | Dk yellowish brown (10YR 4/6), silty sand, moist, v. fine to medium grained. | | | | | | |
| 6.0 | 1.8 | | | | CMP50608 | Consistancy: PID in breathing zone: NA Scan of sample with Electra: 1241 dpm Scan: 17 uR/hr Gamma | 7.2 | 113.0 | | 7.2 |
| 7.0 | 2.0 | | | Mud slough from 4-6 ft interval. Native soil - dk yellowish brown (10YR 4/4), silty sand, v. fine to medium grained, with minn? grand?, sand, subrounded, and subangular. | | | | | | |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| 8.0 | | | | | CMP50810 | Consistancy: in breathing zone: NA sample with Scan of Electra: 1404 dpm Gamma Scan: background (22uR/hr) | 6.7 | 91.2 | | 6.7 |
| | 2.6 | | | Dark yellowish brown (10YR 4/4) silty sand with gravel, v. fine to coarse sand, san subrounded to subangular. Bottom of boring at 10 ft. | | | | | | |
| 9.0 | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

PID

SOIL BORING LOG

BORING NUMBER: CMP6 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

ENVIRONMENTAL CONTRACTOR: IT CORP

PROJECT NUMBER: 771062.02.01.00.00

DRILLING METHOD: Direct Push

UTM EASTING: 630337.80

DRILLING CONTRACTOR: McLaren Hart

UTM NORTHING: 1414070.50

ELEVATION DATUM: Mean Sea Level

GEOLOGIST: C. Birney

HOLE SURFACE ELEVATION: 6032.30

QA CHECK: A. Welcher

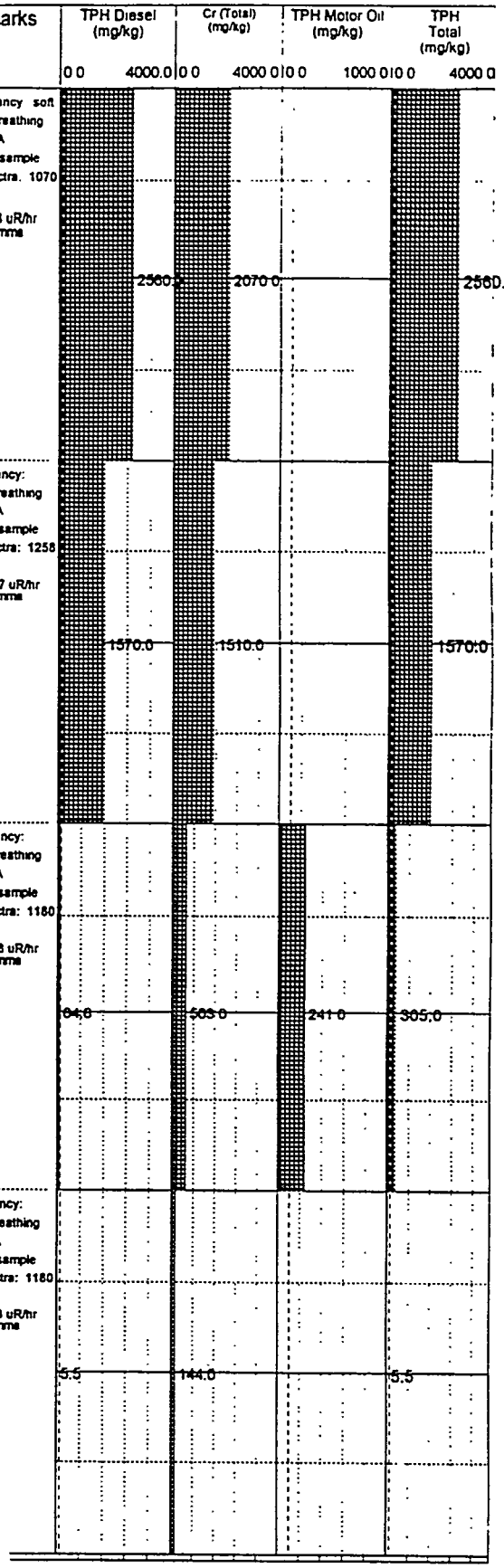
TOTAL DEPTH OF HOLE: 8.00

DATE HOLE STARTED: 05/13/97

COMMENTS:

DATE HOLE COMPLETED: 05/13/97

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Drilling Materials. Brown (10YR 4/3) drilling mud (bentonite), dry upper 1 inch, saturated the rest of the boring. | CMP60002 | Consistency soft PID in breathing zone: NA Scan of sample with Electra: 1070 dpm Scan: 18 uR/hr Gamma |
| 1.0 | 0.2 | | | | | |
| | 0.4 | | | | | |
| 2.0 | 0.6 | | | Drilling Materials. Black (N2.5) saturated drilling mud (bentonite), slight diesel odor. Upper 1/2 inch of sample tube is dark brown (7.5YR 3/2) sand, v. fine to medium grained. | CMP60204 | Consistency: PID in breathing zone: NA Scan of sample with Electra: 1258 dpm Scan: 17 uR/hr Gamma |
| 3.0 | 0.8 | | | | | |
| | 1.0 | | | | | |
| 4.0 | 1.2 | | | Very dark grayish brown (2.5Y 3/2), moist, clayey silty sand with gravel. | CMP60406 | Consistency: PID in breathing zone: NA Scan of sample with Electra: 1160 dpm Scan: 18 uR/hr Gamma |
| | 1.4 | | SM | | | |
| 5.0 | 1.6 | | | Dark yellowish brown (10YR 4/4) silty sand with gravel, sand v. fine to coarse, subrounded-subangular, moist. | | |
| 6.0 | 1.8 | | | | CMP60608 | Consistency: PID in breathing zone: NA Scan of sample with Electra: 1160 dpm Scan: 18 uR/hr Gamma |
| | 2.0 | | | Moved 1 ft east of initial hole and pushed from 6 to 8 ft to avoid possible sloughing from above. Dk yellowish brown (10YR 4/4) silty sand with some gravel, snad fine to coarse, subrounded to subangular, gravel and subangular, dry. Gravel looks like volcanics. | | |
| 7.0 | 2.2 | | | | | |
| | 2.4 | | | | | |



SOIL BORING LOG

BORING NUMBER: CMP7 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

ENVIRONMENTAL CONTRACTOR: IT CORP

PROJECT NUMBER: 771062.02.01.00.00

DRILLING METHOD: Direct Push

UTM EASTING: 630203.30

DRILLING CONTRACTOR: McLaren-Hart

UTM NORTHING: 1414243.80

ELEVATION DATUM: Mean Sea Level

GEOLOGIST: M. Flaugher

HOLE SURFACE ELEVATION: 6034.70

QA CHECK: A. Welcher

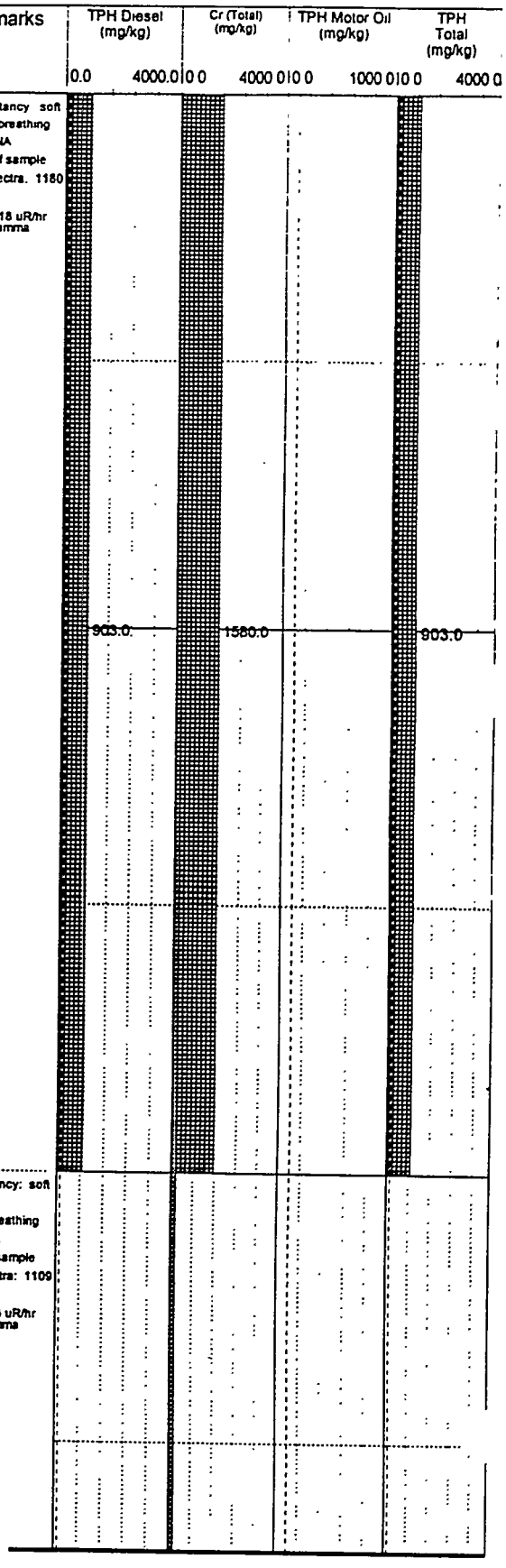
TOTAL DEPTH OF HOLE: 2.70

DATE HOLE STARTED: 05/13/97

COMMENTS:

DATE HOLE COMPLETED: 05/13/97

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Drilling Material. Very dark grayish brown (10YR 3/2), clay, dry. Clay is lean with fine grained sand, loosely consolidated in upper 0-3 inches, odorless. | CMP70002 | Consistancy soft PID in breathing zone: NA Scan of sample with Electra: 1180 dpm Scan: 18 uR/hr Gamma |
| | 0.2 | | | | | |
| 1.0 | | | | Drilling Material. Material described above becomes black (2.5Y 2.5/1), petroleum odor. | | |
| | 0.4 | | | | | |
| | 0.6 | | SM | Light olive brown (2.5Y 5/4) silty sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, native soil, odorless. Refusal at 2.7 ft bgs. | CMP70204 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1109 dpm Scan: 16 uR/hr Gamma |
| 2.0 | | | | | | |
| | 0.8 | | | | | |

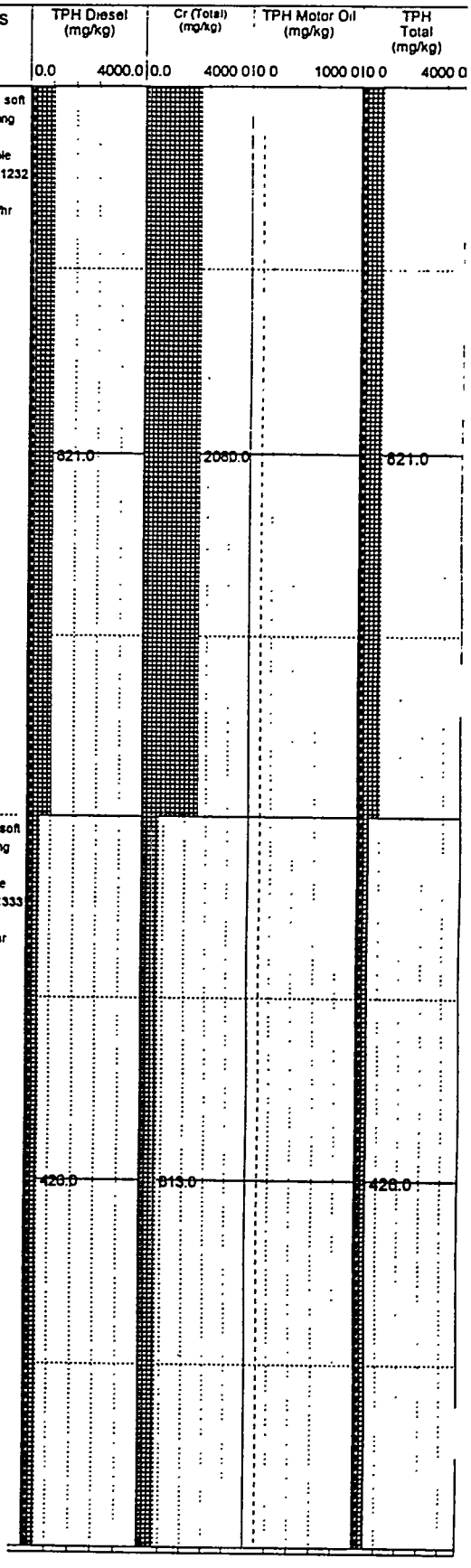


| SOIL BORING LOG | BORING NUMBER: CMP8 | Page #1 of 2 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 630192.40 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1414234.80 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6034.20 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 2.40 | |
| DATE HOLE STARTED: 05/13/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/13/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 4000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | DM | Drilling Materials. Very dark grayish brown (10YR 3/2) clay, dry. Clay is lean with fine grained sand, loosely consolidated in upper 003 inches, odorless. | CMP80002 | Consistancy soft PID in breathing zone: NA Scan of sample with Electra. 1230 dpm Scan: 20 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 1470.0 | 1810.0 | | 1470.0 |
| | | | | Drilling Materials. As described above becoming black (2.5Y 2.5/1), petroleum odor. | | | | | | |
| | 0.4 | | | | | | | | | |
| | 0.6 | | | | | | | | | |
| 2.0 | | | SM | Light olive brown (2.5Y 5/4) silty sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, native soil, odorless. | CMP80204 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: NA dpm Scan: NA uR/hr Gamma | | | | |

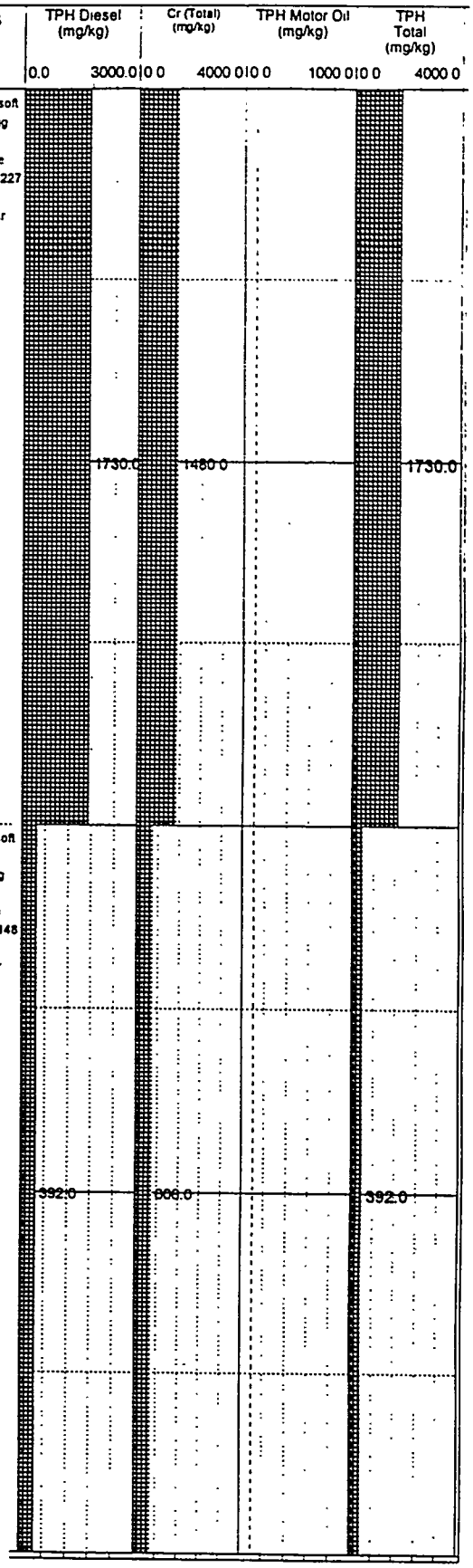
| SOIL BORING LOG | BORING NUMBER: CMP9 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 630265.10 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1414152.60 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6032.70 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 4.00 | |
| DATE HOLE STARTED: 05/13/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/13/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Drilling Materials. Very dk brown (10YR 2/2) moist, drilling mud (bentonite). | CMP90002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra 1232 dpm Scan 17 uR/hr Gamma |
| | 0.2 | | | | | |
| 1.0 | | | | | | |
| | 0.4 | | | | | |
| 2.0 | 0.6 | | | Drilling Materials. Same drilling mud as described above. | CMP90204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1333 dpm Scan: 18 uR/hr Gamma |
| | 0.8 | | | | | |
| 3.0 | | | SM | V. dl grayish brown (10YR 3/2) silty sand, sand fine to coarse, subrounded to subangular. End of boring 4 ft. | | |
| | 1.0 | | | | | |
| | 1.2 | | | | | |



| SOIL BORING LOG | BORING NUMBER: CMP10 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 630185.90 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1414165.00 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6032.80 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 4.00 | |
| DATE HOLE STARTED: 05/13/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/13/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Drilling Materials. Very dark grayish brown (10YR 3/2), clay, dry. Clay is lean, loosely consolidated in upper 0-3 in. Becomes moist after 3 inches. | CMP10000 | Consistancy soft PID in breathing zone: NA Scan of sample with Electra 1227 dpm Scan: 17 uR/hr Gamma |
| | 0.2 | | | Drilling Materials. As above becomes black (2.5Y 2.5/1), strong petroleum odor. | | |
| 1.0 | | | | | | |
| | 0.4 | | | | | |
| 2.0 | | | | | CMP10020 | Consistancy: soft to firm PID in breathing zone: 0.8 ppm Scan of sample with Electra: 1148 dpm Scan: 17 uR/hr Gamma |
| | 0.6 | | SM | Light olive brown (2.5Y 5/6) silty sand, dry, sand is fine grained, poorly graded, subangular to subrounded, native soil, odorless. Total depth is 4.0 ft. | | |
| | 0.8 | | | | | |
| 3.0 | | | | | | |
| | 1.0 | | | | | |
| | 1.2 | | | | | |

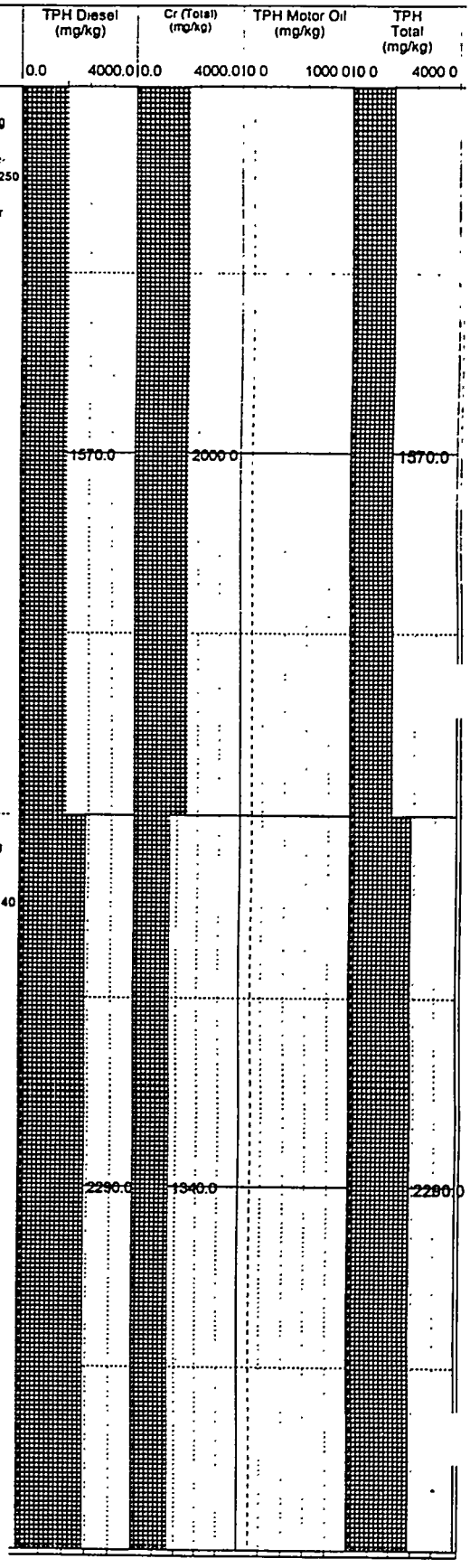


SOIL BORING LOG

BORING NUMBER: CMP11 Page #1 of 1

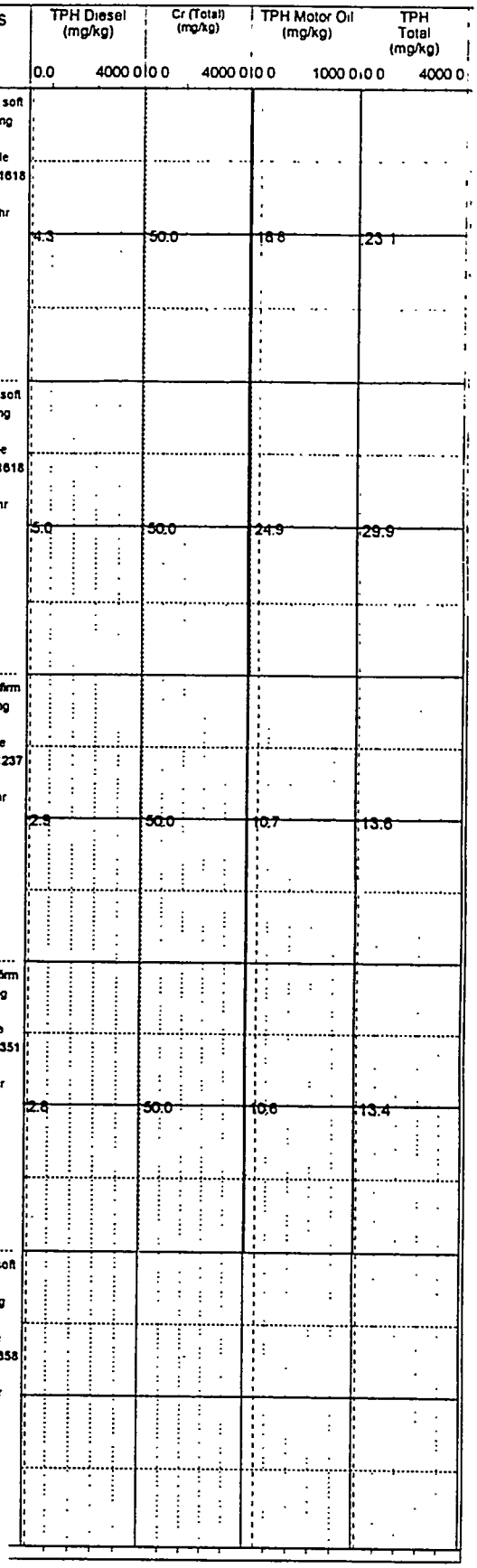
| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 630106.20 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1414172.50 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6034.60 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 4.00 |
| DATE HOLE STARTED: 05/13/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/13/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Drilling Materials. Very dk brown (10YR 2/2) dry drilling mud. | CMP11000 | Consistancy PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 20 uR/hr Gamma |
| | | | | Drilling Materials. Dk yellowish brown (10YR 4/4), drilling mud, wet. | | |
| 2.0 | 0.6 | | | Drilling Materials. Black (N2.5) saturated drilling mud with some dk brown (7.5 YR 3/2) sand, fine to medium, subrounded, diesel odor. End of boring 4 ft. | CMP11020 | Consistancy: PID in breathing zone: NA Scan of sample with Electra: 1140 dpm Scan: 18 uR/hr Gamma |



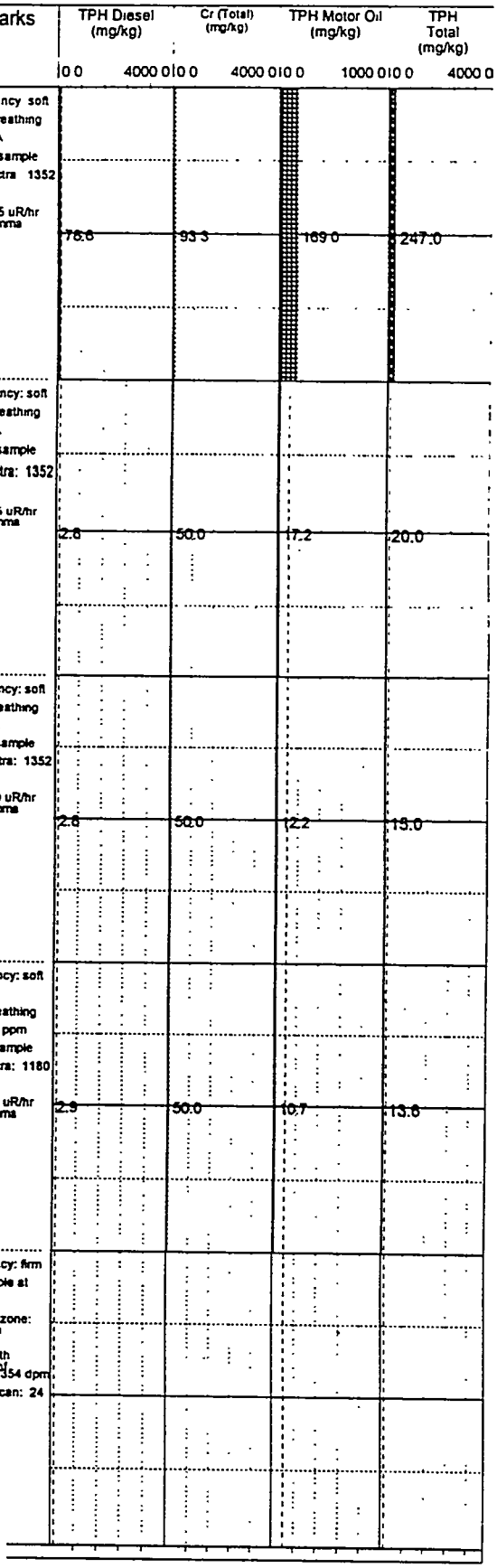
| SOIL BORING LOG | BORING NUMBER: CMP12 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 630468.30 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1414068.30 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6034.30 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 | |
| DATE HOLE STARTED: 06/01/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/01/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Brown (7.5YR 4/4) sand with silt, dry. Sand is fine grained, trace medium grains, poorly graded, subangular to subrounded, volcanic detrital, massive, drill cuttings. | CMP12000 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1618 dpm Scan: 24 uR/hr Gamma |
| 1.0 | 0.2 | | | | | |
| 2.0 | 0.4 | | | | | |
| | 0.6 | | | | CMP12020 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1618 dpm Scan: 24 uR/hr Gamma |
| 3.0 | 0.8 | | | Same as above, trace clay. | | |
| 4.0 | 1.0 | | | Dark yellowish brown (10YR 4/6) sand, dry. Sand is fine grained, trace coarse grains, poorly graded, subangular to subrounded, volcanic detrital, well consolidated, trace silt, native. | CMP12040 | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1237 dpm Scan: 22 uR/hr Gamma |
| 5.0 | 1.2 | | SP | | | |
| 6.0 | 1.4 | | | | | |
| | 1.6 | | SP-SM | Dark yellowish brown (10YR 4/6) sand with silt, dry. Sand is fine grained, predominately fine grained poorly graded, subangular to subrounded, volcanic detrital. | | |
| 7.0 | 1.8 | | SM | | CMP12060 | Consistancy: firm PID in breathing zone: 1.5 ppm Scan of sample with Electra: 1351 dpm Scan: 22 uR/hr Gamma |
| | 2.0 | | | Light yellowish brown (10YR 6/4) silty sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanics, massive. | | |
| 8.0 | 2.2 | | SP-SM | | | |
| 9.0 | 2.4 | | | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, loosely consolidated. | CMP12081 | Consistancy: soft Hold at lab PID in breathing zone: NA Scan of sample with Electra: 1358 dpm Scan: 22 uR/hr Gamma |
| | 2.6 | | | | | |
| | 2.8 | | | Same as above, becomes well consolidated. Total depth is 10.0 ft. | | |
| | 3.0 | | | | | |



| SOIL BORING LOG | BORING NUMBER: U1A1 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 629549.00 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1414124.10 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6053.40 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 06/01/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/01/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Dark grayish brown (10YR 4/2) clay, dry. Clay is lean, drill cuttings. | U1A10002 | Consistancy soft PID in breathing zone: NA Scan of sample with Electra 1352 dpm Scan: 25 uR/hr Gamma |
| 1.0 | 0.2 | | | Dark yellowish brown (10YR 3/4) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, trace coarse grains, volcanic detrital, some chert, massive, drill cuttings. | | |
| 2.0 | 0.6 | | | | U1A10204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1352 dpm Scan: 25 uR/hr Gamma |
| 3.0 | 1.0 | | | | | |
| 4.0 | 1.2 | | | | U1A10406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1352 dpm Scan: 20 uR/hr Gamma |
| 5.0 | 1.6 | | | As above, with trace gravel. | | |
| 6.0 | 1.8 | | SP | Dark yellowish brown (10YR 3/4) sand with gravel, dry. Sand is fine to medium grained, trace coarse grains, poorly graded, subangular to subrounded. Gravel is pebble sized, rounded, tuff, native, trace silt. | U1A10608 | Consistancy: soft to firm PID in breathing zone: 1.8 ppm Scan of sample with Electra: 1180 dpm Scan: 22 uR/hr Gamma |
| 7.0 | 2.2 | | | | | |
| 8.0 | 2.4 | | SP-SM | Yellowish brown (10YR 5/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, native. Total depth is 10.0 ft. | U1A10810 | Consistancy: firm Hold sample at lab. breathing zone: NA PID in sample with Scan of Electra 1354 dpm Gamma Scan: 24 uR/hr |
| 9.0 | 2.8 | | | | | |
| | 3.0 | | | | | |



SOIL BORING LOG

BORING NUMBER: U1A2 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 629551.60

UTM NORTHING: 1414098.70

GEOLOGIST: M. Flaugher

QA CHECK: A. Welcher

DATE HOLE STARTED: 06/01/97

DATE HOLE COMPLETED: 06/01/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6053.50

TOTAL DEPTH OF HOLE: 10.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 0 1000.0 | 0 0 4000 0 | 0 0 2000 0 | 0 0 4000 0 |
| 0.0 | 0.0 | | DC | Dark grayish brown (10YR 4/2) clay, dry. Clay is lean. Drill cuttings. At 1.0 to 1.1, a 2-inch, very dark gray (10YR 3/1), welded tuff rock. | U1A20002 | Consistancy. soft PID in breathing zone: 2.2 ppm Scan of sample with Electra: 1358 dpm Scan 20 uR/hr Gamma | 387.0 | 79 3 | 323 0 | 710.0 |
| 1.0 | 0.4 | | | Dark yellowish brown (10YR 3/4) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, trace coarse grains, volcanic detrital, some cherts, massive, drill cuttings. | | | | | | |
| 2.0 | 0.6 | | | | U1A20204 | Consistancy: soft to firm PID in breathing zone: 2.2 ppm Scan of sample with Electra. 1358 dpm Scan: 20 uR/hr Gamma | 149.0 | 50.0 | 107.0 | 256.0 |
| 3.0 | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | Yellowish brown (10YR 5/4) sand with silt, dry. Sand is fine to medium grained, trace coarse grains, poorly graded, subangular to subrounded, volcanic detrital, some red cherts. | U1A20406 | Consistancy: soft to firm PID in breathing zone: 2.2 ppm Scan of sample with Electra: 1354 dpm Scan: 23 uR/hr Gamma | 19.4 | 50.0 | 13.6 | 33.0 |
| 5.0 | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | SP | Dark yellowish brown (10YR 3/4) sand with gravel, dry. SAnd is fine to medium grained, trace coarse grains, poorly graded, subangular to subangular. Gravel is pebble sized, rounded, tuff, native, trace silt, tough pushing. | U1A20608 | Consistancy: firm to hard PID in breathing zone: 2.2 ppm Scan of sample with Electra: 1160 dpm Scan: 25 uR/hr Gamma | 2.6 | 50.0 | 10.5 | 13.3 |
| 7.0 | 2.2 | | | | | | | | | |
| 8.0 | 2.4 | | SP-SM | Yellowish brown (10YR 5/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, native, tough pushing. | U1A20810 | Consistancy: firm to hard breathing zone: NA sample with Scan of Electra: 1219 dpm Gamma Scan: 23 uR/hr | | | | |
| 9.0 | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

PID in

SOIL BORING LOG

BORING NUMBER: U1A3 Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 629507.70 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1414112.80 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6054.40 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 |
| DATE HOLE STARTED: 06/03/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/03/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 4000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Dark yellowish brown (10YR 4/4) poorly sorted sand with silt and gravel. Sand fine to coarse, rounded to subangular. Gravel fine to coarse, angular to subrounded, dry. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1350 dpm Scan: 18 uR/hr Gamma | 2.8 | 50.0 | 10.6 | 13.4 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1400 dpm Scan: 18 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| | 1.2 | | SM | Yellowish brown (10YR 5/4) silty sand with gravel. Sand is very fine to coarse, rounded to subangular, gravel coarse, subrounded, dry. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 17 uR/hr Gamma | 2.9 | 50.0 | 12.1 | 15.0 |
| | 1.4 | | | | | | | | | |
| | 1.6 | | SP | Poorly sorted sand yellowish brown (10YR 5/4), sand fine to coarse, angular to subrounded, dry. Bottom of boring at 6.0 ft. | | | | | | |
| | 1.8 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U1A4 | Page #1 of 2 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 629542.30 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1414159.90 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6053.20 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 5.50 | |
| DATE HOLE STARTED: 06/03/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/03/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0 0 4000 0 | Cr (Total) (mg/kg) 0.0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 4000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sadn is very fine to coarse, rounded to subangular. Gravel, fine to coarse, angular to subrounded, dry. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1400 dpm Scan: 19 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 2.9 | 50.0 | 18.0 | 18.9 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | Yellowish brown (10YR 5/4) silty sand, no gravel, sand as above. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1230 dpm Scan: 21 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sadn is very fine to coarse, rounded to subangular. Gravel, fine to coarse, angular to subrounded, dry. | | | 2.9 | 50.0 | 10.9 | 13.8 |
| | 1.0 | | | | | | | | | |
| | | | | Brown (10YR 4/3) silty sand with gravel. Sand very fine to coarse, rounded to angular, gravel fine to medium, subrounded, subangular, dry. | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1050 dpm Scan: 20 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| | | | | Dark yellowish brown (10YR 4/4) poorly graded sand with gravel. Sand is fine to coarse, rounded to subangular. Gravel is fine to coarse, angular, dry. Refusal at 5.5 ft. | | | 2.8 | 50.0 | 10.7 | 13.5 |
| 5.0 | | | | | | | | | | |
| | 1.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U1A5 Page #1 of 2

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 629592.90 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1414109.90 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6053.80 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 5.50 |
| DATE HOLE STARTED: 06/03/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/03/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 4000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand fine to coarse, rounded to subangular. Gravel fine to coarse, subrounded, dry. | | Consistancy: soft Duplicate sample CNT30039 taken. breathing zone NA PID in sample with Electra: 1370 dpm Scan of Gamma Scan 20 uR/hr | 266.0 | 50.0 | 127.0 | 393.0 |
| 2.0 | 0.6 | | SP | Dark yellowish brown (10YR 4/3) poorly graded sand with gravel. Sand very fine to coarse, subrounded to angular, gravel angular, coarse to medium, dry, some welded tuff. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1160 dpm Scan: 18 uR/hr Gamma | 4.5 | 50.0 | 3.5 | 16.0 |
| 4.0 | 1.2 | | SM | Dark yellowish brown (10YR 3/4) silty sand with gravel. Sand fine to coarse, rounded to subangular. Gravel fine to coarse, subrounded, dry. Refusal at 5.5 ft. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1340 dpm Scan: 18 uR/hr Gamma | 19.5 | 50.0 | 56.5 | 76.0 |
| 5.0 | 1.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U1A6 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 629558.80 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1414067.90 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6053.00 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 | |
| DATE HOLE STARTED: 06/03/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/03/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 0 4000 0 | 0 0 4000 0 | 10 0 1000 0 | 10 0 4000 0 |
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand very fine to coarse, rounded to subangular. Gravel fine to coarse, subrounded to subangular, dry. | | Consistancy soft PID in breathing zone: NA Scan of sample with Electra: 1280 dpm Scan 17 uR/hr Gamma | | | | |
| 0.2 | | | | | | | | | | |
| 1.0 | | | | Same as above, color change to yellowish brown (10YR 5/4) silty sand with gravel. | | | 16.7 | 50.0 | 268.0 | 304.0 |
| 0.4 | | | | | | | | | | |
| 2.0 | 0.6 | | | Same as above, color change to dark yellowish brown (10YR 4/4). | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1030 dpm Scan: 21 uR/hr Gamma | | | | |
| 0.8 | | | | | | | | | | |
| 3.0 | | | | | | | 3.4 | 50.0 | 18.2 | 21.6 |
| 1.0 | | | | | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1000 dpm Scan: 17 uR/hr Gamma | | | | |
| 1.4 | | | | | | | | | | |
| 5.0 | | | | Same as above, color yellowish brown (10YR 5/4) silty sand. | | | 2.6 | 50.0 | 5.8 | 18.6 |
| 1.6 | | | | | | | | | | |
| 1.8 | | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U1A7 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 629646.00
UTM NORTHING: 1414086.90
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 06/08/97
DATE HOLE COMPLETED: 06/08/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 6049.90
TOTAL DEPTH OF HOLE: 8.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 0 4000 0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 4000 0 |
| 0.0 | 0.0 | | SP-SM | Brown (10YR 4/3) sand with silt and grave, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded. | | Consistancy. soft | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 3.3 | 50 0 | 16.2 | 19.5 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy. soft Duplicate sample CNT30056 taken. | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 2.6 | 50 0 | 13.7 | 16.5 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: soft | | | | |
| | | | | Same as above, increase in gravel content. | | | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 2.9 | 50 0 | 10.7 | 13.6 |
| | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | | | Consistancy: soft | | | | |
| | | | | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine to medium grained, trace coarse sand, poorly graded, subangular to subrounded, volcanics, trace gravel. Gravel is angular, pebble sized, volcanics. Total depth is 8.0 ft. | | | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | | | | | | | 2.8 | | 10.6 | 13.4 |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U1A8 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 629640.90
UTM NORTHING: 1414140.60
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 06/08/97
DATE HOLE COMPLETED: 06/08/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 6051.50
TOTAL DEPTH OF HOLE: 6.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0 0 4000 0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 4000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Brown (7.5YR 4/4) sand with silt, dry. Sand is fine grained, trace medium grains, poorly graded, subangular to subrounded, volcanic detrital, organics (roots) in upper 3 inches, loosely consolidated, massive. | | Consistancy soft to 1 ft, then soft to firm to 2 ft | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 3.4 | 50.0 | 17.9 | 21.3 |
| | 0.4 | | | Same as above, becomes moderately consolidated. | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: firm | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 2.9 | 50.0 | 10.7 | 13.6 |
| | 1.0 | | | Dark yellowish brown (10YR 3/4) sand with silt and gravel, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded, volcanics. Gravel of volcanic origin, is pebble to cobble sized, angular to subrounded, massive. Total depth is 6.0 ft. | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: firm | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 2.9 | 50.0 | 10.6 | 13.5 |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U1A9 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 629611.30
UTM NORTHING: 1414037.90
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 06/08/97
DATE HOLE COMPLETED: 06/08/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 6052.50
TOTAL DEPTH OF HOLE: 7.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 4000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | SP | Dark yellowish brown (10YR 3/6) sand, dry. Sand is fine grained, trace coarse grains, poorly graded, subangular to subrounded, volcanic detrital, massive, loosely consolidated in 1 to 3 inches. Well consolidated from 3 inches to 1.7 ft. Trace organics (roots) in upper 3 inches. | | Consistancy soft to firm | 3.0 | 30.0 | 11.2 | 14.2 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | SP-SM | Dark yellowish brown (10YR 4/4) sand wiht silt and gravel, dry. Sand is fine grained, trace medium grains, poorly graded, subangular to subrounded, volcanic detrital, massive. Gravel is pebble sized, volcanic in origin, angular. | | Consistancy: soft to firm | | | | |
| 3.0 | 0.6 | | | | | | | | | |
| 4.0 | 0.8 | | SM | Same as above, increase in silt content. | | | 3.0 | 30.0 | 11.1 | 14.1 |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | | Consistancy: soft to firm | | | | |
| | 1.4 | | | Dark yellowish brown (10YR 3/4) silty sand, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded, volcanic detrital, trace gravel (angular, volcanic, pebble sized). Total depth is 7.0 ft. | | | 2.9 | 30.0 | 10.9 | 13.8 |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | Consistancy: soft to firm. Sample held at lab pending analysis. | | | | |
| | 2.0 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U1B1 Page #1 of 2

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 629397.20

UTM NORTHING: 1412108.30

GEOLOGIST: M. Flaugher

QA CHECK: A. Welcher

DATE HOLE STARTED: 05/29/97

DATE HOLE COMPLETED: 05/29/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6034.60

TOTAL DEPTH OF HOLE: 5.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 4000.0 | 0.0 4000.0 | 10.0 1000.0 | 10.0 4000.0 |
| 0.0 | 0.0 | | SP | Reddish brown (5Y 4/4) sand with gravel, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded, volcanic detrital, gravel, native. | U1B10002 | Consistancy: soft PID in breathing zone: 2.2 ppm Scan of sample with Electra: 1602 dpm Scan: 24 uR/hr Gamma | 7.0 | 50.0 | 16.6 | 23.6 |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | | | | |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | U1B10204 | Consistancy: soft PID in breathing zone: 2.2 ppm Scan of sample with Electra: 1602 dpm Scan: 24 uR/hr Gamma | 8.6 | 50.0 | 22.8 | 31.4 |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | | | | |
| | 1.0 | | | | | | | | | |
| | 1.2 | | | | U1B10406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1180 dpm Scan: 23 uR/hr Gamma | 2.8 | 50.0 | 10.6 | 13.4 |
| 4.0 | | | | | | | | | | |
| | 1.4 | | | Brown (10YR 4/2) sand, dry, very hard, volcanic detrital fine grained, probably a large rock. Refusal at 5.0 ft. | | | | | | |

SOIL BORING LOG

BORING NUMBER: U1B2 Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 629453.00 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1412111.30 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6033.60 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 05/29/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/09/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 0 4000 0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 4000 0 |
| 0.0 | 0.0 | | SP-SM | Reddish brown (5Y 4/4) sand with silt and gravel, dry, sand is fine to medium grained, trace coarse gravel, poorly graded, subangular to subrounded. Gravel is pebble sized, rounded, massive, native | U1B20002 | Consistancy soft to firm PID in breathing zone: 2.0 ppm Scan of sample with Electra: 1117 dpm Scan: 24 uR/hr Gamma | 3.3 | 50.0 | 12.5 | 15.8 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| | 0.6 | | | | U1B20204 | Consistancy: soft PID in breathing zone: 2.0 ppm Scan of sample with Electra: 1117 dpm Scan: 24 uR/hr Gamma | | | | |
| | 0.8 | | | Same as above, but at 2.4 ft, no gravel. Sand and silt, moist. | | | 3.4 | 50.0 | 12.6 | 16.2 |
| 3.0 | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | | U1B20406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1477 dpm Scan: 22 uR/hr Gamma | | | | |
| | 1.4 | | | Same as above, but at 4.0 ft, an increase in gravel. Sand with silt and gravel, moist. | | | 2.9 | 50.0 | 13.1 | 16.0 |
| 5.0 | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | | U1B20608 | Consistancy: soft Sample on hold for analysis. PID in breathing zone: 2.1 ppm Scan of sample with Electra: 1396 dpm Scan: 24 uR/hr Gamma | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | 2.2 | | | | | | | | | |
| 8.0 | 2.4 | | | Same as above, but an increase to trace clay. Total depth of boring is 10.0 ft. | U1B20810 | Consistancy: soft Sample on hold for analysis. PID in breathing zone: NA Scan of sample with Electra: 1242 dpm Scan: 22 uR/hr Gamma | | | | |
| 9.0 | 2.6 | | | | | | | | | |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U1B3 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 629502.20 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1412111.20 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6034.50 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/29/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/29/97 | | |

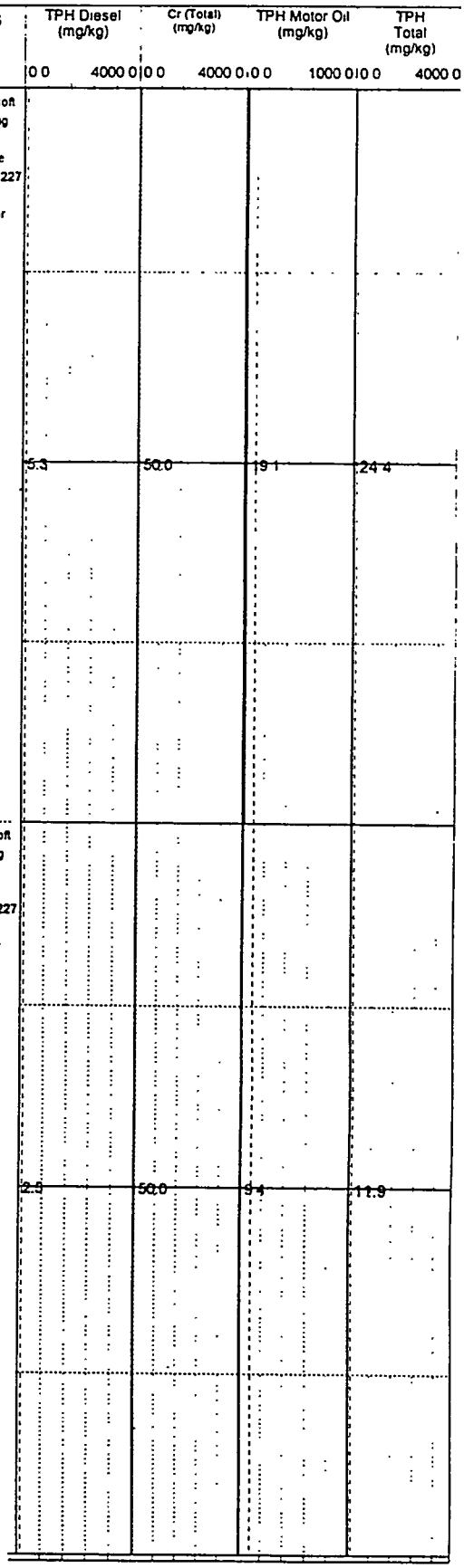
| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 4000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Reddish brown (5Y 4/4) sand with silt and gravel dry. Sand is fine to coarse grained, predominately fine grained, poorly graded, subangular to subrounded, volcanic detrital, gravel is pebble sized, native. | U1B30002 | Consistancy: soft Sample on hold for analysis PID in breathing zone: NA Scan of sample with Electra: 1279 dpm Scan: 24 uR/hr Gamma | 9.4 | 50.0 | 33.1 | 42.5 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U1B30204 | Consistancy: soft Sample on hold for analysis PID in breathing zone: NA Scan of sample with Electra: 1279 dpm Scan: 24 uR/hr Gamma | 6.4 | 50.0 | 11.2 | 19.6 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | Same as above, but at 4.0 ft, decrease in gravel content. | U1B30406 | Consistancy: soft Duplicate sample CNT30024 taken here. PID in breathing zone: NA Scan of sample with Electra: 1188 dpm Scan: 22 uR/hr Gamma | 4.7 | 50.0 | 15.8 | 20.5 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | Brown (10YR 4/3) sand with silt, dry. Sand is fine to medium grained, trace coarse grains, poorly graded, subangular to subrounded, volcanic detrital, native. | U1B30608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: NA dpm Scan: NA uR/hr Gamma | | | | |
| 10.0 | 2.0 | | | | | | | | | |
| 11.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | | Same as above, but at 8.0 ft, increase in gravel to sand with silt and gravel. Total depth of boring at 12.0 ft. | U1B30810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: NA dpm Scan: NA uR/hr Gamma | | | | |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |
| | 3.2 | | | | U1B31012 | Consistancy: soft Sample on hold for analysis PID in breathing zone: 2.0 ppm Scan of sample with Electra: 1242 dpm Scan: 23 uR/hr Gamma | | | | |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U1B4 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 629403.50 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1412039.30 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6033.80 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 7.50 | |
| DATE HOLE STARTED: 05/29/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/29/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 4000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | SP | Reddish brown (5Y 4/4) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic detrital, organics in upper 3 inches (roots), trace gravel, rounded, volcanic, native. | U1B40002 | Consistancy: soft PID in breathing zone: 2.6 PPM Scan of sample with Electra: 1383 dpm Scan: 22 uR/hr Gamma | 4.3 | 50.0 | 17.0 | 21.3 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| | 0.6 | | | | U1B40204 | Consistancy: soft PID in breathing zone: 2.6 PPM Scan of sample with Electra: 1283 dpm Scan: 22 uR/hr Gamma | 3.1 | 50.0 | 11.4 | 14.5 |
| 3.0 | 0.8 | | | | | | | | | |
| 4.0 | 1.0 | | | | | | | | | |
| | 1.2 | | | Brown (10YR 4/3) sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanic detrital, trace clay, trace silt, native. | U1B40406 | Consistancy: soft PID in breathing zone: 2.4 PPM Scan of sample with Electra: 1188 dpm Scan: 23 uR/hr Gamma | 3.1 | 50.0 | 11.5 | 14.6 |
| 5.0 | 1.4 | | | | | | | | | |
| | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | GP | Grayish green (5G 5/2) tuff, welded, tough drilling, rock. Refusal at 7.5 ft. Possible boulder of large cobble. | U1B40608 | Consistancy: soft Sample on hold for analysis. PID in breathing zone: NA Scan of sample with Electra: 1305 dpm Scan: 23 uR/hr Gamma | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | 2.2 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U1B5 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 629456.00 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1412042.40 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6034.30 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 4.00 |
| DATE HOLE STARTED: 05/29/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/29/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Reddish brown (5Y 4/4) sand with gravel, dry. Sand is fine to medium grained, predominately fine grained, poorly graded, subangular to subrounded, volcanic detrital massive. Gravel is pebble sized, rounded, native. | U1B50002 | Consistancy. soft PID in breathing zone: 2.6 ppm Scan of sample with Electra: 1227 dpm Scan: 24 uR/hr Gamma |
| 2.0 | 0.6 | | SP-SM | Brown (7.5YR 4/4) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic detriatl, native at 2.6 ft. same as above, trace gravel. Refusal at 4 ft. | U1B50204 | Consistancy: soft PID in breathing zone: 2.3 ppm Scan of sample with Electra: 1227 dpm Scan: 23 uR/hr Gamma |
| | 0.2 | | | | | |
| 1.0 | 0.4 | | | | | |
| | 0.8 | | | | | |
| 3.0 | 1.0 | | | | | |
| | 1.2 | | | | | |



SOIL BORING LOG

BORING NUMBER: U1B6 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 629505.20 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1412045.50 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6034.70 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 2.00 |
| DATE HOLE STARTED: 05/29/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/29/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 4000.0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 4000 0 |
| 0.0 | 0.0 | | SP | Reddish brown (5Y 4/4) sand, dry. Sand is fine grained, trace medium sand and coarse sand, poorly graded, subangular to subrounded, volcanic detrital, trace gravel (well rounded, pebble sized), native. Refusal at 2.0 ft. | U1B60002 | Consistancy: soft Collected duplicate sample CNT30026 here. PID in breathing zone: 2.1 ppm Scan of sample with Electra. 1281 dpm Scan: 24 uR/hr Gamma | 2.1 | 50.0 | 6.5 | 19.2 |
| | 0.2 | | | | | | | | | |
| | 1.0 | | | | | | | | | |
| | 0.4 | | | | | | | | | |
| | 0.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U1C1 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628767.80 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1414875.20 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6100.50 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/28/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/28/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 4000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Reddish brown (5YR 4/4) sand with gravel, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded. Gravel is pebble sized, rounded, fill, massive, some organics (roots) in upper 3 inches, volcanic detrital. | U1C10002 | Consistancy soft On hold pending analysis breathing zone PID in NA sample with Scan of Electra 1528 dpm Gamma Scan 24 uR/hr | 2.9 | 50.0 | 10.7 | 13.6 |
| 2.0 | 0.6 | | | | U1C10204 | Consistancy: soft On hold pending analysis. PID in breathing zone: NA Scan of sample with Electra: 1528 dpm Scan: 24 uR/hr Gamma | 2.9 | 50.0 | 10.8 | 13.7 |
| 4.0 | 1.2 | | | Same as above, but at 4 ft increase in trace silt. | U1C10406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1047 dpm Scan: 20 uR/hr Gamma | 2.9 | 50.0 | 15.4 | 18.3 |
| 6.0 | 1.8 | | SP-SM | Reddish brown (5YR 4/4) sand with silt, dry. Sand is fine to coarse grained, poorly graded, predominately fine grained, subangular to subrounded, trace gravel, massive, fill, volcanic detrital. | U1C10608 | Consistancy: soft PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1257 dpm Scan: 22 uR/hr Gamma | 2.9 | 50.0 | 10.8 | 13.7 |
| 8.0 | 2.4 | | | | U1C10810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1216 dpm Scan: 23 uR/hr Gamma | 2.9 | 50.0 | 9.4 | 11.9 |
| 10.0 | 3.0 | | | | U1C11012 | Consistancy: soft to firm On hold pending analysis. PID in breathing zone: 1.8 ppm Scan of sample with Electra: 1101 dpm Scan: 21 uR/hr Gamma | | | | |
| 11.0 | 3.4 | | | Reddish brown (5YR 4/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded. | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U1C2 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628774.80 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1414835.50 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6102.90 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/28/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/28/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0 0 4000 0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 4000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Reddish brown (5Y 4/4) sand, dry. Sand is fine to coarse grained, predominately fine grained, poorly graded, subangular to subrounded, trace silt, trace gravel (rounded, pebble sized. At 3.4 ft, went through a cobble (in shoe) tough drilling. | U1C20002 | Consistancy: soft On hold pending analysis PID in breathing zone: NA Scan of sample with Electra: 1275 dpm Scan: 21 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| 2.0 | 0.6 | | | | U1C20204 | Consistancy: soft On hold pending analysis PID in breathing zone: NA Scan of sample with Electra: 1275 dpm Scan: 21 uR/hr Gamma | 2.8 | 50.0 | 10.5 | 13.3 |
| 4.0 | 1.2 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fine to coarse grained, predominately fine grained, poorly graded, subangular to subrounded, fill, massive, volcanic detrital, native. Note: tough drilling at 6.0 ft. | U1C20406 | Consistancy: soft PID in breathing zone: 1.9 ppm Scan of sample with Electra: 1216 dpm Scan: 23 uR/hr Gamma | 2.6 | 50.0 | 19.7 | 22.3 |
| 6.0 | 1.8 | | | | U1C20608 | Consistancy: firm to hard PID in breathing zone: 1.8 ppm Scan of sample with Electra: 1242 dpm Scan: 20 uR/hr Gamma | 8.4 | 50.0 | 23.7 | 32.1 |
| 8.0 | 2.4 | | | | U1C20810 | Consistancy: firm to hard Collected duplicate sample CNT30022. PID in breathing zone: 1.8 ppm Scan of sample with Electra: 1182 dpm Scan: 20 uR/hr Gamma | 3.0 | 50.0 | 11.0 | 14.0 |
| 9.0 | 2.6 | | | Dark brown (7.5YR 3/4) sand, dry. Sand is fine grained, poorly graded, subangular, well consolidated, though drilling. | | | | | | |
| 10.0 | 2.8 | | SP | | | | | | | |
| 11.0 | 3.0 | | SP-SM | Yellowish brown (10YR 5/4) sand with silt, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded, predominately fine grained, volcanic detrital, some pebbles (gravel). Total depth is 12.0 ft. | U1C21012 | Consistancy: firm to hard On hold pending analysis. PID in breathing zone: 1.8 ppm Scan of sample with Electra: 1309 dpm Scan: 21 uR/hr Gamma | | | | |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| | |
|---|---|
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628772.40 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1414785.30 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6106.80 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 11.00 |
| DATE HOLE STARTED: 05/28/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/28/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 4000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | SP-SM | Reddish brown (5Y 4/4) sand with silt, dry. Sand is fine to medium grained, trace coarse grains, poorly graded, subangulat to subrounded, trace organics (roots) upper 3 inches. Massive, trace pebble sized gravel, fill, volcanic detrital. Note: At 6.0 ft, trace organics present. | U1C30002 | Consistancy: soft On hold pending analysis PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1225 dpm Scan: 23 uR/hr Gamma | 2.9 | 50.0 | 22.5 | 25.4 |
| 0.2 | | | | | | | | | | |
| 1.0 | | | | | | | | | | |
| 0.4 | | | | | | | | | | |
| 2.0 | 0.6 | | | | U1C30204 | Consistancy: soft On hold pending analysis. PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1225 dpm Scan: 23 uR/hr Gamma | 2.8 | 50.0 | 18.1 | 20.9 |
| 0.8 | | | | | | | | | | |
| 3.0 | | | | | | | | | | |
| 1.0 | | | | | | | | | | |
| 4.0 | 1.2 | | | | U1C30406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1401 dpm Scan: 20 uR/hr Gamma | 2.9 | 50.0 | 22.5 | 25.4 |
| 1.4 | | | | | | | | | | |
| 5.0 | | | | | | | | | | |
| 1.6 | | | | | | | | | | |
| 6.0 | 1.8 | | | | U1C30608 | Consistancy: soft to firm PID in breathing zone: 1.5 ppm Scan of sample with Electra: 988 dpm Scan: 24 uR/hr Gamma | 2.4 | 50.0 | 9.1 | 11.5 |
| 2.0 | | | | | | | | | | |
| 7.0 | | | | | | | | | | |
| 2.2 | | | | Brown (7.5YR 4/4) sand, dry. Sand is fine to medium grained,poorly graded, subangular to subrounded, trace silt. | | | | | | |
| 2.4 | | | | | | | | | | |
| 8.0 | | | SP | | U1C30810 | Consistancy: soft to firm PID in breathing zone: 1.5 ppm Scan of sample with Electra: 970 dpm Scan: 22 uR/hr Gamma | 3.2 | 50.0 | 11.8 | 14.8 |
| 2.6 | | | | | | | | | | |
| 9.0 | | | | | | | | | | |
| 2.8 | | | | Same as above, but at 9.0 ft, trace clay appearing. Refusal at 11.0 ft. | | | | | | |
| 3.0 | | | | | | | | | | |
| 10.0 | | | | | U1C31012 | Consistancy: firm to hard On hold pending analysis. PID in breathing zone: NA Scan of sample with Electra: 1394 | | | | |
| 3.2 | | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U1C4 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 628802.50
UTM NORTHING: 1414882.00
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/28/97
DATE HOLE COMPLETED: 05/28/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren-Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 6100.00
TOTAL DEPTH OF HOLE: 12.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0 0 4000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 4000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Reddish brown (5YR 4/4) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, massive, fill, volcanic detrital, qtz., trace silt. At 3.0 ft a volcanic cobble is present. | U1C40002 | Consistancy soft On hold pending analysis PID in breathing zone: NA Scan of sample with Electra: 1221 dpm Scan: 20 uR/hr Gamma | 2.9 | 50.0 | 10.8 | 13.7 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U1C40204 | Consistancy: soft On hold pending analysis. PID in breathing zone: NA Scan of sample with Electra: 1221 dpm Scan: 20 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | U1C40406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1106 dpm Scan: 24 uR/hr Gamma | 2.9 | 50.0 | 10.8 | 13.7 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | | U1B40608 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1242 dpm Scan: 23 uR/hr Gamma | 2.7 | 50.0 | 16.9 | 21.6 |
| 10.0 | 2.0 | | | | | | | | | |
| 11.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | SP-SM | Reddish brown (5Y 4/4) sand with silt, dry. Sand is fine to medium grained, predominately fine grained, poorly graded, subangular to subrounded, fill, massive, volcanic detrital. | U1C40810 | Consistancy: soft to firm PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1191 dpm Scan: 21 uR/hr Gamma | 2.6 | 50.0 | 16.8 | 21.4 |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |
| | 3.2 | | | | U1C41012 | Consistancy: firm On hold pending analysis. PID in breathing zone: 1.9 ppm Scan of sample with Electra: 1132 dpm Scan: 23 uR/hr Gamma | | 50.0 | | |
| | 3.4 | | SP | Reddish brown (5Y 4/4) sand, dry. Sand is fine grained to medium grained, predominately fine grained, poorly graded, subangular to subrounded, trace silt. Total depth is 12.0 ft. | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U1C5 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 628809.80
UTM NORTHING: 1414837.30
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/28/97
DATE HOLE COMPLETED: 05/28/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren-Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 6104.20
TOTAL DEPTH OF HOLE: 12.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 4000.0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 4000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Reddish brown (5Y 4/4) sand with gravel, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded, massive fill. Gravel is pebble sized, rounded, trace silt. | U1C50002 | Consistancy soft On hold pending analysis. PID in breathing zone: NA Scan of sample with Electra: 1318 dpm Scan: 26 uR/hr Gamma | 3.3 | 50.0 | 12.2 | 15.5 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U1C50204 | Consistancy: soft On hold pending analysis. PID in breathing zone: NA Scan of sample with Electra 1318 dpm Scan. 26 uR/hr Gamma | 2.9 | 50.0 | 11.2 | 14.1 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| | 1.2 | | | Same as above but at 4.4 ft. becomes moist. | U1C50406 | Consistancy: soft PID in breathing zone: 1.8 ppm Scan of sample with Electra: 1405 dpm Scan: 25 uR/hr Gamma | 3.3 | 50.0 | 12.2 | 15.5 |
| 6.0 | 1.4 | | | | | | | | | |
| | 1.6 | | | Same as above but at 6.0 ft there is a color change to yellowish brown (10YR 5/4). | U1C50608 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1166 dpm Scan: 22 uR/hr Gamma | 3.2 | 50.0 | 13.1 | 16.3 |
| 7.0 | 1.8 | | | | | | | | | |
| | 2.0 | | | Dark brown (7.5YR 3/4) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, massive, native. | | | | | | |
| 8.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | U1C50810 | Consistancy: soft to firm PID in breathing zone: 1.3 ppm Scan of sample with Electra: 1250 dpm Scan: 23 uR/hr Gamma | 3.3 | 50.0 | 24.4 | 27.9 |
| 9.0 | 2.6 | | | | | | | | | |
| 10.0 | 2.8 | | | | | | | | | |
| | 3.0 | | SM | Yellowish brown (10YR 5/4) silty sand, dry. Sand is fine to coarse grained, predominately fine grained, poorly graded, subangular to subrounded, native. | U1C51012 | Consistancy: soft to firm On hold pending analysis. PID in breathing zone: 1.3 ppm Scan of sample with Electra: 1242 dpm Scan: 23 uR/hr Gamma | | | | |
| 11.0 | 3.2 | | | | | | | | | |
| | 3.4 | | SP-SM | Yellowish brown (10YR 5/4) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, native. Total depth is 12.0 ft. | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U1C6 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628802.20 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1414789.80 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6106.50 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/28/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/28/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 4000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Reddish brown (5Y 4/4) sand with gravel, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded, trace silt, gravel is pebble sized, rounded, volcanic detrital, fill, massive. | U1C60002 | Consistancy: soft On hold pending analysis. PID in breathing zone: 1.5 ppm Scan of sample with Electra: 1784 dpm Scan: 23 uR/hr Gamma | 2.6 | 50.0 | 10.5 | 13.3 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U1C60204 | Consistancy: soft On hold pending analysis PID in breathing zone: 1.5 ppm Scan of sample with Electra: 1784 dpm Scan: 23 uR/hr Gamma | 2.6 | 50.0 | 10.5 | 13.3 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | Same as above, but at 4.0 ft there is an increase in silt content. | U1C60408 | Consistancy: soft PID in breathing zone: 1.5 ppm Scan of sample with Electra: 1242 dpm Scan: 21 uR/hr Gamma | 2.6 | 50.0 | 10.5 | 13.3 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | Yellowish brown (10YR 5/4) sand with silt, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded, predominately fine grained, qtz, and volcanic detrital, native, hard drilling. | U1C60608 | Consistancy: hard PID in breathing zone: NA Scan of sample with Electra: 1090 dpm Scan: 21 uR/hr Gamma | 2.6 | 50.0 | 10.5 | 13.3 |
| 10.0 | 2.0 | | | | | | | | | |
| 11.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | U1C60810 | Consistancy: hard PID in breathing zone: NA Scan of sample with Electra: 1258 dpm Scan: 20 uR/hr Gamma | 2.6 | 50.0 | 10.5 | 13.3 |
| | 2.6 | | | | | | | | | |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | U1C61012 | Consistancy: hard On hold pending analysis. PID in breathing zone: NA Scan of sample with Electra: NA dpm Scan: NA uR/hr Gamma | | | | |
| | 3.2 | | ML | Strong brown (7.5YR 4/6) sandy silt, dry. Sand is fine to medium grained, predominately fine grained, poorly graded, subangular, native, micaceous, trace quartz grains. | | | | | | |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U1D1 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628877.20 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1415181.40 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6100.50 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/28/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/28/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) |
|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Yellowish brown, dark (10YR 4/4) silty sand with gravel. Sand is coarse to fine, subangular to subrounded. Gravel is fine to coarse, subangular to subrounded, dry. Bottom of boring at 12.0 ft. |
| 1.0 | 0.2 | | | |
| 2.0 | 0.4 | | | |
| 3.0 | 0.6 | | | |
| 4.0 | 0.8 | | | |
| 5.0 | 1.0 | | | |
| 6.0 | 1.2 | | | |
| 7.0 | 1.4 | | | |
| 8.0 | 1.6 | | | |
| 9.0 | 1.8 | | | |
| 10.0 | 2.0 | | | |
| 11.0 | 2.2 | | | |
| | 2.4 | | | |
| | 2.6 | | | |
| | 2.8 | | | |
| | 3.0 | | | |
| | 3.2 | | | |
| | 3.4 | | | |
| | 3.6 | | | |

| Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|
| | | 0.0 4000.0 | 0 0 4000 | 0 0 1000 | 0 0 4000 |
| U1D10002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1100 dpm Scan: 19 uR/hr Gamma | 2.6 | 50.0 | 10.6 | 13.4 |
| U1D10204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1100 dpm Scan: 21 uR/hr Gamma | 2.9 | 50.0 | 10.8 | 13.7 |
| U1D10406 | Consistancy: soft PID in breathing zone: 1.5 ppm Scan of sample with Electra: 1150 dpm Scan: 21 uR/hr Gamma | 2.7 | 50.0 | 18.4 | 21.1 |
| U1D10608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 20 uR/hr Gamma | 2.6 | 50.0 | 9.6 | 12.2 |
| U1D10810 | Consistancy: soft PID in breathing zone: 1.7 ppm Scan of sample with Electra: 900 dpm Scan: 18 uR/hr Gamma | 2.5 | 50.0 | 9.3 | 11.8 |
| U1D11012 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1133 dpm Scan: 20 uR/hr Gamma | | | | |

| SOIL BORING LOG | BORING NUMBER: U1D2 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628902.50 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1415177.70 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6101.30 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 05/28/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/28/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 4000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand is fine to coarse, subangular to subrounded. Gravel is fine to coarse, subrounded to subangular, dry. Becomes slightly moist at 2 ft. Refusal at 10.0 ft. | U1D20002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1375 dpm Scan: 24 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| 2.0 | 0.6 | | | | U1D20204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1320 dpm Scan: 21 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| 4.0 | 1.2 | | | | U1D20406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1277 dpm Scan: 23 uR/hr Gamma | 2.9 | 50.0 | 14.4 | 16.9 |
| 6.0 | 1.8 | | | | U1D20608 | Consistancy: soft PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1036 dpm Scan: 22 uR/hr Gamma | 2.4 | 50.0 | 16.8 | 19.2 |
| 8.0 | 2.4 | | | | U1D20810 | Consistancy: hard Hard drilling. PID in breathing zone: NA Scan of sample with Electra: 1141 dpm Scan: 22 uR/hr Gamma | 2.6 | 50.0 | 9.7 | 12.3 |
| 9.0 | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U1D3 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 628948.50

UTM NORTHING: 1415160.00

GEOLOGIST: C. Birney

QA CHECK: A. Welcher

DATE HOLE STARTED: 05/28/97

DATE HOLE COMPLETED: 05/28/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren-Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6100.70

TOTAL DEPTH OF HOLE: 12.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 4000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand is fine to coarse, subangular to subrounded. Gravel is fine to coarse, subangular to subrounded, dry. | U1D30002 | Consistancy: soft PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1281 dpm Scan: 19 uR/hr Gamma | 2.8 | 50.0 | 10.5 | 13.3 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U1D30204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1156 dpm Scan: 22 uR/hr Gamma | 2.6 | 50.0 | 10.8 | 13.4 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | Yellowish brown (10YR 5/4) silty sand with gravel, same as above. | | | | | | |
| 6.0 | 1.2 | | | | U1D30406 | Consistancy: soft Duplicate sample: CNT30019. Blind Dup. CNT60003. PID in breathing zone: NA Scan of sample with Electra: 1359 dpm Scan: 23 uR/hr Gamma | 2.5 | 50.0 | 9.4 | 11.9 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | | U1D30608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1268 dpm Scan: 22 uR/hr Gamma | 3.9 | 50.0 | 20.5 | 24.4 |
| 10.0 | 2.0 | | | Dark yellowish brown (10YR 4/4) silty sand with gravel. Same as above, dry. Bottom of boring is at 12 ft. | | | | | | |
| 11.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | U1D30810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1448 dpm Scan: 23 uR/hr Gamma | 2.5 | 50.0 | 9.1 | 11.6 |
| | 2.6 | | | | | | | | | |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | U1D31012 | Consistancy: soft PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1018 dpm Scan: 21 uR/hr Gamma | | | | |
| | 3.2 | | | | | | | | | |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U1D4 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 628873.80

UTM NORTHING: 1415151.10

GEOLOGIST: C. Birney

QA CHECK: A. Welcher

DATE HOLE STARTED: 05/28/97

DATE HOLE COMPLETED: 05/28/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren-Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6099.10

TOTAL DEPTH OF HOLE: 10.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) |
|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand fine to coarse, subangular to subrounded. Gravel fine to coarse, subangular to subrounded, dry. Refusal at 10.0 ft. |
| 1.0 | 0.2 | | | |
| 2.0 | 0.4 | | | |
| 3.0 | 0.6 | | | |
| 4.0 | 0.8 | | | |
| 5.0 | 1.0 | | | |
| 6.0 | 1.2 | | | |
| 7.0 | 1.4 | | | |
| 8.0 | 1.6 | | | |
| 9.0 | 1.8 | | | |
| | 2.0 | | | |
| | 2.2 | | | |
| | 2.4 | | | |
| | 2.6 | | | |
| | 2.8 | | | |
| | 3.0 | | | |

| Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|
| | | 0.0 4000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 4000.0 |
| U1D40002 | Consistancy: soft PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1170 dpm Scan: 22 uR/hr Gamma | 2.6 | 50.0 | 10.6 | 13.4 |
| U1D40204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 20 uR/hr Gamma | 2.6 | 50.0 | 10.6 | 13.4 |
| U1D40406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1100 dpm Scan: 20 uR/hr Gamma | 2.6 | 50.0 | 10.6 | 13.4 |
| U1D40608 | Consistancy: soft PID in breathing zone: 1.4 ppm Scan of sample with Electra: 1300 dpm Scan: 21 uR/hr Gamma | 2.8 | 50.0 | 10.7 | 13.6 |
| U1D40810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 930 dpm Scan: 19uR/hr uR/hr Gamma | 2.6 | 50.0 | 11.8 | 14.4 |

| SOIL BORING LOG | BORING NUMBER: U1D5 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628906.50 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1415137.80 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6099.00 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 9.70 |
| DATE HOLE STARTED: 05/28/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/28/97 | |

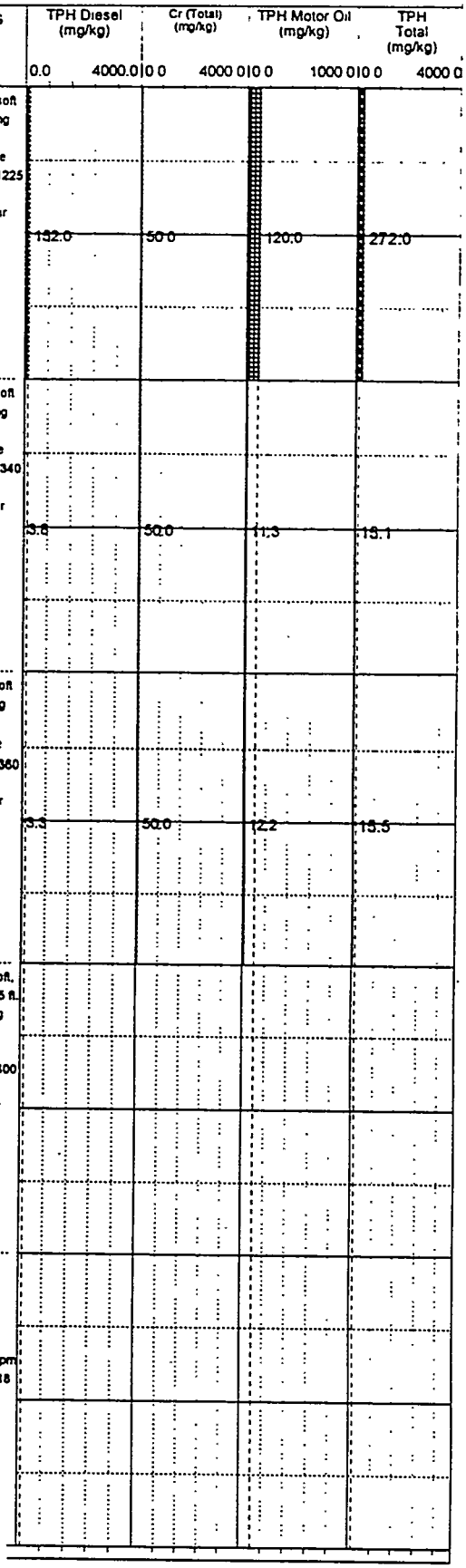
| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 4000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand is fine to coarse, subangular to subrounded, gravel fine to coarse, subangular to subrounded, dry. | U1D50002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1445 dpm Scan: 22 uR/hr Gamma | 3.9 | 50.0 | 24.3 | 28.2 |
| 2.0 | 0.6 | | | | U1D50204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1500 dpm Scan: 20 uR/hr Gamma | 3.0 | 50.0 | 10.7 | 13.7 |
| 4.0 | 1.2 | | | | U1D50406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1280 dpm Scan: 20 uR/hr Gamma | 2.9 | 50.0 | 10.8 | 13.5 |
| 6.0 | 1.8 | | | | U1D50608 | Consistancy: soft PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1480 dpm Scan: 22 uR/hr Gamma | 3.0 | 50.0 | 10.7 | 13.7 |
| 8.0 | 2.4 | | | Same as above, but with very fine sand. Refusal at 9.7 ft. | U1D50810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1150 dpm Scan: 20 uR/hr Gamma | 2.8 | 50.0 | 11.0 | 13.8 |
| 9.0 | 2.8 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U1D6 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628940.50 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1415119.50 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6098.70 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/28/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/28/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 4000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand fine to coarse, subangular to subrounded. Gravel fine to coarse, subangular to subrounded, dry. | U1D60002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1600 dpm Scan: 19 uR/hr Gamma | 2.9 | 50.0 | 14.3 | 17.2 |
| 2.0 | 0.6 | | | Same as above - slightly moist. | U1D60204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1088 dpm Scan: 22 uR/hr Gamma | 2.9 | 50.0 | 10.8 | 13.7 |
| 4.0 | 1.2 | | | Same as above - dry. | U1D60406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1180 dpm Scan: 20uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| 6.0 | 1.8 | | | Same as above - sand very fine to coarse. Bottom of boring at 12.0 ft. | U1D60608 | Consistancy: soft PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1230 dpm Scan: 20 uR/hr Gamma | 2.8 | 50.0 | 10.5 | 13.3 |
| 8.0 | 2.4 | | | | U1D60810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1160 dpm Scan: 21 uR/hr Gamma | 2.8 | 50.0 | 10.6 | 13.4 |
| 10.0 | 3.0 | | | | U1D61012 | Consistancy: soft PID in breathing zone: 1.4 ppm Scan of sample with Electra: 1180 dpm Scan: 23 uR/hr Gamma | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U1E1 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 629032.80 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1415079.20 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6084.80 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 05/29/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/29/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | | U1E10002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1225 dpm Scan: 19 uR/hr Gamma |
| | | | SP-SC | Dark yellowish brown (10YR 3/4) sand, poorly graded with some gravel. Sand fine to coarse, rounded to subangular. Gravel coarse, subangular, dry. | | |
| 2.0 | 0.6 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand fine to coarse, subangular to subrounded, gravel fine to coarse, subangular to subrounded, dry, some clay? | U1E10204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1340 dpm Scan: 18 uR/hr Gamma |
| 4.0 | 1.2 | | ML | Dark yellowish brown (10YR 4/4) sandy silt with gravel. Sand fine to coarse, rounded to subangular. Gravel fine to medium, subrounded to subangular, dry. | U1E10406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1360 dpm Scan: 17 uR/hr Gamma |
| 6.0 | 1.8 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand fine to coarse, subangular to subrounded. Gravel fine to coarse subrounded to subangular. Last 0.25 ft - rock. | U1E10608 | Consistancy: soft, dense after 7.75 ft. PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1400 dpm Scan: 20 uR/hr Gamma |
| 8.0 | 2.4 | | | Dark yellowish brown (10YR 4/4) silty sand with gravel (tuff). Bottom of boring at 10.0 ft. | U1E10810 | Consistancy: dense PID in breathing zone: NA Scan of sample with Electra: 1180 dpm Gamma Scan: 18 uR/hr |
| 10.0 | 3.0 | | | | | |



SOIL BORING LOG

BORING NUMBER: U1E2 Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 629053.30 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1415070.20 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6083.90 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 05/29/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/29/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 4000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | DM | Top 0.2 ft is hard, dry, bentonite mud. | U1E20002 | Consistancy dense to 1 ft then soft to 2 ft. PID in breathing zone: NA Scan of sample with Electra: 1160 dpm Scan: 19 uR/hr Gamma | 444.0 | 60.2 | 161.0 | 605.0 |
| | | | SP | | | | | | | |
| 1.0 | 0.2 | | | Dark yellowish bron (10YR 3/4) poorly sorted sand. Sand fine to coarse, subangular to rounded. | | | | | | |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | CL | | U1E20204 | Consistancy: soft Duplicate sample CNT30021 taken here PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 22 uR/hr Gamma | 467.0 | 68.0 | 120.0 | 587.0 |
| | 0.8 | | | Dark yellowish brown (10YR 4/4) sandy clay, moist. | | | | | | |
| 3.0 | | | SM | | | | | | | |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand fine to coarse, subangular to subrounded. Gravel angular, fine to coarse, dry. | U1E20406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1450 dpm Scan: 21 uR/hr Gamma | 2.6 | 50.0 | 10.3 | 13.1 |
| | 1.4 | | | | | | | | | |
| 5.0 | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | | U1E20608 | Consistancy: soft PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1425 dpm Scan: 21 uR/hr Gamma | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| 8.0 | 2.6 | | | | U1E20810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1325 dpm Scan: 19 uR/hr Gamma | | | | |
| 9.0 | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U1E3 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 629078.50 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1415066.50 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6083.30 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 | |
| DATE HOLE STARTED: 05/29/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/29/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) |
|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand fine to coarse, rounded to subangular. Gravel medium to coarse, subangular, dry. |
| 1.0 | 0.2 | | CL | Dark gray (5Y 4/1) sandy clay, bentonite odor, moist. |
| 2.0 | 0.4 | | | |
| | 0.6 | | | |
| | 0.8 | | SM | Dark yellowish brown (10YR 4/4), silty sand with gravel. |
| 3.0 | 1.0 | | | |
| 4.0 | 1.2 | | | Dark yellowish brown (10YR 4/4) silty sand with minn. gravel. Sand very fine to medium, rounded to subangular, gravel fine, subangular, dry. Some welded tuff. Gravel is angular after 8 ft. Bottom of boring at 10.0 ft. |
| | 1.4 | | | |
| 5.0 | 1.6 | | | |
| 6.0 | 1.8 | | | |
| | 2.0 | | | |
| 7.0 | 2.2 | | | |
| | 2.4 | | | |
| 8.0 | 2.6 | | | |
| 9.0 | 2.8 | | | |
| | 3.0 | | | |

| Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|
| | | 0 0 4000.0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 4000 0 |
| U1E30002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 23 uR/hr Gamma | 484.0 | 50.0 | 148.0 | 632.0 |
| U1E30204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1425 dpm Scan: 21 uR/hr Gamma | 191.0 | 50.0 | 132.0 | 323.0 |
| U1E30406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1115 dpm Scan: 19 uR/hr Gamma | 2.7 | 50.0 | 10.0 | 12.7 |
| U1E30608 | Consistancy: soft PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1050 dpm Scan: 19 uR/hr Gamma | | | | |
| U1E30810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1300 dpm Scan: 19 uR/hr Gamma | | | | |

SOIL BORING LOG

BORING NUMBER: U1E4 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 629024.60

UTM NORTHING: 1415043.70

GEOLOGIST: C. Birney

QA CHECK: A. Welcher

DATE HOLE STARTED: 05/29/97

DATE HOLE COMPLETED: 05/29/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren-Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6085.80

TOTAL DEPTH OF HOLE: 10.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 4000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Dark yellowish brown (10YR 3/4) poorly graded sand. Sand very fine to coarse, subrounded to angular, some angular coarse gravel. | U1E40002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1200 dpm Scan: 17 uR/hr Gamma | 3.1 | 50.0 | 14.5 | 17.6 |
| 2.0 | 0.6 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand fine to coarse, subrounded to subangular. Gravel medium to coarse, subangular. | U1E40204 | Consistancy: soft Duplicate sample CNT30023 taken here. PID in breathing zone: NA Scan of sample with Electra: 1350 dpm Scan: 19 uR/hr Gamma | 4.9 | 50.0 | 18.0 | 22.9 |
| 4.0 | 1.2 | | | Dark yellowish brown (10YR 3/4) silty sand with gravel, as above. | U1E40406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1390 dpm Scan: 19 uR/hr Gamma | 2.3 | 50.0 | 9.4 | 11.9 |
| 6.0 | 1.8 | | | | U1E40608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1140 dpm Scan: 19 uR/hr Gamma | | | | |
| 8.0 | 2.4 | | | Same as above with welded tuff. Bottom of boring at 10.0 ft. | U1E40810 | Consistancy: soft PID in breathing zone: 1.5 ppm Scan of sample with Electra: 1290 dpm Scan: 23 uR/hr Gamma | | | | |
| 9.0 | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U1E5 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 629044.80

UTM NORTHING: 1415039.70

GEOLOGIST: C. Birney

QA CHECK: A. Welcher

DATE HOLE STARTED: 05/29/97

DATE HOLE COMPLETED: 05/29/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren-Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6084.70

TOTAL DEPTH OF HOLE: 10.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 4000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | CL | Dry to moist, grayish brown (10YR 5/2) sandy bentonite clay. | U1E50002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1198 dpm Scan: 22 uR/hr Gamma | 11.0 | 50.0 | 40.9 | 51.9 |
| | 0.2 | | SC-SW | Dark yellowish brown (10YR 4/4) sand with some bentonite clay and gravel, well sorted. Sand fine to medium, well rounded to subangular. Gravel medium to coarse, subrounded to subangular, dry. | | | | | | |
| 1.0 | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand fine to coarse, rounded to subangular. Gravel coarse, angular to subangular, dry. | U1E50204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1396 dpm Scan: 21 uR/hr Gamma | 9.1 | 50.0 | 12.0 | 21.1 |
| | 0.8 | | | | | | | | | |
| 3.0 | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | Same as above with welded tuff. | U1E50406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1210 dpm Scan: 20 uR/hr Gamma | 2.7 | 50.0 | 9.9 | 12.6 |
| | 1.4 | | | | | | | | | |
| 5.0 | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | Same as above - very fine sand, dry, no welded tuff. | U1E50608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1030 dpm Scan: 23 uR/hr Gamma | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| 8.0 | 2.6 | | | Same as above - more gravel, medium to coarse, and angular to subangular, dry. Bottom of boring 10.0 ft. | U1E50810 | Consistancy: soft PID in breathing zone: 1.4 ppm Scan of sample with Electra: 1450 dpm Scan: 20 uR/hr Gamma | | | | |
| 9.0 | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U1E6 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 629070.10 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1415036.00 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6084.20 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 9.50 | |
| DATE HOLE STARTED: 05/29/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/29/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0 0 4000 0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 4000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel, some dry bentonite on top. Gravel coarse and angular. Sand very fine to medium rounded to subangular, dry. | U1E60002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1100 dpm Scan: 22 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | | | | | 20.9 | 50.0 | 29.2 | 50.1 |
| 2.0 | 0.4 | | | | | | | | | |
| | 0.6 | | SP-SM | Dark yellowish brown (10YR 4/4) poorly graded sand with silt, sand fine to coarse, rounded to subangular. Some pieces of welded tuff, angular, coarse, dry. | U1E60204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1400 dpm Scan: 22 uR/hr Gamma | | | | |
| 3.0 | 0.8 | | | | | | | | | |
| | 1.0 | | | | | | 16.9 | 50.0 | 16.9 | 37.8 |
| 4.0 | 1.2 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand fine to coarse, rounded to subangular. Gravel fine to coarse, angular to subrounded, dry. | U1E60406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1402 dpm Scan: 22 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | 1.6 | | | | | | 2.4 | 50.0 | 5.1 | 11.5 |
| | 1.8 | | | | | | | | | |
| 6.0 | | | | As above, same silty sand with gravel. Some welded tuff throughout. Refusal at 9.5 ft. | U1E60608 | Consistancy: dense breathing zone: NA PID in sample with Scan of Electra: 1261 dpm Gamma Scan: 20 uR/hr | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| 8.0 | | | | | U1E60810 | Consistancy: very dense breathing zone. NA PID in sample with Scan of Electra: 1242 dpm Gamma Scan: 21 uR/hr | | | | |
| | 2.6 | | | | | | | | | |
| 9.0 | 2.8 | | | | | | | | | |

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 629049.00 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1415055.00 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6084.60 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/29/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/29/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 4000.0 | 10 0 4000 | 10 0 1000 | 10 0 4000 0 |
| 0.0 | 0.0 | | NO SAMPL | Interval above 10.0 ft not described. | NO SAMPLE | This interval not described | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | | | | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | | | | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | 2.2 | | | | | | | | | |
| 8.0 | 2.4 | | | | | | | | | |
| | 2.6 | | | | | | | | | |
| 9.0 | 2.8 | | | | | | | | | |
| 10.0 | 3.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand fine to coarse, rounded to subangular. Gravel fine to coarse subangular to subrounded. Bottom of boring at 12 ft. | U1E71012 | Consistency: dense at top then soft<br>breathing zone: NA PID in sample with Scan of Electra 1149 dpm Gamma Scan: 21 uR/hr | 2.9 | 50.0 | 11.0 | 13.9 |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U1E8 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 629137.70 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1415084.60 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6081.00 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 |
| DATE HOLE STARTED: 06/01/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/01/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 4000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | DC | Dark yellowish brown (10YR 3/4) sand with silt, and gravel, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded. Gravel is pebble sized volcanic detrital, massive loosely consolidated, drill cuttings. | U1E80002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1397 dpm Scan: 24 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | Same as above, well consolidated, increase to trace clay. | | | 6.0 | 50.0 | 13.2 | 19.2 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | U1E80204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1397 dpm Scan: 24 uR/hr Gamma | | | | |
| | 0.8 | | | Dark yellowish brown (10YR 3/4) sand, dry. Sand is fine to medium grained, poorly graded, trace coarse grains, subangular to subrounded, volcanics. | | | | | | |
| 3.0 | | | | | | | 4.5 | 50.0 | 13.5 | 17.8 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | | U1E80406 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1397 dpm Scan: 22 uR/hr Gamma | | | | |
| | 1.4 | | | Same as above, increase in coarse grain content. | | | | | | |
| 5.0 | | | | | | | 5.1 | 50.0 | 11.9 | 13.0 |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U1S1 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 628916.20

UTM NORTHING: 1415008.10

GEOLOGIST: C. Birney

QA CHECK: A. Welcher

DATE HOLE STARTED: 05/30/97

DATE HOLE COMPLETED: 05/30/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren-Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6092.00

TOTAL DEPTH OF HOLE: 8.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Dark grayish brown (2.5Y 4/2) drill cuttings, strong petroleum odor, moist to wet. Color changes to grayish brown (2.5Y 5/2) fine drill cuttings. | U1S10002 | Consistency in breathing zone: NA sample with Scan of Electra: 1000 dpm Gamma Scan: 18 uR/hr |
| PID 2.0 | 0.6 | | | | U1S10204 | Consistency: in breathing zone: NA sample with Scan of Electra: 1230 dpm Gamma Scan: 18 uR/hr |
| 3.0 | 1.0 | | SM | Dark yellowish brown (10YR 3/2) silty sand with gravel. Gravel fine, subrounded to subangular. Sand fine to coarse, subangular to subrounded, dry. | | |
| PID 4.0 | 1.2 | | | | U1S10406 | Consistency: in breathing zone: 1.7 ppm Scan of sample with Electra: 985 dpm Scan: 20 uR/hr Gamma |
| 5.0 | 1.6 | | | | | |
| PID 6.0 | 1.8 | | | Same as above, but a color change to dark yellowish brown (10YR 4/4) silty sand with gravel. | U1S10608 | Consistency: in breathing zone: NA sample with Scan of Electra: 1300 dpm Gamma Scan: 20 uR/hr |
| 7.0 | 2.2 | | | | | |
| | 2.4 | | | | | |

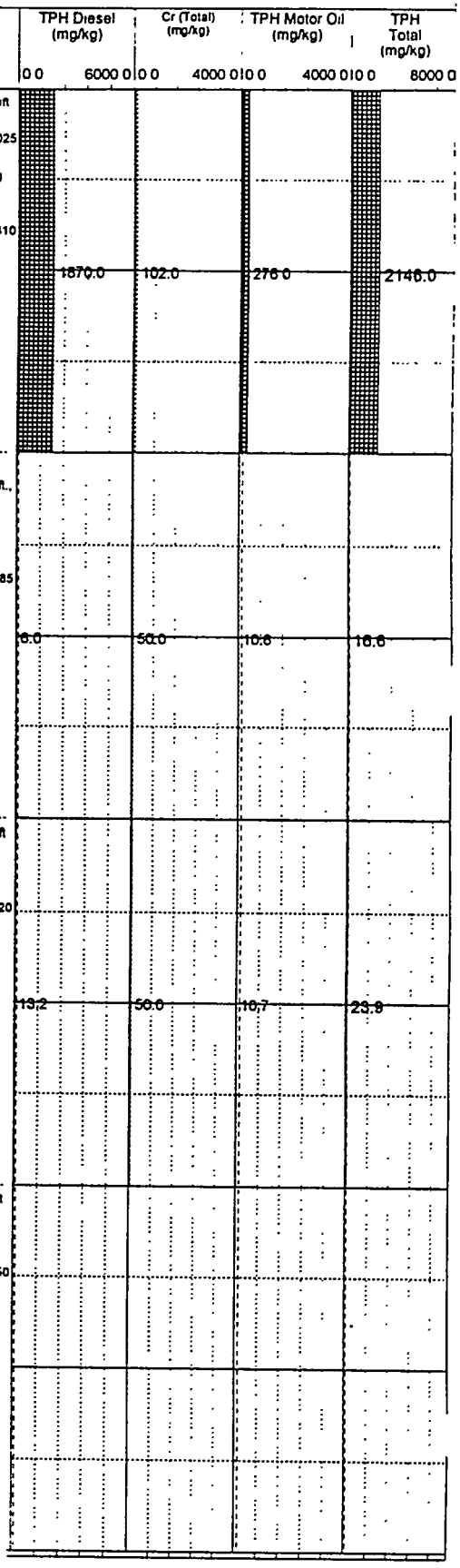
| TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|
| 0.0 6000.0 | 0.0 4000.0 | 0.0 4000.0 | 0.0 8000.0 |
| 3280.0 | 82.0 | 1220.0 | 4500.0 |
| 1040.0 | 58.4 | 583.0 | 2223.0 |
| 52.9 | 50.0 | 22.3 | 75.2 |

SOIL BORING LOG | BORING NUMBER: U1S2 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 628943.20
UTM NORTHING: 1414969.40
GEOLOGIST: C. Birney
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/30/97
DATE HOLE COMPLETED: 05/30/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren-Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 6088.20
TOTAL DEPTH OF HOLE: 8.00
COMMENTS:

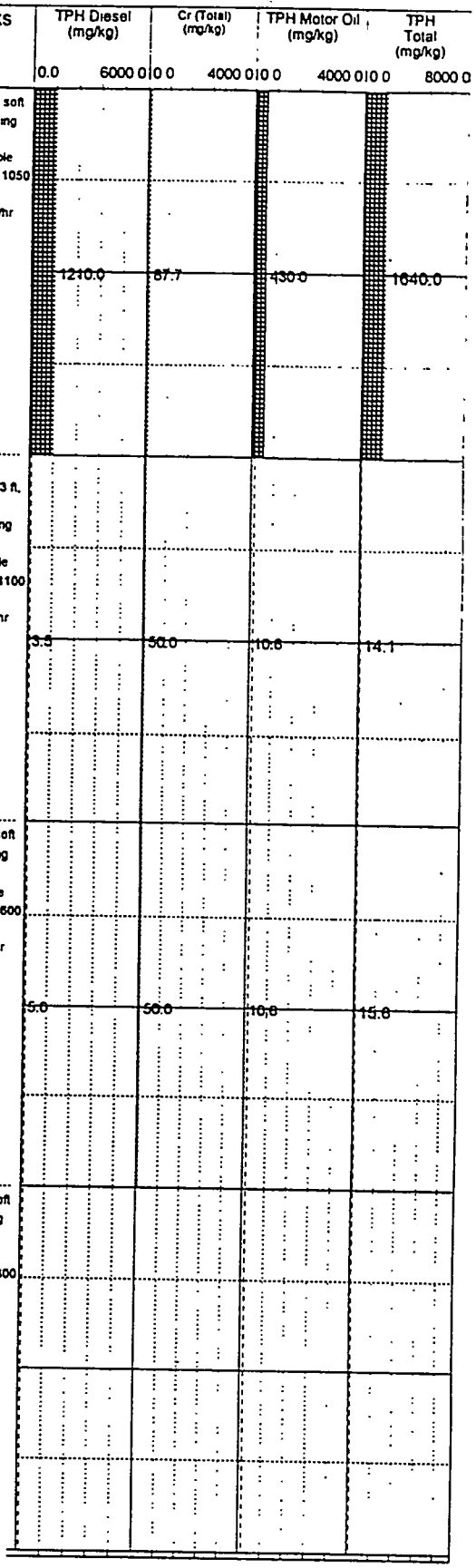
| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Grayish brown (2.5Y 5/2) dry, drill cuttings. | U1S20002 | Consistancy: soft Duplicate sample CNT30025 taken here. PID in breathing zone: NA Scan of sample with Electra: 1310 dpm Scan: 17 uR/hr Gamma |
| 2.0 | 0.6 | | | Dark yellowish brown (10YR 4/4), drill cuttings mixed with silty sand. | U1S20204 | Consistancy: dense from 2-3 ft., then soft. PID in breathing zone: NA Scan of sample with Electra: 1285 dpm Scan: 19 uR/hr Gamma |
| 3.0 | 1.0 | | SM | Dark yellowish brown (10YR 4/4), silty sand with coarse angular gravel. Sand with coarse angular gravel. Sand is fine to coarse, subangular to subrounded. | U1S20406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1020 dpm Scan: 22 uR/hr Gamma |
| 6.0 | 1.8 | | | Same silty sand with gravel as above, but color changes slightly to dark yellowish brown (10YR 3/4). Bottom of boring at 8 ft. | U1S20608 | Consistancy: soft PID in breathing zone: 1.5 ppm Scan of sample with Electra: 1150 dpm Scan: 19 uR/hr Gamma |



SOIL BORING LOG

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | BORING NUMBER: U1S3 Page #1 of 1 |
| PROJECT NUMBER: 771062.02.01.00.00 | ENVIRONMENTAL CONTRACTOR: IT CORP |
| UTM EASTING: 628990.70 | DRILLING METHOD: Direct Push |
| UTM NORTHING: 1414961.80 | DRILLING CONTRACTOR: McLaren-Hart |
| GEOLOGIST: C. Birney | ELEVATION DATUM: Mean Sea Level |
| QA CHECK: A. Welcher | HOLE SURFACE ELEVATION: 6085.90 |
| DATE HOLE STARTED: 05/30/97 | TOTAL DEPTH OF HOLE: 8.00 |
| DATE HOLE COMPLETED: 05/30/97 | COMMENTS: |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Grayish brown (2.5Y 5/2) dry, drill cuttings, medium to coarse, slight petroleum odor (?). | U1S30002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1050 dpm Scan: 17 uR/hr Gamma |
| 2.0 | 0.6 | | | Changes color to dark yellowish brown (10YR 4/4), drill cuttings mixed with silty sand, dry. | U1S30204 | Consistancy: dense from 2-3 ft, then soft. PID in breathing zone: NA Scan of sample with Electra: 1100 dpm Scan: 18 uR/hr Gamma |
| 3.0 | 1.0 | | SM | Dark yellowish brown (10YR 4/4), silty sand with gravel, sand fine to coarse, subangular to subrounded, gravel is medium, angular, dry. | | |
| 4.0 | 1.2 | | SP | Dark yellowish brown (10YR 3/4) poorly graded sand with gravel. Sand is very fine to coarse, rounded to subangular, gravel is fine to coarse, angualar to subangular, dry. Welded tuff from 5.9 to 6.0 ft. | U1S30406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1600 dpm Scan: 19 uR/hr Gamma |
| 6.0 | 1.8 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel, gravel coarse, angular to subangular, sand fine to coarse, subangular to subrounded, dry. Bottom of boring at 8 ft. | U1S30608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1800 dpm Scan: 18 uR/hr Gamma |
| 7.0 | 2.2 | | | | | |
| | 2.4 | | | | | |



SOIL BORING LOG

BORING NUMBER: U1S4 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

ENVIRONMENTAL CONTRACTOR: IT CORP

PROJECT NUMBER: 771062.02.01.00.00

DRILLING METHOD: Direct Push

UTM EASTING: 629042.60

DRILLING CONTRACTOR: McLaren-Hart

UTM NORTHING: 1414984.50

ELEVATION DATUM: Mean Sea Level

GEOLOGIST: C. Birney

HOLE SURFACE ELEVATION: 6083.50

QA CHECK: A. Welcher

TOTAL DEPTH OF HOLE: 8.00

DATE HOLE STARTED: 05/30/97

COMMENTS:

DATE HOLE COMPLETED: 05/30/97

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 1000.0 |
| 0.0 | 0.0 | | DC | Light olive brown (2.5Y 5/3) dry, fine drill cuttings/drilling mud. | U1S40002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1700 dpm Scan: 20 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | | Grayish brown (25Y 5/2), drill cuttings, dry. | | | 64.4 | 50.0 | 149.0 | 203.0 |
| 2.0 | 0.6 | | | Brown (10YR 4/3) silty sand with gravel, some drill mud. Sand very fine to coarse, subangular to subrounded, gravel medium angular to subrounded, dry. | U1S40204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1200 dpm Scan: 18 uR/hr Gamma | | | | |
| 3.0 | 1.0 | | | | | | 4.1 | 50.0 | 12.4 | 16.5 |
| 4.0 | 1.2 | | SM | Dark yellowish brown (10YR 3/4) silty sand with gravel. Sand very fine to coarse, rounded to subangular, gravel subangular to subrounded, dry. Some welded tuff. | U1S40406 | Consistancy: soft PID in breathing zone: 1.5 ppm Scan of sample with Electra: 1070 dpm Scan: 19 uR/hr Gamma | | | | |
| 5.0 | 1.6 | | | | | | 3.0 | 50.0 | 11.1 | 14.1 |
| 6.0 | 1.8 | | SP | Dark yellowish brown (10YR 3/4) poorly sorted sand with gravel. Gravel coarse and subangular to subrounded. Sand very fine to coarse, angular to rounded. | U1S40608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1230 dpm Scan: 20 uR/hr Gamma | | | | |
| 7.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U1S5 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 628860.20

UTM NORTHING: 1415025.20

GEOLOGIST: M. Flaugher

QA CHECK: A. Welcher

DATE HOLE STARTED: 06/01/97

DATE HOLE COMPLETED: 06/01/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren-Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6099.90

TOTAL DEPTH OF HOLE: 6.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 1000.0 |
| 0.0 | 0.0 | | DC | Dark yellowish brown (10YR 4/4) sand with silt and gravel, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded, volcanic detrital, massive. Gravel is pebble sized, volcanic in origin (tuff), and angular to subangular, drill cuttings. | | Consistancy: soft PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1297 dpm Scan: 22 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | | | | | 2.9 | 50.0 | 13.7 | 16.6 |
| 2.0 | 0.4 | | | | | | | | | |
| | 0.6 | | | | | Consistancy: soft PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1297 dpm Scan: 22 uR/hr Gamma | | | | |
| 3.0 | 0.8 | | | | | | | | | |
| | 1.0 | | | | | | 2.6 | 50.0 | 10.8 | 13.6 |
| 4.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1195 dpm Scan: 22 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | 1.6 | | | | | | 3.2 | 50.0 | 16.6 | 20.0 |
| | 1.8 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U1S6 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 628945.80

UTM NORTHING: 1414919.40

GEOLOGIST: M. Flaugher

QA CHECK: A. Welcher

DATE HOLE STARTED: 06/01/97

DATE HOLE COMPLETED: 06/01/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren-Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6085.00

TOTAL DEPTH OF HOLE: 6.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0 0 4000.0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 1000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Brown (10YR 4/3) sand with gravel, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanic detrital, gravel is pebble sized, angular, trace silt, massive, drill cuttings. | | Consistancy: soft PID in breathing zone: 1.2 ppm Scan of sample with Electra: 1297 dpm Scan: 26 uR/hr Gamma | | | | |
| 0.2 | | | | | | | | | | |
| | | | DM | Dark brown (01YR 3/3) clay, dry, clay is lean, with fine sand, drill mud. | | | | | | |
| 1.0 | 0.4 | | | | | | 2.2 | 50.0 | 29.3 | 41.5 |
| 2.0 | 0.6 | | DC | Brown (10YR 4/3) sand, dry. Sand is fine grained, poorly graded subangular to subrounded, volcanic detrital, drill cuttings. Bottom of boring at 6.0 ft. | | Consistancy: soft PID in breathing zone: 1.2 ppm Scan of sample with Electra: 1297 dpm Scan: 26 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | 1.0 | | | | | | 2.6 | 50.0 | 10.6 | 3.4 |
| | 1.2 | | | | | | | | | |
| 4.0 | | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1109 dpm Scan: 22 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 3.7 | 50.0 | 10.4 | 14.1 |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U1S7 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 629096.50

UTM NORTHING: 1414912.10

GEOLOGIST: M. Flaugher

QA CHECK: A. Welcher

DATE HOLE STARTED: 06/01/97

DATE HOLE COMPLETED: 06/01/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren-Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6082.40

TOTAL DEPTH OF HOLE: 6.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 1000.0 |
| 0.0 | 0.0 | | DC | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine grained, trace medium and coarse grains, poorly graded, subangular to subrounded, masssive, trace pebble sized gravel, drill cuttings. | | Consistancy: soft PID in breathing zone: 1.1 ppm Scan of sample with Electra: 1148 dpm Scan: 24 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 6.5 | 50.0 | 18.0 | 24.5 |
| | 0.4 | | | | | | | | | |
| 2.0 | | | | | | Consistancy: soft PID in breathing zone: 1.1 ppm Scan of sample with Electra: 1148 dpm Scan: 24 uR/hr Gamma | | | | |
| | 0.6 | | | | | | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 2.6 | 50.0 | 10.6 | 13.4 |
| | 1.0 | | | | | | | | | |
| | 1.2 | | | | | | | | | |
| 4.0 | | | | Dark yellowish brown (10YR 4/4) sand with gravel, dry. Sand is fine grained, trace medium grains, poorly graded, subangular to subrounded, volcanic origin. Gravel is pebble sized, volcanic, subrounded to rounded drill cuttings. Total depth is 6.0 ft. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1133 dpm Scan: 22 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 2.8 | 50.0 | 10.4 | 13.2 |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

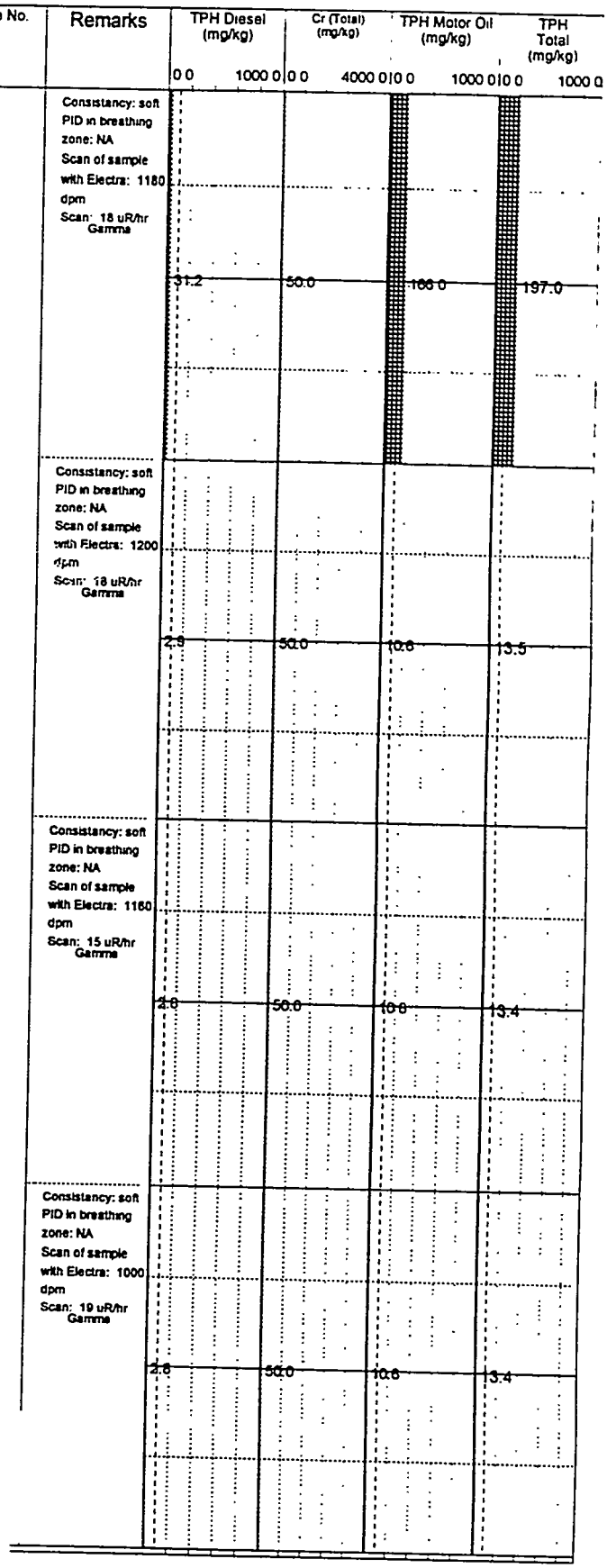
SOIL BORING LOG

BORING NUMBER: U1Y1 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 628783.70
UTM NORTHING: 1411409.60
GEOLOGIST: C. Birney
QA CHECK: A. Welcher
DATE HOLE STARTED: 06/03/97
DATE HOLE COMPLETED: 06/03/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 6036.80
TOTAL DEPTH OF HOLE: 8.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | ML | Very dark grayish brown (10YR 3/2) sandy silt, dry. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1180 dpm Scan: 18 uR/hr Gamma |
| | 0.2 | | | | | |
| 1.0 | | | SP-SM | Dark yellowish brown (10YR 4/4) poorly graded sand with silt and gravel. Sand rounded to subangular, fine to coarse. Gravel fine to coarse, angular to subrounded, dry. | | |
| | 0.4 | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1200 dpm Scan: 18 uR/hr Gamma |
| | 0.8 | | | | | |
| 3.0 | 1.0 | | | | | |
| | 1.2 | | SP | Dark yellowish brown (10YR 4/4) poorly graded sand with gravel. Sand fine to coarse, angular to rounded. Gravel fine to coarse, angular to subrounded, dry. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1160 dpm Scan: 15 uR/hr Gamma |
| 4.0 | | | | | | |
| | 1.4 | | | | | |
| 5.0 | | | | | | |
| | 1.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1000 dpm Scan: 19 uR/hr Gamma |
| | 1.8 | | | | | |
| 6.0 | | | | | | |
| | 2.0 | | | | | |
| 7.0 | | | | | | |
| | 2.2 | | | | | |
| | 2.4 | | | | | |



SOIL BORING LOG

BORING NUMBER: U1Y2 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

ENVIRONMENTAL CONTRACTOR: IT CORP

PROJECT NUMBER: 771062.02.01.00.00

DRILLING METHOD: Direct Push

UTM EASTING: 628757.30

DRILLING CONTRACTOR: McLaren Hart

UTM NORTHING: 1411338.10

ELEVATION DATUM: Mean Sea Level

GEOLOGIST: C. Birney

HOLE SURFACE ELEVATION: 6037.80

QA CHECK: A. Welcher

TOTAL DEPTH OF HOLE: 8.00

DATE HOLE STARTED: 06/03/97

COMMENTS:

DATE HOLE COMPLETED: 06/03/97

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 1000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | ML | Very dark grayish brown (10YR 3/2) sandy silt, dry. | | Consistancy: soft<br>PID in breathing zone: NA<br>Scan of sample with Electra: 980 dpm<br>Scan: 19 uR/hr Gamma | | | | |
| 0.2 | | | SP | Dark yellowish brown (10YR 4/4) poorly graded sand with gravel. Sand very fine to coarse, rounded to subangular, dry. | | | | | | |
| 1.0 | | | | | | | 14.3 | 30.0 | 68.4 | 82.7 |
| 0.4 | | | | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft<br>PID in breathing zone: NA<br>Scan of sample with Electra: 1480 dpm<br>Scan: 20 uR/hr Gamma | | | | |
| 0.8 | | | | | | | | | | |
| 3.0 | | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand fine to coarse, rounded to subangular. Gravel coarse, angular to rounded, moist. | | | 5.0 | 30.0 | 11.0 | 14.0 |
| 1.0 | | | | | | | | | | |
| | | | SP | Dark yellowish brown (10YR 4/4) poorly graded sand with gravel. Sand very fine to coarse, rounded to subangular. Gravel fine to coarse, angular to subrounded, dry. After 6 ft, some welded tuff throughout. Bottom of boring is 8 ft. | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: soft<br>PID in breathing zone: NA<br>Scan of sample with Electra: 910 dpm<br>Scan: 18 uR/hr Gamma | | | | |
| 1.4 | | | | | | | | | | |
| 5.0 | | | | | | | 2.9 | 30.0 | 10.7 | 13.6 |
| 1.6 | | | | | | | | | | |
| 1.8 | | | | | | | | | | |
| 6.0 | | | | | | Consistancy: soft<br>PID in breathing zone: NA<br>Scan of sample with Electra: 1175 dpm<br>Scan: 18 uR/hr Gamma | | | | |
| 2.0 | | | | | | | | | | |
| 7.0 | | | | | | | 2.8 | 30.0 | 10.8 | 13.4 |
| 2.2 | | | | | | | | | | |
| 2.4 | | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U1Y3 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 628569.20

UTM NORTHING: 1411373.50

GEOLOGIST: C. Birney

QA CHECK: A. Welcher

DATE HOLE STARTED: 06/03/97

DATE HOLE COMPLETED: 06/03/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6044.20

TOTAL DEPTH OF HOLE: 6.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 1000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Dark brown (10YR 3/3) poorly graded sand with gravel. Sand fine to coarse, rounded to subangular, gravel fine to coarse, angular to subangular, dry. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1020 dpm Scan: 17 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | | | | |
| | 0.4 | | | | | | | | | |
| | | | | Gray welded tuff. | | | 4.2 | 50.0 | 16.9 | 21.1 |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1625 dpm Scan: 16 uR/hr Gamma | | | | |
| | | | | Dark brown (10YR 3/3) poorly graded sand with gravel. Sand fine to coarse, rounded to subangular, gravel fine to coarse, angular to subangular, dry. Refusal at 6.0 ft. | | | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 2.6 | 50.0 | 15.7 | 18.5 |
| | 1.0 | | | | | | | | | |
| | | | | | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: dense breathing zone: NA PID in sample with Scan of Electra: 1130 dpm Gamma Scan: 17 uR/hr | | | | |
| | | | | | | | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 2.6 | 50.0 | 10.8 | 13.4 |
| | 1.6 | | | | | | | | | |
| | | | | | | | | | | |
| | 1.8 | | | | | | | | | |

SOIL BORING LOG

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | BORING NUMBER: U1Y4 Page #1 of 1 |
| PROJECT NUMBER: 771062.02.01.00.00 | ENVIRONMENTAL CONTRACTOR: IT CORP |
| UTM EASTING: 628807.10 | DRILLING METHOD: Direct Push |
| UTM NORTHING: 1411343.70 | DRILLING CONTRACTOR: McLaren Hart |
| GEOLOGIST: M. Flaugher | ELEVATION DATUM: Mean Sea Level |
| QA CHECK: A. Welcher | HOLE SURFACE ELEVATION: 6036.90 |
| DATE HOLE STARTED: 06/08/97 | TOTAL DEPTH OF HOLE: 6.00 |
| DATE HOLE COMPLETED: 06/08/97 | COMMENTS: |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 1000.0 |
| 0.0 | 0.0 | | ML | Very dark grayish brown (10YR 3/2) silt, dry. Nonplastic, rapid dilatency, organics (roots) in upper 3 inches. | | Consistency soft | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 1.4 | 50.0 | 85.9 | 77.3 |
| | 0.4 | | SP | Dark yellowish brown (10YR 5/6) sand with gravel, dry. Sand is fine grained, poorly graded, subangular to subrounded. Gravel is pebble sized, rounded to subangular, volcanic detrital. | | | | | | |
| 2.0 | 0.6 | | | | | Consistency: soft to firm | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | Same as above, increase to trace silt. | | | 2.9 | 50.0 | 10.7 | 13.6 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | | | Consistency. soft to firm | | | | |
| | | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, trace coarse grains, volcanic in origin, trace gravel. Bottom of boring at 6.0 ft. | | | | | | |
| 5.0 | 1.4 | | | | | | 2.9 | 50.0 | 10.7 | 13.6 |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

SOIL BORING LOG

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | BORING NUMBER: U1Y5 Page #1 of 1 |
| PROJECT NUMBER: 771062.02.01.00.00 | ENVIRONMENTAL CONTRACTOR: IT CORP |
| UTM EASTING: 628758.50 | DRILLING METHOD: Direct Push |
| UTM NORTHING: 1411315.10 | DRILLING CONTRACTOR: McLaren Hart |
| GEOLOGIST: M. Flaugher | ELEVATION DATUM: Mean Sea Level |
| QA CHECK: A. Welcher | HOLE SURFACE ELEVATION: 6036.80 |
| DATE HOLE STARTED: 06/08/97 | TOTAL DEPTH OF HOLE: 6.00 |
| DATE HOLE COMPLETED: 06/08/97 | COMMENTS: |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0 0 4000 0 | 10 0 1000 0 | 10 0 1000 0 |
| 0.0 | 0.0 | | ML | Very dark grayish brown (10YR 3/2) silt, dry, nonplastic, high dilatency, organics (roots) in upper 1 inch. | | Consistancy soft | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | SP-SM | Dark yellowish brown (10YR 5/6) sand with silt and gravel, dry. Sand is fine grained, poorly graded subangular to subrounded. Gravel is pebble sized. | | | 6.6 | 50.0 | 43.1 | 31.9 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 2.9 | 50.0 | 10.8 | 13.7 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | Same as above, at 4.0 ft a 2 inch thick gray (10YR 5/1) welded tuff rock. Total depth at 6.0 ft. | | Consistancy: soft | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 2.9 | 50.0 | 10.8 | 13.7 |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

SOIL BORING LOG

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | BORING NUMBER: U4A1 \| Page #1 of 1 |
| PROJECT NUMBER: 771062.02.01.00.00 | ENVIRONMENTAL CONTRACTOR: IT CORP |
| UTM EASTING: 627699.90 | DRILLING METHOD: Direct Push |
| UTM NORTHING: 1431341.00 | DRILLING CONTRACTOR: McLaren Hart |
| GEOLOGIST: C. Birney | ELEVATION DATUM: Mean Sea Level |
| QA CHECK: A. Welcher | HOLE SURFACE ELEVATION: 6558.80 |
| DATE HOLE STARTED: 05/13/97 | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE COMPLETED: 05/13/97 | COMMENTS: |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 0 4000 0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 4000 0 |
| 0.0 | 0.0 | | SM | Light yellowish brown (2.5YR 6/4), dry silty sand with gravel, sand v. fine to coarse, subrounded, gravel subrounded. | | Consistancy Sampled on 5/20/97. breathing zone PID in NA Scan of sample with Electra: 930 dpm Gamma Scan: 16 uR/hr | 8.2 | 50.0 | 25.4 | 34.7 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | Yellowish brown (10YR 5/4) silty sand with gravel. Sand fine to coarse, subrounded to subangular, gravel subangular - (16"-6") - dry wood (6"-3"). | | | | | | |
| 3.0 | 0.6 | | | | | | | | | |
| 4.0 | 0.8 | | | | | Consistancy: PID in breathing zone: NA Scan of sample with Electra: 1188 dpm Scan: 16 uR/hr Gamma | 14.7 | 50.0 | 50.8 | 65.5 |
| 5.0 | 1.0 | | | Light gray (10YR 7/2) silty sand with gravel - v. fine to medium sand poorly graded, gravel angular, sand subrounded to subangular. | | | | | | |
| 6.0 | 1.2 | | | | | | | | | |
| 7.0 | 1.4 | | | | | Consistancy: PID in breathing zone: NA Scan of sample with Electra: 1088 dpm Scan: 14 uR/hr Gamma | 15.2 | 50.0 | | 15.2 |
| 8.0 | 1.6 | | | Light brownish gray (2.5Y 6/2) silty sand with gravel very fine to coarse sand, subrounded to subangular, gravel sub angular, dry, no odor. | | | | | | |
| 9.0 | 1.8 | | DC | | | | | | | |
| 10.0 | 2.0 | | | Drill cuttings - grayish brown (2.5Y 5/2) v. fine bentonite clay cuttings, moist. | | Consistancy: PID in breathing zone: NA Scan of sample with Electra: 1257 dpm Scan: 15 uR/hr Gamma | 45.4 | 215.0 | 119.0 | 164.0 |
| 11.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | Drill cuttings - Dk grayish brown (2.5Y 3/1) v. fine clay cuttings, moist. | | | | | | |
| | 2.6 | | | | | | | | | |
| | 2.8 | | | Brown (10YR 5/3) sand-fine to coarse grained, subangular to subrounded, wtih gravel, vocanic sand. | | Consistancy: PID in breathing zone: NA Scan of sample with Electra: 933 dpm Scan: 14 uR/hr Gamma | 52.1 | 260.0 | 79.5 | 131.0 |
| | 3.0 | | | | | | | | | |
| | 3.2 | | SM-SP | Pale yellow (2.5 Y 8/2) v. fine grained to fine grained rock floor. | | Consistancy: PID in breathing zone: NA Scan of sample with Electra: 1148 dpm Scan: 15 uR/hr Gamma | 5.3 | 60.6 | 43.3 | 48.6 |
| | 3.4 | | | V. fine grained volcanics with gravel. | | | | | | |
| | 3.6 | | | | | .og | | | | |

SOIL BORING LOG

BORING NUMBER: U4A2 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 627696.00

UTM NORTHING: 1431291.20

GEOLOGIST: C. Birney

QA CHECK: A. Welcher

DATE HOLE STARTED: 05/14/97

DATE HOLE COMPLETED: 05/14/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6558.50

TOTAL DEPTH OF HOLE: 12.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 4000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Yellowish brown (10YR 5/4), dry, silty sand with gravel, poorly sorted, subrounded to angular sand and gravel, no odor. Becomes slightly moist at approx. 3 ft. Coarse gravel at 5.6 ft. | | Consistancy: soft Sampled on 5/20/97 breathing zone PID m NA sample with Scan of Electra dpm Gamma Scan uR/hr | 9.4 | 50.0 | 19.5 | 24.9 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft PID m breathing zone: NA Scan of sample with Electra: dpm Gamma Scan uR/hr | 62.9 | 50.0 | 53.7 | 116.0 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | Drill Cuttings. Gray (2.5y 5/1) moist, fine grained. | | | | | | |
| 6.0 | 1.2 | | | | | Consistancy: soft | 72.8 | 93.4 | 59.5 | 132.0 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | DC | Light brown (2.5Y 5/3) to very dark gray (N3) dril cuttings wet, fine grained. | | Consistancy: soft | 71.0 | 274.0 | 265.0 | 336.0 |
| 10.0 | 2.0 | | | | | | | | | |
| 11.0 | 2.2 | | | Very dark gray (2.5Y 3/1) wet, v. fine grained drill cuttings. | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | | Black (2.5Y 5/1), moist, sand with gravel, subangualr to subrounded, poorly graded, fine to coarse. | | Consistancy. dense from 9.4 to 12 ft. | 50.5 | 356.0 | 126.0 | 176.0 |
| | 2.8 | | | | | | | | | |
| | 3.0 | | SP | Light yellowish brown (2.5Y 6/3) sand with gravel, dry, fine to coarse grained, poorly graded, volcanic tuff. | | | | | | |
| | 3.2 | | | | | Consistancy: dense | 13.4 | 84.4 | 49.6 | 83.2 |
| | 3.4 | | | Yellowish brown (10YR 5/4) vocanic tuff - fine to coarse grained, dry, no odor poorly graded. End of boring at 12 ft. | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U4A3 | 

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627691.90 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431241.30 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6558.30 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/14/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/14/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Yellowish brown (10YR 5/4) silty sand with gravel, slightly moist, sand fine to coarse, gravel coarse, poorly graded, graavel subangular to subrounded, sna subangular to subrounded. | | Consistancy. soft Sampled on 5/20/97 breathing zone PID in NA sample with Scan of Electra 958 dpm Gamma Scan 14 uR/hr |
| 1.0 | 0.2 | | | | | |
| 2.0 | 0.4 | | | | | |
| 3.0 | 0.6 | | | | | |
| | 0.8 | | | Same as above but with more gravel, gravel subangular, mostly quartz, some volcanics. | | Consistancy: soft |
| | 1.0 | | | | | |
| 4.0 | 1.2 | | | Same as above but becomes moist. | | |
| | 1.4 | | | Gray (2.5 Y 6/1) welded tuff, dry approx. 2 inches. | | Consistancy. soft, becoming dense at 5.5 ft. to 7.0 ft. |
| 5.0 | 1.6 | | | | | |
| | 1.8 | | SP | Dk yellowish brown (10YR 4/4) sand with gravel, poorly graded, fine to coarse sand, subangular to subrounded, coarse gravel, subrounded. | | Consistancy: dense to 7.0 ft. then becomes soft from 7.0 to 9.5 ft. PID in breathing zone: NA Scan of sample with Electra: 1049 dpm Scan: 15 uR/hr Gamma |
| 6.0 | 2.0 | | | | | |
| 7.0 | 2.2 | | DC | Dark greenish gray (4/1) to greenish black (2.5/1), drill cuttings, slight bentonite odor, fine grained, wet. | | |
| | 2.4 | | | | | |
| 8.0 | 2.6 | | | Greenish black (2.5/1), wet drill cuttings, slight bentonite odor. | | Consistancy: soft from 7.0 to 9.5 ft., then becomes dense. |
| 9.0 | 2.8 | | SP | Pale brown (10YR 6/3) volcanic sand, (tuff), sand poorly graded with pieces of welded tuff, sand subrounded, fine to coarse. 2 inches of welded tuff between 10-12. | | |
| 10.0 | 3.0 | | | | | |
| | 3.2 | | | | | Consistancy. dense sample with Scan of Electra 1291 dpm Gamma Scan: 13 uR/hr |
| 11.0 | 3.4 | | | | | |
| | 3.6 | | | | | |

| | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|
| | 0 0 4000.0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 4000 0 |
| | 8.8 | 50 0 | 16 4 | 24 9 |
| | 4.7 | 50.0 | 26.5 | 31.2 |
| | 14.6 | 50.0 | 54.3 | 68.9 |
| | 90.5 | 674.0 | 193.0 | 289.0 |
| | 29.9 | 316.0 | 93.4 | 123.0 |
| | 12.6 | 50.0 | 47.0 | 59.6 |

SOIL BORING LOG

BORING NUMBER: U4A4 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

ENVIRONMENTAL CONTRACTOR: IT CORP

PROJECT NUMBER: 771062.02.01.00.00

DRILLING METHOD: Direct Push

UTM EASTING: 627739.80

DRILLING CONTRACTOR: McLaren Hart

UTM NORTHING: 1431337.80

ELEVATION DATUM: Mean Sea Level

GEOLOGIST: C. Birney

HOLE SURFACE ELEVATION: 6558.10

QA CHECK: A. Welcher

TOTAL DEPTH OF HOLE: 11.50

DATE HOLE STARTED: 05/15/97

COMMENTS:

DATE HOLE COMPLETED: 05/15/97

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 4000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | SM | Brown (10YR 5/3) silty sand with gravel, slightly moist, sand fine to coarse, gravel coarse, sand subrounded to subangular. | | Consistancy Sampled on 5/20/97 breathing zone NA PID in sample with Scan of Electra cpm Gamma Scan. uR/hr | 9.7 | 62.4 | 29.5 | 39.2 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | | 17.0 | 50.0 | 70.6 | 87.6 |
| 4.0 | 0.8 | | | Dk yellowish brown (10YR 4/6) silty sand with fine gravel, sand fine to coarse, subangular to subrounded, 2" layer of white (10YR 8/1). | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | Same as above, but with coarse gravel and wet. | | | 49.6 | 391.0 | 166.0 | 235.0 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | DC | Dk gray (2.5Y 3/1) moist, fien, drill cuttings. | | | | | | |
| 9.0 | 1.8 | | | | | | | | | |
| 10.0 | 2.0 | | | | | | 75.0 | 296.0 | 197.0 | 272.0 |
| 11.0 | 2.2 | | | Very dark grayish brown (2.5Y 3/2) to greenish black (10Y 2.5/1), fine, wet to moist, drill cuttings. | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | | | | | | | | |
| | 2.8 | | SP | Pale brown (10YR 6/3) volcanic sand (tuff) with welded pieces. Sand fine to coarse, subrounded, poorly graded. | | | 34.0 | 192.0 | 83.8 | 117.0 |
| | 3.0 | | | | | | | | | |
| | 3.2 | | | | | | | | | |
| | 3.4 | | | | | | 12.4 | 50.0 | 18.4 | 38.8 |

| SOIL BORING LOG | BORING NUMBER: U4A5 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627735.80 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1431287.90 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6558.40 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/14/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/14/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 4000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Yellowish brown (10YR 5/4) silty sand with gravel, sand fine to coarse, gravel coarse, sand subangular to subrounded. | | Sampled on 05/20/97. | 42.1 | 50.0 | 12.8 | 54.9 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Sampled on 05/20/97. | 12.4 | 50.0 | 12.3 | 24.7 |
| 4.0 | 0.8 | | | Yellowish brown (10YR 5/4) silty sand with gravel, poorly graded, subrounded to subangular, moist. | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | | Consistancy: PID in breathing zone: NA Scan of sample with Electra: 1063 dpm Scan: 15 uR/hr Gamma | 18.8 | 196.0 | 70.0 | 88.8 |
| 7.0 | 1.4 | | | Same as above with coarse gravel, moist. | | | | | | |
| 8.0 | 1.6 | | DC | DK grayish brown (2.5 Y 4/2) drill cuttings, moist. | | | | | | |
| 9.0 | 1.8 | | | | | Consistancy: PID in breathing zone: NA Scan of sample with Electra: 1108 dpm Scan: 15 uR/hr Gamma | 75.5 | 217.0 | 210.0 | 285.0 |
| 10.0 | 2.0 | | | | | | | | | |
| 11.0 | 2.2 | | | Greenish gray (10YR 5/1) moist drill cuttings. | | | | | | |
| | 2.4 | | | Black (N2.5), wet drill cuttings, slight bentonite odor. | | | | | | |
| | 2.6 | | | | | Consistancy: PID in breathing zone: NA Scan of sample with Electra: 1088 dpm Scan: 15 uR/hr Gamma | 90.9 | 391.0 | 223.0 | 319.0 |
| | 2.8 | | | | | | | | | |
| | 3.0 | | SP | Brown (10YR 5/3) sand. volcanic tuff, subrounded to subangular with some gravel, poorly graded, fine to coarse. | | | | | | |
| | 3.2 | | | | | | | | | |
| | 3.4 | | | | | | 12.5 | 50.0 | 46.6 | 59.1 |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U4A6 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 627731.80
UTM NORTHING: 1431238.10
GEOLOGIST: C. Birney
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/14/97
DATE HOLE COMPLETED: 05/14/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 6558.40
TOTAL DEPTH OF HOLE: 12.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 4000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Brown (10YR 5/3) silty sand with gravel, sand fine to coarse, subrounded to subangular, gravel subangular, some welded tuff, dry, poorly sorted. | | Consistancy Sampled on 5/20/97 breathing zone PID in NA sample with Scan of Electra dpm Gamma Scan uR/hr | 3.1 | 30.0 | 11.4 | 14.5 |
| 2.0 | 0.6 | | | Brown (10YR 5/3) silty sand, same as above but moist, and some red staining on grains. | | Consistancy Sampled on 5/20/97. breathing zone PID in 2.0 ppm Scan of sample with Electra: dpm Gamma Scan: uR/hr | 10.4 | 30.0 | 9.1 | 25.5 |
| 4.0 | 1.2 | | | Pale brown (10YR 6/3) volcanic sand (tuff) sl. moist, subrounded to subangular grains with some welded tuff. | | PID in breathing zone: 1.8 ppm Scan of sample with Electra: dpm | 21.9 | 305.0 | 65.5 | 107.0 |
| 5.0 | 1.6 | | SP | | | | | | | |
| 6.0 | 1.8 | | DC | Very dk grayish brown (2.5Y 3/2) drill cuttings. | | | | | | |
| 7.0 | 2.2 | | | Greenish black (5GY 2.5/1) drill cuttings, wet, slight bentonite odor. | | | 105.0 | 328.0 | 159.0 | 264.0 |
| 8.0 | 2.4 | | | | | PID in breathing zone: 1.8 ppm Scan of sample with Electra: 1102 dpm Scan: 15 uR/hr Gamma | | | | |
| 9.0 | 2.8 | | | | | | 45.2 | 116.0 | 161.0 | 204.0 |
| 10.0 | 3.0 | | SP | Pale brown (10YR 6/3) volcanic sand, poorly graded, fine to coarse grained subourndded to subangular, moist. Becomes dry at about 11.0 ft to bottom of boring. | | PID in breathing zone: 2.0 ppm | | | | |
| 11.0 | 3.4 | | | | | | 5.1.9 | 30.0 | 42.6 | 94.5 |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U4A7 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627762.50 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1431245.60 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6559.00 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 9.00 | |
| DATE HOLE STARTED: 06/02/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/02/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 4000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | SP | Dark yellowish brown (10YR 4/4) sand with gravel, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, chert, volcanics, trace qtz. Gravel is pebble sized, chert, some burnt organic material present in 0 to 4 inches. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 992 dpm Scan: 20 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 992 dpm Scan: 20 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | 1.0 | | | | | | | 50.0 | | |
| 4.0 | 1.2 | | | Same as above.but an increase to trace silt. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 984 dpm Scan: 18 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | 1.6 | | | | | | 3.0 | 50.0 | 11.2 | 14.2 |
| 6.0 | 1.8 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1032 dpm Scan: 16 uR/hr Gamma | | | | |
| | 2.0 | | | Same as above but slightly oxydized. | | | | | | |
| 7.0 | 2.2 | | | | | | 2.9 | 50.0 | 10.8 | 13.7 |
| | 2.4 | | | Same as above but an increase in gravel content. | | | | | | |
| 8.0 | | | SP-SM | Pale brown (01YR 6/3) sand with silt, dry. Sand is fine to medium grained, poorly graded. Refusal at 9.0 ft. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1031 dpm Scan: 16 uR/hr Gamma | | | | |
| | 2.6 | | | | | | 4.4 | 50.0 | 61.2 | 95.8 |

SOIL BORING LOG

BORING NUMBER: U4A8 ; Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 627665.20

UTM NORTHING: 1431283.60

GEOLOGIST: M. Flaugher

QA CHECK: A. Welcher

DATE HOLE STARTED: 06/02/97

DATE HOLE COMPLETED: 06/02/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6559.70

TOTAL DEPTH OF HOLE: 10.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 4000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Brown (10YR 4/3) sand dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, massive, trace silt, chert, volcanics, loosely consolidated. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra 1133 dpm Scan 17 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | | | | | | | | |
| | 0.4 | | | Same as above, increase in silt content, still trace silt, well consolidated. | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: firm Duplicate sample CNT30034 taken breathing zone. NA PID in sample with Scan of Electra: 1133 dpm Gamma Scan: 17 uR/hr | | | | |
| | 0.8 | | | Very pale brown (10YR 7/3) sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanic detrital, red and gray chert. | | | 3.1 | 50.0 | 11.4 | 14.5 |
| 3.0 | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1109 dpm Scan: 18 uR/hr Gamma | | | | |
| | 1.4 | | | White (10YR 8/1) sandy clay, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded. | | | 3.0 | 50.0 | 11.3 | 14.3 |
| 5.0 | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | SC | Brown (10YR 5/30 sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, gray and orange chert, volcanic detrital, 2 -inch dark gray (10YR 4/1). | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1172 dpm Scan: 18 uR/hr Gamma | | | | |
| | 2.0 | | | | | | 3.0 | 50.0 | 11.2 | 14.2 |
| 7.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| 8.0 | 2.6 | | | Light olive brown (2.5Y 5/3) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanics, trace chert, trace clay. Refusal at 10.0 ft. | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1138 dpm Scan: 18 uR/hr Gamma | | | | |
| 9.0 | 2.8 | | SP-SM | | | | 3.0 | 50.0 | 14.2 | 18.0 |
| | 3.0 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U4B1 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627684.70 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1431151.50 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6558.80 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 11.50 | |
| DATE HOLE STARTED: 05/13/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/13/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0 0 1000 0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 2000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Brown (7.5YR 4/3) sanad with gravel, dry, sand is fine to coarse grained, poorly graded, predominately fine grained, volcanic lithics, gravel is volcanic detrital, loosely consolidated, fill. At 1.2 ft a 1 inch black chert. | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1227 dpm Scan: 15 uR/hr Gamma | 17.3 | 50.0 | | 17.3 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1188 dpm Scan: 16 uR/hr Gamma | 11.5 | 50.0 | | 11.5 |
| 4.0 | 0.8 | | | | | | | | | |
| | 1.0 | | | Same as above but becomes strongly consolidated at 4.5 ft. | | | | | | |
| | 1.2 | | | | | | | | | |
| 5.0 | 1.4 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1133 dpm Scan: 15 uR/hr Gamma | 16.7 | 50.0 | 87.5 | 84.2 |
| 6.0 | 1.6 | | | Brown (7.5 YR 4/2) sitly sand with gravel, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanics detrital, chert, quartz grains. | | | | | | |
| 7.0 | 1.8 | | | | | | | | | |
| | 2.0 | | DC | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1073 dpm Scan: 15 uR/hr Gamma | 46.4 | 319.0 | 16.0 | 162.0 |
| 8.0 | 2.2 | | | Brown (7.5YR 4/4) Sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, moderately consolidated. (6.7 to 7.0 ft) petroleum odor. Drill cuttings. | | | | | | |
| 9.0 | 2.4 | | | | | | | | | |
| | 2.6 | | | | | Consistancy: firm to 9 ft, then hard PID in breathing zone: NA Scan of sample with Electra: 930 dpm Scan: 15 uR/hr Gamma | 32.2 | 207.0 | 88.0 | 100.0 |
| | 2.8 | | BR | Light yellowish brown (2.5Y 6/3) bedrock. Tuff oxydized yellow, come chert, lithics, slightly pulverized. Ash flow tuff. | | | | | | |
| 10.0 | 3.0 | | | | | | | | | |
| | 3.2 | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1125 dpm Scan: 15 uR/hr Gamma | 11.0 | 50.0 | | 11.0 |
| 11.0 | 3.4 | | | | | | | | | |

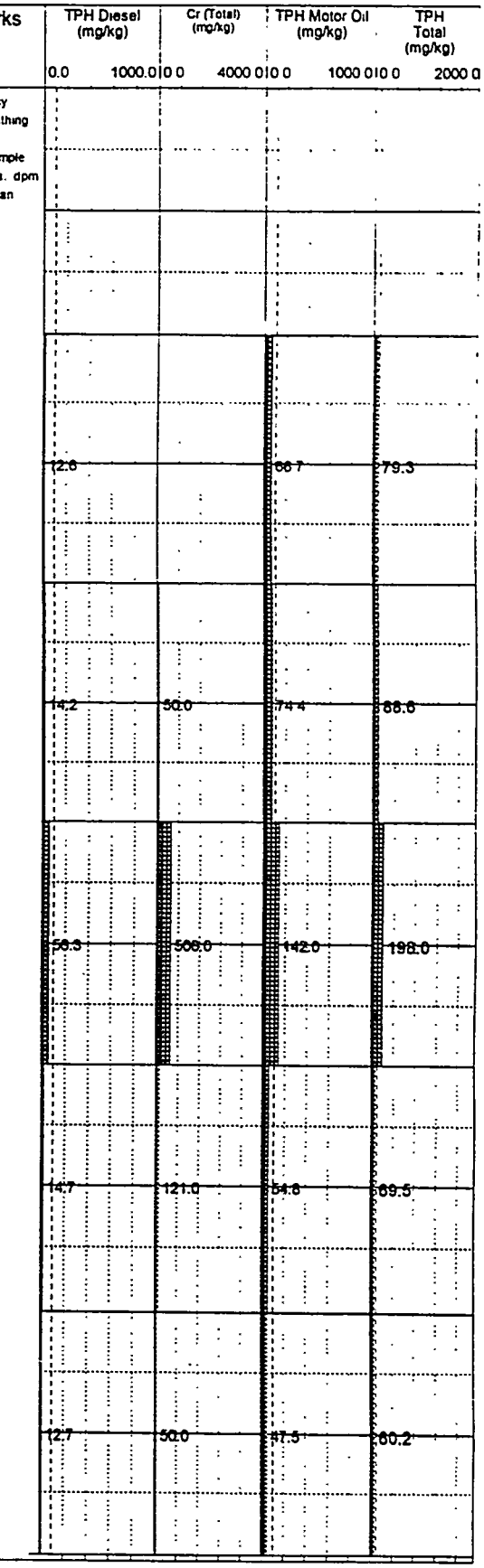
SOIL BORING LOG | BORING NUMBER: U4B2 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627679.90 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431091.70 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6558.50 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 05/14/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/14/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Brown (7.5 YR 5/4) sand and gravel, dry, sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic lithics (chert). Gravel is pebble sized clasts volcanics in origin. Trace silty, fill, massive. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: uR/hr | | | | |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft Sampled 6/4/97 breathing zone: PID in NA sample with Scan of Electra: dpm Gamma Scan: uR/hr | 7.2 | 50.0 | 33.1 | 40.3 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | As above but with coarser grains. | | | | | | |
| 6.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: 1.8 ppm Scan of sample with Electra: 1180 dpm Scan: 15 uR/hr Gamma | 16.0 | 50.0 | 18.3 | 84.3 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | | | | | | | |
| | 2.0 | | | Dark brown (7.5 YR 3/3) clay, dry to moist. Clay is lean, drill cuttings. | | Consistancy: firm PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1037 dpm Scan: 15 uR/hr Gamma | 16.4 | 237.0 | 55.4 | 71.8 |
| | 2.2 | | DC | | | | | | | |
| | 2.4 | | | Dark brown (7.5 YR 3/3) sand, moist sand is fine grained, poorly graded, well sorted, slightly stratified, trace clay drill cuttings. | | | | | | |
| | 2.6 | | | | | Consistancy: firm PID in breathing zone: 1.7 ppm Scan of sample with Electra: dpm Gamma Scan: uR/hr | 27.2 | 310.0 | 51.0 | 78.2 |
| | 2.8 | | BR | Light yellowish brown (2.5Y 6/3) ash flow tuff, bedrock. Oxydized slightly to brownish yellow (10YR 6/8). Refusal at 10 ft. | | | | | | |
| | 3.0 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U4B3 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627675.90 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431041.80 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6558.30 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/15/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/15/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Brown (7.5YR 5/3) sand with gravel, dry. sand is fine to coarse grained, poorly graded, subangular to subrounded, predominately fine grained, trace silt, fill, odorless. Gravel is pebble sized, volcanic in origin, some chert, some welded tuff, massive, quartz grains also. | | Consistancy<br>PID in breathing zone: NA<br>Scan of sample with Electra. dpm<br>Gamma Scan uR/hr |
| 1.0 | 0.2 | | | | | |
| 2.0 | 0.4 | | | | | |
| 3.0 | 0.6 | | | | | |
| 4.0 | 0.8 | | | | | |
| 5.0 | 1.0 | | | Same as above, becomes more coarse grained in sand. | | |
| 6.0 | 1.2 | | | | | |
| 7.0 | 1.4 | | | | | |
| 8.0 | 1.6 | | | Brown (7.5YR 4/3) clay, dry. Clay is lean, drill cuttings, slightly micaceous. | | |
| 9.0 | 1.8 | | DC | | | |
| 10.0 | 2.0 | | | Brown (7.5YR 4/3) sand dry to moist. Sand is fine grained, poorly graded, well sorted, trace clay, micaceous, drill cuttings. | | |
| 11.0 | 2.2 | | | | | |
| | 2.4 | | | | | |
| | 2.6 | | BR | Light olive brown (2.5Y 5/4) ash flow tuff. Bedrock, volcanic fragments, chert and quartz grains. | | |
| | 2.8 | | | | | |
| | 3.0 | | | | | |
| | 3.2 | | | | | |
| | 3.4 | | | At 11.0 ft, ash flow tuff, becomes medium grained sand sized grains. | | |
| | 3.6 | | | | | |



SOIL BORING LOG

BORING NUMBER: U4B4 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 627724.60

UTM NORTHING: 1431148.30

GEOLOGIST: M. Flaugher

QA CHECK: A. Welcher

DATE HOLE STARTED: 05/14/97

DATE HOLE COMPLETED: 05/14/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6558.50

TOTAL DEPTH OF HOLE: 12.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Brown (7.5YR 4/3) sand with gravel, dry, sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic lithics. Gravel is pebble sized clasts, volcanic origin, trace silt, some chert, fill, massive. | | Consistancy soft PID in breathing zone: NA Scan of sample with Electra dpm Gamma Scan uR/hr | | | | |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft Sampled 6/4/97. | 9.1 | 50.0 | 32.1 | 41.2 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | As above, but with an increase in coarse sand and gravel content, some volcanic gravel. Contact between fill and mud pit is at 6.9 ft. | | Consistancy: soft | 13.0 | 50.0 | 42.9 | 55.9 |
| 6.0 | 1.2 | | | | | | | | | |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | Dark brown (7.5YR 3/3) clay, dry to moist, clay is lean, drill cuttings. | | | | | | |
| 9.0 | 1.8 | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1039 dpm Scan: 15 uR/hr Gamma | 99.3 | 537.0 | 78.2 | 117.0 |
| 10.0 | 2.0 | | | Dark brown (7.5YR 3/3) sand, moist, sand is fine grained, poorly graded, well sorted, slightly stratified, trace clay, drill cuttings. Contact between mud pit and native soil is at 9.0 ft. | | | | | | |
| 11.0 | 2.2 | | DC | | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | | Light yellowish brown (2.5Y 6/3) ash flow tuff, bedrock, oxydized brownish yellow (10YR 6/8), chert grains. | | Consistancy: firm from 8-9 ft, hard from 9-10 ft. PID in breathing zone: 1.8 ppm Scan of sample with Electra: dpm Gamma Scan: uR/hr | 27.5 | 217.0 | 66.2 | 93.7 |
| | 2.8 | | BR | | | | | | | |
| | 3.0 | | | Very pale brown (10YR 8/2) ash flow tuff, bedrock, fine grained sand sizes, chert grains. | | | | | | |
| | 3.2 | | | | | | | | | |
| | 3.4 | | | Light yellowish brown (2.5Y 6/3) ash flow tuff, bedrock, oxydized brownish yellow (10YR 6/8), chert grains. | | Consistancy: hard PID in breathing zone: 1.9 ppm Scan of sample with Electra: 1125 dpm Scan: 15 uR/hr Gamma | 13.1 | 50.0 | 46.9 | 62.0 |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U4B5 Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627719.80 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431088.50 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6557.60 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 11.80 |
| DATE HOLE STARTED: 05/14/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/14/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 2000.0 |
| 0.0 | 0.0 | | SP | Brown (7.5YR 5/4) sand with gravel, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic lithics, trace to fine silt. Gravel is pebble sized clasts of volcanic origin, cherts, fill, massive. | | Consistancy: soft | | | | |
| 1.0 | 0.2 | | | | | | | | | |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft Sampled 6/4/97 | | | | |
| | 0.8 | | | | | | 17.4 | 50.0 | 50.8 | 68.2 |
| 3.0 | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1063 dpm Scan: 15 uR/hr Gamma | | | | |
| | 1.4 | | | | | | 14.8 | 50.0 | 68.1 | 83.7 |
| 5.0 | 1.6 | | | Dark brown (7.5YR 3/3) clay, dry to moist. Clay is lean, drill cuttings. | | | | | | |
| 6.0 | 1.8 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1108 dpm Scan: 15 uR/hr Gamma | | | | |
| | 2.0 | | DC | Dark brown (7.5YR 3/3) sand, moist, sand is fine grained, poorly graded, well sorted, slightly stratified, trace clay, drill cuttings. | | | 78.2 | 726.0 | 157.0 | 235.0 |
| 7.0 | 2.2 | | | | | | | | | |
| 8.0 | 2.4 | | | | | Consistancy: hard PID in breathing zone: NA Scan of sample with Electra: 1088 dpm Gamma Scan: 15 uR/hr | | | | |
| | 2.6 | | BR | Light yellowish brown (2.2Y 6/3) ash flow tuff, bedrock, slightly oxydized brownish yellowish (10YR 6/8), chert grains. | | | 12.6 | 50.0 | 46.9 | 59.5 |
| 9.0 | 2.8 | | | | | | | | | |
| 10.0 | 3.0 | | | Very pale brown (10YR 8/2) ash flow tuff. Bedrock. fine grained sand sizes, chert grains. | | Consistancy: hard | | | | |
| | 3.2 | | | Light yellowish brown (2.2Y 6/3) ash flow tuff, bedrock, slightly oxydized brownish yellowish (10YR 6/8), chert grains. | | | | | | |
| 11.0 | 3.4 | | | | | | 13.0 | 50.0 | 48.8 | 61.8 |

SOIL BORING LOG

BORING NUMBER: U4Bb | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627715.80 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431038.60 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6557.10 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 05/15/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/15/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Brown (7.5YR 5/3) sand with gravel dry. SAnd is fine to coarse grained, poorly graded, subangular to subrounded, predominately fine grained, volcanic detrital fill, odorless, some chert. Gravel is pebble sized, volcanic in origin, some silt, some welded tuff pebbles, massive. | | Consistancy soft PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan uR/hr | | | | |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft Sampled 6/4/97. PID in breathing zone: NA Scan of sample with Electra: 1260 dpm Gamma Scan: 8 uR/hr | 5.5 | 50.0 | 43.0 | 52.5 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | Brown (7.5YR 4/3) clay, dry. Clay is lean, drill cuttings, slightly micaceous, slightly stratified. | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1300 dpm Scan: 7 uR/hr Gamma | 22.7 | 264.0 | 76.6 | 99.5 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | DC | Brown (7.5YR sand, dry to moist, sand is fine grained, poorly graded, well sorted, trace clay, micaceous drill cuttings, slightly stratified. | | | | | | |
| 9.0 | 1.8 | | | | | | | | | |
| | 2.0 | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1150 dpm Scan: 8 uR/hr Gamma | 88.1 | 425.0 | 159.0 | 248.0 |
| | 2.2 | | BR | Light olive brown (2.5Y 5/4) ash flow tuff, bedrock, volcanic fragments. | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | | Same as above but a color change to pale yellow (2.5Y 7/4) | | Consistancy: firm to hard PID in breathing zone: NA Scan of sample with Electra: 1280 dpm Scan: 8 uR/hr Gamma | 11.0 | 73.7 | 41.1 | 52.1 |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

SOIL BORING LOG

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | BORING NUMBER: U4B7 Page #1 of 1 |
| PROJECT NUMBER: 771062.02.01.00.00 | ENVIRONMENTAL CONTRACTOR: IT CORP |
| UTM EASTING: 627762.90 | DRILLING METHOD: Direct Push |
| UTM NORTHING: 1431125.20 | DRILLING CONTRACTOR: McLaren Hart |
| GEOLOGIST: C. Birney | ELEVATION DATUM: Mean Sea Level |
| QA CHECK: A. Welcher | HOLE SURFACE ELEVATION: 6556.80 |
| DATE HOLE STARTED: 06/02/97 | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE COMPLETED: 06/02/97 | COMMENTS: |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Yellowish brown (10YR 5/4) silty sand with gravel. Sand is very fine to coarse, rounded to subangular. Gravel is fine to coarse, angular to subrounded, dry. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 880 dpm Scan: 15 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1020 dpm Scan: 15 uR/hr Gamma | 16.8 | 50.0 | 57.3 | 76.1 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1015 dpm Scan: 14 uR/hr Gamma | 29.6 | 50.0 | 66.7 | 96.3 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | Brown (10YR 4/3) silty sand with gravel. Sand fine to coarse, rounded to subangular. Gravel fine to coarse, angular to subrounded. | | | | | | |
| | 1.8 | | | | | | | | | |
| | 2.0 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 900 dpm Scan: 14 uR/hr Gamma | 23.1 | 50.0 | 56.6 | 88.7 |
| | 2.2 | | | Yellowish brown (10YR 5/4) silty sand with gravel (same as above), dry. | | | | | | |
| | 2.4 | | SM-ML | Yellowish brown (10YR 5/4) sandy silt to silty sand. Sand very fine grained to coarse, subrunded to subangular, dry. | | | | | | |
| | 2.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1280 dpm Scan: 14 uR/hr Gamma | 2.9 | 50.0 | 10.6 | 13.7 |
| | 2.8 | | | Yellowish brown (10YR 5/4) silty sand with gravel. Sand fine to coarse rounded to subangular. Gravel fine to coarse, angular, dry. Refusal at 10.0 ft. | | | | | | |
| | 3.0 | | SM | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U4C1 | Page #1 of 2

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627796.90 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431049.20 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6554.50 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 4.10 |
| DATE HOLE STARTED: 05/16/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/16/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Lt. olive brown (2.5Y 5/3), moist, drill mud, bentonite. | | Consistancy soft PID in breathing zone 4.2 ppm Scan of sample with Electra 1100 dpm Scan 16 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 26.4 | 850.0 | 92.1 | 120.0 |
| | 0.4 | | | | | | | | | |
| | | | DC | Olive brown (2.5Y 4/3), moist drill cuttings. | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1200 dpm Scan: 15 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 43.5 | 381.0 | 105.0 | 148.0 |
| | 1.0 | | | Black (2.5Y 2.5/1), wet, drill cuttings with mud. | | | | | | |
| | | | | Brown (10YR 4/3) coarse to fine sand, drill cuttings on native. Refusal at 4.1 ft. Possible near bedrock contact. | | | | | | |
| | 1.2 | | | | | | | | | |
| 4.0 | | | BR?/S | | NO SAMPLE | Refusal at 4.1 ft. | | | | |

SOIL BORING LOG | BORING NUMBER: U4C2 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 627836.60
UTM NORTHING: 1431043.00
GEOLOGIST: C. Birney
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/16/97
DATE HOLE COMPLETED: 05/16/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 6552.40
TOTAL DEPTH OF HOLE: 2.70
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Very dark, grayish brown (10YR 3/2) moist drilling mud. | | Consistancy. soft PID in breathing zone: NA Scan of sample with Electra: 1300 dpm Scan: 15 uR/hr Gamma | | | | |
| | | | | Color changes to grayish brown (2.5 5/2) wet drilling mud. | | | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 38.1 | 190.0 | 147.0 | 185.0 |
| | 0.4 | | | | | | | | | |
| | | | | | | | | | | |
| | 0.6 | | | | | | | | | |
| 2.0 | | | | Greenish black (10Y 2.5/1) wet, drilling mud. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 930 dpm Scan: 14 uR/hr Gamma | | | | |
| | | | | Refusal at 2.7 ft. Possible bedrock/soil contact. | | | | | | |
| | 0.8 | | | | | | | | | |

BR7/S

| SOIL BORING LOG | BORING NUMBER: U4C3 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627866.20 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1431036.60 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6552.30 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 2.10 | |
| DATE HOLE STARTED: 05/16/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/16/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Grayish Brown (2.5Y 5/2) wet, drilling mud. Color of drilling mud changes to greenish black (10Y 2.5/1) near 2 ft. | | Consistancy soft PID in breathing zone: NA Scan of sample with Electra. 1230 dpm Scan: 13 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 126.0 | 1360.0 | 365.0 | 493.0 |
| | 0.4 | | | | | | | | | |
| | | | | Refusal at 2.1 ft. Possible bedrock/soil contact | | | | | | |
| | 0.6 | | | | | | | | | |
| 2.0 | | | BR?/S | | NO SAMPLE | Scan of sample with Electra: 1000 dpm | | | | |

Gamma

| SOIL BORING LOG | BORING NUMBER: U4C4 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627795.20 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1431027.20 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6554.40 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 4.20 | |
| DATE HOLE STARTED: 05/16/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/16/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Light olive brown (2.5Y 5/4) moist, fine grained drill cuttings. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1120 dpm Scan: 15 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 65.0 | 605.0 | 105.2 | 160.0 |
| | 0.4 | | | | | | | | | |
| | | | DM | Greenish black (10Y 2.5/1) wet, drill mud (bentonite). | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: 3.2 ppm Scan of sample with Electra: 1050 dpm Scan: 16 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 37.2 | 304.0 | 64.3 | 121.0 |
| | 1.0 | | | Brown (10YR 4/3) wet sand, fine to coarse, subrounded, drill cuttings on native. | | | | | | |
| | 1.2 | | | | | | | | | |
| 4.0 | | | DC | | NO SAMPLE | Consistancy: soft until refusal PID in breathing | | | | |

BR7/S

SOIL BORING LOG

BORING NUMBER: U4C5 | Page #1 of 2

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627829.70 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431019.40 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6552.10 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 3.30 |
| DATE HOLE STARTED: 05/16/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/16/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Grayish brown (2.5Y 5/2) moist (dry upper 1 inch), drill mud. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 990 dpm Scan: 14 uR/hr Gamma | | | | |
| | | | | Color changes to greenish black (10Y 2.5/1) wet, drill mud. | | | | | | |
| 1.0 | 0.2 | | | | | | 420.0 | 350.0 | 565.0 | 985.0 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: 4.2 NA Scan of sample with Electra: 1140 dpm Scan: 16 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | Refusal at 3.3 ft. Possible bedrock/soil contact. | | | 127.0 | 1120.0 | 234.0 | 361.0 |
| | | | BR?/S | | | | | | | |

PROJECT NAME: NTS COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 627858.80

UTM NORTHING: 1431007.00

GEOLOGIST: C. Birney

QA CHECK: A. Welcher

DATE HOLE STARTED: 05/16/97

DATE HOLE COMPLETED: 05/16/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren Hart

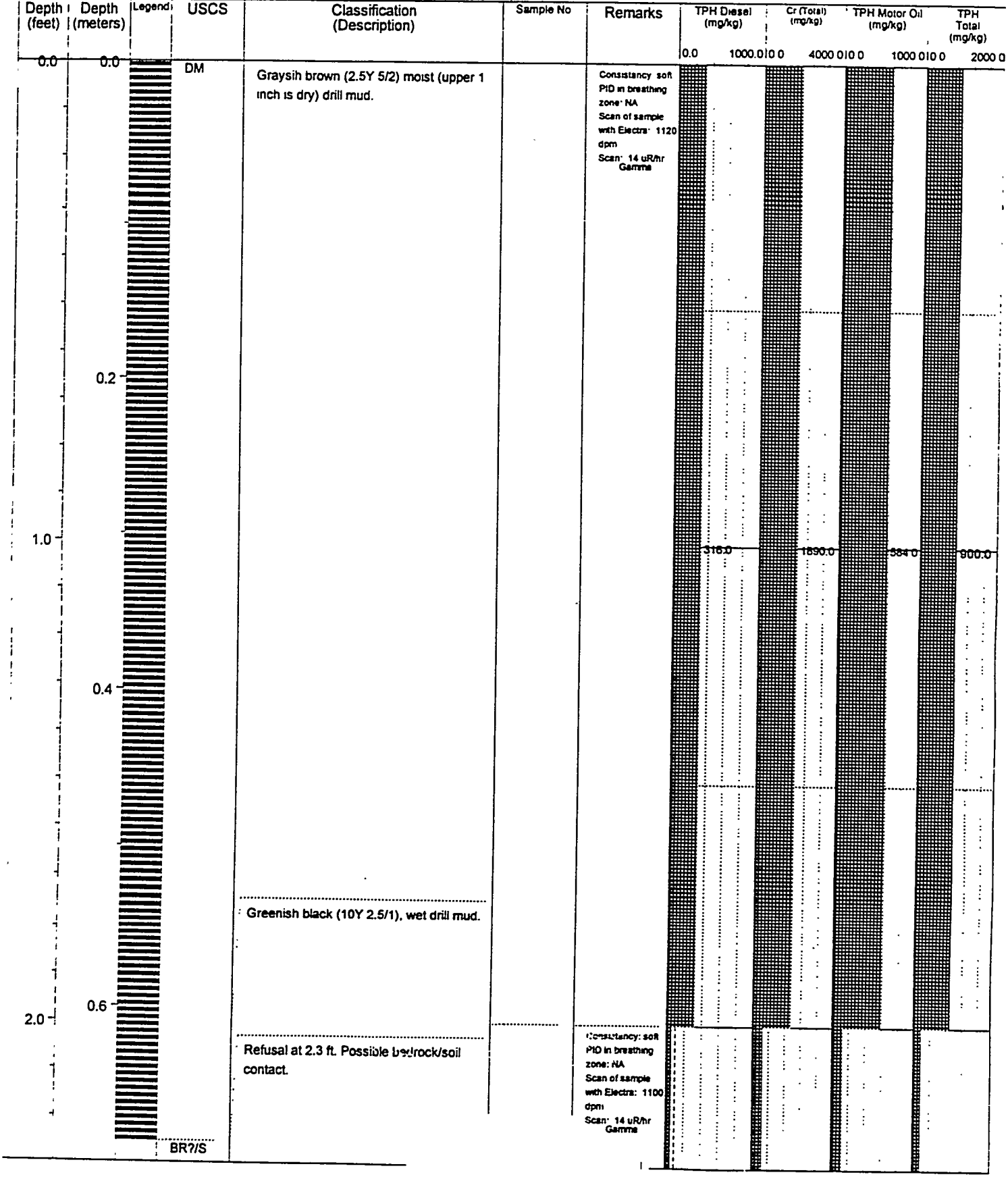
ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6551.80

TOTAL DEPTH OF HOLE: 2.30

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Graysih brown (2.5Y 5/2) moist (upper 1 inch is dry) drill mud. | | Consistancy soft PID in breathing zone: NA Scan of sample with Electra: 1120 dpm Scan: 14 uR/hr Gamma |
| | 0.2 | | | | | |
| 1.0 | | | | Greenish black (10Y 2.5/1), wet drill mud. | | |
| | 0.4 | | | | | |
| 2.0 | 0.6 | | | Refusal at 2.3 ft. Possible bedrock/soil contact. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1100 dpm Scan: 14 uR/hr Gamma |
| | | | BR?/S | | | |



SOIL BORING LOG | BORING NUMBER: U4C7 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 627870.20
UTM NORTHING: 1431036.20
GEOLOGIST: C. Birney
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/16/97
DATE HOLE COMPLETED: 05/16/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 6552.40
TOTAL DEPTH OF HOLE: 6.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 2000.0 |
| 0.0 | 0.0 | | DM | Pushed through mud from 0 to 2 ft. did not describe. | NO SAMPLE | | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | | | | |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | Greenish black (10Y 2.5/1) wet drillin mud-bentonite odor. | | Scan of sample with Electra: 1200 dpm Scan: 16 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 37.5 | 309.0 | 194.0 | 231.0 |
| | 1.0 | | | Brown (10YR 5/3) dry volcanic sand with gravel. | | | | | | |
| | | | SP | | | | | | | |
| 4.0 | 1.2 | | | Fine to coarse grained, subangular to subrounded poorly graded, volcanic sand (tuff). End of boring at 6.0 ft. | | Scan of sample with Electra: 1300 dpm Scan: 16 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 29.2 | 50.0 | 121.0 | 150.0 |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U4C8 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627931.80 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431004.20 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6550.10 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 0.30 |
| DATE HOLE STARTED: 05/17/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/17/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 0 1000 0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 2000 0 |
| 0.0 | 0.0 | | SP | Yellowish brown (10YR 5/4) sand, dry. Sand is fine grained, poorly graded some silt, some medium grains, native. Total depth is 0.3 ft. | | PID in breathing zone: 1.2 ppm Scan of sample with Electra: 153 dpm Scan: 20 uR/hr Gamma | | | | |

SOIL BORING LOG

BORING NUMBER: U4C9 , Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628054.10 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1430976.30 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6544.40 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 0.30 |
| DATE HOLE STARTED: 05/17/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/17/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Yellowish brown (10YR 5/4) sand, dry. Sand is fine grained, poorly graded some silt and medium grains, native. Total depth is 0.3 ft. | | | | | | |

SOIL BORING LOG — BORING NUMBER: 04010 — Page # 1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627944.50 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1430950.00 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6549.90 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 7.00 |
| DATE HOLE STARTED: 06/02/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/02/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 2000.0 |
| 0.0 | 0.0 | | SP-SM | Yellowish brown (10YR 5/4) poorly sorted sand wtih silt and gravel. Sand fine to coarse, rounded to subangular. Gravel fine to coarse, angular to subrounded, dry. | | Consistancy soft PID in breathing zone: NA Scan of sample with Electra 1020 dpm Scan 15 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 2.6 | 50.0 | 18.8 | 21.6 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1055 dpm Scan: 14 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 2.6 | 50.0 | 23.1 | 28.7 |
| | 1.0 | | | Very dark grayish brown (10YR 3/2) sandy silt. | | | | | | |
| | | | ML | | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1130 dpm Scan: 13 uR/hr Gamma | | | | |
| | | | SM | | | | | | | |
| | 1.4 | | | Light yellowish brown (10YR 6/4) silty sand with gravel. Sand volcanic tuff - sand very fine to coarse rounded to subangular, gravel fine angular,dry. | | | | | | |
| 5.0 | | | | | | | 13.9 | 50.0 | 44.6 | 58.5 |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |
| 6.0 | | | SP | Light yellowish brown (10yr 6/4) poorly graded (volcanic tuff) sand with gravel. Sand very fine to coarse, angular to subrounded. Gravel coarse, angular, dry. Refusal at 7.0 ft. Very hard drilling. | | Consistancy: very dense Very hard drilling PID in breathing zone: NA Scan of sample with Electra. 1200 dpm Scan 13 uR/hr Gamma | | | | |
| | 2.0 | | | | | | 3.7 | 50.0 | 14.0 | 17.7 |

RELINQUISHED

| SOIL BORING LOG | BORING NUMBER: U4C11 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627979.50 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1431072.60 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6550.10 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 | |
| DATE HOLE STARTED: 06/02/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/02/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Yellowish brown (10YR 5/4) poorly sorted sand with gravel. Sand very fine to coarse, rounded to subangular. Gravel fine to coarse, angular to subrounded, dry. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1140 dpm Scan: 14 uR/hr Gamma | 9.7 | 50.0 | 28.1 | 55.8 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1500 dpm Scan: 14 uR/hr Gamma | 13.4 | 50.0 | 30.9 | 44.3 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1000 dpm Scan: 15 uR/hr Gamma | 7.2 | 50.0 | 19.9 | 27.1 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | SM | Yellowish brown (10YR 5/4) silty sand with gravel. Sand is very fine to coarse, rounded to subangular. Gravel fine to coarse, angular to subrounded, dry. | | | | | | |
| 9.0 | 1.8 | | | | | | | | | |
| 10.0 | 2.0 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 940 dpm Scan: 16 uR/hr Gamma | 2.9 | 50.0 | 10.9 | 13.8 |
| 11.0 | 2.2 | | SM-ML | Color changes to yellowish brown (10YR 5/4) sandy silt/silty sand. Sand very fine to coarse, rounded to subangular, dry, no gravel. | | | | | | |
| 12.0 | 2.4 | | | | | | | | | |
| 13.0 | 2.6 | | SP-SM | Brown (10YR 4/3) poorly graded sand with silt and gravel. Sand very fine to coarse, rounded to subangular. Gravel fine to medium, angular to subrounded, dry Bottom of boring 10.0 ft. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1130 dpm Scan: 14 uR/hr Gamma | | | | |
| 14.0 | 2.8 | | | | | | | | | |
| 15.0 | 3.0 | | | | | | | | | |

SOIL BORING LOG

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | BORING NUMBER: U4D1 ; Page #1 of 1 |
| PROJECT NUMBER: 771062.02.01.00.00 | ENVIRONMENTAL CONTRACTOR: IT CORP |
| UTM EASTING: 628027.90 | DRILLING METHOD: Direct Push |
| UTM NORTHING: 1430988.40 | DRILLING CONTRACTOR: McLaren Hart |
| GEOLOGIST: M. Flaugher | ELEVATION DATUM: Mean Sea Level |
| QA CHECK: A. Welcher | HOLE SURFACE ELEVATION: 6545.60 |
| DATE HOLE STARTED: 05/16/97 | TOTAL DEPTH OF HOLE: 14.00 |
| DATE HOLE COMPLETED: 05/16/97 | COMMENTS: |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 2000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | SP | Brown (7.5 YR 5/3) sand with gravel, dry. Sand is fine to coarse grained, predominately fine grained, poorly graded, subangular to subrounded. Gravel is pebble sized volcanic in origin (chert, quartz, welded tuff). Massive, odorless, fill. | | Consistancy: soft Sampled on 5/20/97 breathing zone PID in NA sample with Electra: 1053 dpm Scan of Gamma Scan: 20 uR/hr | 6.4 | 84.8 | 37.2 | 43.6 |
| 2.0 | 0.6 | | | | | | | | | |
| 3.0 | 1.0 | | | Same as above but with some large chert pebbles. | | Consistancy: soft Sampled on 5/20/97. breathing zone: PID in NA sample with Electra: 844 dpm Scan of Gamma Scan: 19 uR/hr | 26.0 | 50.0 | 40.4 | 66.4 |
| 4.0 | 1.2 | | | Brown (7.5YR 5/3) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, massive (chert, quartz, volcanic lithics). | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: uR/hr | 15.5 | 50.0 | 59.9 | 75.4 |
| 6.0 | 1.8 | | | Brown (7.5YR 4/3) sand with clay, dry. Sand is fine grianed, poorly graded, well sorted, subangular, micaceous (weathered biotite) odorless, drill cuttings. | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1021 dpm Scan: 17uR/hr Gamma | 300.0 | 255.0 | 1400 | 1700.0 |
| 8.0 | 2.4 | | | Same as above but color changes to light yellowish brown (10YR 6/4), some organics (fine strands of wood). | | Consistancy: firm to hard PID in breathing zone: NA Scan of sample with Electra: 1156 dpm Scan: 16 uR/hr Gamma | 53.2 | 50.0 | 104.0 | 157.0 |
| 9.0 | 2.8 | | BR | Light gray (2.5Y 7/2) ash flow tuff, bedrock volcanic detrital, odorless, chert grains and pebbles, loosely consolidated. | | Consistancy: hard PID in breathing zone: NA Scan of sample with Electra: 1148 dpm Scan: 18 uR/hr Gamma | 11.3 | 50.0 | 46.4 | 57.7 |
| 10.0 | 3.0 | | | | | | | | | |
| 11.0 | 3.4 | | | Same as above but becomes strongly consolidated. | | | | | | |
| 12.0 | 3.6 | | | | | | | | | |
| 13.0 | 3.8 | | | Same as above, becomes very pale brown (10YR 8/3). | | Consistancy: hard PID in breathing zone: NA Scan of sample with Electra: 1048 dpm Scan: 19 uR/hr Gamma | | | | |
| | 4.0 | | | | | | | | | |
| | 4.2 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U4D2 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628087.40 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1430978.60 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6543.40 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/16/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/16/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Brown (7.5YR 5/3) sand with gravel, dry. Sand is fine to coarse grained predominately fine grained poorly graded, subangular to subrounded. Gravel is pebble sized, volcanic origin (red and orange chert, gtz welded tuff fragments), trace silt, odorless, massive, fill. | | Consistency: soft Sampled on 5/20/97 breathing zone PID in NA sample with Scan of Electra: 1063 dpm Gamma Scan: 18 uR/hr | 7.3 | 69.7 | 19.5 | 26.8 |
| 2.0 | 0.6 | | | | | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1063 dpm Scan: 17 uR/hr Gamma | 12.0 | 50.0 | 62.4 | 74.4 |
| 4.0 | 1.2 | | | | | Consistency: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1008 dpm Scan: 18 uR/hr Gamma | 57.1 | 169.0 | 127.0 | 184.0 |
| 5.0 | 1.6 | | DC | Brown (7.5YR 4/3) clay, dry. Clay is lean with trace coarse grains, slightly stratified, slightly micaceous drill cuttings, odorless. | | | | | | |
| 6.0 | 1.8 | | | Sames as above but becomes wet. | | Consistency: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1180 dpm Scan: 18 uR/hr Gamma | 184.0 | 381.0 | 485.0 | 689.0 |
| 7.0 | 2.2 | | | Brown (7.5YR 5/3) clayey sand, moist, sand is fine to medium grained, predominately medium grained, poorly graded, subrounded, odorless, clay, content approx. 25% drill cuttings. | | | | | | |
| 8.0 | 2.4 | | | | | Consistency: firm PID in breathing zone: NA Scan of sample with Electra: 1056 dpm Scan: 20 uR/hr Gamma | 16.3 | 50.0 | 60.7 | 77.0 |
| 9.0 | 2.8 | | BR | Light gray (2.5Y 7/2) asht flow tuff, bedrock, volcanic detrital, odorless, chert and qtz grains. | | | | | | |
| 10.0 | 3.0 | | | Same as above, color change to very pale brown (10YR 5/2), loosely consolidated. | | Consistency: firm to hard PID in breathing zone: NA Scan of sample with Electra: 1103 dpm Scan: 19 uR/hr Gamma | 13.4 | 50.0 | 50.0 | 63.4 |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U4D3 Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628148.30 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1430969.20 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6542.10 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 05/16/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/16/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 2000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | SP | Brown (7.5YR 4/3) sand with gravel dry. Sand is fine to coarse grained poorly graded, predominately fien grained subangular to subrounded. Gravel is pebble sized volcanic in origin (chert, qtz, welded tuff) massive, odorless, fill, some silt. | | Consistancy: soft Sampled on 5/20/97. breathing zone. PID in NA sample with Scan of Electra: 1047 dpm Gamma Scan 17 uR/hr | 7.2 | 306.0 | 57.2 | 64.4 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1063 dpm Scan: 20 uR/hr Gamma | 14.1 | 103.0 | 106.0 | 120.0 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1156 dpm Scan: 20 uR/hr Gamma | 361.0 | 1180.0 | 649.0 | 1210.0 |
| 7.0 | 1.4 | | DC | Very dark brown (7.5YR 2.5/2) clay, moist to wet. Clay is lean, drill cuttings, hydrocarbon odor. | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | | | Consistancy: firm to hard PID in breathing zone: NA Scan of sample with Electra: 1005 dpm Scan: 18 uR/hr Gamma | 84.1 | 405.0 | 181.0 | 185.0 |
| | 2.0 | | BR | Brown (7.5YR 4/4) ash flow tuff. Bedrock volcanic detrital, chert grains, odorless. | | | | | | |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | | | | Consistancy: firm to hard PID in breathing zone: NA Scan of sample with Electra: 1148 dpm Scan: 17 uR/hr Gamma | 16.2 | 52.2 | 127.0 | 143.0 |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U4D4 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628029.20 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1430953.70 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6545.10 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 14.00 |
| DATE HOLE STARTED: 05/15/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/15/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 0 1000 0 | 0 0 4000 0 | 0 0 2000 0 | 0 0 4000 0 |
| 0.0 | 0.0 | | SP | Brown (7.5YR 5/3) sand with gravel dry. Sand is fine to coarse grained, predominately fine grained, poorly graded, subangular to subrounded. Gravel is pebble sized volcanic origin (chert, quartz, welded tuffs). Massive, odorless, fill, trace silt. | | Consistancy: soft Sampled on 5/20/97 breathing zone: PID in 1.5 ppm Scan of sample with Electra: 1000 dpm Scan: 14 uR/hr Gamma | 6.5 | 50.0 | 18.1 | 22.6 |
| 2.0 | 0.6 | | | Brown (7.5YR 5/3) sand, dry. Sand is fine to medium grianed, poorly graded, subangular to subrounded, massive chert (red, orange, gray), qtz, volcanic lithics. | | Consistancy: soft Sampled on 5/20/97. breathing zone: PID in 1.4 ppm Scan of sample with Electra: 1115 dpm Scan: 13 uR/hr Gamma | 5.9 | 50.0 | 21.9 | 27.8 |
| 4.0 | 1.2 | | | Brown (7.5YR 4/3) clay, dry. Clay is lean, trace fine grained sand, slightly stratified, micaceous, drill cuttings, odorless. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1150 dpm Scan: 15 uR/hr Gamma | 14.9 | 50.0 | 45.2 | 60.1 |
| 6.0 | 1.8 | | | Same as above, becomes dark greenish gray (10Y 3/1), moist to wet, some organics present (fine strands of wood). | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1100 dpm Scan: 15 uR/hr Gamma | 40.9 | 350.0 | 188.0 | 178.0 |
| 7.0 | 2.2 | | DC | | | | | | | |
| 8.0 | 2.4 | | | Dark greenish gray (10Y 3/1) sand with clay, moist. Sand is fine grained, poorly graded, well sorted, subangular, micaceous stratified, clay content approx. 12%, odorless. | | Consistancy: firm to hard PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1250 dpm Scan: 16 uR/hr Gamma | 438.0 | 525.0 | 525.0 | 963.0 |
| 9.0 | 2.8 | | | | | | | | | |
| 10.0 | 3.0 | | | Brown (7.5YR 5/3) clayey sand, moist. Sand is fine to medium grained, predominately medium grained, poorly graded, subrounded. Drill cuttings, odorless, clay content approx. 20%. | | Consistancy: firm to hard PID in breathing zone: 1.4 ppm Scan of sample with Electra: 1220 dpm Scan: 15 uR/hr Gamma | 11.0 | 70.2 | 38.2 | 49.8 |
| 11.0 | 3.4 | | BR | | | | | | | |
| 12.0 | 3.6 | | | Light gray (2.5Y 7/2) ash flow tuff. Bedrock volcanic detrital, odorless, clear grains. | | Consistancy: hard PID in breathing zone: NA Scan of sample with Electra: 1360 dpm Scan: 15 uR/hr Gamma | 12.9 | 50.0 | 48.1 | 61.0 |
| 13.0 | 4.0 | | | Same as above, becomes loosely consolidated, change to very plae brown (10YR 8/2). Total depth is 14.0 ft | | | | | | |
| | 4.2 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U4D5 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628078.90 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1430940.80 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6543.00 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 14.00 | |
| DATE HOLE STARTED: 05/16/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/16/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000 0 | 0 0 4000 0 | 10 0 2000 0 | 10 0 4000 0 |
| 0.0 | 0.0 | | SP | Brown (7.5YR 5/3) sand with gravel, dry, sand is fine to coarse grained, predominately fine grained, poorly graded, subangular to subrounded, gravel is pebble sized volcanic origin (red and orange chert, quartz, welded tuff). Massive, odorless, fill, trace silt, larger pebbles are oxydized yellow. | | Consistancy: soft Sampled on 5/20/97. breathing zone: PID in 1.5 ppm Scan of sample with Electra: 1138 dpm Scan: 17 uR/hr Gamma | 9.2 | 107.0 | 84.2 | 73.4 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft Sampled on 5/20/97. breathing zone: PID in NA sample with Scan of Electra: 1156 dpm Gamma Scan: 17 uR/hr | 5.2 | 50.0 | 15.8 | 21.0 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1048 dpm Scan: 18 uR/hr Gamma | 10.0 | 50.0 | 45.3 | 55.3 |
| 7.0 | 1.4 | | | | | | | | | |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |
| | 2.0 | | | Brown (7.5 YR 5/3) clayey sand, moist sand is fine to medium grained, predominately medium grained, poorly graded, subrounded, drill cuttings, odorless, clay content approx. 25%. | | Consistancy: firm to hard PID in breathing zone: NA Scan of sample with Electra: 1056 dpm Scan: 17 uR/hr Gamma | 11.5 | 64.9 | 86.7 | 100.0 |
| | 2.2 | | DC | | | | | | | |
| 8.0 | 2.4 | | | | | | | | | |
| | 2.6 | | | | | Consistancy: firm to hard PID in breathing zone: NA Scan of sample with Electra: 1148 dpm Scan: 18 uR/hr Gamma | 8.4 | 66.6 | 62.9 | 81.3 |
| 9.0 | 2.8 | | | Same as above but becomes strongly consolidated. | | | | | | |
| 10.0 | 3.0 | | BR | Yellowish brown (10YR 5/4) ash flow tuff, volcanic detrital, odorless, chert grains. At 12.5 ft, chert pebble, 2 inches, gray (N5/) | | Consistancy: hard breathing zone: NA PID in sample with Scan of Electra: 1070 dpm Gamma Scan: 20 uR/hr | 15.5 | 58.0 | 65.4 | 78.9 |
| | 3.2 | | | | | | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |
| 12.0 | 3.8 | | | | | Consistancy: hard breathing zone: NA PID in sample with Scan of Electra: 1117 dpm Gamma Scan: 17 uR/hr | | | | |
| 13.0 | 4.0 | | | | | | | | | |
| | 4.2 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U4D6 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 628133.20
UTM NORTHING: 1430924.80
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/16/97
DATE HOLE COMPLETED: 05/16/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 6542.80
TOTAL DEPTH OF HOLE: 12.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 2000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Brown (7.5YR 5/3) sand with gravel, dry. Sand is fne to coarse grained, predominately fine grained, poorly graded, subangular to subrounded, some silt. Gravel is pebble sized volcanic in origin, massive, fill. At 3.0 ft a 2 inch chert pebble. | | Consistancy: soft Sampled on 5/20/97 breathing zone. PID in NA sample with Scan of Electra: 1186 dpm Gamma Scan: 18 uR/hr | 6.8 | 96.6 | 31.1 | 37.9 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft Sampled on 5/20/97 breathing zone: PID in NA sample with Scan of Electra: 958 dpm Gamma Scan: 20 uR/hr | 13.5 | 50.0 | 40.6 | 54.1 |
| 4.0 | 0.8 | | | Same as above but color changes to black (2.5Y 2.5/1). | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | Brown (7.5YR 5/3) sand with gravel, dry. Sand is fne to coarse grained, predominately fine grained, poorly graded, subangular to subrounded, some silt. Gravel is pebble sized volcanic in origin, massive, fill. | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1193 dpm Scan: 18 uR/hr Gamma | 27.5 | 50.2 | 106.0 | 135.0 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | Very dark brown (7.5YR 2.5/2) clay, dry. Clay is lean, drill cuttings, odorless, organics (strands of wood). | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1102 dpm Scan: 17 uR/hr Gamma | 854.0 | 1020.0 | 1150.0 | 1504.0 |
| 10.0 | 2.0 | | DC | | | | | | | |
| 11.0 | 2.2 | | | Very dark brown (7.5YR 2.5/2) clay, wet. Clay is lean, drill cuttings, odorless, organics (strands of wood). | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | | | | Consistancy: firm to hard PID in breathing zone: NA Scan of sample with Electra: 1070 dpm Scan: 18 uR/hr Gamma | 15.6 | 214.0 | 32.3 | 47.9 |
| | 2.8 | | | Brown (7.5 YR 5/3) clayey sand, moist, sand is fine to medium grained, predominately medium grained organics (strands of wood). | | | | | | |
| | 3.0 | | | | | | | | | |
| | 3.2 | | BR | Light gray (2.5Y 7/2) ash flow tuff, bedrock volcanic detrital, odorless. | | Consistancy: hard PID in breathing zone: NA Scan of sample with Electra: 1148 dpm Scan: 17 uR/hr Gamma | 15.1 | 50.0 | 36.0 | 51.1 |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U4D7 Page #1 of 1

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|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628095.60 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431018.10 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6544.20 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 06/02/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/02/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 0 1000 0 | 0 0 4000 0 | 0 0 2000 0 | 0 0 4000 0 |
| 0.0 | 0.0 | | SP | Brown (7.5YR 5/4) sand, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded, trace silt, trace clay, trace pebble sized gravel, volcanic detrital, some trace mica (weathered biotite), massive. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1163 dpm Scan: 22 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| | 0.6 | | | | | | | | | |
| 3.0 | 0.8 | | | Light gray (10YR 7/2) well consolidated, welded tuff fragments, rock probably. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1163 dpm Scan: 22 uR/hr Gamma | | | | |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fine grained, trace coarse grains, poorly graded, subangular to subrounded, volcanic detrital, qtz. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1141 dpm Scan: 16 uR/hr Gamma | 14.5 | 50.0 | 38.9 | 53.4 |
| | 1.4 | | | | | | | | | |
| 5.0 | 1.6 | | SP | Very pale brown (10YR 7/3) sand, dry. Sand is fine grained, poorly graded subangular to subrounded, volcanics red and orange chert. | | | | | | |
| 6.0 | 1.8 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 981 dpm Scan: 14 uR/hr Gamma | 2.7 | 50.0 | 10.1 | 12.8 |
| | 2.0 | | | | | | | | | |
| 7.0 | 2.2 | | | Brown (7.5YR 4/4) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic detrital, trace silt, trace gravel. | | | | | | |
| | 2.4 | | | | | | | | | |
| 8.0 | 2.6 | | | Strong brown (7.5YR 5/6) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, trace medium grains. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1180 dpm Scan: 16 uR/hr Gamma | 2.6 | 50.0 | 10.4 | 13.2 |
| 9.0 | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |
| 10.0 | 3.2 | | SP-SM | Very pale brown (10YR 7/3) sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanics, red and orange chert. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1038 dpm Scan: 16 uR/hr Gamma | | | | |
| 11.0 | 3.4 | | | Strong brown (7.5YR 5/6) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, trace medium grains. | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U4D8 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628172.70 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1430916.50 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6542.00 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 | |
| DATE HOLE STARTED: 06/02/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/02/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Yellowish brown (10YR 5/4) poorly graded sand with silt and gravel. Sand very fine to coarse, rounded to subangular. Gravel fine to very coarse, subrounded to angular, poorly graded. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1230 dpm Scan: 15 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1180 dpm Scan: 15 uR/hr Gamma | 5.5 | 50.0 | 22.5 | 28.0 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 850 dpm Scan: 14 uR/hr Gamma | 13.1 | 50.0 | 33.7 | 66.6 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | | | | | | | |
| | 2.0 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 930 dpm Scan: 14 uR/hr Gamma | 7.6 | 50.0 | 30.9 | 38.7 |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1015 dpm Scan: 15 uR/hr Gamma | 7.0 | 50.0 | 31.3 | 38.3 |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U4E1 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627709.80 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1430963.80 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6552.70 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 | |
| DATE HOLE STARTED: 05/15/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/15/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 2000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Brown (7.5Y 5/3) sand with gravel, dry. Sand is fine to medium grained, predominately fine grained, poorly graded, subangular to subrounded, massive, odorless. Gravel is pebble sized, volcanic detrital, some chert, qtz, welded tuff fill. Chert is red, orange, and gray colors. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1140 dpm Scan: 14 uR/hr Gamma | | | | |
| 0.2 | | | | | | | | | | |
| 1.0 | | | | | | | 14.8 | 50.0 | 33.3 | 70.1 |
| 0.4 | | | | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1300 dpm Scan: 15 uR/hr Gamma | | | | |
| 0.8 | | | | | | | | | | |
| 3.0 | | | | | | | 11.7 | 50.0 | 43.5 | 55.2 |
| 1.0 | | | | | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: firm to 5 ft. then hard to 6 ft. PID in breathing zone: NA Scan of sample with Electra: 1300 dpm Scan: 15 uR/hr Gamma | | | | |
| 1.4 | | | | | | | | | | |
| 5.0 | | | | | | | 12.4 | 50.0 | 48.2 | 58.6 |
| 1.6 | | | BR | Light olive brown (2.5 5/4) Ash flow tuff, background volcanic fragments, slightly oxydized to yellow (10YR 8/6). Refusal at 6.0 ft. | | | | | | |
| 1.8 | | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U4E2 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627788.00 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1430937.50 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6552.20 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 4.00 |
| DATE HOLE STARTED: 05/15/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/15/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0 0 4000 0 | 0 0 2000 0 | 0 0 4000 0 |
| 0.0 | 0.0 | | SP | Brown (7.5YR 5/3) sand with gravel, dry. Sand is fine to coarse grained, poorly graded, predominately fine grained, subangular to subrounded, odorless, massive, trace silt. Gravel is pebble sized volcanics (qtz, red and yellow chert) and some welded tuff, fill. | | Consistancy: soft to firm. Collected duplicate sample CNT30006. breathing zone PID in NA sample with Scan of Electra 970 dpm Gamma Scan: 14 uR/hr | | | | |
| | 0.2 | | DC | Brown (7.5YR 4/3) clay, dry. Clay is lean, with trace fine sand, drill cuttings, slightly micaceous, slightly stratified, odorless. | | | | | | |
| 1.0 | | | BR | | | | 16.6 | 244.0 | 65.6 | 82.2 |
| | 0.4 | | | Light olive brown (2.5Y 5/4) ash flow tuff, bedrock, volcanic fragments/detrital, odorless. Total depth is 4.0 ft. | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 15 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 12.8 | 30.0 | 47.8 | 60.4 |
| | 1.0 | | | | | | | | | |
| | 1.2 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U451 Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627814.90 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431522.50 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6551.00 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/16/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/16/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 2000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dry, pale brown (10YR 6/3) silty sand, with gravel, fine to coarse, subangular to subrounded, poorly graded. | | Consistency Collected field blank sample CNT40007. breathing zone: PID in NA sample with Scan of Electra: 1260 dpm Gamma Scan: 18 uR/hr | | | | |
| 1.0 | 0.2 | | | | | | 3.5 | 98.0 | 45.9 | 49.4 |
| | 0.4 | | | Color changes to brown (10YR 4/3), moist, silty sand, same as above. | | | | | | |
| PID 2.0 | 0.6 | | | | | Consistency: in breathing zone: NA sample with Scan of Electra: 1250 dpm Gamma Scan: 14 uR/hr | | | | |
| 3.0 | 0.8 | | | Brown (10YR 5/3) moist silty sand, fine to coarse, subangular to subrounded, poorly graded. | | | 16.6 | 137.0 | 73.5 | 90.3 |
| | 1.0 | | | | | | | | | |
| PID 4.0 | 1.2 | | DM | Dark brown (10YR 3/3) moist drill mud. | | Consistency: in breathing zone: NA sample with Scan of Electra: 1100 dpm Gamma Scan: 15 uR/hr | | | | |
| 5.0 | 1.4 | | | | | | 25.9 | 316.0 | 141.0 | 166.0 |
| | 1.6 | | | Drilling mud with some cuttings. Brown (10YR 4/3) slightly moist, silty sand with gravel, some bentonite clay mixed in, sand is fine to coarse, subangular and subrounded, poorly graded. | | | | | | |
| 6.0 | 1.8 | | | | | | | | | |
| | 2.0 | | | | | Consistency: Collected duplicate sample CNT30007. breathing zone: PID in NA sample with Scan of Electra: 1200 dpm Gamma Scan: 17 uR/hr | | | | |
| 7.0 | 2.2 | | DC | Brown (10YR 4/3), fine grained drill cuttings. | | | 13.5 | 149.0 | 81.4 | 94.9 |
| PID 8.0 | 2.4 | | | | | | | | | |
| | 2.6 | | | Pale brown (10YR 6/3) fine to coarse volcanic sand with gravel, subrounded, poorly graded. | | Consistency: in breathing zone: NA sample with Scan of Electra: 1250 dpm Gamma Scan: 17 uR/hr | | | | |
| 9.0 | 2.8 | | SP | | | | 11.7 | 120.0 | 76.9 | 90.6 |
| PID 10.0 | 3.0 | | | | | | | | | |
| | 3.2 | | | Yellowish brown (10YR 5/4) fine to coarse volcanic sand with gravel, subrounded to subangular, poorly graded. End of boring at 12 ft. | | Consistency: in breathing zone: NA sample with Scan of Electra: 1300 dpm Gamma Scan: 17 uR/hr | | | | |
| 11.0 | 3.4 | | | | | | 2.9 | 50.0 | 10.9 | 13.8 |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U452 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627893.10 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431496.20 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6547.20 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 9.50 |
| DATE HOLE STARTED: 05/17/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/17/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Gray (2.5Y 6/1), dry, v. fine grained, drilling mud. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra 1400 dpm Scan: 15 uR/hr Gamma | | | | |
| | | | DC | Olive brown (2.5Y 4/4), moist drilling mud, with drill cuttings. | | | | | | |
| 1.0 | 0.2 | | | | | | 13.6 | 271.0 | 29.6 | 43.4 |
| | 0.4 | | | Greenish gray, dark (5GY 4/1), wet, fine to coarse sand, mixed with bentonite drilling mud sand poorly graded, subrounded. | | | | | | |
| | | | DM | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: 3.5 ppm Scan of sample with Electra: 1200 dpm Scan: 17 uR/hr Gamma | | | | |
| | 0.8 | | | Dark brown (10YR 3/3) wet drilling mud with medium to coarse sand, sand subrounded to subangular. | | | | | | |
| 3.0 | | | | | | | 109.0 | 648.0 | 139.0 | 268.0 |
| | 1.0 | | | Dark gray (10YR 4/1) wet fine grained drilling mud with medium to coarse sand, sand subrounded to subangular. | | | | | | |
| 4.0 | 1.2 | | DC | | | Consistancy: soft PID in breathing zone: 3.4 ppm Scan of sample with Electra: 1300 dpm Scan: 15 uR/hr Gamma | | | | |
| | 1.4 | | | Dark gray (10YR 4/1) wet fine grained drilling cuttings. | | | | | | |
| 5.0 | | | | | | | 39.3 | 264.0 | 78.6 | 117.0 |
| | 1.6 | | | Very dark brown (10YR 2/1) mist drill cuttings wiht some coarse sand. | | | | | | |
| 6.0 | 1.8 | | | | | Consistancy: soft to 6.5 ft, then becomes hard PID in breathing zone: NA Scan of sample with Electra: 1330 dpm Scan: 16 uR/hr Gamma | | | | |
| | 2.0 | | SP | Brown (10YR 5/3) fine to coarse volcanic sand with gravel, sand is subangular to subrounded, some welded tuff. Native soil. | | | | | | |
| 7.0 | 2.2 | | | | | | 3.7 | 242.0 | 13.8 | 17.5 |
| | 2.4 | | | | | | | | | |
| 8.0 | | | | Yellowish brown (10YR 5/4) fine to coarse sand with gravel, some welded tuff. Refusal at 9.5 ft. | | Consistancy: hard breathing zone: NA PID in sample with Scan of Electra 1250 dpm Gamma Scan: 15 uR/hr | | | | |
| | 2.6 | | | | | | | | | |
| 9.0 | 2.8 | | | | | | 3.6 | 50.0 | 16.2 | 23.6 |

SOIL BORING LOG | BORING NUMBER: U4S3 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 628011.20
UTM NORTHING: 1431466.60
GEOLOGIST: C. Birney
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/17/97
DATE HOLE COMPLETED: 05/17/97

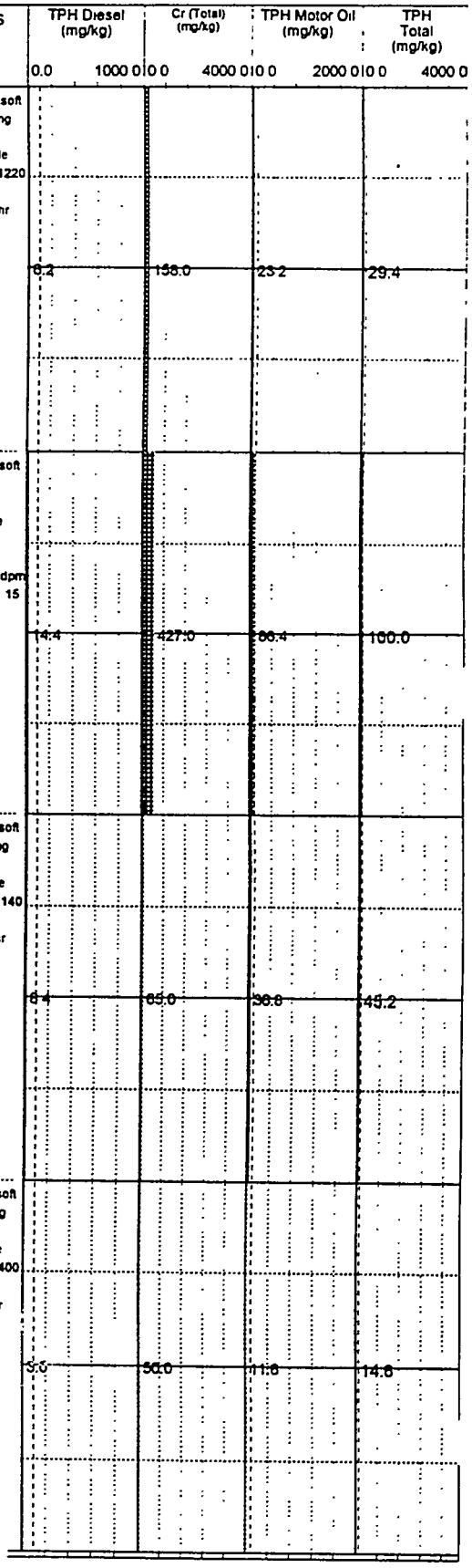
ENVIRONMENTAL CONTRACTOR: IT CORP.
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 6545.40
TOTAL DEPTH OF HOLE: 10.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0 0 4000 0 | 10 0 2000 0 | 10 0 4000 0 |
| 0.0 | 0.0 | | DC | Greenish gray (10Y 5/1), dry drill cuttings, fine. | | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 14 uR/hr Gamma | | | | |
| | 0.2 | | | Greenish gray (10Y 5/1), wet drill cuttings, with coarse, subrounded sand, grading to dark grayish brown (2.5Y 4/2) wet, drill cuttings with medium, subrounded sand. | | | | | | |
| 1.0 | 0.4 | | | | | | 49.0 | 425.0 | 224.0 | 273.0 |
| 2.0 | 0.6 | | | V. dark grayish brown (2.5Y 3/2), wet, drilling mud and drill cuttings, with some sand. | | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1320 dpm Scan: 16 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | 1.0 | | | Same as above but moist. | | | 27.6 | 818.0 | 33.9 | 61.7 |
| 4.0 | 1.2 | | | Dk greenish gray (10Y 4/1) wet drill cuttings with drilling mud, fine grained cuttings, slight bentonite odor. | | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1255 dpm Scan: 15 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | 1.6 | | | | | | 5.6 | 285.0 | 20.8 | 26.4 |
| 6.0 | 1.8 | | | Dk gray (5Y 4/1) to v. dark gray (5Y 3/1) drilling mud with drill cuttings. Cuttings are fine to coarse grained. | | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1200 dpm Scan: 16 uR/hr Gamma | | | | |
| | 2.0 | | | | | | 7.5 | 206.0 | 48.0 | 56.5 |
| 7.0 | 2.2 | | SP | Dk yellowish brown (10YR 4/4) fine to coarse grained subrounded to subangular sand, poorly graded with welded tuff. Native soil. | | | | | | |
| | 2.4 | | | | | | | | | |
| 8.0 | 2.6 | | | | | Consistency: PID in breathing zone: 3.4 ppm Scan of sample with Electra: 920 dpm Scan: 15 uR/hr Gamma | | | | |
| 9.0 | 2.8 | | | | | | 34.1 | 30.0 | 89.5 | 123.0 |
| | 3.0 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U4S4 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628091.00 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431460.20 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6536.50 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 8.00 |
| DATE HOLE STARTED: 05/17/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/17/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM-SP | Brown (10YR 4/3) dry to moist silty sand, sand fine t coarse, subrounded to subangular, poorly graded. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1220 dpm Scan: 17 uR/hr Gamma |
| 1.0 | 0.2 | | | | | |
| | 0.4 | | | Dk grayish brown (10YR 4/2) sand with drill mud, sand fine to coarse, moist subrounded, poorly graded. | | |
| 2.0 | 0.6 | | | | | Consistancy: soft to 3 ft, then sl. dense PID in breathing zone NA Scan of sample with Electra: 1190 dpm Gamma Scan: 15 uR/hr |
| | 0.8 | | DM | Dk grayish brown (10YR 4/2) drilling mud with some cuttings, moist. | | |
| 3.0 | | | DM-SP | | | |
| | 1.0 | | | Dk grayish brown (10YR 4/2) moist sand with some drill mud, poorly graded, fine to coarse sand subangular to subrounded. | | |
| 4.0 | 1.2 | | SP | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1140 dpm Scan: 15 uR/hr Gamma |
| | 1.4 | | | Brown (10YR 4/3) dry, fine to coarse subrounded to subangular sand, some drilling mud, some silt?, sand poorly graded. | | |
| 5.0 | 1.6 | | | | | |
| | 1.8 | | | Light olive brown (2.5Y 5/4) to pale brown (10YR 6/3), fine to coarse, grained, subrounded, volcanic sand, with welded tuff, poorly graded. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1400 dpm Scan: 15 uR/hr Gamma |
| 6.0 | | | | | | |
| | 2.0 | | | | | |
| 7.0 | 2.2 | | | | | |
| | 2.4 | | | | | |



SOIL BORING LOG

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|---|---|
| PROJECT NAME: NYE COUNTY, NV | BORING NUMBER: U4S5 Page #1 of 1 |
| PROJECT NUMBER: 771062.02.01.00.00 | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| UTM EASTING: 628250.50 | DRILLING METHOD: Direct Push |
| UTM NORTHING: 1431447.30 | DRILLING CONTRACTOR: McLaren Hart |
| GEOLOGIST: M. Flaugher | ELEVATION DATUM: Mean Sea Level |
| QA CHECK: A. Welcher | HOLE SURFACE ELEVATION: 6525.20 |
| DATE HOLE STARTED: 05/17/97 | TOTAL DEPTH OF HOLE: 14.00 |
| DATE HOLE COMPLETED: 05/17/97 | COMMENTS: |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Dark gray (2.5Y 4/1) clayey sand, dry. Sand is fine to coarse grained, poorly graded, clay content is approx. 40%. | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 16 uR/hr Gamma | 3.9 | 289.0 | 46.0 | 49.9 |
| 0.2 | | | SP | | | | | | | |
| 1.0 | 0.4 | | | Very dark grayish brown (10YR 3/2) dry, sand with gravel, sand is fine to coarse grained, poorly graded subangular, trace silt, some organics (wood fragments) gravel is fine sized, native detrital, massive. | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy. hard breathing zone PID in NA sample with Scan of Electra: 1250 dpm Gamma Scan. 18 uR/hr | 4.0 | 50.0 | 34.3 | 38.3 |
| 0.8 | | | | White (10YR 8/1) sand with silt, dry. Sand is fine grained with some medium grains strongly consolidated, native material. | | | | | | |
| 3.0 | 1.0 | | SP-SM | | | | | | | |
| 4.0 | 1.2 | | SP | Brown (10YR 5/3) sand, dry. Sand is fine grained some medium grains, poorly graded, well sorted, red, gray and orange chert grains, native detrital, massive. | | Consistancy. hard breathing zone: PID in 1.9 ppm Scan of sample with Electra: 1055 dpm Scan: 17 uR/hr Gamma | 3.0 | 50.0 | 17.1 | 20.1 |
| 5.0 | 1.4 | | | | | | | | | |
| 1.6 | | | | | | | | | | |
| 6.0 | 1.8 | | | White (10YR 8/1) clay, dry. Clay is lean with trace fine sand, native. | | | | | | |
| 2.0 | | | CL | | | | | | | |
| 7.0 | | | SP | Brown (10YR 5/3) sand, dry. Sand is fine grained, some medium grains, poorly graded, well sorted, red, gray, and orange chert grains, quartz, native, massive. | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1148 dpm Scan: 19 uR/hr Gamma | 3.0 | 50.0 | 11.3 | 14.3 |
| 2.2 | | | | | | | | | | |
| 8.0 | 2.4 | | | | | | | | | |
| 2.6 | | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 969 dpm Scan. 18 uR/hr Gamma | 2.8 | 50.0 | 10.8 | 13.6 |
| 9.0 | 2.8 | | CL | White (10YR 8/1) clay, dry. Clay is lean wit trace sand, fine grained material. | | | | | | |
| | | | SP | | | | | | | |
| 10.0 | 3.0 | | | Brown (10YR 5/3) sand, dry. Sand is fine grianed, some medium grains, poorly graded, well sorted (chert, quartz grains), native. | | Consistancy: firm PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1133 dpm Scan: 16 uR/hr Gamma | 3.1 | 50.0 | 18.8 | 21.9 |
| 3.2 | | | SC | | | | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| 3.6 | | | | | | | | | | |
| 12.0 | 3.8 | | | Brown (10YR 5/3) clayey sand, dry. Sand is fine grained, loosely consonlidated, poorly graded, subangular, native. Total depth is 14.0 ft. | | Consistancy: firm PID in breathing zone: 1.5 Scan of sample with Electra: NA dpm Scan: NA uR/hr Gamma | | | | |
| 13.0 | 4.0 | | | | | | | | | |
| | 4.2 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U4S6 Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628370.20 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431437.70 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6521.80 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/17/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/17/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 2000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Brown (10YR 5/3) clayey sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, clay content approx. 35%, quartz, red and gray chert, drill cuttings, odorless. | | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 906 dpm Scan: 18 uR/hr Gamma | 17.6 | 336.0 | 185.0 | 182.0 |
| 0.2 | | | | | | | | | | |
| 1.0 | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | OM | Black (10YR 2/1) Sewage, fiberous, wet, strong odor. | | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1004 dpm Scan: 17 uR/hr Gamma | 398.0 | 835.0 | 464.0 | 662.0 |
| 0.8 | | | | | | | | | | |
| 3.0 | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | CL | | | | | | | |
| | | | SC | Very dark brown (10YR 2/2) clay with sand, moist, clay is lean, strongly consolidated, sand is fine grained, slightly odorous, trace organics (wood strands). | | Consistency: soft to firm PID in breathing zone: NA Scan of sample with Electra: 988 dpm Scan: 19 uR/hr Gamma | 225.0 | 688.0 | 288.0 | 493.0 |
| 5.0 | 1.4 | | | | | | | | | |
| | 1.6 | | | Very dark grayish brown (10YR 3/2) clayey sand, moist. Sand is fine grained, poorly graded, subangular, clay content is approx. 40%. | | | | | | |
| 6.0 | 1.8 | | | | | | | | | |
| | 2.0 | | | | | Consistency: firm PID in breathing zone: 1.4 ppm Scan of sample with Electra: 914 dpm Scan: 18 uR/hr Gamma | 77.5 | 454.0 | 180.0 | 257.0 |
| 7.0 | 2.2 | | SP | Brown (10YR 4/3) sand, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded, native detrital, massive, chert, welded tuff fragments, qtz, loosely consolidated. | | | | | | |
| 8.0 | 2.4 | | | | | | | | | |
| | 2.6 | | | | | Consistency: firm to hard PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 16 uR/hr Gamma | 3.4 | 50.0 | 12.8 | 16.2 |
| 9.0 | 2.8 | | | | | | | | | |
| 10.0 | 3.0 | | | | | | | | | |
| | 3.2 | | | | | Consistency: firm to hard PID in breathing zone: NA Scan of sample with Electra: 913 dpm Scan: 18 uR/hr Gamma | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U4S7 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 628375.00
UTM NORTHING: 1431497.50
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/17/97
DATE HOLE COMPLETED: 05/17/97

ENVIRONMENTAL CONTRACTOR: IT CORP.
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 6523.80
TOTAL DEPTH OF HOLE: 10.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 0 1000.0 | 0.0 4000 0 | 0 0 2000 0 | 0 0 4000 0 |
| 0.0 | 0.0 | | SC | Brown (10YR 5/3) clayey sand, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded, clay content is approx. 25%, chert grains, massive fill. | NO SAMPLE | Consistancy: soft PID in breathing zone: 1.5 ppm Scan of sample with Electra: 1102 dpm Scan: 18 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: 1.5 ppm Scan of sample with Electra: 1102 dpm Scan: 17 uR/hr Gamma | 3.4 | 133.0 | 37.1 | 40.5 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1133 dpm Scan: 18 uR/hr Gamma | 47.0 | 490.0 | 145.0 | 192.0 |
| | 1.4 | | | Very dark grayish brown (2.5Y 3/2) sand, moist. Sand is fine grained, poorly graded, well sorted, slightly micaceous, slightly stratified. At 6.0 ft becomes more coarse sand sized grains. | | | | | | |
| | 1.6 | | DC | | | | | | | |
| | 1.8 | | | | | | | | | |
| 7.0 | 2.0 | | SP | Yellowish brown (5YR 5/4) sand, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded, native detrital, loosely consolidated, chert, qtz, lithic fragments. | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 914 dpm Scan: 18 uR/hr Gamma | 3.4 | 199.0 | 15.5 | 18.9 |
| | 2.2 | | | | | | | | | |
| 8.0 | 2.4 | | | | | | | | | |
| 9.0 | 2.6 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1143 dpm Scan: 19 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U4S6 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628379.80 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431557.40 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6524.50 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 8.00 |
| DATE HOLE STARTED: 05/17/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/17/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 2000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SC | Brown (7.5YR 4/3) clayey sand, dry. Sand is fine to coarse grained, poorly graded, clay content approx. 25% subangular to subrounded, massive, fill or native? | NO SAMPLE | Consistancy: soft | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | | | | |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 3.0 | 50.0 | 11.3 | 14.3 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | SP | Brown (7.5YR 4/3) sand with gravel, dry, sand is fine to coarse grained, poorly graded, massive, native. Total depth is 8 ft. | | Consistancy: firm | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 3.0 | 50.0 | 14.2 | 17.2 |
| | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1342 dpm Scan: 20 uR/hr Gamma | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | | | | | | | 2.9 | 50.0 | 11.0 | 13.9 |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U4S9 Page #1 of 1

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|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628355.80 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431383.60 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6526.80 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 05/21/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/21/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 2000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | SP | Brown (7.5 YR 5/3) sand, dry. Sand is fine grained to coarse grained, poorly graded, predominately fine grained, subangular to subrounded, volcanic detrital, massive, native. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: 17 uR/hr | 5.4 | 50.0 | 12.5 | 15.9 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| | 0.6 | | | Pale brown (10YR 5/2) sand with clay, dry. Sand is fine grained, poorly graded, subangular to subrounded, native. | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: 17 uR/hr | 5.7 | 50.0 | 13.7 | 17.4 |
| | | | SP-SC | | | | | | | |
| | 0.8 | | SP | | | | | | | |
| 3.0 | 1.0 | | | Brown (7.5YR 5/3) sand, dry. Sand is fine to coarse grainedd, subangular to subrounded, volcanic debris, native. | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: 19 uR/hr | 2.9 | 50.0 | 10.8 | 13.7 |
| | | | SP-SM | | | | | | | |
| | 1.4 | | | Yellowish brown (10YR 5/4) sand with silt, dry. Sand is fine to coarse grained, poorly graded, subangular to rounded, volcanic detrital, chert (yellow and red) micaceous, native. Refusal at 10.0 ft. | | | | | | |
| 5.0 | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | | | Consistancy: firm to hard PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: 18 uR/hr | 6.9 | 50.0 | 29.8 | 36.7 |
| | 2.0 | | | | | | | | | |
| 7.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| 8.0 | 2.6 | | | | | Consistancy: hard breathing zone: NA PID in sample with Scan of Electra: dpm Gamma Scan: 18 uR/hr | 3.1 | 50.0 | 21.6 | 26.7 |
| 9.0 | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U4S10 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627739.30 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1431518.50 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6557.00 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/21/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/21/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 2000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Yellowish brown (10Yr 5/4) sand, dry. Sand is fine grained to coarse grained, poorly graded, subangular to subrounded, massive, volcanic detrital, some pebble sized gravel, native. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: 21 uR/hr | 3.1 | 50.0 | 11.4 | 14.5 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: 21 uR/hr | 3.2 | 50.0 | 12.1 | 15.3 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: 18 uR/hr | 3.3 | 50.0 | 12.4 | 15.7 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: 20 uR/hr | 2.9 | 50.0 | 10.6 | 13.5 |
| 10.0 | 2.0 | | | Dark brown (7.5YR 3/2) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, native. | | | | | | |
| 11.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: 18 uR/hr | 3.3 | 50.0 | 26.3 | 29.6 |
| | 2.8 | | | As above but becomes medium to coarse grained. | | | | | | |
| | 3.0 | | | | | | | | | |
| | 3.2 | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: 20 uR/hr | 3.0 | 50.0 | 11.2 | 14.2 |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U4S11 | Page #1 of 1

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|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627961.00 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431591.00 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6558.90 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 06/02/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/02/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 2000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | SC | Dark grayish brown (10YR 4/2) clayey sand, dry. Sand is fine grained to medium grained, poorly graded, subangular to subrounded, clay contents 60%, massive. | | Consistancy: soft to firm<br>PID in breathing zone: NA<br>Scan of sample with Electra: 1242 dpm<br>Scan: 17 uR/hr Gamma | 9.6 | 210.0 | 48.3 | 57.9 |
| 2.0 | 0.6 | | | | | Consistancy: soft to firm<br>PID in breathing zone: NA<br>Scan of sample with Electra: 1242 dpm<br>Scan: 17 uR/hr Gamma | 7.9 | 337.0 | 40.0 | 47.9 |
| 4.0 | 1.2 | | | | | Consistancy: soft to firm<br>PID in breathing zone: NA<br>Scan of sample with Electra: NA dpm<br>Scan: NA uR/hr Gamma | 6.2 | 275.0 | 44.8 | 53.0 |
| 5.0 | 1.6 | | | Very pale brown (10YR 7/3) sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanics, red and gray cherts. | | | | | | |
| 6.0 | 1.8 | | | | | Consistancy: soft<br>PID in breathing zone: NA<br>Scan of sample with Electra: 992 dpm<br>Scan: 16 uR/hr Gamma | 3.0 | 69.1 | 11.0 | 14.0 |
| 7.0 | 2.0 | | | Same as above, color change to dark yellowish brown (10YR 4/4). | | | | | | |
| 8.0 | 2.2 | | | Dark grayish brown (10YR 4/2) sand with silt, dry. Sand is fine to medium grained, predominately medium grained, poorly graded, subangular to subrounded, chert, volcanic detrital. | | | | | | |
| | 2.4 | | SP-SM | | | Consistancy: soft to firm<br>PID in breathing zone: NA<br>Scan of sample with Electra: 1164 dpm<br>Scan: 17 uR/hr Gamma | 3.0 | 51.0 | 13.4 | 16.4 |
| 9.0 | 2.6 | | | Brown (10YR 4/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, red chert. Refusal at 10.0 ft. | | | | | | |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U4S12 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628046.30 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431529.00 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6545.60 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 06/02/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/02/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SC | Dark grayish brown (10YR 4/2) clayey sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, clay content is approx. 60%, massive, organics (0-3 inches) loosely consolidated. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1328 dpm Scan: 18 uR/hr Gamma | 11.2 | 96.1 | 39.6 | 51.0 |
| 2.0 | 0.6 | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine to coarse grained, predominately fine grained, poorly graded, subrounded to subangular. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1328 dpm Scan: 18 uR/hr Gamma | 5.8 | 50.0 | 27.1 | 32.8 |
| 4.0 | 1.2 | | | Dark yellowish brown (10YR 4/4) sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic detrital, trace qtz. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1180 dpm Scan: 20 uR/hr Gamma | 7.2 | 50.0 | 35.6 | 42.8 |
| 6.0 | 1.8 | | SP | Very pale brown (10YR 7/3) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, chert, trace coarse sand. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1070 dpm Scan: 18 uR/hr Gamma | 6.1 | 50.0 | 18.0 | 24.1 |
| 7.0 | 2.0 | | SP-SM | Black sand (10YR 2/1) sand, dry. Sand is medium grained, poorly graded, subangular to subrounded, trace fine sand, qtz, biotite. | | | | | | |
| 8.0 | 2.2 | | SP | Light olive brown (2.5Y 5/4) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic detrital. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1194 dpm Scan: 15 uR/hr Gamma | 3.9 | 76.6 | 25.4 | 29.3 |
| 9.0 | 2.4 | | SP-SM | White (7.5YR 8/1) sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, qtz, chert, volcanic tuffs. Refusal at 10.0 ft. | | | | | | |
| | 2.6 | | SP | | | | | | | |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U4S13 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628165.40 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1431574.60 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6539.50 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 06/02/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/02/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Grayish brown, dark (2.5YR 4/2) dry, silty sand with gravel. Sand very fine to coarse, rounded to subangular. Gravel rounded to | | Consistancy dense breathing zone PID in NA sample with Scan of Electra: 1120 dpm Gamma Scan: 15 uR/hr | 3.0 | 122.0 | 16.3 | 21.3 |
| 0.2 | | | SP-SM | | | | | | | |
| 1.0 | 0.4 | | | Dark yellowish brown (10YR 4/4) poorly graded sand with silt and gravel. Sand fine to coarse, rounded to subangular. Gravel fine to coarse, angular to subrounded, dry. | | | | | | |
| 0.4 | | | GW-SP-SM | | | | | | | |
| 2.0 | 0.6 | | | Dark gray gravel (N4), angular. | | Consistancy. dense breathing zone. PID in NA sample with Scan of Electra: 1200 dpm Gamma Scan: 13 uR/hr | 2.9 | 50.0 | 10.7 | 13.6 |
| 0.8 | | | | Dark yellowish brown (10YR 4/4) poorly graded sand with silt and gravel. Sand fine to coarse, rounded to subangular. Gravel fine to coarse, angular tosubrounded, dry. | | | | | | |
| 3.0 | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | SW-SM | Very pale brown (10YR 7/4) poorly graded sand with silt, gravel, some clay?. Sand fine to coarse, rounded to subangular. Gravel fine to coarse, angular to subrounded, dry. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1125 dpm Scan: 15 uR/hr Gamma | 2.8 | 50.0 | 10.5 | 13.3 |
| 1.4 | | | | | | | | | | |
| 5.0 | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | Yellowish brown (10YR 5/4) well graded sand with silt. Sand fine to coarse, rounded to subangular. Welded volcanic tuff at 7.9 ft. | | Consistancy: soft to 7.5 ft, then dense. breathing zone: PID in NA sample with Scan of Electra: 1080 dpm Gamma Scan: 14 uR/hr | 2.9 | 50.0 | 10.8 | 13.7 |
| 7.0 | 2.0 | | | | | | | | | |
| 2.2 | | | | Yellowish brown (10YR 5/4) poorly graded sand with silt and gravel. Volcanic tuff - sand fine to coarse, rounded to angular. Gravel fine to medium, angular some welded tuff. | | | | | | |
| 8.0 | 2.4 | | SP-SM | | | Consistancy: dense breathing zone: PID in NA sample with Scan of Electra: 1300 dpm Gamma Scan: 15 uR/hr | 2.8 | 50.0 | 10.4 | 13.2 |
| 2.6 | | | | | | | | | | |
| 9.0 | 2.8 | | SM | Yellowish brown (10YR 5/4) silty sand, volcanic tuff. Sand fine to coarse, rounded to subangular. | | | | | | |
| 3.0 | | | | | | | | | | |
| 10.0 | | | | White (10YR 5/1) fine grained ashfall? | | Consistancy: dense breathing zone: NA sample with Scan of Electra: 1220 dpm Gamma Scan: 14 uR/hr | | | | |
| PID in | 3.2 | | | | | | | | | |
| 11.0 | 3.4 | | | Yellowish brown (10YR 5/4) silty sand - Volcanic tuff. Sand fine to coarse, rounded to angular. | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U4S14 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627935.80 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1431402.40 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6559.40 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 06/02/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/02/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Brown (7.5YR 5/4) sand with silt and gravel, dry. Sand is fine to coarse grained, predominately fine grained, poorly graded, subangular to subrounded, volcanic detrital, some organics in upper 3 inches (roots). Gravel is pebble sized, rounded tuff. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1104 dpm Scan: 17 uR/hr Gamma | 5.7 | 50.0 | 24.1 | 29.8 |
| 2.0 | 0.6 | | | | | Consistancy: soft Duplicate sample CNT30034 taken breathing zone: NA PID in sample with Scan of Electra: 1104 dpm Gamma Scan: 17 uR/hr | 15.4 | 72.2 | 37.3 | 52.7 |
| 3.0 | 1.0 | | | Same as above, some wood chips present, approx. 1 to 2 inches in size. | | | | | | |
| 4.0 | 1.2 | | SP | Brown (10YR 4/3) sand, dry. Sand is fne grained, trace coarse grains, poolry graded, subangular to subrounded, chert, woodchips in original samples. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1333 dpm Scan: 17 uR/hr Gamma | 9.5 | 50.0 | 39.2 | 48.7 |
| 5.0 | 1.6 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, woodchips in original sample. | | | | | | |
| 6.0 | 1.8 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1008 dpm Scan: 16 uR/hr Gamma | 9.9 | 50.0 | 40.9 | 50.2 |
| 7.0 | 2.2 | | | Same as above, no woodchips in any of the samples. | | | | | | |
| 8.0 | 2.4 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1039 dpm Scan: 13 uR/hr Gamma | 13.3 | 50.0 | 34.6 | 47.9 |
| 9.0 | 2.8 | | | Same as above but oxydation present. | | | | | | |
| 10.0 | 3.0 | | | | | Consistancy: soft PID in breathing zone NA Scan of sample with Electra: 1039 dpm Scan: 13 uR/hr Gamma | | | | |
| 11.0 | 3.2 | | | | | | | | | |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U4X1 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628513.00 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431466.40 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6517.80 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 05/17/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/17/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 2000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | DC | Olive gray (5Y 5/2) fine grained dry, drill cuttings, grading into olive gray (5Y 5/2), moist drill cuttings. | | Consistency soft PID in breathing zone: NA Scan of sample with Electra: 1292 dpm Scan: 16 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 4.1 | 385.0 | 59.7 | 73.8 |
| | 0.4 | | | | | | | | | |
| | | | | Dark grayish brown (10YR 4/2), drill cuttings, fine grained, moist. | | | | | | |
| 2.0 | 0.6 | | | | | Consistency: soft PID in breathing zone: 20 ppm Scan of sample with Electra: 1267 dpm Scan: 17 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 16.2 | 356.0 | 49.4 | 65.6 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | Olive brown (2.5Y 4/3) fine to coarse grained, moist to wet drill cuttings. | | Consistency: soft PID in breathing zone: 3.5 ppm Scan of sample with Electra: 1385 dpm Scan: 17 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 21.2 | 375.0 | 110.0 | 131.0 |
| | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | | | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1242 dpm Scan: 16 uR/hr Gamma | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | | | SP | | | | 17.1 | 83.6 | 65.4 | 82.5 |
| | 2.2 | | | Light olive brown (2.5 Y 5/3) fine to coarse, subangular to subrounded, dry volcanic sand with welded tuff after 8 ft. | | | | | | |
| | 2.4 | | | | | | | | | |
| 8.0 | | | | | | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1292 dpm Scan: 17 uR/hr Gamma | | | | |
| | 2.6 | | | | | | | | | |
| 9.0 | | | | | | | 3.2 | 80.5 | 16.6 | 22.0 |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U4X2 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628583.90 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1431410.50 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6508.00 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 3.00 | |
| DATE HOLE STARTED: 05/17/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/17/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0 0 4000 0 | 0 0 2000 0 | 0 0 4000 0 |
| 0.0 | 0.0 | | SC | Dark brown (7.5YR 3/2) clayey sand, dry. Sand is fine grained, subangular, fill. At 0.6 ft color changes to grayish brown (10YR 5/2) | | Consistancy soft PID in breathing zone: NA Scan of sample with Electra: 1133 dpm Scan: 17 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 8.9 | 359.0 | 50.2 | 59.1 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | SM | Dark grayish brown (10YR 3/2) silty sand, dry. Sand is fne grained, subangular, poorly graded, native material. Refusal at 3 ft. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1125 dpm Scan: 19 uR/hr Gamma | | | | |
| | 0.8 | | | | | | 4.5 | 52.1 | 28.7 | 33.2 |

SOIL BORING LOG

BORING NUMBER: U4X3 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

ENVIRONMENTAL CONTRACTOR: IT CORP.

PROJECT NUMBER: 771062.02.01.00.00

DRILLING METHOD: Direct Push

UTM EASTING: 628619.60

DRILLING CONTRACTOR: McLaren Hart

UTM NORTHING: 1431417.60

ELEVATION DATUM: Mean Sea Level

GEOLOGIST: M. Flaugher

HOLE SURFACE ELEVATION: 6506.30

QA CHECK: A. Welcher

TOTAL DEPTH OF HOLE: 6.00

DATE HOLE STARTED: 06/04/97

COMMENTS:

DATE HOLE COMPLETED: 06/04/97

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Brown (10YR 5/3) sand with silt, dry. Snad is fine grained, poorly graded, subangular to subrounded, trace qtz and gray chert grains, organics in upper 3 inches. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1175 dpm Scan: 20 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 6.0 | 257.0 | 31.9 | 39.9 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | | | | | |
| | | | SP | Brown (10YR 4/3) sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanic detrital. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1175 dpm Scan: 20 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 3.3 | 50.0 | 18.9 | 22.2 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | Very pale brown (10YR 7/3) sand with gravel, dry. Sand is fine grained, poorly graded, subangular to subrounded, tuff grains, trace red chert. Gravel is pebble sized, tuff fragments. Total depth of boring is at 6.0 ft. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1211 dpm Scan: 20 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | | | | |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U4X4 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628667.40 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1431388.70 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6502.70 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 |
| DATE HOLE STARTED: 06/04/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/04/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 2000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | ML | Brown (10YR 4/3) silt, dry, rapid dilatency, nonplastic. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1050 dpm Scan: 19 uR/hr Gamma | | | | |
| | | | SP | Yellowish brown (10YR 5/4) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, trace qtz, and gray chert grains, trace silt. Total depth is 6.0 ft. | | | 11.0 | 191.0 | 37.2 | 48.2 |
| 2.0 | 0.6 | | | | | Consistancy: soft Duplicate sample CNT30042 taken. breathing zone: NA PID in sample with Scan of Electra: 1050 dpm Gamma Scan: 19 uR/hr | | | | |
| 3.0 | 0.8 | | | | | | 5.1 | 30.0 | 24.2 | 29.3 |
| 4.0 | 1.0 | | | | | | | | | |
| | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1320 dpm Scan: 21 uR/hr Gamma | | | | |
| 5.0 | 1.4 | | | | | | | | | |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U4X5 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628773.60 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1431460.50 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6497.30 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 | |
| DATE HOLE STARTED: 06/05/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/05/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Dark brown (7.5YR 3/3) sand, dry. Sand is fine to coarse grained, predominately medium grained, poorly graded, subangular to subrounded, trace qtz, volcanic detrital. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1219 dpm Scan: 16 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | | | | |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1219 dpm Scan: 16 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | | | | |
| | 1.0 | | | | | | | | | |
| | 1.2 | | | | | | | | | |
| 4.0 | | | | Brown (7.5YR 4/4) sand with silt, dry. Sand is fine to medium grained, trace coarse grains. Total depth is 6.0 ft. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 9903 dpm Scan: 13 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | | | | |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U4W1 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 627669.40

UTM NORTHING: 1430836.60

GEOLOGIST: C. Birney

QA CHECK: A. Welcher

DATE HOLE STARTED: 05/18/97

DATE HOLE COMPLETED: 05/18/97

ENVIRONMENTAL CONTRACTOR: IT CORP.

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 6547.90

TOTAL DEPTH OF HOLE: 12.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Olive gray (5Y 4/3), dry, fine grained drill cuttings. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1450 dpm Scan: 15 uR/hr Gamma | 36.1 | 413.0 | 92.5 | 128.0 |
| 2.0 | 0.6 | | DM | Brown (10YR 4/3), moist, fine to coarse sand iwht some drill cuttings and drilling mud. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1100 dpm Scan: 18 uR/hr Gamma | 71.6 | 499.0 | 136.0 | 207.0 |
| 3.0 | 1.0 | | CL | Yellowish red (5YR 4/2) sandy clay, sand is coarse. | | | | | | |
| 4.0 | 1.2 | | DC | Dark grayish brown (2.5Y 4/2) drill cuttings with mud, moist, some sand and some welded tuff. | | Consistancy: soft PID in breathing zone: 3.6 ppm Scan of sample with Electra: 1160 dpm Scan: 15 uR/hr Gamma | 78.3 | 430.0 | 223.0 | 301.0 |
| 5.0 | 1.6 | | | Light olive brown (2.5Y 5/3) drilling cuttings, wet. | | | | | | |
| 6.0 | 1.8 | | | Dark grayish brown (2.5Y 4/2) drill cuttings, wet. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1000 dpm Scan: 15 uR/hr Gamma | 41.9 | 550.0 | 104.0 | 145.0 |
| 7.0 | 2.2 | | | | | | | | | |
| 8.0 | 2.4 | | | Brown (10YR 4/3) drill cuttings with mud. Some coarse, subrounded sand. | | Consistancy: PID in breathing zone: 3.2 ppm Scan of sample with Electra: 1100 dpm Scan: 15 uR/hr Gamma | 6.4 | 147.0 | 21.1 | 27.5 |
| 9.0 | 2.8 | | SP | Dark yellowish brown (10YR 4/4) fine to coarse, subrounded to subangular, sand with gravel, volcanic tuff sand. | | | | | | |
| 10.0 | 3.0 | | | | | Consistancy: PID in breathing zone: NA Scan of sample with Electra: 1400 dpm Scan: 15 uR/hr Gamma | 2.9 | 50.0 | 10.8 | 13.7 |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U4W2 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627790.20 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1430778.70 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6534.50 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 |
| DATE HOLE STARTED: 05/17/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/17/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 2000.0 | 0.0 4000.0 |
| 0.0 | 0.0 | | SP | Grayish brown (10YR 5/2) clayey sand, dry. Sand is fine to medium grianed, poorly graded, subangular to subrounded, fill. | | Consistancy. soft PID in breathing zone: NA Scan of sample with Electra: 1125 dpm Scan: 20 uR/hr Gamma | 6.4 | 368.0 | 42.9 | 51.3 |
| 2.0 | 0.6 | | | Brown (10YR 4/3) sand dry. Sand is fine to coarse grained, predominately coarse grained, poorly graded, subangular to subrounded, native. A very pale brown (10YR 7/3) rock at 3.4 ft, sandstone origin. | | Consistancy. soft to firm PID in breathing zone: 1.2 ppm Scan of sample with Electra: 1313 dpm Scan: 20 uR/hr Gamma | 3.6 | 50.0 | 50.4 | 54.0 |
| 4.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1375 dpm Scan: 20 uR/hr Gamma | 3.4 | 50.0 | 32.9 | 36.3 |
| 5.0 | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U4WS | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627744.00 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1430765.30 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6532.40 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 |
| DATE HOLE STARTED: 06/04/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/04/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Dark grayish brown (10YR 4/2) sand with silt, dry. Sand is fine to coarse grained, trace fine gravel, poorly graded, subangular to subrounded, trace organics (burnt woodchips, very small size), massive, volcanic detrital, chert, qtz, and tuff. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1375 dpm Scan: 19 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | SP | Yellowish brown (10YR 5/4) sand, dry. Sand is fine to medium grained, poorly graded, subangular, to subrounded, volcanic detrital, massive, trace qtz grains. | | | 2.6 | 100.0 | 15.2 | 18.0 |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1375 dpm Scan: 19 uR/hr Gamma | | | | |
| 3.0 | 1.0 | | | | | | 2.9 | 50.0 | 10.7 | 13.6 |
| 4.0 | 1.2 | | SP-SM | Dark olive brown (2.5Y 3/3) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, trace coarse grains. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1257 dpm Scan: 20 uR/hr Gamma | | | | |
| 5.0 | 1.6 | | | Same as above, tough pushing. Total depth is 6.0 ft. | | | | | | |
| | 1.8 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U4W4 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627851.00 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1430784.80 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6529.90 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 | |
| DATE HOLE STARTED: 06/04/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/04/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, massive, volcanic detrital, trace qtz grains. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1650 dpm Scan: 18 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | ML | Brown (10YR 4/3) silt, dry. Rapid dilatency, nonplastic. | | | 3.9 | 402.0 | 62.8 | 76.7 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1650 dpm Scan: 18 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 4.5 | 116.0 | 18.5 | 24.0 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | SP | Yellowish brown (10YR 5/4) sand with gravel, dry. Sand is fine to medium grained, trace coarse grains, poorly graded, subangular to subrounded. Gravel is fine to pebble sized, rounded volcanic in origin. Total depth is 6.0 ft. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1750 dpm Scan: 19 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | | | | |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U4W5 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627906.40 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1430787.40 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6525.90 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 |
| DATE HOLE STARTED: 06/05/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/05/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 2000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Brown (10YR 5/3) silty sand dry. Sand is fine grained, poorly graded, subangular to subrounded, trace chert, qtz, trace clay (approx. 4%), massive, trace gravel pebble sized tuff, well consolidated. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1205 dpm Scan: 14 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | | | | |
| | 0.4 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fine grained, trace medium grains, poorly graded, subangular to subrounded, volcanics, red and gray cherts, qtz, trace burnt woodchips (very small in size). | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1205 dpm Scan: 14 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | | | | |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | Same as above, increase in medium grains. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1156 dpm Scan: 15 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | Same as above, one dark gray (10YR 4/1) chert pebble. Total depth at 6.0 ft. | | | | | | |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

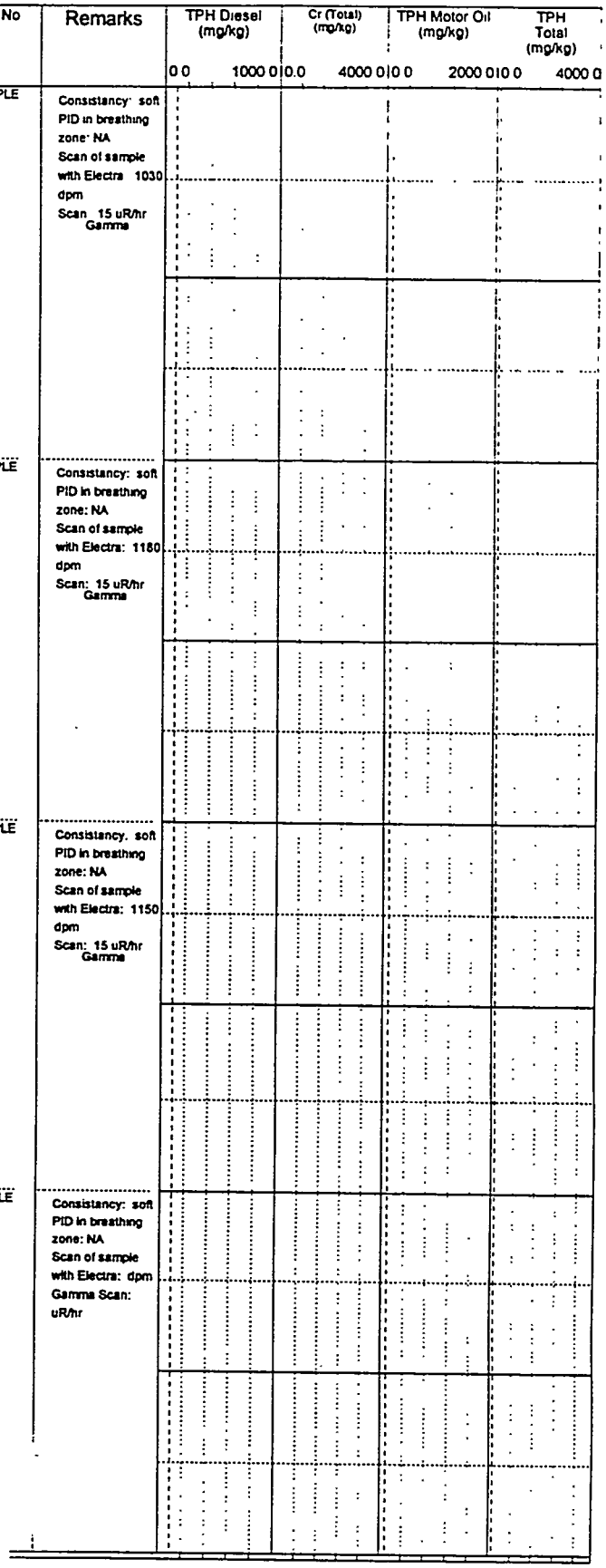
SOIL BORING LOG | BORING NUMBER: U4VV6 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627969.20 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1430757.30 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 6522.20 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 |
| DATE HOLE STARTED: 06/05/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/05/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Brown (10YR 5/3) silty sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, trace cherts, qtz, trace clay (approx. 4%), massive, trace gravel, pebble sized tuff, well consolidated. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1320 dpm Scan: 14 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | SP | | | | | | | |
| | 0.4 | | | | | | | | | |
| | | | | Dark yellowish brown (10YR 5/3) sand, dry. Sand is fine to predominately medium grained, poorly graded, subangular to subrounded, volcanic detrital, qtz, chert, massive, trace gravel. | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1320 dpm Scan: 14 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | | | | |
| | 1.0 | | | | | | | | | |
| | 1.2 | | | | | | | | | |
| 4.0 | | | SP-SM | Yellowish brown (10YR 5/4) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, qtz, chert. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1016 dpm Scan: 13 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | | | | |
| | 1.6 | | | Same as above, one gray (10YR 5/1) pebble of welded tuff, approx. 2 inches. Total depth of 6.0 ft. | | | | | | |
| | 1.8 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U4Y1 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628003.90 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1431125.90 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 6549.10 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 8.00 | |
| DATE HOLE STARTED: 05/18/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/18/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Pale brown (10YR 6/3) fine to coarse grained, subrounded to angular, volcanic sand with gravel, some welded tuff. | NO SAMPLE | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1030 dpm Scan: 15 uR/hr Gamma |
| 2.0 | 0.6 | | | Very pale brown (10YR 7/4) volcanic sand, same as above. | NO SAMPLE | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1180 dpm Scan: 15 uR/hr Gamma |
| 4.0 | 1.2 | | | Same as above - color changes to yellow brown (10YR 5/4). End of boring at 8 ft. | NO SAMPLE | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1150 dpm Scan: 15 uR/hr Gamma |
| 6.0 | 1.8 | | | | NO SAMPLE | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: uR/hr |



SOIL BORING LOG

BORING NUMBER: U3A1 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

ENVIRONMENTAL CONTRACTOR: IT CORP.

PROJECT NUMBER: 771062.02.01.00.00

DRILLING METHOD: Direct Push

UTM EASTING: 627617.80

DRILLING CONTRACTOR: McLaren Hart

UTM NORTHING: 1400784.30

ELEVATION DATUM: Mean Sea Level

GEOLOGIST: M. Flaugher

HOLE SURFACE ELEVATION: 5762.80

QA CHECK: A. Welcher

TOTAL DEPTH OF HOLE: 12.00

DATE HOLE STARTED: 05/18/97

COMMENTS:

DATE HOLE COMPLETED: 05/18/97

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0 0 1000.0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 1000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Brown (7.5YR 4/3) sand with silt, dry. Sand is fine grained, some coarse grains, subangular to subrounded, poorly graded, massive, some pebble sized gravel throughout, fill. | U3A10002A | Consistancy: soft Sampled on 6/4/97 breathing zone. PID in NA sample with Scan of Electra 1227 dpm Gamma Scan. 20 uR/hr | 2.9 | 50.0 | 10.8 | 13.7 |
| 2.0 | 0.6 | | | | U3A10204A | Consistancy: soft Sampled on 6/4/97. breathing zone. PID in NA sample with Scan of Electra 1227 dpm Gamma Scan: 20 uR/hr | 2.9 | 50.0 | 9.3 | 22.2 |
| 4.0 | 1.2 | | | | U3A10406 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1164 dpm Scan: 22 uR/hr Gamma | 3.4 | 50.0 | 12.6 | 16.0 |
| 6.0 | 1.8 | | | Brown (7.5YR 4/3) clay, dry. Clay is lean. | U3A10608 | Consistancy: soft to firm, firm at 7.5 to 7.7 ft. PID in breathing zone: NA Scan of sample with Electra: 1313 dpm Scan: 19 uR/hr Gamma | 12.7 | 140.0 | 54.9 | 67.6 |
| 7.0 | 2.2 | | CL | Brown (7.5YR 4/3) sand with silt, dry. Sand is finegrained, some coarse graines, subangular to subrounded, poorly graded, massive, some pebble sized gravel throughout. | | | | | | |
| 8.0 | 2.4 | | SP-SM | | U3A10810 | Consistancy: soft to firm PID in breathing zone: 1.5 ppm Scan of sample with Electra: 1200 dpm Scan: 22 uR/hr Gamma | 5.0 | 50.0 | 28.2 | 33.2 |
| 9.0 | 2.8 | | | Brown (10YR 5/3) clayey sand, dry. Sand is fine grained, poorly graded, well sorted, slightly micaceous. | | | | | | |
| 10.0 | 3.0 | | SC | | U3A11012 | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1185 dpm Scan: 21 uR/hr Gamma | | | | |
| 11.0 | 3.4 | | SP-SM | Brown (7.5YR 4/3) sand with silt. Sand is fine grianed, some coarse grains subangular to subrounded, poorly graded, massive some pebble sized gravel throughout. Total depth is 12.0 ft. | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3A2 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 627617.40

UTM NORTHING: 1400744.30

GEOLOGIST: M. Flaugher

QA CHECK: A. Welcher

DATE HOLE STARTED: 05/18/97

DATE HOLE COMPLETED: 05/18/97

ENVIRONMENTAL CONTRACTOR: IT CORP.

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 5762.30

TOTAL DEPTH OF HOLE: 12.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 1000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Brown (7.5 YR 4/3) sand with silt, dry. Sand is fine grained, some coarse grains, subangular to subrounded, poorly graded, some pebble sized gravel, fill, massive. | U3A20002A | Consistancy: soft Sampled on 6/4/97. breathing zone. PID in NA sample with Scan of Electra 1248 dpm Gamma Scan: 22 uR/hr | 5.0 | 50.0 | 16.2 | 21.2 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U3A20204A | Consistancy: soft Sampled on 6/4/97. breathing zone: PID in NA sample with Scan of Electra 1248 dpm Gamma Scan: 22 uR/hr | 3.9 | 50.0 | 17.4 | 21.3 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | U3A20406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1149 dpm Scan. 21 uR/hr Gamma | 3.4 | 50.0 | 21.1 | 24.5 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | | U3A20608 | Consistancy: soft to firm PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1164 dpm Scan: 20 uR/hr Gamma | 4.9 | 50.0 | 38.4 | 43.3 |
| 10.0 | 2.0 | | | Brown (10YR 4/3) sand, dry. Sand is fine grained, poorly graded, subangular to subrounded. | | | | | | |
| 11.0 | 2.2 | | | | | | | | | |
| | 2.4 | | SP | | U3A20810 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1089 dpm Scan: 16 uR/hr Gamma | 3.4 | 50.0 | 12.5 | 15.9 |
| | 2.6 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fine grained, some coarse grains, subangular to subrounded, some pebble sized gravel, massive. Total depth is 12.0 ft. | | | | | | |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | U3A21012 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1179 dpm Scan: 21 uR/hr Gamma | | | | |
| | 3.2 | | | | | | | | | |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U3A3 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 627616.90
UTM NORTHING: 1400704.30
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/18/97
DATE HOLE COMPLETED: 05/18/97

ENVIRONMENTAL CONTRACTOR: IT CORP.
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 5761.60
TOTAL DEPTH OF HOLE: 12.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 1000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Brown (7.5YR 4/3) sand with silt, dry. Sand is fine grained, some coarse grains, subangular to subrounded, poorly graded, some pebble sized gravel, organics (wood in 0 to 2 ft.) present, fill. Gravel is tuff welded, massive. | U3A30002A | Consistancy: soft to firm Sampled on 6/4/97. PID in breathing zone: NA Scan of sample with Electra: 1157 dpm Scan: 20 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U3A30204A | Consistancy: soft to firm. Sampled on 6/4/97. PID in breathing zone: NA Scan of sample with Electra: 1157 dpm Scan: 20 uR/hr Gamma | 4.6 | 50.0 | 20.2 | 24.8 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | U3A30406 | Consistancy: soft to firm PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1104 dpm Scan: 19 uR/hr Gamma | 3.0 | 50.0 | 11.3 | 14.3 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | | U3A30608 | Consistancy: soft to firm PID in breathing zone: 2.6 ppm Scan of sample with Electra: 1226 dpm Scan: 19 uR/hr Gamma | 2.8 | 50.0 | 10.9 | 13.8 |
| 10.0 | 2.0 | | | | | | | | | |
| 11.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | U3A30810 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1134 dpm Scan: 20 uR/hr Gamma | 3.4 | 50.0 | 12.6 | 16.0 |
| | 2.6 | | SP | Very dark grayish brown (10YR 3/2) sand, dry. Sand is fine to medium grained, predominately medium grained, poorly graded, subangular to subrounded, massive, native. | | | | | | |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | U3A31012 | Consistancy: soft to firm PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1225 dpm Scan: 22 uR/hr Gamma | | | | |
| | 3.2 | | | | | | | | | |
| | 3.4 | | SP-SM | Olive brown (2.5Y 4/3) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, massive native. Total depth is 12.0 ft. | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3A4 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627642.80 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1400784.10 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5762.30 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/19/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/19/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000 0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 1000 0 |
| 0.0 | 0.0 | | SP-SM | Brown (7.5YR 4/4) sand with silty, dry. Sand is fine grained, poorly graded, subangular to subrounded, some medium grains, some pebble sized gravel, massive, fill. | U3A40002A | Consistancy: soft to firm Sampled 6/4/97 breathing zone. NA PID in sample with Scan of Electra: 1143 dpm Gamma Scan: 23 uR/hr | 2.9 | 50.0 | 11.3 | 14.2 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| | 0.6 | | | | U3A40204A | Consistancy: soft Sampled 6/4/97, breathing zone NA PID in sample with Scan of Electra: 1143 dpm Gamma Scan: 23 uR/hr | 2.9 | 50.0 | 5.0 | 17.9 |
| 3.0 | 0.8 | | | | | | | | | |
| 4.0 | 1.0 | | | | | | | | | |
| | 1.2 | | | Same as above but, trace clay, approx. 4%, becomes strongly consolidated. | U3A40406 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1148 dpm Scan: 25 uR/hr Gamma | 2.9 | 50.0 | 10.9 | 13.8 |
| 5.0 | 1.4 | | | | | | | | | |
| 6.0 | 1.6 | | | | | | | | | |
| | 1.8 | | | | U3A40608 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1195 dpm Scan: 24 uR/hr Gamma | 2.9 | 50.0 | 10.8 | 13.7 |
| 7.0 | 2.0 | | | | | | | | | |
| 8.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | U3A40810 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1390 dpm Scan: 25 uR/hr Gamma | 3.6 | 58.7 | 13.4 | 17.0 |
| 9.0 | 2.6 | | | | | | | | | |
| 10.0 | 2.8 | | | | | | | | | |
| | 3.0 | | | | U3A41012 | Consistancy: soft to firm PID in breathing zone: 2.4 ppm Scan of sample with Electra: 1187 dpm Scan: 25 uR/hr Gamma | | | | |
| 11.0 | 3.2 | | | | | | | | | |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3A5 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627642.40 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1400744.00 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5761.60 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/19/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/19/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 1000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Brown (7.5YR 4/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, some medium grains, some pebble sized gravel, massive, fill. | U3A50002A | Consistancy: soft Sampled 6/4/97 breathing zone PID in NA sample with Scan of Electra: 1104 dpm Gamma Scan: 21 uR/hr | 2.9 | 50.0 | 10.7 | 13.6 |
| 2.0 | 0.6 | | | | U3A50204A | Consistancy: soft Sampled 6/4/97. breathing zone PID in NA sample with Scan of Electra: 1104 dpm Gamma Scan: 21 uR/hr | 2.9 | 50.0 | 12.2 | 15.1 |
| 4.0 | 1.2 | | | As above, but with trace clay, approx. 3%, becomes strongly consolidated. | U3A50406 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1043 dpm Scan: 22 uR/hr Gamma | 3.3 | 50.0 | 15.7 | 19.0 |
| 6.0 | 1.8 | | | | U3A50608 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1278 dpm Scan: 21 uR/hr Gamma | 6.9 | 50.0 | 11.2 | 18.1 |
| 8.0 | 2.4 | | | | U3A50810 | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1130 dpm Scan: 20 uR/hr Gamma | 14.3 | 50.0 | 10.7 | 25.0 |
| 10.0 | 3.0 | | | AS above, difficulty in pushing. Total depth is 12.0 ft. | U3A51012 | Consistancy: hard PID in breathing zone: NA Scan of sample with Electra: 1119 dpm Scan: 23 uR/hr Gamma | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3A6 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 627641.90
UTM NORTHING: 1400704.00
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/19/97
DATE HOLE COMPLETED: 05/19/97

ENVIRONMENTAL CONTRACTOR: IT CORP.
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 5761.40
TOTAL DEPTH OF HOLE: 12.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0 0 1000 0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 1000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine to medium grianed, predominately fine grained, poorly graded, subangular to subrounded, organics (roots, wood strands) fill, massive. | U3A60002A | Consistancy. soft Sampled 6/4/97 breathing zone. PID in NA sample with Scan of Electra: 1255 dpm Gamma Scan: 21 uR/hr | 2.9 | 50.0 | 13.7 | 16.6 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U3A60204A | Consistancy: soft Sampled 6/4/97 breathing zone: PID in NA sample with Scan of Electra: 1255 dpm Gamma Scan: 21 uR/hr | 3.8 | 50.0 | 21.5 | 25.3 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | SP-SC | Dark yellowish brown (10YR 4/6) sand with clay, dry. Sand is fine grained, poorly graded, well sorted, subangular to subrounded, massive, clay content approx. 10%, native? | U3A60406 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1119 dpm Scan: 22 uR/hr Gamma | 3.1 | 50.0 | 11.6 | 14.7 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine to medium grained, predominately fine grained, poorly graded, subangular to subrounded, trace coarse grains, trace small pebble sized gravel, native? | U3A60608 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1151 dpm Scan: 19 uR/hr Gamma | 3.0 | 50.0 | 11.2 | 14.2 |
| 10.0 | 2.0 | | | | | | | | | |
| 11.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | | | U3A60810 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1240 dpm Scan: 21 uR/hr Gamma | 2.9 | 50.0 | 10.9 | 13.8 |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |
| | 3.2 | | | Yellowish brown (10YR 5/4) same as above, stongly consolidated. Native? Total depth is 12.0 ft. | U3A61012 | Consistancy: hard PID in breathing zone: NA Scan of sample with Electra: 1217 dpm Scan: 20 uR/hr Gamma | | | | |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3B1 , Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627718.30 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400823.20 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5762.60 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/19/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/19/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0 0 1000 0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 1000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Brown (7.5YR 4/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded massive, fill some organics (roots). | U3B10002A | Consistancy: soft Sampled 6/4/97 breathing zone PID in 2.7 ppm Scan of sample with Electra: 1331 dpm Scan: 25 uR/hr Gamma | 6.1 | 50.0 | 17.6 | 23.7 |
| 1.0 | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | U3B10204A | Consistancy: soft Sampled 6/4/97. breathing zone PID in NA sample with Scan of Electra: 1331 dpm Gamma Scan: 25 uR/hr | 4.5 | 50.0 | 14.3 | 18.8 |
| 3.0 | 0.8 | | | | | | | | | |
| 4.0 | 1.0 | | | | | | | | | |
| | 1.2 | | | | U3B10406 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1255 dpm Scan: 23 uR/hr Gamma | | | | |
| 5.0 | 1.4 | | | | | | 2.7 | 50.0 | 13.4 | 16.1 |
| 6.0 | 1.6 | | | | | | | | | |
| | 1.8 | | | At 6.0 same as above, becomes moderately consolidated and increase of trace, coarse grained sand. | U3B10608 | Consistancy: soft to firm PID in breathing zone: 2.2 ppm Scan of sample with Electra: 1232 dpm Scan: 22 uR/hr Gamma | | | | |
| 7.0 | 2.0 | | | | | | 3.1 | 50.0 | 28.9 | 32.0 |
| | 2.2 | | | | | | | | | |
| 8.0 | 2.4 | | SC | Light olive brown (2.5Y 5/3) sandy clay, dry to moist. Clay is lean, sand is fine grained, poorly graded, subangular to subrounded. | U3B10810 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1321 dpm Scan: 22 uR/hr Gamma | | | | |
| 9.0 | 2.6 | | | | | | 7.7 | 160.0 | 31.1 | 38.8 |
| | 2.8 | | | | | | | | | |
| 10.0 | 3.0 | | SP-SM | Light olive brown (2.5Y 5/3) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, massive. | U3B11012 | Consistancy: firm This sample is being held pending analysis. PID in breathing zone: 2.3 ppm Scan of sample with Electra: 1187 dpm Scan: 22 uR/hr Gamma | | | | |
| | 3.2 | | | | | | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3B2 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 627758.30
UTM NORTHING: 1400822.80
GEOLOGIST: C. Birney
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/20/97
DATE HOLE COMPLETED: 05/20/97

ENVIRONMENTAL CONTRACTOR: IT CORP.
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 5762.50
TOTAL DEPTH OF HOLE: 12.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 1000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand fine to coarse, subrounded to subangular. Gravel fine to coarse, subangular to subrounded, dry. | U3B20002A | Consistancy: soft Sampled 6/4/97 breathing zone PID in NA sample with Scan of Electra: 1300 dpm Gamma Scan: 18 uR/hr | 2.9 | 50.0 | 11.0 | 13.9 |
| 2.0 | 0.6 | | | | U3B20204A | Consistancy: soft Sampled 6/4/97 breathing zone PID in NA sample with Scan of Electra: 1300 dpm Gamma Scan. 18uR/hr | 2.9 | 50.0 | 10.9 | 13.8 |
| 4.0 | 1.2 | | | | U3B20406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1300 dpm Scan: 20 uR/hr Gamma | 2.9 | 50.0 | 13.1 | 16.0 |
| 6.0 | 1.8 | | | Yellowish brown (10YR 5/4) silty, clayey sand with gravel, little clay. Sand fine to coarse, subrounded to subangular. Gravel coarse, subrounded to subangular, moist | U3B20608 | Consistancy: soft PID in breathing zone: 1.4 ppm Scan of sample with Electra: 1350 dpm Scan: 17 uR/hr Gamma | 11.8 | 70.4 | 13.5 | 25.3 |
| 8.0 | 2.4 | | | Dark yellowish brown (10YR 3/4) silty sand with gravel. Sand fine to coarse, subrounded to subangular. Gravel coarse, subrounded to subangular, dry. | U3B20810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1240 dpm Scan: 17 uR/hr Gamma | 3.4 | 50.0 | 13.9 | 19.3 |
| 10.0 | 3.0 | | | Brown (10YR 4/3) same silty sand as above. End of boring at 12.0 ft. | U3B21012 | Consistancy: soft PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1100 dpm Scan: 17 uR/hr Gamma | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3B3 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627798.40 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1400822.30 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5762.40 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/20/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/20/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 1000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/6) silty sand with gravel. Sand fine to coarse, subrounded to subangular. Gravel fine to coarse, subrounded to angular. | U3B30002A | Consistancy: soft Sampled 6/4/97 breathing zone PID in NA sample with Scan of Electra: 1292 dpm Gamma Scan: 16 uR/hr | 2.9 | 50.0 | 21.5 | 24.4 |
| 2.0 | 0.6 | | | | U3B30204A | Consistancy: soft Sampled 6/4/97 breathing zone: PID in NA sample with Scan of Electra: 1292 dpm Gamma Scan: 16 uR/hr | 2.9 | 50.0 | 10.8 | 13.7 |
| 4.0 | 1.2 | | | Dark yellowish brown (10YR 4/6) silty sand with gravel. Sand fine to coarse, subrounded to subangular. Gravel fine to coarse, subrounded to subangular, dry. | U3B30406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1073 dpm Scan: 16 uR/hr Gamma | 2.9 | 50.0 | 10.8 | 13.7 |
| 6.0 | 1.8 | | | | U3B30608 | Consistancy: soft PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1250 dpm Scan: 17 uR/hr Gamma | 2.6 | 50.0 | 10.4 | 13.2 |
| 8.0 | 2.4 | | SM-ML | Dark yellowish brown (10YR 3/4) silty sand/sandy silt. Sand fine to coarse (small fraction of coarse), subrounded to subangular, dry. | U3B30810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1115 dpm Scan: 17 uR/hr Gamma | 2.6 | 50.0 | 10.6 | 13.4 |
| 10.0 | 3.0 | | | Dark yellowish brown (10YR 4/4) silty sand/sandy silt with gravel. Sand fine to coarse, subrounded to subangular. Gravel fine to medium, subrounded to subangular. End of boring at 12.0 ft. | U3B31012 | Consistancy: soft PID in breathing zone: 1.6 ppm Scan of sample with Electra: 958 dpm Scan: 18 uR/hr Gamma | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3B4 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627717.80 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1400773.20 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5761.50 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/19/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/19/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 1000.0 |
| 0.0 | 0.0 | | SP-SM | Brown (7.5YR 4/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, massive, fill, some organics (roots). | U3B40002A | Consistancy: soft Sampled 6/4/97 breathing zone: NA PID in sample with Electra: 1179 dpm Scan of Gamma Scan: 21 uR/hr | 2.9 | 50.0 | 10.8 | 13.7 |
| 2.0 | 0.6 | | | | U3B40204A | Consistancy: soft Sampled 6/4/97. breathing zone: NA PID in sample with Electra: 1179 dpm Scan of Gamma Scan: 21 uR/hr | 3.0 | 50.0 | 17.0 | 20.0 |
| 4.0 | 1.2 | | | Same as above, becomes moderately consolidated. | U3B40406 | Consistancy: soft to firm PID in breathing zone: 2.1 ppm Scan of sample with Electra: 1285 dpm Scan: 21 uR/hr Gamma | 3.0 | 50.0 | 14.0 | 17.8 |
| 6.0 | 1.8 | | | Same as above increase in gravel, but still sand with silt. Total depth is 12.0 ft. | U3B40608 | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1147 dpm Scan: 20 uR/hr Gamma | 3.2 | 50.0 | 11.8 | 15.0 |
| 8.0 | 2.4 | | | | U3B40810 | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1013 dpm Scan: 20 uR/hr Gamma | 3.1 | 50.0 | 11.7 | 14.8 |
| 10.0 | 3.0 | | | | U3B41012 | Consistancy: firm PID in breathing zone: 2.2 ppm Scan of sample with Electra: 1300 dpm Scan: 22 uR/hr Gamma | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3B5 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627757.80 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400772.70 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5761.20 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/21/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/21/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 1000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Yellowish brown (10YR 5/4) silty sand with gravel, fine to coarse sand, subrounded to subangular, gravel coarse to fine, subrounded and subangular, moist. | U3B50002A | Consistancy: soft Sampled 6/4/97 breathing zone. PID in NA sample with Scan of Electra: 1300 dpm Gamma Scan: 16 uR/hr | 3.0 | 50.0 | 17.2 | 20.2 |
| 2.0 | 0.6 | | | | U3B50204A | Consistancy: soft Sampled 6/4/97. breathing zone: PID in NA sample with Scan of Electra: 1250 dpm Gamma Scan: 17 uR/hr | 3.4 | 50.0 | 16.4 | 19.8 |
| 4.0 | 1.2 | | | Yellowish brown (10YR 5/6) same as above, dry. | U3B50406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1400 dpm Scan: 19 uR/hr Gamma | 3.1 | 50.0 | 11.7 | 14.8 |
| 6.0 | 1.8 | | SP-SM | Dark yellowish brown (10YR 3/4), sand with silt, sand fine to coarse, subrounded to subangular, some gravel, gravel fine to coarse, cubrounded to subangular, dry, poorly graded. | U3B50608 | Consistancy: soft PID in breathing zone: 1.5 ppm Scan of sample with Electra: 1150 dpm Scan: 18 uR/hr Gamma | 3.4 | 50.0 | 12.7 | 16.1 |
| 7.0 | 2.2 | | SM | Yellowish brown (10YR 5/4) silty sand with gravel. Sand fine to coarse, subangular to subrounded. Gravel fine to coarse, subangular to subrounded, dry. | U3B50810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1150 dpm Scan: 18 uR/hr Gamma | 3.2 | 50.0 | 12.1 | 15.3 |
| 9.0 | 2.8 | | | Brown (10YR 4/3) silty sand, some gravel, sand fine to coarse. Subrounded to subangular, gravel fine, subrounded. | U3B51012 | Consistancy: soft PID in breathing zone: 1.4 ppm Scan of sample with Electra: 1300 dpm Scan: 19 uR/hr Gamma | | | | |
| 10.0 | 3.0 | | | | | | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3B6 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627797.80 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400772.30 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5761.30 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/20/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/20/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0 – 4000 | TPH Motor Oil (mg/kg) 0 – 1000 | TPH Total (mg/kg) 0 – 1000 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand fine to coarse, subangular to subrounded. Gravel, fine to coarse, subangular to subrounded, moist (raining out). | U3B60002A | Consistency: soft Sampled 6/4/97. breathing zone: PID in NA sample with Scan of Electra: 1128 dpm Gamma Scan: 18 uR/hr | 3.6 | 52.4 | 23.1 | 26.9 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U3B60204A | Consistency: soft Sampled 6/4/97. breathing zone: PID in NA sample with Scan of Electra: 1128 dpm Gamma Scan: 18 uR/hr | 3.0 | 50.0 | 16.8 | 19.8 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | U3B60406 | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1078 dpm Scan: 17 uR/hr Gamma | 3.3 | 50.0 | 12.3 | 15.6 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | | | | | | | |
| 10.0 | 2.0 | | SM-ML | Yellowish brown (10YR 5/4) silty sand/sandy silt with some gravel. Sand fine to coarse, subangular to subrounded. Gravel fine, subrounded to subangular, dry. | U3B60608 | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1048 dpm Scan: 19 uR/hr Gamma | 3.0 | 50.0 | 11.2 | 14.2 |
| 11.0 | 2.2 | | | | | | | | | |
| | 2.4 | | SM | Dark yellowish brown (10YR 3/4) silty sand with gravel. Sand fine to coarse, subangular to subrounded. Gravel fine to medium subrounded to subangular, dry. End of boring at 12.0 ft. | U3B60810 | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1512 dpm Scan: 17 uR/hr Gamma | 3.2 | 50.0 | 11.8 | 15.0 |
| | 2.6 | | | | | | | | | |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | U3B61012 | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1355 dpm Scan: 18 uR/hr Gamma | | | | |
| | 3.2 | | | | | | | | | |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3C1 Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627858.40 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400821.60 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5762.50 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/18/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/18/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 0 1000.0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 1000 0 |
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 5/4) silty sand with gravel, fine to coarse grained, subangular to subrounded, poorly sorted, dry. | U3C10002A | Consistancy: soft Sampled 6/4/97. breathing zone PID in NA sample with Scan of Electra 1400 dpm Gamma Scan 20 uR/hr | 2.9 | 50.0 | 10.7 | 13.6 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U3C10204A | Consistancy: soft Sampled 6/4/97. breathing zone. PID in NA sample with Scan of Electra 1425 dpm Gamma Scan: 18 uR/hr | 3.0 | 50.0 | 11.8 | 14.8 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | U3C10406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1300 dpm Scan: 19 uR/hr Gamma | 3.0 | 50.0 | 11.2 | 14.2 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | Yellowish brown (10YR 5/4) dry, fine to coarse silty sand with gravel, subrounded to subangular sand, poorly sorted. | U3C10608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1280 dpm Scan: 21 uR/hr Gamma | 3.9 | 50.0 | 13.3 | 17.2 |
| 10.0 | 2.0 | | | | | | | | | |
| 11.0 | 2.2 | | | | | | | | | |
| | 2.4 | | ML | Yellowish brown (10YR 5/4) dry, sandy silt with gravel, gravel subrounded to subangular, sand is fine to coarse. | U3C10810 | Consistancy: soft PID in breathing zone: 3.4 ppm Scan of sample with Electra: 1350 dpm Scan: 17 uR/hr Gamma | 3.5 | 50.0 | 13.0 | 16.5 |
| | 2.6 | | | | | | | | | |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | Dark yellowish brown (10YR 4/6) sandy silt with gravel. Sand and gravel subrounded to subangular, fine to coarse grained. End of boring at 12 ft. | U3C11012 | Consistancy: soft PID in breathing zone: 2.4 ppm Scan of sample with Electra: 1250 dpm Scan: 19 uR/hr Gamma | | 50.0 | | |
| | 3.2 | | | | | | | | | |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3C2 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 627898.40

UTM NORTHING: 1400821.10

GEOLOGIST: C. Birney

QA CHECK: A. Welcher

DATE HOLE STARTED: 05/18/97

DATE HOLE COMPLETED: 05/18/97

ENVIRONMENTAL CONTRACTOR: IT CORP.

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 5762.50

TOTAL DEPTH OF HOLE: 12.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 1000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) dry, silty sand with gravel, fine to coarse, subrounded to subangular. | U3C20002A | Consistancy soft Sampled 6/4/97 breathing zone. PID in NA sample wth Scan of Electra 1100 dpm Gamma Scan: 17 uR/hr | 2.9 | 50.0 | 18.2 | 21.1 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | U3C20204A | Consistancy: soft Sampled 6/4/97. breathing zone PID in 3 0 ppm Scan of sample wth Electra 1150 dpm Scan: 19 uR/hr Gamma | 2.8 | 50.0 | 10.8 | 18.6 |
| 3.0 | 0.8 | | | | | | | | | |
| 3.0 | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | | U3C20406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1280 dpm Scan: 20 uR/hr Gamma | 3.0 | 50.0 | 11.3 | 14.3 |
| 5.0 | 1.4 | | | | | | | | | |
| 5.0 | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | | U3C20608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1300 dpm Scan: 18 uR/hr Gamma | 3.4 | 50.0 | 12.8 | 16.2 |
| 7.0 | 2.0 | | | | | | | | | |
| 7.0 | 2.2 | | | | | | | | | |
| 8.0 | 2.4 | | ML | Dark yellowish brown (10YR 4/4) sandy silt, minor gravel, dry, subrounded to subangular, fine to coarse sand. | U3C20810 | Consistancy: soft PID in breathing zone: 3.2 ppm Scan of sample with Electra: 1300 dpm Scan: 18 uR/hr Gamma | 4.5 | 50.0 | 18.5 | 24.4 |
| 9.0 | 2.6 | | | | | | | | | |
| 9.0 | 2.8 | | | | | | | | | |
| 10.0 | 3.0 | | | | U3C21012 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 17 uR/hr Gamma | | 50.0 | | |
| 10.0 | 3.2 | | | Brown (10YR 4/3) dry sandy silt with gravel, fine to coarse, subrounded to subangular sand. End of boring at 12.0 ft. | | | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3C3 : Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627938.40 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400820.70 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5762.80 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 05/18/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/18/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 2000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel, dry. Sand fine to coarse, subangular to subrounded. Gravel coarse, subrounded. | U3C30002A | Consistency: soft Sampled 6/4/97. breathing zone. PID in NA sample with Scan of Electra: 1700 dpm Gamma Scan: 19 uR/hr | 2.9 | 50.0 | 10.7 | 13.6 |
| 2.0 | 0.6 | | | | U3C30204A | Consistency: soft Sampled 6/4/97. breathing zone. PID in NA sample with Scan of Electra: 1300 dpm Gamma Scan: 18 uR/hr | 2.9 | 50.0 | 10.8 | 13.8 |
| 4.0 | 1.2 | | | Same as above but gravel is subrounded to subangular. | U3C30406 | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1150 dpm Scan: 16 uR/hr Gamma | 2.9 | 50.0 | 10.9 | 13.8 |
| 6.0 | 1.8 | | | Dark yellowish brown (10YR 3/4) silty sand with gravel, dry. Sand fine to coarse, subrounded to subangular. Gravel fine to coarse, subrounded to subangular. Grading into dark yellowish brown (10YR 4/4) silty sand at 7.6 ft. | U3C30608 | Consistency: soft PID in breathing zone: 3.2 ppm Scan of sample with Electra: 1070 dpm Scan: 19 uR/hr Gamma | 2.8 | 50.0 | 10.3 | 13.1 |
| 8.0 | 2.4 | | ML | Dark yellowish brown (10YR 4/4) sandy silt with gravel, dry. Gravel coarse, subangular to subrounded. Refusal at 10.0 ft. | U3C30810 | Consistency: hard drilling PID in breathing zone: 2.6 ppm Scan of sample with Electra: 1330 dpm Scan: 18 uR/hr Gamma | 5.5 | 50.0 | 12.5 | 15.8 |
| 9.0 | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3C4 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 627857.80
UTM NORTHING: 1400771.60
GEOLOGIST: C. Birney
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/19/97
DATE HOLE COMPLETED: 05/19/97

ENVIRONMENTAL CONTRACTOR: IT CORP.
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 5761.40
TOTAL DEPTH OF HOLE: 12.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 1000.0 |
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel, fine to coarse, subrounded to subangular, dry. Gravel fine, subrounded to subangular. Becoming dark yellowish brown (10YR 3/4) after 4 ft. | U3C40002A | Consistancy: soft Sampled 6/4/97 breathing zone. PID in NA sample with Scan of Electra: 1120 dpm Gamma Scan: 17 uR/hr | 5.3 | 50.0 | 22.2 | 27.5 |
| 2.0 | 0.6 | | | | U3C40204A | Consistancy: soft Sampled 6/4/97. breathing zone: PID in NA sample with Scan of Electra: 1400 dpm Gamma Scan: 18 uR/hr | 2.6 | 50.0 | 10.8 | 13.4 |
| 4.0 | 1.2 | | | | U3C40406 | Consistancy: soft PID in breathing zone: 1.5 ppm Scan of sample with Electra: 1350 dpm Scan: 20 uR/hr Gamma | 2.6 | 50.0 | 14.8 | 17.4 |
| 6.0 | 1.8 | | | | U3C40508 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1400 dpm Scan: 20 uR/hr Gamma | 4.7 | 50.0 | 13.0 | 17.7 |
| 8.0 | 2.4 | | ML | Brown (10YR 4/3) sandy silt with gravel, dry. Gravel is fine to coarse, subrounded to subangular. End of boring 12 ft. | U3C40810 | Consistancy: soft PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1430 dpm Scan: 17 uR/hr Gamma | 3.3 | 50.0 | 11.6 | 14.9 |
| 10.0 | 3.0 | | | | U3C41012 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1480 dpm Scan: 18 uR/hr Gamma | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3C5 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627897.80 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1400771.10 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5761.50 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/19/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/19/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 1000.0 |
| 0.0 | 0.0 | | SM-ML | Dark yellowish brown (01YR 4/4) sandy silt to silty sand with gravel, sand is fine to coarse, subrounded to subangular, gravel is fine to coarse, subrounded, dry. | U3C50002A | Consistancy: soft Sampled 6/4/97. breathing zone PID in NA sample wth Scan of Electra 1450 dpm Gamma Scan: 17 uR/hr | 5.8 | 30.0 | 23.4 | 29.2 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| | 0.6 | | | | U3C50204A | Consistancy: soft Sampled 6/4/97. breathing zone. PID in NA sample wth Scan of Electra 1465 dpm Gamma Scan: 20 uR/hr | 3.0 | 30.0 | 13.5 | 16.5 |
| 3.0 | 0.8 | | | | | | | | | |
| 4.0 | 1.0 | | | | | | | | | |
| | 1.2 | | SM | Brown (10YR 5/3), silty sand wth gravel, sand fine to coarse, subrounded to subangular, dry. | U3C50406 | Consistancy: soft PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1450 dpm Scan: 21 uR/hr Gamma | 2.9 | 30.0 | 11.0 | 13.9 |
| 5.0 | 1.4 | | | | | | | | | |
| 6.0 | 1.6 | | | | | | | | | |
| | 1.8 | | ML | Brown (10YR 4/3) sandy silt with gravel, sand fine to coarse, subangular to subrounded. Gravel fine to coarse, subrounded to subangular. | U3C50608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1380 dpm Scan: 18 uR/hr Gamma | 3.5 | 30.0 | 12.9 | 16.4 |
| 7.0 | 2.0 | | | | | | | | | |
| 8.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | U3C50810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1400 dpm Scan: 18 uR/hr Gamma | 2.8 | 30.0 | 10.6 | 13.4 |
| 9.0 | 2.6 | | | | | | | | | |
| 10.0 | 2.8 | | | | | | | | | |
| | 3.0 | | | | U3C51012 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1475 dpm Scan: 18 uR/hr Gamma | | | | |
| 11.0 | 3.2 | | | | | | | | | |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | BORING NUMBER: U3C6 Page #1 of 1 |
| PROJECT NUMBER: 771062.02.01.00.00 | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| UTM EASTING: 627937.90 | DRILLING METHOD: Direct Push |
| UTM NORTHING: 1400770.60 | DRILLING CONTRACTOR: McLaren Hart |
| GEOLOGIST: C. Birney | ELEVATION DATUM: Mean Sea Level |
| QA CHECK: A. Welcher | HOLE SURFACE ELEVATION: 5761.40 |
| DATE HOLE STARTED: 05/19/97 | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE COMPLETED: 05/19/97 | COMMENTS: |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 1000.0 |
| 0.0 | 0.0 | | ML | Dark yellowish brown (01YR 4/4) silty sand with gravel to sandy silt with gravel. Sand is fine to coarse, subrounded to subangular, gravel is fine to medium, subrounded, dry. | U3C60002A | Consistancy: soft Sampled 6/4/97 breathing zone. PID in NA sample with Scan of Electra 1200 dpm Gamma Scan 20 uR/hr | 2.9 | 50.0 | 10.7 | 13.6 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U3C60204A | Consistancy: soft Sampled 6/4/97. breathing zone: PID in NA sample with Scan of Electra 1150 dpm Gamma Scan: 18 uR/hr | 2.9 | 50.0 | 10.9 | 13.8 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | U3C60406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra 1000 dpm Scan: 17 uR/hr Gamma | 2.9 | 50.0 | 9.4 | 11.9 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | SM | Same as above but gravel is fine to coarse, dry. | U3C60608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1400 dpm Scan: 18 uR/hr Gamma | 2.9 | 50.0 | 9.2 | 11.7 |
| | 2.0 | | | | | | | | | |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | ML | Brown (10YR 4/3) sandy silt with gravel, sand is fine to coarse, subrounded to subangular, gravel (volcanics) is fine to coarse, subrounded to subangular, dry. Refusal at 10.0 ft. | U3C60810 | Consistancy: soft PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1300 dpm Scan: 19 uR/hr Gamma | 3.0 | 50.0 | 11.1 | 14.1 |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U3D1 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628108.00 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400778.70 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5762.90 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/19/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/19/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 1000.0 |
| 0.0 | 0.0 | | SM | Brown (10YR 4/3) silty sand with gravel. Sand fine to coarse, subrounded to subangular, dry. Gravel coarse, subrounded to subangular. | U3D10002A | Consistancy: soft Sampled 6/4/97. breathing zone: NA PID in sample with Scan of Electra: 1400 dpm Gamma Scan: 21 uR/hr | 2.9 | 50.0 | 10.7 | 13.6 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| | 0.6 | | | | U3D10204A | Consistancy: soft Sampled 6/4/97. breathing zone: NA PID in sample with Scan of Electra: 1280 dpm Gamma Scan: 19 uR/hr | 3.0 | 50.0 | 11.1 | 14.1 |
| 3.0 | 0.8 | | | | | | | | | |
| 4.0 | 1.0 | | | | | | | | | |
| | 1.2 | | ML | Dark yellowish brown (10YR 4/6) sandy silt with gravel. Gravel coarse to fine, subrounded to subangular, sand fine to coarse, subrounded to subangular, dry. | U3D10406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1460 dpm Scan: 17 uR/hr Gamma | 12.6 | 50.0 | 38.6 | 51.2 |
| 5.0 | 1.4 | | | | | | | | | |
| | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | | U3D10608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1300 dpm Scan: 18 uR/hr Gamma | 2.7 | 50.0 | 10.1 | 12.8 |
| 7.0 | 2.0 | | | | | | | | | |
| | 2.2 | | | | | | | | | |
| 8.0 | 2.4 | | | Brown (10YR 4/3) sandy silt with gravel, gravel fine to coarse, subangular to subrounded, dry. | U3D10810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1050 dpm Scan: 19 uR/hr Gamma | 2.7 | 50.0 | 9.9 | 12.6 |
| | 2.6 | | | | | | | | | |
| 9.0 | 2.8 | | | | | | | | | |
| 10.0 | 3.0 | | | | U3D11012 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1230 dpm Scan: 18 uR/hr Gamma | | | | |
| | 3.2 | | | | | | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3D2 Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628107.60 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400738.70 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5761.80 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/19/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/19/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 1000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | ML | Dark yellowish brown (10YR 4/4) sandy silt with gravel. Gravel subrounded to subangular, sand fine to coarse, subangular to subrounded, dry. | U3D20002A | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: uR/hr | 3.0 | 50.0 | 11.3 | 14.3 |
| 2.0 | 0.6 | | SM | Brown (10YR 4/3) silty sand with gravel. Gravel coarse, subrounded to subangular, sand fine to coarse, subrounded to subangular, dry. | U3D20204A | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 993 dpm Scan: 17 uR/hr Gamma | 2.9 | 50.0 | 10.8 | 13.5 |
| 4.0 | 1.2 | | | Yellowish brown (10YR 5/4) silty sand with gravel. Sand fine to coarse, subangular to subrounded. Gravel coarse, subangular to subrounded, dry. | U3D20406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1059 dpm Scan: 17 uR/hr Gamma | 3.1 | 50.0 | 11.5 | 14.6 |
| 6.0 | 1.8 | | SM-ML | Brown (10YR 4/3) silty sand to sandy silt with gravel. Gravel fine to coarse, subrounded to subangular. Sand fine to coarse, subrounded to subangular, dry. | U3D20608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1132 dpm Scan: 16 uR/hr Gamma | 3.4 | 50.0 | 12.8 | 16.2 |
| 8.0 | 2.4 | | | | U3D20810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1137 dpm Scan: 18 uR/hr Gamma | 2.6 | 50.0 | 9.6 | 12.4 |
| 10.0 | 3.0 | | SM | Brown (10YR 4/3) silty sand with gravel, sand is fine to coarse, subangular to subrounded, gravel fine to coarse, subangular to subrounded, dry. End of boring at 12 ft. | U3D21012 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1148 dpm Scan: 18 uR/hr Gamma | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

# SOIL BORING LOG

BORING NUMBER: U3D3 Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628107.10 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400698.70 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5761.20 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/21/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/21/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0 0 1000.0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 1000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Yellowish brown (10YR 5/4) silty sand with gravel, sand fine to coarse, subrounded to subangular. Gravel coarse subangular to subrounded, moist. | U3D30002A | Consistancy: soft Sampled 6/4/97 breathing zone PID in NA sample with Scan of Electra: 1350 dpm Gamma Scan: 18 uR/hr | 2.9 | 50.0 | 10.7 | 13.6 |
| 2.0 | 0.6 | | | | U3D30204A | Consistancy: soft Sampled 6/4/97. breathing zone: PID in NA sample with Scan of Electra: 1250 dpm Gamma Scan: 17 uR/hr | 3.1 | 50.0 | 11.4 | 14.5 |
| 4.0 | 1.2 | | | | U3D30406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1200 dpm Scan: 19 uR/hr Gamma | 3.5 | 50.0 | 12.9 | 16.4 |
| 6.0 | 1.8 | | | Dark yellowish brown (10YR 4/4), silty sand with gravel, sand fine to coarse, subrounded to subangular. Gravel medium to coarse, angular to subrounded, dry. | U3D30608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1125 dpm Scan: 18 uR/hr Gamma | 3.1 | 50.0 | 11.7 | 14.8 |
| 8.0 | 2.4 | | | Yellowish brown (10YR 5/4) silty sand, same as above. | U3D30810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1800 dpm Scan: 20 uR/hr Gamma | 3.1 | 50.0 | 11.7 | 14.8 |
| 10.0 | 3.0 | | | Dark yellowish brown (10YR 4/4) silty sand, same as above. | U3D31012 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1500 dpm Scan: 18 uR/hr Gamma | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3D4 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628128.10 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400778.50 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5764.20 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/19/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/19/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0 0 4000 0 | 10 0 1000 0 | 10 0 1000 0 |
| 0.0 | 0.0 | | ML | Dark yellowish brown (10YR 4/4) sandy silt with gravel, gravel coarse, subrounded to rounded, dry. | U3D40002A | Consistency soft Sampled 6/4/97 breathing zone PID in NA sample with Scan of Electra: 1500 dpm Gamma Scan. 25 uR/hr | 2.6 | 50.0 | 10.6 | 13.4 |
| 2.0 | 0.6 | | SM-ML | Dark yellowish brown (10YR 4/4) silty sand to sandy silt with gravel. Sand fine to coarse, subrounded to subangular. Gravel coarse, and angular to subrounded, dry. Becomes yellowish brown (10YR 5/4) below 4 ft. | U3D40204A | Consistency: soft Sampled 6/4/97. breathing zone: PID in NA sample with Scan of Electra: 1625 dpm Gamma Scan. 23 uR/hr | 3.0 | 50.0 | 11.3 | 14.3 |
| 4.0 | 1.2 | | | | U3D40406 | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1325 dpm Scan: 21 uR/hr Gamma | 3.8 | 50.0 | 14.1 | 17.9 |
| 6.0 | 1.8 | | ML | Dark yellowish brown (10YR 4/4) sandy silt with gravel, sand fine to coarse, subrounded to subangular. Gravel coarse, angular to subangular, (volcanic) dry. | U3D40508 | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1480 dpm Scan: 20 uR/hr Gamma | 3.4 | 50.0 | 12.0 | 16.0 |
| 8.0 | 2.4 | | | | U3D40810 | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1400 dpm Scan: 20 uR/hr Gamma | 3.2 | 50.0 | 12.1 | 15.3 |
| 10.0 | 3.0 | | | | U3D41012 | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1425 dpm Scan: 19 uR/hr Gamma | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U3D5 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 628127.60
UTM NORTHING: 1400738.50
GEOLOGIST: C. Birney
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/20/79
DATE HOLE COMPLETED: 05/20/97

ENVIRONMENTAL CONTRACTOR: IT CORP.
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 5762.80
TOTAL DEPTH OF HOLE: 12.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 1000 0 |
| 0.0 | 0.0 | | SM-DL | | U3D50002A | Consistancy: soft Sampled 6/4/97 breathing zone. PID in NA sample with Scan of Electra: 1100 dpm Gamma Scan: 16 uR/hr | 2.9 | 50.0 | 10.7 | 13.6 |
| 2.0 | 0.6 | | SM | Yellowish brown (10YR 5/4) silty sand to sandy silt with gravel. Sand fine to coarse, subrounded to subangular. Gravel is fine to coarse, subrounded to subangular, dry. | U3D50204A | Consistancy: soft Sampled 6/4/97. breathing zone: NA PID in sample with Scan of Electra: 1330 dpm Gamma Scan: 17 uR/hr | 3.1 | 50.0 | 12.9 | 16.0 |
| 4.0 | 1.2 | | | As above but becomes moist. | U3D50406 | Consistancy: soft to slightly dense PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 17 uR/hr Gamma | 3.6 | 50.0 | 13.4 | 17.0 |
| 6.0 | 1.8 | | | Dark yellowish brown (10YR 4/6), as above, silty sand with gravel, dry. More coarse gravel after 8 ft. Bottom of boring at 12.0 ft. | U3D50608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1800 dpm Scan: 20 uR/hr Gamma | 2.8 | 50.0 | 9.7 | 12.5 |
| 8.0 | 2.4 | | | | U3D50810 | Consistancy: soft PID in breathing zone: 1.3 ppm Scan of sample with Electra: 1400 dpm Scan: 19 uR/hr Gamma | 3.8 | 50.0 | 14.0 | 17.8 |
| 10.0 | 3.0 | | | | U3D51012 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1230 dpm Scan: 19 uR/hr Gamma | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | BORING NUMBER: U3D6 Page #1 of 1 |
| PROJECT NUMBER: 771062.02.01.00.00 | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| UTM EASTING: 628127.10 | DRILLING METHOD: Direct Push |
| UTM NORTHING: 1400698.40 | DRILLING CONTRACTOR: McLaren Hart |
| GEOLOGIST: C. Birney | ELEVATION DATUM: Mean Sea Level |
| QA CHECK: A. Welcher | HOLE SURFACE ELEVATION: 5761.20 |
| DATE HOLE STARTED: 05/20/97 | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE COMPLETED: 05/20/97 | COMMENTS: |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 1000.0 |
| 0.0 | 0.0 | | SM-ML | Dark yellowish brown (10YR 4/4) sandy silt with some gravel, silty sand. Gravel subrounded, coarse. Sand fine to coarse, subrounded to subangular, moist. (Rained on 5/19/97). | U3D60002A | Consistancy: soft Sampled 6/4/97. Dup sample CNT30044 taken. breathing zone. PID in NA sample with Electra Scan of 1100 dpm Gamma Scan: 20 uR/hr | 3.0 | 50.0 | 11.4 | 14.4 |
| 2.0 | 0.6 | | SM | Dark yellowish brown (10YR 4/4) silty sandy with gravel, angular to subrounded. Sand fine to coarse, subrounded to subangular, dry. | U3D60204A | Consistancy: soft Sampled 6/4/97 breathing zone PID in NA sample with Electra Scan of 1400 dpm Gamma Scan: 19 uR/hr | 3.0 | 50.0 | 11.1 | 14.1 |
| 4.0 | 1.2 | | | Yellowish brown (10YR 5/4) silty sand with gravel. Sand fine to coarse, subrounded to subangular. Gravel, coarse, subangular, dry. | U3D60406 | Consistancy: soft PID in breathing zone: 1.5 ppm Scan of sample with Electra: 1395 dpm Scan: 20uR/hr Gamma | 3.6 | 50.0 | 13.4 | 17.0 |
| 6.0 | 1.8 | | | Light yellowish brown (10YR 6/4) silty sand with gravel. Sand fine to coarse, subrounded to subangular, gravel, corse, subangular to subrounded, dry. | U3D60608 | Consistancy: soft PID in breathing zone: 1.4 ppm Scan of sample with Electra: 1120 dpm Scan: 18 uR/hr Gamma | 3.2 | 50.0 | 12.0 | 15.2 |
| 8.0 | 2.4 | | | Brown (10YR 4/3) silty sand with gravel, sand fine to coarse, subangular to subrounded, gravel, fine to coarse, subrounded to angular, dry. | U3D60810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1160 dpm Scan: 18 uR/hr | 2.8 | 50.0 | 10.5 | 13.3 |
| 10.0 | 3.0 | | | Light yellowish brown (10YR 6/4) silty sand, some gravel, same as above. | U3D61012 | Consistancy: soft PID in breathing zone: 1.4 ppm Scan of sample with Electra: 1225 dpm Scan: 18 uR/hr Gamma | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

Gamma

| SOIL BORING LOG | BORING NUMBER: U3E1 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627645.30 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1400563.90 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5759.10 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/19/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/19/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 12000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 12000.0 | TPH Total (mg/kg) 0.0 30000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Brown (7.5YR 4/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, some medium grians, massive fill. There is a rock at 2.4 ft. | NO SAMPLE | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1278 dpm Scan: 20 uR/hr Gamma | 30.0 | 50.0 | 68.5 | 98.5 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U3E10204 | Consistancy: soft Sample held, pending analysis. PID in breathing zone: NA Scan of sample with Electra: 1278 dpm Scan: 20 uR/hr Gamma | 13.6 | 50.0 | 34.6 | 48.4 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | U3E10406 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1149 dpm Scan: 19 uR/hr Gamma | 218.0 | 51.1 | 333.0 | 571.0 |
| 6.0 | 1.2 | | | | | | | | | |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | DM | Brown (7.5YR 4/3) clay, moist, clay is lean. | U3E10608 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1111 dpm Scan: 18 uR/hr Gamma | 7610.0 | 1090.0 | 7830.0 | 15440.0 |
| 10.0 | 2.0 | | | | | | | | | |
| 11.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | U3E10810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1127 dpm Scan: 20 uR/hr Gamma | 385.0 | 666.0 | 1060.0 | 1645.0 |
| | 2.6 | | SP-SM | Brown (7.5YR 4/4) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, massive, native, predominately fine grained, trace coarse grains. | | | | | | |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | U3E11012 | Consistancy: soft Sample held, pending analysis. PID in breathing zone: NA Scan of sample with Electra: 1264 dpm Scan: 21 uR/hr Gamma | 3.5 | 66.8 | 13.2 | 18.7 |
| | 3.2 | | | | | | | | | |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3E2 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 627665.30
UTM NORTHING: 1400563.70
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/18/97
DATE HOLE COMPLETED: 05/18/97

ENVIRONMENTAL CONTRACTOR: IT CORP.
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 5758.90
TOTAL DEPTH OF HOLE: 12.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 12000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 12000.0 | TPH Total (mg/kg) 0.0 – 30000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Brown (7.5YR 4/6) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, some pebbles sized gravel, fill. At 2.4 ft, some organics (wood), 3 inches. At 3.0 ft, some organics (wood) 2 inches. | NO SAMPLE | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1096 dpm Scan: 20 uR/hr Gamma | 77.5 | 50.0 | 227.0 | 304.0 |
| 2.0 | 0.6 | | | | U3E20204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1096 dpm Scan: 20 uR/hr Gamma | 203.0 | 50.0 | 407.0 | 610.0 |
| 4.0 | 1.2 | | | | U3E20406 | Consistancy: soft becomes firm after 5 ft PID in breathing zone: NA Scan of sample with Electra: 1104 dpm Scan: 18 uR/hr Gamma | 1500.0 | 385.0 | 2350.0 | 3850.0 |
| 5.0 | 1.6 | | DM | Dark brown (10YR 3/3) clay, moist, clay is lean. Native. | | | | | | |
| 6.0 | 1.8 | | | Gray (7.5YR 5/1) sand, dry. Sand is fine grained poorly graded, well sorted, slightly stratified, native. | U3E20608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1066 dpm Scan: 22 uR/hr Gamma | 3490.0 | 691.0 | 6420.0 | 9910.0 |
| 8.0 | 2.4 | | | | U3E20810 | Consistancy: soft to firm PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1208 dpm Scan: 19 uR/hr Gamma | 103.0 | 206.0 | 487.0 | 590.0 |
| 9.0 | 2.6 | | SP | | | | | | | |
| 10.0 | 2.8 | | SP-SM | Olive brown (2.5 4/3) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, native. | U3E21012 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1179 dpm Scan: 22 uR/hr Gamma | 2.9 | 50.0 | 10.8 | 13.7 |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | BORING NUMBER: U3E3 Page #1 of 1 |
| PROJECT NUMBER: 771062.02.01.00.00 | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| UTM EASTING: 627695.30 | DRILLING METHOD: Direct Push |
| UTM NORTHING: 1400563.30 | DRILLING CONTRACTOR: McLaren Hart |
| GEOLOGIST: M. Flaugher | ELEVATION DATUM: Mean Sea Level |
| QA CHECK: A. Welcher | HOLE SURFACE ELEVATION: 5758.50 |
| DATE HOLE STARTED: 05/18/97 | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE COMPLETED: 05/18/97 | COMMENTS: |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 12000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 12000.0 | TPH Total (mg/kg) 0.0 30000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fine to medium grained, predominately fine grained, poorly graded, subangular to subrounded, massive, fill, organics (grass, wood). | NO SAMPLE | Consistancy: soft PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1111 dpm Scan: 20 uR/hr Gamma | 143.0 | 30.0 | 413.0 | 556.0 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U3E30204 | Consistancy: soft PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1111 dpm Scan: 20 uR/hr Gamma | 122.0 | 30.0 | 109.0 | 231.0 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | U3E30406 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1178 dpm Scan: 19 uR/hr Gamma | 114.0 | 30.0 | 64.5 | 178.0 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | Brown (10YR 4/3) clay, dry. Clay is lean, some trace fine grained sand, slightly stratified. | | | | | | |
| 9.0 | 1.8 | | DM | | U3E30608 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1210 dpm Scan: 20 uR/hr Gamma | 1350.0 | 907.0 | 548.0 | 1876.0 |
| 10.0 | 2.0 | | | | | | | | | |
| 11.0 | 2.2 | | | Light gray (10YR 7/2) bentonite clay, dry. Clay is lean, strongly consolidated. | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | | Grayish brown (2.5Y 5/2) clay, wet, clay is lean, loosely consolidated. Concoidal fracturing. | U3E30810 | Consistancy: firm to hard PID in breathing zone: NA Scan of sample with Electra: 1078 dpm Scan: 20 uR/hr Gamma | 307.0 | 206.0 | 288.0 | 595.0 |
| | 2.8 | | SP-SC | | | | | | | |
| | 3.0 | | | Yellowish brown (10YR 5/4) sand with clay, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, trace coarse grains, trace pebble sized gravel, trace silt, native. | | | | | | |
| | 3.2 | | | | U3E31012 | Consistancy: soft to firm Sample held pending analysis. breathing zone: PID in 1.7 ppm Scan of sample with Electra: 1038 dpm Scan: 20 uR/hr Gamma | 3.3 | 30.0 | 12.1 | 15.4 |
| | 3.4 | | SP-SM | Dark yellowish brown (01YR 4/4) sand with silt, dry. Sand is fine grained, with trace medium grains, poorly graded, subangular to subrounded, native | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3E4 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627645.10 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1400543.90 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5758.60 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/19/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/19/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | At 4.0 ft. becomes coarsly grained. At 4.3 ft, rock tuff, well cemented. | NO SAMPLE | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1153 dpm Scan: 20 uR/hr Gamma | 13.5 | 50.0 | 33.1 | 46.6 |
| 2.0 | 0.6 | | | | U3E40204 | Consistancy: soft This sample held pending analysis. breathing zone: PID in NA sample with Scan of Electra: 1153 dpm Gamma Scan: 20 uR/hr | 17.6 | 50.0 | 40.4 | 58.0 |
| 4.0 | 1.2 | | | | U3E40406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1104 dpm Scan: 19uR/hr Gamma | 8.6 | 50.0 | 46.1 | 56.7 |
| 6.0 | 1.8 | | SP | Yellowish brown (10YR 5/4) sand, dry. Sand is fine grained, trace medium grains, trace clays, 3%, poorly graded, subangular to subrounded. | U3E40808 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1278 dpm Scan: 22 uR/hr Gamma | 157.0 | 50.0 | 205.0 | 382.0 |
| 8.0 | 2.4 | | | | U3E40810 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1111 dpm Scan: 20 uR/hr Gamma | 3.3 | 54.3 | 11.5 | 14.8 |
| 10.0 | 3.0 | | SP-SM | Very dark grayish brown (10YR 3/2) sand with silt, dry. Sand is fine to medium grained, predominatedly medium grained, poorly graded, difficult pushing. | U3E41012 | Consistancy: soft This sample held pending analysis. breathing zone: PID in NA sample with Scan of Electra: 1263 dpm Gamma Scan: 20 | 2.7 | 50.0 | 10.2 | 12.9 |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U3E5 | Page #1 of 1

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|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627665.10 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400543.70 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5758.50 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/18/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/18/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Olive brown (2.5Y 4/3) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, fill. | NO SAMPLE | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1400 dpm Scan: 21 uR/hr Gamma | 12.9 | 50.0 | 48.7 | 61.6 |
| 2.0 | 0.6 | | | | U3E50204 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1400 dpm Scan: 21 uR/hr Gamma | 9.2 | 50.0 | 19.2 | 28.4 |
| 4.0 | 1.2 | | | | U3E50406 | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1359 dpm Scan: 20 uR/hr Gamma | 15.3 | 59.4 | 66.1 | 99.4 |
| 5.0 | 1.6 | | | Yellowish brown (10YR 5/4) sand wiht clay, dry. Sand is fine grianed, poorly graded, subangular to subrounded. | | | | | | |
| | | | DM | | | | | | | |
| 6.0 | 1.8 | | SP-SM | Brown (10YR 5/3) sand with silt, dry. Sand is fine grained, with trace medium grains, poorly graded, subangular to subrounded, massive, native. | U3E50608 | Consistancy: soft to firm PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1391 dpm Scan: 22 uR/hr Gamma | 3.1 | 50.0 | 1.6 | 14.7 |
| 7.0 | 2.2 | | | | | | | | | |
| 8.0 | 2.4 | | | | U3E50810 | Consistancy: soft to firm PID in breathing zone: 1.4 ppm Scan of sample with Electra: 1248 dpm Scan: 21 uR/hr Gamma | 2.7 | 50.0 | 10.2 | 12.9 |
| 9.0 | 2.8 | | | | | | | | | |
| 10.0 | 3.0 | | | | U3E51012 | Consistancy: soft to firm Sample held pending analysis. PID in breathing zone: 2.0 ppm Scan of sample with Electra: 1149 dpm Scan: 20 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3E6 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 627695.10
UTM NORTHING: 1400543.30
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 05/18/97
DATE HOLE COMPLETED: 05/18/97

ENVIRONMENTAL CONTRACTOR: IT CORP.
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 5758.40
TOTAL DEPTH OF HOLE: 12.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 2000.0 | 0 0 4000 0 | 0 0 2000 0 | 0 0 4000 0 |
| 0.0 | 0.0 | | SP-SM | Same as above but at 3.4 ft. a large amount of organics are present. | NO SAMPLE | Consistancy: soft PID in breathing zone: 1.4 ppm Scan of sample with Electra: 1263 dpm Scan: 22 uR/hr Gamma | 20.5 | 50.0 | 89.3 | 109.0 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U3E60204 | Consistancy: soft to firm PID in breathing zone: 1.4 ppm Scan of sample with Electra: 1263 dpm Scan: 22 uR/hr Gamma | 9.6 | 50.0 | 47.4 | 57.2 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | U3E60406 | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1149 dpm Scan: 22 uR/hr Gamma | 1110.0 | 250.0 | 787.0 | 1877.0 |
| 7.0 | 1.4 | | DM | Brown (10YR 5/3 clayey sand, dry. Sand is fine to medium grained, predominately medium grained, subangular to subrounded, poorly graded, clay content is approx. 30%. | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | | U3E60608 | Consistancy: soft to firm PID in breathing zone: 1.8 ppm Scan of sample with Electra: 1134 dpm Scan: 18 uR/hr Gamma | 20.0 | 172.0 | 94.1 | 120.0 |
| 10.0 | 2.0 | | | | | | | | | |
| 11.0 | 2.2 | | SP-SM | Yellowish brown (01YR 5/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, native. | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | | | U3E60810 | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1069 dpm Scan: 19 uR/hr Gamma | 8.4 | 50.0 | 12.8 | 16.2 |
| | 2.8 | | | Same as above but an increase in coarse grained sand. | | | | | | |
| | 3.0 | | | | | | | | | |
| | 3.2 | | | | U3E61012 | Consistancy: firm Sample held pending results. PID in breathing zone: NA Scan of sample with Electra: 1127 dpm Scan: 19 uR/hr Gamma | 3.6 | 50.0 | 13.3 | 16.8 |
| | 3.4 | | | Same as above but predominately fine grained sand sizes. | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3E7 ; Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627659.20 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400598.70 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5760.10 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 06/01/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/01/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 2000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with some gravel. Sand very fine to coarse, rounded to subangular. Gravel angular to subrounded, moist. | U3E70002 | Consistancy: soft PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1165 dpm Scan: 17 uR/hr Gamma | 5.1 | 50.0 | 18.2 | 23.3 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U3E70204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1280 dpm Scan: 18 uR/hr Gamma | 7.4 | 50.0 | 16.1 | 23.5 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | U3E70406 | Consistancy: soft PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1000 dpm Scan: 19 uR/hr Gamma | 7.3 | 50.0 | 13.0 | 20.3 |
| | 1.4 | | | | | | | | | |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | Dark yellowish brown (10YR 4/4) silty sand with minor gravel. Sand very fine to coarse, rounded to subangular. Gravel fine to coarse, subrounded, some welded tuff, dry. | U3E70608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1030 dpm Scan: 17 uR/hr Gamma | 12.5 | 50.0 | 20.1 | 32.6 |
| 7.0 | 2.0 | | | | | | | | | |
| | 2.2 | | | | | | | | | |
| 8.0 | 2.4 | | | Light olive brown (2.5Y 5/3) to dark yellowish brown (10YR 3/4) silty sand as above. Some welded tuff, dry. | U3E70810 | Consistancy: dense breathing zone: PID in 1.5 ppm Scan of sample with Electra: 1100 dpm Scan: 17 uR/hr Gamma | 53.6 | 50.0 | 21.7 | 75.3 |
| | 2.6 | | | | | | | | | |
| 9.0 | 2.8 | | | | | | | | | |
| 10.0 | 3.0 | | | Dark brown (10YR 3/3) silty sand with some gravel. Sand very fine to coarse rounded to subangular, slightly moist. Gravel fine, subrounded, no welded tuff. Bottom boring at 12.0 ft. | U3E71012 | Consistancy: dense breathing zone: PID in NA sample with Scan of Electra: 1020 dpm Gamma Scan: 17 uR/hr | 12.1 | 50.0 | 12.6 | 24.7 |
| | 3.2 | | | | | | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3E8 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 627735.20
UTM NORTHING: 1400552.90
GEOLOGIST: C. Birney
QA CHECK: A. Welcher
DATE HOLE STARTED: 06/01/97
DATE HOLE COMPLETED: 06/01/97

ENVIRONMENTAL CONTRACTOR: IT CORP.
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 5759.10
TOTAL DEPTH OF HOLE: 12.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand very fine to coarse, rounded to subangular. Gravel fine to coarse, angular to subrounded, dry. | U3E80002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1045 dpm Scan: 18 uR/hr Gamma | 3.6 | 50.0 | 13.5 | 17.1 |
| 2.0 | 0.6 | | | | U3E80204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1300 dpm Scan: 19 uR/hr Gamma | 2.9 | 50.0 | 11.5 | 14.4 |
| 4.0 | 1.2 | | | | U3E80406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1150 dpm Scan: 18 uR/hr Gamma | 20.3 | 50.0 | 18.9 | 39.2 |
| 6.0 | 1.8 | | | Same as above, silty sand with gravel. Hard drilling formation very tight. | U3E80608 | Consistancy: dense breathing zone: PID in 1.6 ppm Scan of sample with Electra: 1145 dpm Scan: 18 uR/hr Gamma | 4.9 | 50.0 | 25.3 | 30.2 |
| 8.0 | 2.4 | | | | U3E80810 | Consistancy: dense breathing zone: PID in NA Scan of sample with Electra: 1400 dpm Gamma Scan: 18 uR/hr | 2.9 | 50.0 | 10.7 | 13.6 |
| 10.0 | 3.0 | | | | U3E81012 | Consistancy: dense breathing zone: PID in 1.5 ppm Scan of sample with Electra: 1285 dpm Scan: 19 uR/hr Gamma | 3.3 | 50.0 | 12.2 | 15.5 |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U3E9 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP. |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627605.30 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400564.40 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5759.00 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 06/01/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/01/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 3/4) silty sand with gravel. Sand fine to coarse. Sand rounded to subangular. Gravel fine to coarse, subrounded, to subangular, dry. | U3E90002 | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1100 dpm Scan: 17 uR/hr Gamma | 2.6 | 50.0 | 10.5 | 13.3 |
| 2.0 | 0.6 | | | | U3E90204 | Consistency: soft Duplicate sample CNT30031 taken breathing zone NA PID in sample with Scan of Electra: 1380 dpm Gamma Scan: 17uR/hr | 3.7 | 50.0 | 10.4 | 14.1 |
| 4.0 | 1.2 | | | | U3E90406 | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1275 dpm Scan: 18 uR/hr Gamma | 2.6 | 50.0 | 10.3 | 13.1 |
| 6.0 | 1.8 | | | As above, silty sand with gravel. Some welded tuff. | U3E90608 | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1080 dpm Scan: 17 uR/hr Gamma | 2.9 | 50.0 | 12.0 | 14.9 |
| 8.0 | 2.4 | | SP | Dark brown (10YR 3/5) poorly sorted sand with silt and gravel. Sand rounded to subangular, very fine to coarse. Gravel fine, subrounded to subangular. | U3E90810 | Consistency. dense breathing zone: PID in 0.9 ppm Scan of sample with Electra: 1150 dpm Scan: uR/hr Gamma | 2.6 | 50.0 | 10.6 | 13.4 |
| 9.0 | 2.8 | | | Color changes to light olive brown (2.5Y 5/3). | | | | | | |
| 10.0 | 3.0 | | SM | Olive brown (2.5Y 4/3) silty sand with gravel. End of boring at 12.0 ft. | U3E91012 | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: uR/hr | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3E10 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627953.10 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1399848.10 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5758.80 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 18.50 | |
| DATE HOLE STARTED: 06/03/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/07/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 10000.0 | 0.0 4000.0 | 0 20000 | 0 40000 |
| 0.0 | 0.0 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fien grained, poorly graded, subangular to subrounded, volcanic detrital, massive, organics (roots) in upper 3 inches. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1313 dpm Scan: 20 uR/hr Gamma | 780.0 | 50.0 | 294 | 1074 |
| 3.0 | 1.0 | | | Same as above but at 4.0 ft there is a strong petroleum odor. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1313 dpm Scan: 20 uR/hr Gamma | 214.0 | 50.0 | 208 | 422 |
| 5.0 | 1.6 | | | Same as above, strong petroleum odor, difficulty in pushing. | | Consistancy: soft Duplicate sample CNT30038 taken. PID in breathing zone: NA Scan of sample with Electra: 1188 dpm | 653.0 | 50.0 | 356 | 1209 |
| 6.0 | 1.8 | | | Same as above, strong petroleum odor, well consolidated, difficulty in pushing. Refusal at 10.0 ft. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1359 dpm Scan: 23 uR/hr Gamma | 6110.0 | 50.0 | 10900 | 17010 |
| 7.0 | 2.2 | | | Dark yellowish brown (10YR 4/6) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanic detrital, trace clay, strong petroleum odor. | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1211 dpm Scan: 22 uR/hr Gamma | 821.0 | 50.0 | 234 | 1055 |
| 10.0 | 3.0 | | | Dark yellowish brown (10YR 4/6) sand, dry to moist. Sand is fine to coarse grained, predominately fine grained, poorly graded, subangular to subrounded, trace gravel (rounded, volcanic, pebble sized), strong petroleum odor. | | Sampled from 10 to 18.5 ft. on 6/7/97. Consistancy: soft to firm to 10.8 ft., then soft Strong petroleum odor. | 1900.0 | 50.0 | 544 | 2504 |
| 11.0 | 3.4 | | SP | | | | | | | |
| 13.0 | 4.0 | | | Same as above trace clay. Strong petroleum odor from 12 to 14 ft. | | Consistancy: soft to approx. 13.4 ft., then firm Strong petroleum odor from 12 to 14 ft. | 6830.0 | 50.0 | 1100 | 7930 |
| 14.0 | 4.2 | | | Dark yellowish brown (10YR 4/6) sand with gravel, moist. Sand is fine to coarse grained, poorly graded, subangular to subrounded. Gravel is pebble sized, rounded to subrounded, volcanic detrital, petroleum odor. | | Consistancy: soft Duplicate sample CNT30052 taken. | 4890.0 | 50.0 | 1080 | 5970 |
| 16.0 | 4.8 | | | | | Consistancy: soft to firm | | | | |
| 17.0 | 5.2 | | | Same as above, trace silty, strong petroleum odor. Refusal at 18.5 ft. | | | 747.0 | 50.0 | 107 | 854 |
| 18.0 | 5.4 | | | | | No recovery. | | | | |

SOIL BORING LOG | BORING NUMBER: U3E11 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 627624.60
UTM NORTHING: 1400504.10
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 06/03/97
DATE HOLE COMPLETED: 06/03/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 5758.90
TOTAL DEPTH OF HOLE: 9.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanic detrital organics (roots) in upper 3 inches, massive. | | Consistancy soft PID in breathing zone: NA Scan of sample with Electra: 1387 dpm Scan: 22 uR/hr Gamma | 64.3 | 50.0 | 81.3 | 155.6 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy. soft PID in breathing zone: NA Scan of sample with Electra: 1387 dpm Scan: 22 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | Same as above, at 4.0 ft, becomes well consolidated. Refusal at 9.0 ft. | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1102 dpm Scan: 24 uR/hr Gamma | 2.9 | 50.0 | 10.6 | 13.7 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| | 1.8 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1227 dpm Scan: 20 uR/hr Gamma | 2.9 | 50.0 | 10.6 | 13.7 |
| | 2.0 | | | | | | | | | |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1292 dpm Scan: 17 uR/hr Gamma | 0.0 | 50.0 | 12.0 | 15.9 |
| | 2.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: 03E12 Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627705.70 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400598.20 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5759.30 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 06/03/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/03/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanic detrital, massive, roots in 0 to 3 inches. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1338 dpm Scan: 20 uR/hr Gamma | 2.9 | 50.0 | 11.5 | 14.4 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1338 dpm Scan: 20 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| 3.0 | 0.8 | | | | | | | | | |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1214 dpm Scan: 22 uR/hr Gamma | 2.9 | 50.0 | 12.4 | 13.3 |
| | 1.4 | | | Same as above, becomes well consolidated. | | | | | | |
| 5.0 | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | Same as above, increase to trace pebble sized gravel, rounded. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1202 dpm Scan: 21 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| | 2.0 | | | | | | | | | |
| 7.0 | 2.2 | | | Brown (10YR 4/3) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic detrital. | | | | | | |
| 8.0 | 2.4 | | SP | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1258 dpm Scan: 20 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| | 2.6 | | | | | | | | | |
| 9.0 | 2.8 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic detrital, trace gravel. Total depth is 12.0 ft. | | | | | | |
| 10.0 | 3.0 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1148 dpm Scan: 22 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| | 3.2 | | | | | | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG | BORING NUMBER: U3E13 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 627694.20
UTM NORTHING: 1400463.30
GEOLOGIST: C. Birney
QA CHECK: A. Welcher
DATE HOLE STARTED: 06/04/97
DATE HOLE COMPLETED: 06/04/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 5758.70
TOTAL DEPTH OF HOLE: 11.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand very fine to coarse, rounded to subangular. Gravel fine to coarse, angular to subrounded, dry, no odor. | | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1300 dpm Scan: 17 uR/hr Gamma | 69.7 | 50.0 | 199.0 | 268.0 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1470 dpm Scan: 17 uR/hr Gamma | 2.9 | 50.0 | 10.6 | 13.5 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1150 dpm Scan: 17 uR/hr Gamma | 2.9 | 50.0 | 10.8 | 13.7 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | Yellowish brown (10YR 5/4) silty sand with gravel. Sand is very fine to coarse, angular to rounded. Gravel coarse and subangular. | | | | | | |
| 9.0 | 1.8 | | | | | | | | | |
| 10.0 | 2.0 | | | Dark yellowish brown (10YR 4/4) silty sand, no gravel. Sand is very fine to coarse, rounded to subangular, dry. | | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1025 dpm Scan: 16 uR/hr Gamma | 3.4 | 50.0 | 14.2 | 17.6 |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | ML | Yellowish brown (10YR 5/4) sandy silt with gravel. Sand is very fine to coarse, subrounded to subangular. Gravel fine to coarse, angular, dry. Refusal at 11.0 ft. | | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: 1125 dpm Scan: 14 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |
| | 3.2 | | | | | Consistency: soft PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: uR/hr | 3.4 | 50.0 | 20.3 | 23.7 |

SOIL BORING LOG

BORING NUMBER: U3E14 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 627734.60
UTM NORTHING: 1400502.80
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 06/04/97
DATE HOLE COMPLETED: 06/05/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 5758.90
TOTAL DEPTH OF HOLE: 16.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 2000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Dark yellowish brown (10YR 4/4) sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, trace gravel, pebble sized, tuff, strong petroleum odor, trace silt. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1258 dpm Scan: 22 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| | 0.6 | | | | | | | | | |
| | 0.8 | | | Dark yellowish brown (10YR 4/4) sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, trace silt. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1258 dpm Scan: 22 uR/hr Gamma | | | | |
| 3.0 | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | Same as above, strong petroleum odor. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1263 dpm Scan: 20 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | | | | | | | |
| | 2.0 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1008 dpm Scan: 16 uR/hr Gamma | | | | |
| 7.0 | 2.2 | | | | | | | | | |
| 8.0 | 2.4 | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded. Trace gravel, rounded, tuff, stong odor. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 20 uR/hr Gamma | | | | |
| | 2.6 | | | | | | | | | |
| 9.0 | 2.8 | | | | | | | | | |
| 10.0 | 3.0 | | | Same as above, at 10.0 ft, strong petroleum odor. Tough pushing at bottom. Total depth of boring at 12.0 ft. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: NA dpm Scan: NA uR/hr Gamma | 104.0 | 50.0 | 56.0 | 162.0 |
| | 3.2 | | | | | | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| 12.0 | 3.6 | | SP | Dark yellowish brown (10YR 4/4) sand, dry. Sand is fine grained, trace coarse sand, poorly graded, subangular to subrounded, trace silt. | | 14 to 16 ft sampled on 6/5/97. Consistancy: soft PID in breathing zone: 7.4 ppm Scan of sample with Electra: 1325 dpm Gamma | 23.6 | 50.0 | 13.6 | 37.2 |
| | 3.8 | | | | | | | | | |
| 13.0 | 4.0 | | | | | | | | | |
| 14.0 | 4.2 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic detrital. Bottom of Boring at 16 ft. | | Consistancy: soft PID in breathing zone: 6 0 ppm Scan of sample with Electra: 1203 dpm Scan: 17 uR/hr Gamma | 10.9 | 50.0 | 10.8 | 21.7 |
| | 4.4 | | | | | | | | | |
| 15.0 | 4.6 | | | | | | | | | |
| | 4.8 | | | | | | | | | |

SOIL BORING LOG

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | BORING NUMBER: U3E15 Page #1 of 1 |
| PROJECT NUMBER: 771062.02.01.00.00 | ENVIRONMENTAL CONTRACTOR: IT CORP |
| UTM EASTING: 627814.60 | DRILLING METHOD: Direct Push |
| UTM NORTHING: 1400491.90 | DRILLING CONTRACTOR: McLaren Hart |
| GEOLOGIST: M. Flaugher | ELEVATION DATUM: Mean Sea Level |
| QA CHECK: A. Welcher | HOLE SURFACE ELEVATION: 5759.20 |
| DATE HOLE STARTED: 06/05/97 | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE COMPLETED: 06/05/97 | COMMENTS: |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded, trace clay, trace pebble sized gravel, volcanic detrital. PID Headspace = 3.0 ppm from 0 to 2 ft. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1242 dpm Scan: 15 uR/hr Gamma | 7.8 | 50.0 | 37.7 | 45.5 |
| 2.0 | 0.6 | | | PID Headspace = 5.9 ppm from 2 to 4 ft. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1242 dpm Scan: 15 uR/hr Gamma | 496.0 | 50.0 | 236.0 | 732.0 |
| 4.0 | 1.2 | | | PID Headspace = 3.4 ppm from 4 to 6 ft. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1242 dpm Scan: 16 uR/hr Gamma | 47.9 | 50.0 | 57.1 | 105.0 |
| 6.0 | 1.8 | | SC | Yellowish brown (10YR 5/4) clayedy sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, clay content approx. 40%. PID Headspace = 2.5 ppm from 6 to 8 ft. | | Consistancy: firm from 6-7 ft., then soft. PID in breathing zone: NA Scan of sample with Electra: 1261 dpm Gamma Scan: 17 uR/hr | 516.0 | 50.0 | 838.0 | 1154.0 |
| 7.0 | 2.2 | | SP | | | | | | | |
| 8.0 | 2.4 | | | Yellowish brown (10YR 5/4) sand dry. Sand is fine to medium grained, poorly graded, subangular to subrounded. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1313 dpm Scan: 15 uR/hr Gamma | 36.3 | 50.0 | 23.3 | 65.6 |
| 9.0 | 2.8 | | | | | | | | | |
| 10.0 | 3.0 | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine, medium | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: NA dpm Scan: NA uR/hr Gamma | 19.1 | 50.0 | 11.2 | 30.3 |
| 11.0 | 3.4 | | | Same as above, becomes tightly packed, tough pushing. | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3E16 | Page #1 of 1

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627764.10 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400452.50 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5758.60 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 06/05/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/05/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanic detrital, massive. | | Consistancy soft PID in breathing zone: NA Scan of sample with Electra: 1180 dpm Scan: 16 uR/hr Gamma | 628.0 | 50.0 | 220.0 | 848.0 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| | 0.6 | | | Same as above trace bentonite clay. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1180 dpm Scan: 16 uR/hr Gamma | 17.7 | 50.0 | 38.8 | 54.5 |
| 3.0 | 0.8 | | | | | | | | | |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | SM | Dark yellowish brown (10YR 4/4) silty sand, dry. Sand is fine grained poorly graded, subangular to subrounded, massive. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 816 dpm Scan: 16 uR/hr Gamma | 9.2 | 50.0 | 10.7 | 16.9 |
| | 1.4 | | | | | | | | | |
| 5.0 | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | | | | | | | |
| | 2.0 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1141 dpm Scan: 16 uR/hr Gamma | 3.0 | 50.0 | 11.2 | 14.2 |
| 7.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| 8.0 | | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded. Refusal at 10.0 ft. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1008 dpm Scan: 18 uR/hr Gamma | 152.0 | 50.0 | 112.0 | 264.0 |
| | 2.6 | | | | | | | | | |
| 9.0 | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3E17 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627785.10 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400542.30 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5759.40 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 06/05/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/05/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fine grained, trace medium grained, poorly graded, subangular to subrounded, masssive, volcanic detrital. | | Consistancy: soft PID in breathing zone: 2.1 ppm Scan of sample with Electra: 1188 dpm Scan: 17 uR/hr Gamma | 6.4 | 50.0 | 27.1 | 35.5 |
| 2.0 | 0.6 | | | Same as above, color change to brown (10YR 3/3). | | Consistancy: soft PID in breathing zone: 2.0 ppm Scan of sample with Electra: 1188 dpm Scan: 17 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| 4.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: 4.7 ppm Scan of sample with Electra: 1063 dpm Scan: 18 uR/hr Gamma | 3.0 | 50.0 | 11.1 | 14.1 |
| 6.0 | 1.8 | | SP | Dark yellowish brown (10YR 3/4) sand, dry. Sand is fine grained, trace coarse grains, poorly graded, subangular to subrounded, volcanic detrital, trace silt. | | Consistancy: soft PID in breathing zone: 6.2 ppm Scan of sample with Electra: 914 dpm Scan: 19 uR/hr Gamma | 2.9 | 50.0 | 10.9 | 13.8 |
| 8.0 | 2.4 | | | | | Consistancy: soft PID in breathing zone: 4.0 ppm Scan of sample with Electra: 1125 dpm Scan: 16 uR/hr Gamma | 2.6 | 50.0 | 10.5 | 13.3 |
| 10.0 | 3.0 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanics, trace medium grains. Total depth is 12.0 ft. | | Consistancy: soft PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1023 dpm Scan: 17 uR/hr Gamma | 2.6 | 50.0 | 10.6 | 13.4 |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3E18 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 627889.50
UTM NORTHING: 1400481.00
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 06/07/97
DATE HOLE COMPLETED: 06/07/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 5759.30
TOTAL DEPTH OF HOLE: 10.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 2000.0 |
| 0.0 | 0.0 | | SP | Dark yellowish brown (10YR 4/4) sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, trace roots in upper 3 inches, trace gravel, angular, volcanic, massive, strong petroleum odor. | | Consistancy soft Strong petroleum odor | | | | |
| 1.0 | 0.2 | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine to coarse grained, predomniately fine grained, poorly graded, subangular to subrounded, volcanics, massive, petroleum odor. Total depth is 10.0 ft. | | | 93.1 | 50.0 | 108.0 | 201.0 |
| 2.0 | 0.4 | | | | | Consistancy: soft Petroleum odor | | | | |
| 3.0 | 0.6 | | | | | | 109.0 | 50.0 | 87.0 | 196.0 |
| 4.0 | 0.8 | | | | | Consistancy: soft | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | | | | | | |
| 7.0 | 1.4 | | | | | Consistancy: soft | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | | | | | | | |
| | 2.0 | | | | | Consistancy: soft | | | | |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | | | | | 2.6 | 50.0 | 10.5 | 13.3 |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3E19 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

PROJECT NUMBER: 771062.02.01.00.00

UTM EASTING: 627954.10

UTM NORTHING: 1400440.30

GEOLOGIST: M. Flaugher

QA CHECK: A. Welcher

DATE HOLE STARTED: 06/07/97

DATE HOLE COMPLETED: 06/07/97

ENVIRONMENTAL CONTRACTOR: IT CORP

DRILLING METHOD: Direct Push

DRILLING CONTRACTOR: McLaren Hart

ELEVATION DATUM: Mean Sea Level

HOLE SURFACE ELEVATION: 5759.20

TOTAL DEPTH OF HOLE: 10.00

COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0 0 1000.0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 2000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Dark yellowish brown (10YR 3/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanic detrital, trace quartz, trace gravel, pebble sized, angular. | | Consistancy: soft | | | | |
| 1.0 | 0.2 | | | | | | 4.6 | 50.0 | 26.3 | 33.1 |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft | | | | |
| 4.0 | 0.8 | | | | | | 2.6 | 50.0 | 10.5 | 13.3 |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | | Consistancy: soft | | | | |
| 7.0 | 1.4 | | | | | | 5.3 | 50.0 | 19.8 | 25.1 |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | | | Consistancy: soft | | | | |
| | 2.0 | | | | | | 3.0 | 50.0 | 11.2 | 14.2 |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | Same as above, color change to brown (7.5YR 5/3). Total depth is 10.0 ft. | | Consistancy: soft | | | | |
| | 2.6 | | | | | | | | | |
| | 2.8 | | | | | | 2.6 | 50.0 | 10.5 | 13.3 |
| | 3.0 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3E20 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627813.10 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1400361.80 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5757.90 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 9.00 | |
| DATE HOLE STARTED: 06/07/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/07/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 0 1000 0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 2000 0 |
| 0.0 | 0.0 | | SP-SM | Brown (7.5YR 4/4) sand with silt, dry. Sand is fine grained, trace medium grains, poorly graded, subangular to subrounded, volcanics, massive, trace qtz. | | Consistancy: soft | 10.6 | 50.0 | 31.5 | 42.3 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft | 3.1 | 50.0 | 18.1 | 21.2 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | Consistancy: soft | 4.9 | 50.0 | 16.3 | 21.2 |
| 6.0 | 1.2 | | | | | | | | | |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | Consistancy: soft | 2.9 | 50.0 | 10.9 | 13.8 |
| | 1.8 | | | | | | | | | |
| | 2.0 | | | | | | | | | |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | Same as above, color change to brown (7.5YR 5/3). Refusal at 9.0 ft. | | Consistancy: soft | 2.0 | 50.0 | 10.0 | 13.1 |
| | 2.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3E21 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627663.30 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400388.60 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5757.80 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 06/07/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/07/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Dark yellowish brown (10YR 4/6) sand with silt, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded, trace gravel, angular, tuff, massive volcanic detrital. | | Consistancy: soft | 57.6 | 50.0 | 68.4 | 126.0 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft | 2.6 | 50.0 | 10.5 | 13.3 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | Consistancy: soft | 2.6 | 50.0 | 10.6 | 13.4 |
| 6.0 | 1.2 | | | | | | | | | |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | SM | Dark yellowish brown (10YR 4/6) silty sand, dry. Sand is fine grained, trace medium and coarse grains, poorly graded, subangular to subrounded, volcanic detrital. | | Consistancy: soft | 33.6 | 58.5 | 84.5 | 90.1 |
| | 2.0 | | | | | | | | | |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | SP-SM | Dark yellowish brown (10YR 4/6) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, trace tuff fragments. Total depth is 10 ft. | | Consistancy: soft | 2.9 | 50.0 | 10.8 | 13.7 |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

SOIL BORING LOG

| | |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | BORING NUMBER: U3E22 \| Page #1 of 1 |
| PROJECT NUMBER: 771062.02.01.00.00 | ENVIRONMENTAL CONTRACTOR: IT CORP |
| UTM EASTING: 627564.40 | DRILLING METHOD: Direct Push |
| UTM NORTHING: 1400494.80 | DRILLING CONTRACTOR: McLaren Hart |
| GEOLOGIST: M. Flaugher | ELEVATION DATUM: Mean Sea Level |
| QA CHECK: A. Welcher | HOLE SURFACE ELEVATION: 5758.50 |
| DATE HOLE STARTED: 06/08/97 | TOTAL DEPTH OF HOLE: 6.00 |
| DATE HOLE COMPLETED: 06/08/97 | COMMENTS: |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0 0 4000 0 | 0.0 1000 0 | 0 0 2000 0 |
| 0.0 | 0.0 | | SP | Dark yellowish brown (10YR 4/4) sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanic detrital, massive, trace organics (roots) in upper 3 inches, trace medium and coarse grains, trace gravel (angular, volcanic, pebble sized). | | Consistency: soft | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 18.0 | 50.0 | 93.0 | 111.0 |
| | 0.4 | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanic detrital, trace medium and coarse grains. Total depth is 6.0 ft. | | | | | | |
| 2.0 | 0.6 | | | | | Consistency: soft Duplicate sample CNT30054 taken. | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 2.6 | 50.0 | 10.6 | 13.4 |
| | 1.0 | | | | | | | | | |
| | 1.2 | | | | | | | | | |
| 4.0 | | | | | | Consistency: soft | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 2.6 | 50.0 | 10.6 | 13.7 |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3E23 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627925.80 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1400590.70 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5759.70 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 | |
| DATE HOLE STARTED: 06/08/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/08/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 2000.0 |
| 0.0 | 0.0 | | SP-SM | Dark yellowish brown (10YR 3/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, trace organics (roots) in upper 4 inches, trace | | Consistancy: soft | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | Same as above, a 2 inch welded tuff rock. Very faint hydrocarbon odor in 0 to 2 ft interval. No odor from 2 to 4 ft. | | | 74.7 | 50.0 | 121.0 | 195.0 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | 1.0 | | | | | | 2.9 | 50.0 | 13.5 | 16.4 |
| 4.0 | 1.2 | | SM | Dark yellowish brown (10YR 3/4) silty sand dry. Sand is fine grained, poorly graded, subangular to subrounded, no odor from 4 to 6 ft. | | Consistancy: soft | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | 1.6 | | | | | | 2.9 | 50.0 | 11.0 | 13.9 |
| 6.0 | 1.8 | | SP | Olive brown (2.5Y 4/4) sand, dry. Sand is fine to medium grained, trace coarse grains, poorly graded, subangular to subrounded, volcanic detrital, trace silt, trace qtz grains, trace gravel. Gravel is rounded to subrounded, volcanic, pebble sized. Total depth is 10.0 ft. | | Consistancy: soft | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | 2.2 | | | | | | 2.9 | 50.0 | 10.9 | 13.8 |
| | 2.4 | | | | | | | | | |
| 8.0 | 2.6 | | | | | Consistancy: soft | | | | |
| 9.0 | 2.8 | | | | | | 2.9 | 50.0 | 10.8 | 13.7 |
| | 3.0 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3E24 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627514.10 | DRILLING CONTRACTOR: McLaren Hart | |
| UTM NORTHING: 1400465.30 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5757.10 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 | |
| DATE HOLE STARTED: 06/08/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/08/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, trace medium grains, volcanics. | | Consistancy: soft | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 2.9 | 30.0 | 10.8 | 13.7 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 2.9 | 30.0 | 10.8 | 13.7 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: soft | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 2.9 | 30.0 | 10.7 | 13.6 |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3E25 \| Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628015.70 | DRILLING CONTRACTOR: McLaren Hart |
| UTM NORTHING: 1400579.60 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5759.90 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 |
| DATE HOLE STARTED: 06/08/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/08/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Dark yellowish brown (10YR 3/6) sand, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded, trace organics (roots) in upper 3 inches, massive. | | Consistancy soft | | | | |
| | 0.2 | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine to medium grained, trace coarse grains, poorly graded, subangular to subrounded, volcanics, massive. | | | | | | |
| 1.0 | 0.4 | | | | | | 3.9 | 50.0 | 18.4 | 22.3 |
| 2.0 | 0.6 | | | | | Consistancy: soft | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | 1.0 | | | | | | 3.0 | 50.0 | 11.1 | 14.1 |
| | 1.2 | | SM | Yellowish brown (10YR 5/4) silty sand, dry. Sand is fine grained, poorly graded, subangular to subrounded. | | Consistancy: soft | | | | |
| 4.0 | 1.4 | | | | | | | | | |
| | | | SP-SM | Yellowish brown (10YR 5/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded. Total depth is 6.0 ft. | | | | | | |
| 5.0 | 1.6 | | | | | | 3.1 | 50.0 | 11.5 | 14.6 |
| | 1.8 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3S1 \| Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627977.20 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1400710.20 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5760.50 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/31/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/31/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 2000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 2000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Brown (10YR 4/3) sand with silt, dry. Sand is fine to medium grained, poorly graded, trace coarse grains, subangular to subrounded, organics (roots) in upper 2 inches, volcanic detrital, loosely consolidated, massive, drill cuttings. | U3S10002 | Consistancy: soft PID in breathing zone: 2.0 ppm Scan of sample with Electra: 1258 dpm Scan: 19 uR/hr Gamma | 3.3 | 50.0 | 12.4 | 15.7 |
| 1.0 | 0.2 | | | | | | | | | |
| | 0.4 | | | Same as above, well consolidated. | | | | | | |
| 2.0 | 0.6 | | | Dark grayish brown (2.5Y 4/2) clay, dry. Clay is lean with trace fine grained sand. | U3S10204 | Consistancy: soft PID in breathing zone: 2.0 ppm Scan of sample with Electra: 1258 dpm Scan: 19 uR/hr Gamma | 4.9 | 50.0 | 24.9 | 29.8 |
| 3.0 | 0.8 | | | | | | | | | |
| | 1.0 | | | Same as above, loosely consolidated. | | | | | | |
| 4.0 | 1.2 | | | | U3S10406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 945 dpm Scan: 21 uR/hr Gamma | 3.3 | 50.0 | 12.9 | 16.4 |
| | 1.4 | | | Same as above, trace rounded volcanic gravel. | | | | | | |
| 5.0 | 1.6 | | | Well consolidated, native contact, sand with silt. | | | | | | |
| 6.0 | 1.8 | | | | U3S10608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1203 dpm Scan: 19 uR/hr Gamma | 3.3 | 50.0 | 12.4 | 15.7 |
| 7.0 | 2.0 | | | | | | | | | |
| | 2.2 | | | | | | | | | |
| 8.0 | 2.4 | | SP-SM | Same as above, increase in gravel content, still trace gravel, trace clay, moderately consolidated. | U3S10810 | Consistancy: firm Hold at lab. PID in breathing zone: 2.1 ppm Scan of sample with Electra: 1322 dpm Scan: 20 uR/hr Gamma | 3.1 | 50.0 | 11.4 | 14.5 |
| 9.0 | 2.6 | | | | | | | | | |
| | 2.8 | | | | | | | | | |
| 10.0 | 3.0 | | | | U3S11012 | Consistancy: firm to hard Hold at lab. PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan: uR/hr | | | | |
| | 3.2 | | | Same as above, increase in gravel content, still trace gravel, trace clay, moderately consolidated. | | | | | | |
| 11.0 | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3S2 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627976.70 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1400670.20 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5760.20 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 |
| DATE HOLE STARTED: 05/31/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/31/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 2000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 2000.0 | TPH Total (mg/kg) 0.0 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Brown (10YR 4/3) sand with silt, dry. Sand is fine to medium grained, poorly graded, trace coarse grains, subrounded to subangular, organics (roots) in upper 3 inches, volcanic detrital, loosely | U3S20002 | Consistancy in breathing zone: 1.4 ppm Scan of sample with Electra: 1305 dpm Scan: 22 uR/hr Gamma | 5.6 | 50.0 | 13.4 | 17.0 |
| 1.0 | 0.4 | | | Same as above, well consolidated. | | | | | | |
| PID 2.0 | 0.6 | | | | U3S20204 | Consistancy. in breathing zone: 1.4 ppm Scan of sample with Electra: 1505 dpm Scan: 22 uR/hr Gamma | 3.7 | 50.0 | 13.7 | 17.4 |
| 3.0 | 0.8 | | | | | | | | | |
| | 1.0 | | | Same as above, loosely consolidated. | | | | | | |
| 4.0 | 1.2 | | | | U3S20406 | Consistancy: Duplicate sample CNT30030 breathing zone: PID in NA sample with Scan of Electra: 1219 dpm Gamma Scan: 23 uR/hr | 4.0 | 50.0 | 12.6 | 16.6 |
| 5.0 | 1.4 | | | | | | | | | |
| | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | SP | Brown (7.5YR 5/3) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic detrital, native, trace gravel (rounded, welded, tuff - gray in color). | U3S20608 | Consistancy: firm PID in breathing zone: 1.7 ppm Scan of sample with Electra: 1356 dpm Scan: 22 uR/hr Gamma | 2.4 | 50.0 | 8.8 | 11.2 |
| 7.0 | 2.0 | | | | | | | | | |
| | 2.2 | | | | | | | | | |
| 8.0 | 2.4 | | | | U3S20810 | Consistancy: firm Hold at tab. PID in breathing zone: NA Scan of sample with Electra: 1125 dpm Scan: 23 uR/hr Gamma | 2.9 | 50.0 | 10.7 | 13.6 |
| | 2.6 | | | | | | | | | |
| 9.0 | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3S3 Page #1 of 1

PROJECT NAME: NYE COUNTY, NV

ENVIRONMENTAL CONTRACTOR: IT CORP

PROJECT NUMBER: 771062.02.01.00.00

DRILLING METHOD: Direct Push

UTM EASTING: 628027.50

DRILLING CONTRACTOR: McLaren-Hart

UTM NORTHING: 1400739.60

ELEVATION DATUM: Mean Sea Level

GEOLOGIST: M. Flaugher

HOLE SURFACE ELEVATION: 5760.80

QA CHECK: A. Welcher

TOTAL DEPTH OF HOLE: 10.00

DATE HOLE STARTED: 05/31/97

COMMENTS:

DATE HOLE COMPLETED: 05/31/97

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Brown (10YR 4/3) sand with silt, dry Sand is fine to medium grained, poorly graded, trace coarse grained, subangular to subrounded, organics (roots) from 1-2 inches, loosely consolidated, massive, volcanic detrital, drill cuttings. | U3S30002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1305 dpm Scan: 24 uR/hr Gamma |
| 1.0 | 0.4 | | | Becomes well consolidated at 1.2 ft. | | |
| 2.0 | 0.6 | | | | U3S30204 | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1305 dpm Scan: 24 uR/hr Gamma |
| 3.0 | 0.8 | | | Same as above but loosely consolidated. At 5.4 ft there is a 2-inch rock in shoe. | | |
| 4.0 | 1.0 | | | | | |
| 5.0 | 1.2 | | | | U3S30406 | Consistancy: firm PID in breathing zone: 1.1 ppm Scan of sample with Electra: 1031 dpm Scan: 18 uR/hr Gamma |
| 6.0 | 1.4 | | | | | |
| 7.0 | 1.6 | | | | | |
| 8.0 | 1.8 | | SP-SM | Brown (10YR 4/3) sand wiht silt, dry. Sand is fne grained, trace medium grains, poorly graded, subangular to subrounded, volcanic detrital, native, well consolidated. | U3S30608 | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1180 dpm Scan: 15 uR/hr Gamma |
| 9.0 | 2.0 | | | | | |
| | 2.2 | | | | | |
| | 2.4 | | | | U3S30810 | Consistancy: firm PID in breathing zone: 1.0 ppm Scan of sample with Electra: 1169 dpm Scan: 20 uR/hr Gamma |
| | 2.6 | | | | | |
| | 2.8 | | | | | |
| | 3.0 | | | | | |

| Sample No | TPH Diesel (mg/kg) 0.0 – 2000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|
| U3S30002 | 5.3 | 50.0 | 25.2 | 28.5 |
| U3S30204 | 5.0 | 50.0 | 11.1 | 14.1 |
| U3S30406 | 5.1 | 50.0 | 16.0 | 19.1 |
| U3S30608 | 5.4 | 50.0 | 14.5 | 17.9 |
| U3S30810 | 5.6 | 66.1 | 17.4 | 21.0 |

| SOIL BORING LOG | BORING NUMBER: U3S4 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628027.10 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1400699.60 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5760.40 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/31/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/31/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 2000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Brown (10YR 4/3) sand with silt, dry. Sand is fine to medium grained, poorly graded, trace coarse grians, subrounded to subangular, organics (roots) in upper 3 inches, massive, volcanic detrital, loosely consolidated drill cuttings. | U3S40002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 23 uR/hr Gamma | 3.4 | 50.0 | 15.6 | 19.0 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | Same as above, but as 1.4 ft, becomes well consolidated. | | | | | | |
| 3.0 | 0.6 | | | | U3S40204 | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 23 uR/hr Gamma | 10.0 | 50.0 | 29.4 | 39.4 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | Same as above, but as 3.0 ft, becomes loosely consolidated. | | | | | | |
| 6.0 | 1.2 | | | | U3S40406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1148 dpm Scan: 22 uR/hr Gamma | 792.0 | 50.0 | 876.0 | 1670.0 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | | U3S40608 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1142 dpm Scan: 19 uR/hr Gamma | 5.9 | 50.0 | 29.4 | 31.3 |
| 10.0 | 2.0 | | | | | | | | | |
| 11.0 | 2.2 | | | | | | | | | |
| | 2.4 | | SC | Brown (10YR 5/3) clayey sand, dry. Sand is fine grianed, trace medium grained, poorly graded, subangular to subrounded, qtz and volcanics, massive, native, well consolidated, trace grravel (pebble sized, rounded). | U3S40810 | Consistancy: soft to firm Hold at lab. breathing zone: PID in 1.4 ppm Scan of sample with Electra: 1148 dpm Scan: 20 uR/hr Gamma | 9.6 | 62.4 | 26.5 | 36.1 |
| | 2.6 | | | | | | | | | |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |
| | 3.2 | | SP-SM | Brown (7.5YR 4/3) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded. Total depth is 12.0 ft. | U3S41012 | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1313 dpm Scan: 22 uR/hr Gamma | | | | |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3S5 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628036.60 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1400659.40 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5760.30 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 8.00 | |
| DATE HOLE STARTED: 06/03/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/03/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 2000.0 | Cr (Total) (mg/kg) 0 – 4000 | TPH Motor Oil (mg/kg) 0 – 2000 | TPH Total (mg/kg) 0 – 4000 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fine grained, trace medium grains, poorly graded, subrounded to subangular, volcanic detrital, trace organics (roots) in 0 to 3 inches. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1148 dpm Scan: 28 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | | | | | 1.0 | 50.0 | 17.7 | 24.7 |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1148 dpm Scan: 28 uR/hr Gamma | | | | |
| 3.0 | 0.8 | | | | | | 14.6 | 50.0 | 17.8 | 32.4 |
| 4.0 | 1.2 | | | Same as above, but no medium grains. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1141 dpm Scan: 20 uR/hr Gamma | | | | |
| 5.0 | 1.4 | | | Same as above, but with medium grains. | | | 2.9 | 50.0 | 10.7 | 13.6 |
| 6.0 | 1.8 | | | Same as above, increase to trace pebble sized gravel, welded tuffs, difficulty in pushing. Refusal at 8.0 ft. | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1156 dpm Scan: 21 uR/hr Gamma | | | | |
| 7.0 | 2.2 | | | | | | 2.6 | 50.0 | 10.5 | 13.3 |
| | 2.4 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3U1 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628496.20 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1399824.90 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Bimey | HOLE SURFACE ELEVATION: 5759.90 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 | |
| DATE HOLE STARTED: 06/04/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/07/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 10000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0 10000 | TPH Total (mg/kg) 0 10000 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand very fine to coarse, rounded to subangular. Gravel fine, angular to subrounded, dry. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1185 dpm Scan: 18 uR/hr Gamma | 2.6 | 50.0 | 11 | 13 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1200 dpm Scan: 19 uR/hr Gamma | 2.9 | 50.0 | 11 | 14 |
| 4.0 | 0.8 | | | | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1225 dpm Scan: 20 uR/hr Gamma | 62.2 | 50.0 | 533 | 585 |
| 7.0 | 1.4 | | | Same as above, silty sand, no gravel, moist. Bottom of boring at 6.0 ft. | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | | | | | | | |
| | 2.0 | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine grained, trace medium and coarse grains, trace angular gravel, poorly graded, subangular to subrounded, sand, faint petroleum odor loosely consolidated. | | Sampled from 6 to 10 ft on 06/07/97. Consistancy: soft | 249.0 | | 2960 | 3209 |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | SM | Dark yellowish brown (10YR 4/4) silty sand, dry. Sand is fine grained, trace medium and coarse grains, poorly graded, subangular to subrounded, well consolidated. Refusal at 10.0 ft. | | Consistancy: soft to firm Tough pushing at 10.0 ft. | 2.9 | | 19 | 22 |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3U2 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628239.80 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1400488.00 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5759.90 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 | |
| DATE HOLE STARTED: 06/04/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/04/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 2000.0 |
| 0.0 | 0.0 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gavel. Sand fine to coarse, rounded to subangular, gravel fine to medium, subangular to subrounded, dry. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1190 dpm Scan: 17 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 2.9 | 30.0 | 10.8 | 13.7 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1270 dpm Scan: 17 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 2.6 | 50.0 | 16.4 | 19.2 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1160 dpm Scan: 17 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | SP | Dark yellowish brown (10YR 4/4) poorly graded sand with silt and gravel. Sand very fine to coarse, rounded to angular. Gravel coarse, subrounded, dry. Bottom of boring at 6.0 ft. | | | 2.6 | 50.0 | 10.5 | 13.3 |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3U3 ; Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628222.70 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1400482.20 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5759.50 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 11.00 |
| DATE HOLE STARTED: 06/07/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/07/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0 0 4000 0 | 0.0 1000 0 | 0 0 2000 0 |
| 0.0 | 0.0 | | SP | Olive brown (2.5Y 4/3) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic detrital, massive, loosely consolidated. | | Consistancy: soft to 1.0 ft then firm | | | | |
| | | | SP-SM | | | | | | | |
| 1.0 | 0.2 | | | | | | | | | |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | Olive brown (2.5Y 4/6) sand with silt, dry. Sand is fine grained, trace medium grains, poorly graded, subangular to subrounded, massive, volcanic detrital, well consolidated. | | Consistancy: firm | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 2.9 | | 10.9 | 13.8 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | Same as above, decrease in silt content. | | Consistancy: soft | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 2.6 | | 10.8 | 13.4 |
| | 1.6 | | | Dark yellowish brown (10YR 4/4) sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, massive volcanics. | | | | | | |
| 6.0 | 1.8 | | SP | | | Consistancy: soft | | | | |
| | 2.0 | | SP-SM | Dark yellowish brown (10YR 4/6) sand with silt, dry. Sand is fine grained, trace medium and coarse grains, poorly graded, subangular to subrounded, trace gravel, angular, pebble sized, volcanic tuffs. | | | | | | |
| 7.0 | 2.2 | | | | | | 2.9 | | 10.8 | 13.7 |
| | 2.4 | | | | | | | | | |
| 8.0 | | | | | | Consistancy: soft | | | | |
| | 2.6 | | | | | | | | | |
| 9.0 | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |
| 10.0 | | | SM | Dark yellowish brown (10YR 4/6) silty sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, well consolidated. Total depth is 11.0 ft. | | Consistancy: soft | | | | |
| | 3.2 | | | | | | | | | |

SOIL BORING LOG

BORING NUMBER: U3U4 | Page #1 of 1

PROJECT NAME: NYE COUNTY, NV
PROJECT NUMBER: 771062.02.01.00.00
UTM EASTING: 628234.50
UTM NORTHING: 1400463.10
GEOLOGIST: M. Flaugher
QA CHECK: A. Welcher
DATE HOLE STARTED: 06/07/97
DATE HOLE COMPLETED: 06/07/97

ENVIRONMENTAL CONTRACTOR: IT CORP
DRILLING METHOD: Direct Push
DRILLING CONTRACTOR: McLaren-Hart
ELEVATION DATUM: Mean Sea Level
HOLE SURFACE ELEVATION: 5759.50
TOTAL DEPTH OF HOLE: 11.00
COMMENTS:

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 2000 0 |
| 0.0 | 0.0 | | SP | Olive brown (2.5Y 4/3) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic detrital, massive, loosely consolidated. | | Consistancy: soft to 1.0 ft then firm. | | | | |
| | 0.2 | | SP-SM | | | | | | | |
| 1.0 | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | Olive brown (2.5Y 4/4) and with silt, dry. Sand is fine grained, trace medium grains, poorly graded, subangular to subrounded, massive volcanic detrital, well consolidate. | | Consistancy: firm | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | 1.0 | | | | | | 2.9 | | 30.4 | 33.3 |
| 4.0 | 1.2 | | SP | Dark yellowish brown (10YR 4/4) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, massive, volcanics. | | Consistancy: soft | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | 1.6 | | | | | | 2.6 | | 10.5 | 13.3 |
| 6.0 | 1.8 | | | Same as above, increase to trace silt. | | Consistancy: soft | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | 2.2 | | | | | | 2.9 | | 10.7 | 13.6 |
| | 2.4 | | | | | | | | | |
| 8.0 | | | SP-SM | Dark yellowish brown (10YR 4/6) sand with silt, dry. Sand is fine grained, trace medium and coarse grains, poorly graded, subangular to subrounded, trace gravel, angular, volcanic tuff, pebble sized. Refusal at 11.0 ft. | | Consistancy: soft | | | | |
| | 2.6 | | | | | | | | | |
| 9.0 | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |
| 10.0 | | | | | | Consistancy: soft | | | | |
| | 3.2 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3U5 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628252.70 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1400477.90 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5760.60 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 06/07/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/07/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP | Olive brown (2.5Y 4/3) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic detrital, massive, loosely consolidated, trace organics (roots). | | Consistancy: soft to 1 ft., then firm. | | | | |
| 0.2 | | | SP-SM | | | | | | | |
| 1.0 | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | Olive brown (2.5Y 4/4) sand with silt, dry. Sand is fine grained, trace medium grians, poolry graded, subangular to subrounded, massive, volcanic detrital, well consolidated. | | Consistancy: firm | | | | |
| 3.0 | 0.8 | | | | | | | | | |
| | 1.0 | | | | | | 3.0 | | 22.5 | 25.5 |
| 4.0 | 1.2 | | SP | Dark yellowish brown (10YR 4/4) sand, dry. Sand is fine grained, poorly graded, subangular to subrounded, massive, volcanic detrital. | | Consistancy: soft | | | | |
| 5.0 | 1.4 | | | | | | | | | |
| | 1.6 | | | | | | 2.9 | | 10.9 | 13.8 |
| 6.0 | 1.8 | | | Same as above, increase to trace silt. Tough drilling at 7.0 ft. | | Consistancy: soft | | | | |
| 7.0 | 2.0 | | | | | | | | | |
| | 2.2 | | | | | | 2.9 | | 14.6 | 17.5 |
| 8.0 | 2.4 | | SP-SM | Dark yellowish brown (10YR 4/6) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, trace gravel, pebble sized, volcanic, angular. | | Consistancy: soft | | | | |
| 9.0 | 2.6 | | | | | | | | | |
| | 2.8 | | | | | | | | | |
| 10.0 | 3.0 | | | | | Consistancy: soft | | | | |
| | 3.2 | | | | | | | | | |
| 11.0 | 3.4 | | | Same as above, trace clay. Total depth is 12.0 ft. | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3X1 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627931.30 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1401070.90 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5773.00 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 9.00 | |
| DATE HOLE STARTED: 05/30/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/30/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Grayish brown (10YR 5/2) sand, dry. Sand is fine grained, poorly graded, well sorted, quartz, chert, volcanic detrital, micaceous, drill cuttings. | U3X10002 | Consistancy: soft PID in breathing zone: 1.8 ppm Scan of sample with Electra: 1536 dpm Scan: 21 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | | | | | | | | |
| | 0.4 | | | Yellowish brown(10YR 5/4) clayey, sand, moist, becoming wet at 2.0 ft. Sand is fine to medium grained, poorly graded, subangular to subrounded, chert, qtz, clay content 40%, drill cuttings. | | | 6.6 | 102.0 | 24.3 | 30.9 |
| 2.0 | 0.6 | | | | U3X10204 | Consistancy: soft to firm PID in breathing zone: 1.8 ppm Scan of sample with Electra: 1225 dpm Scan: 21 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 9.6 | 115.0 | 31.1 | 40.7 |
| | 1.0 | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, moist, fine grained with trace medium grains, poorly graded, subangular to subrounded, volcanic detrital, native. | | | | | | |
| 4.0 | 1.2 | | | | U3X10406 | Consistancy: soft to firm Duplicate sample CNT30028 taken. breathing zone: NA PID in sample with Scan of Electra: 1297 dpm Gamma Scan: 23 uR/hr | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 3.6 | 50.0 | 4.0 | 17.6 |
| | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | | U3X10608 | Consistancy: soft Sample held at lab pending analysis. breathing zone: NA PID in sample with Scan of Electra: 1158 dpm Gamma Scan: 22 uR/hr | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | | | | Same as above, color change to yellowish brown (10YR 5/4). | | | 3.2 | 50.0 | 11.9 | 15.1 |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |
| 8.0 | | | | | U3X10810 | Consistancy: soft Sample held at lab pending analysis. breathing zone: 2.4 ppm PID in Scan of sample with Electra: 1242 | | | | |
| | 2.6 | | | Same as above, increase to trace clay. - Refusal at 9.0 ft. | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3X2 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628320.70 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1400996.40 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5772.20 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 | |
| DATE HOLE STARTED: 05/30/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/30/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Light olive brown (2.5 Y 5/4) clayey sand, dry. Sand is fin to medium grained, poorly graded, subangular to subrounded, chert, quartz, volcanic detrital, massive, clay content approx. 40%, drill cuttings. | U3X20002 | Consistancy soft PID in breathing zone: NA Scan of sample with Electra 1523 dpm Scan: 21 uR/hr Gamma | 5.8 | 123.0 | 23.6 | 29.4 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U3X20204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra. 1523 dpm Scan: 21 uR/hr Gamma | 2.9 | 50.0 | 15.7 | 18.6 |
| 4.0 | 0.8 | | | Dark yellowish brown (10UR 4/4) sand with silt, dry. Sand is fine to medium gnaned, predominately fine grained, poorly graded, subangular to subrounded, volcanic detrital, drill cuttings. | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | U3X20406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1305 dpm Scan: 22 uR/hr Gamma | 2.7 | 50.0 | 10.0 | 12.7 |
| 7.0 | 1.4 | | | Brown (10YR 4/3) sand with gravel, dry. Sand is fine grained, poorly graded subangular to subrounded. Gravel is welded tuff, subrounded, pebble sized, drill cuttings. | | | | | | |
| 8.0 | 1.6 | | | | | | | | | |
| 9.0 | 1.8 | | | | U3X20608 | Consistancy: firm PID in breathing zone: 1.6 ppm Scan of sample with Electra: 1367 dpm Scan: 20 uR/hr Gamma | 3.2 | 50.0 | 11.8 | 13.0 |
| 10.0 | 2.0 | | | | | | | | | |
| 11.0 | 2.2 | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine grained, trace medium grains, poorly graded, subangular to subrounded, native. | | | | | | |
| | 2.4 | | | | | | | | | |
| | 2.6 | | | Same as above, but an increase to trace gravel, pebble sized, subrounded, volcanic origin. | U3X20810 | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1547 dpm Scan: 24 uR/hr Gamma | 2.9 | 50.0 | 10.8 | 13.7 |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |
| | 3.2 | | | Same as above, but an increase to trace clay, 4%. | U3X21012 | Consistancy: soft Hold at lab. PID in breathing zone: NA Scan of sample with Electra: 1102 dpm Scan: 25 uR/hr Gamma | | | | |
| | 3.4 | | | Same as above, but a color change to brown (7.5YR 5/3). | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3X3 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627854.50 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1401351.90 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5775.20 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 12.00 |
| DATE HOLE STARTED: 05/30/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/30/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0 0 4000 0 | 10 0 1000 0 | 10 0 2000 0 |
| 0.0 | 0.0 | | DC | Light olive brown (2.5Y 5/3) clayey sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, quartz, chert, drill cuttings, massive. | U3X30002 | Consistancy soft PID in breathing zone: 2.3 ppm Scan of sample with Electra: 1234 dpm Scan: 24 uR/hr Gamma | 4.2 | 103.0 | 20.1 | 24.3 |
| 1.0 | 0.2 | | | | | | | | | |
| 2.0 | 0.4 | | | | | | | | | |
| 3.0 | 0.6 | | | | U3X30204 | Consistancy: soft PID in breathing zone: 2.3 ppm Scan of sample with Electra: 1254 dpm Scan: 24 uR/hr Gamma | 2.6 | 50.0 | 9.7 | 12.3 |
| 4.0 | 0.8 | | | Dark yellowish brown (10YR 4/4) sand with silt, dry. Sand is fine to medium grained, trace coarse grains, poorly graded, subangular to subrounded, volcanic origin, drill cuttings. | | | | | | |
| 5.0 | 1.0 | | | | | | | | | |
| 6.0 | 1.2 | | | | U3X30406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1336 dpm Scan: 23 uR/hr Gamma | 2.6 | 50.0 | 9.8 | 12.4 |
| 7.0 | 1.4 | | | | | | | | | |
| 8.0 | 1.6 | | | Same as above, but an increase in gravel to trace and trace clay. | | | | | | |
| 9.0 | 1.8 | | | | U3X30608 | Consistancy: soft to firm PID in breathing zone: 2.1 ppm Scan of sample with Electra: 1047 dpm Scan: 24 uR/hr Gamma | 3.3 | 50.0 | 12.5 | 15.8 |
| 10.0 | 2.0 | | | | | | | | | |
| 11.0 | 2.2 | | | | | | | | | |
| | 2.4 | | SP | Dark brown (7.5YR 3/3) sand, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, trace coarse sand, chert, volcanic detrital, trace silt, massive, native. | U3X30810 | Consistancy: soft to firm Hold at lab. breathing zone: NA PID in sample with Electra Scan of Gamma Scan: 23 uR/hr 1325 dpm | | | | |
| | 2.6 | | | | | | | | | |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | U3X31012 | Consistancy: firm Hold at lab. PID in breathing zone: NA Scan of sample with Electra: 1078 dpm Scan: 23 uR/hr Gamma | | | | |
| | 3.2 | | | | | | | | | |
| | 3.4 | | | | | | | | | |
| | 3.6 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3X4 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627837.40 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1401602.30 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5780.50 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 |
| DATE HOLE STARTED: 05/31/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/31/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000 0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 2000 0 |
| 0.0 | 0.0 | | DC | Light olive brown (2.5Y 5/3) clayey sand, dry. Sand is fine to medium grained, predominately fine grained, poorly graded, subangular to subrounded, organics (roots) in upper 3 inches, red and orange chert, qtz, dark volcanic lithics, drill cuttings. | U3X40002 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1125 dpm Scan: 24 uR/hr Gamma | 3.7 | 62.1 | 17.1 | 20.8 |
| 1.0 | 0.2 | | | | | | | | | |
| | 0.4 | | | Brown (7.5YR 4/4) sand with silt, dry. Sand is fine grained, trace medium grains, poorly graded, subangular to subrounded, volcanic detrital, drill cuttings. | | | | | | |
| 2.0 | 0.6 | | | | U3X40204 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1125 dpm Scan: 24 uR/hr Gamma | 3.1 | 50.0 | 11.5 | 14.6 |
| 3.0 | 0.8 | | | | | | | | | |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | | U3X40406 | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1500 dpm Scan: 23 uR/hr Gamma | 3.4 | 50.0 | 12.6 | 16.0 |
| | 1.4 | | | | | | | | | |
| 5.0 | 1.6 | | | Same as above, color change to yellowish brown (10YR 5/4). Refusal at 6.0 ft. | | | | | | |
| | 1.8 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3X5 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628052.90 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1401199.60 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5774.40 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 8.00 | |
| DATE HOLE STARTED: 06/03/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/03/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 0 1000 0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 2000 0 |
| 0.0 | 0.0 | | SC | Brown (10YR 5/3) clayey sand, dry. Sand is medium grained, poorly graded, subangular to subrounded, some red cherts, massive, volcanic detrital, clya content approx. 30%. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: dpm Gamma Scan uR/hr | | | | |
| 1.0 | 0.2 | | | | | | 4.0 | 105.0 | 22.9 | 26.9 |
| 2.0 | 0.4 | | SP-SM | Yellowish brown (10YR 5/4) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, loosely consolidated. | | | | | | |
| | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1578 dpm Scan: 22 uR/hr Gamma | | | | |
| 3.0 | 0.8 | | | | | | 3.4 | 50.0 | 16.2 | 19.6 |
| 4.0 | 1.0 | | | | | | | | | |
| | 1.2 | | | Same as above, becomes moderately consolidated. | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1035 dpm Scan: 25 uR/hr Gamma | | | | |
| 5.0 | 1.4 | | | | | | 3.0 | 50.0 | 11.0 | 14.0 |
| 6.0 | 1.6 | | | | | | | | | |
| | 1.8 | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1188 dpm Scan: 25 uR/hr Gamma | | | | |
| 7.0 | 2.0 | | | Same as above, increase to trace clay. Total depth is 8.0 ft. | | | 2.9 | 50.0 | 10.9 | 13.8 |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3Y1 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 626922.40 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1399481.60 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5740.40 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 8.00 | |
| DATE HOLE STARTED: 05/31/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/31/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000 0 | 10 0 4000 0 | 10 0 1000 0 | 10 0 2000 0 |
| 0.0 | 0.0 | | DC | Light olive brown (2.5Y 5/3) drill cuttings. | | | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 6.0 | 88.6 | 28.9 | 36.9 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand fine to coarse, round to subangular. Gravel fine to coarse, angular to subrounded, dry. | | | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 2.7 | 50.0 | 10.2 | 16.9 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | | | | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 2.9 | 50.0 | 10.8 | 13.7 |
| | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | SP | Dark yellowish brown (10YR 4/4) poorly sorted sand wiht gravel. Sand very fine to coarse, rounded to angular. Gravel fine to coarse, subangular to rounded, dry. Bottom of boring at 8.0 ft. | | | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | | | | | | | | | | |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3Y2 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 627031.70 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1399410.30 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5741.70 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 8.00 | |
| DATE HOLE STARTED: 05/31/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/31/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 1000.0 | Cr (Total) (mg/kg) 0.0 4000.0 | TPH Motor Oil (mg/kg) 0.0 1000.0 | TPH Total (mg/kg) 0.0 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Light olive brown (2.5Y 5/3) drill cuttings, dry. | | | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 10.3 | 132.0 | 49.2 | 59.5 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | SM | Dark yellowish brown (01YR 3/4) silty sand. Sand fine to coarse, subrounded to subangular, dry. | | | 2.8 | 63.0 | 17.3 | 20.1 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand as above, gravel medium to coarse, angular to subrounded, dry. Bottom of boring at 8.0 ft. | | | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 2.8 | 50.0 | 10.4 | 13.2 |
| | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | | | | | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | | | | | | | | | | |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3Y3 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 626939.10 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1399191.20 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5737.40 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 |
| DATE HOLE STARTED: 05/31/97 | COMMENTS: |
| DATE HOLE COMPLETED: 05/31/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0 0 1000.0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 2000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Light olive brown (2.5Y 5/3) drill cuttings. | | | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 3.3 | 68 0 | 29 4 | 34 7 |
| | 0.4 | | SM | Dark yellowish brown (10YR 3/4) silty sand with gravel. Sand is fine to coarse, subangular to rounded. Gravel is fine to coarse, angular to subrounded, dry. Bottom of boring at 6 ft. | | | | | | |
| 2.0 | 0.6 | | | | | | 2.6 | 50.0 | 10.4 | 13.2 |
| | 0.8 | | | | | | | | | |
| 3.0 | 1.0 | | | | | | | | | |
| | 1.2 | | | | | | | | | |
| 4.0 | | | | | | | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | 3.8 | 50.0 | 14.2 | 18.0 |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3Y4 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 626865.60 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1398891.90 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5734.10 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 8.00 | |
| DATE HOLE STARTED: 05/31/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/31/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 2000.0 |
| 0.0 | 0.0 | | DC | Light olive brown (2.5Y 5/3) drill cuttings, dry. | | | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 4.3 | 94.3 | 31.1 | 35.4 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 2.9 | 50.0 | 15.7 | 18.6 |
| | 1.0 | | SM | Dark yellowish brown (10YR 4/6) silty sand with gravel. Sand is very fine to coarse, rounded to subangular. Gravel is fine to coarse, and angular to subangular. | | | | | | |
| 4.0 | 1.2 | | | | | | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | Color changes to brown (10YR 4/3) silty sand. | | | 2.9 | 50.0 | 10.8 | 13.7 |
| | 1.6 | | | | | | | | | |
| 6.0 | 1.8 | | SP | Dark yellowish brown (10YR 3/4) poorly graded sand with gravel. Sand is fine to coarse, angular to rounded. Gravel is fine to coarse, angular to subrounded, dry. Bottom of boring at 8.0 ft. | | | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | | | | | | | | | | |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3Y5 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 627010.30 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1399290.50 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5739.40 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 8.00 |
| DATE HOLE STARTED: 06/03/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/03/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 2000 0 |
| 0.0 | 0.0 | | DC | Brown (7.5YR 4/3) sand, dry. Sand is fine grained, poorly graded, well sorted, subangular to subrounded, well consolidated, drill cuttings. | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 25 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | | | | | | | | |
| | 0.4 | | SP-SM | Brown (10YR 4/3) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic detrital. | | | 5.7 | 144 0 | 29 4 | 31.1 |
| 2.0 | 0.6 | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1250 dpm Scan: 25 uR/hr Gamma | | | | |
| 3.0 | 0.8 | | | | | | | | | |
| | 1.0 | | | | | | 2.7 | 50.0 | 13.5 | 16.2 |
| 4.0 | 1.2 | | | | | | | | | |
| | 1.4 | | | Brown (10YR 4/3) sand with silt and gravel, dry. Sand is fine to coarse grained, poorly graded, subangular to subrounded. Gravel is pebble sized rounded tuff. Total depth is 8.0 ft. | | Consistancy: firm Duplicate sample CNT30040 taken here. breathing zone: NA PID in sample with Scan of Electra: 1346 dpm Gamma Scan: 22 uR/hr | | | | |
| 5.0 | 1.6 | | | | | | 2.9 | 50.0 | 10.7 | 13.6 |
| 6.0 | 1.8 | | | | | | | | | |
| | 2.0 | | | | | Consistancy: soft to firm PID in breathing zone: NA Scan of sample with Electra: 1125 dpm Scan: 21 uR/hr Gamma | | | | |
| 7.0 | 2.2 | | | | | | 2.9 | 50.0 | 10.7 | 13.6 |
| | 2.4 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3Z1 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628265.80 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1399706.20 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5754.30 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 8.00 | |
| DATE HOLE STARTED: 05/31/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/31/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DC | Light olive brown (2.5Y 5/4) dry, bentonite, clay with drill cuttings. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1270 dpm Scan: 20 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | | | | | | | | |
| | 0.4 | | | | | | 7.4 | 138.0 | 27.9 | 35.3 |
| 2.0 | 0.6 | | | Same as above but moist to wet. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1400 dpm Scan: 19 uR/hr Gamma | | | | |
| 3.0 | 0.8 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand is very fine to coarse, rounded to subangular. Gravel medium to coarse, angular to subrounded, dry. | | | | | | |
| | 1.0 | | | | | | 3.4 | 60.2 | 25.0 | 26.4 |
| 4.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1185 dpm Scan: 19uR/hr Gamma | | | | |
| 5.0 | 1.4 | | | | | | | | | |
| | 1.6 | | | | | | 3.1 | 50.0 | 11.7 | 14.8 |
| 6.0 | 1.8 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1600 dpm Scan: 17 uR/hr Gamma | | | | |
| | 2.0 | | | | | | | | | |
| 7.0 | 2.2 | | SP | Poorly graded, dark brown (10YR 3/3) sand with gravel. Sand fine to coarse, angular to subrounded, gravel coarse to angular, dry. | | | | | | |
| | 2.4 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3Z2 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628315.40 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1399675.60 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5753.30 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 8.00 | |
| DATE HOLE STARTED: 05/31/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/31/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0 0 4000.0 | 0 0 1000.0 | 0 0 2000.0 |
| 0.0 | 0.0 | | DC | Dark yellowish brown (10YR 4/4) poorly sorted, sand with some drilling mud. | | Consistancy soft PID in breathing zone. NA Scan of sample with Electra 1200 dpm Scan 17 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | | | | | 4.2 | 146.0 | 22.0 | 26.2 |
| 2.0 | 0.4 | | | | | | | | | |
| | 0.6 | | | Light olive brown (2.5Y 5/3) dry drill cuttings. | | Consistancy: soft PID in breathing zone: 1.9 ppm Scan of sample with Electra: 1210 dpm Scan: 17 uR/hr Gamma | | | | |
| 3.0 | 0.8 | | | | | | | | | |
| 4.0 | 1.0 | | | | | | 3.1 | 50.0 | 11.4 | 14.5 |
| | 1.2 | | SP | Dark yellowish brown (10YR 4/4) poorly sorted sand with silt and gravel. Sand is very fine to coarse grained, angular to subrounded. Gravel is medium to caorse, angular to subrounded, dry. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1180 dpm Scan: 19 uR/hr Gamma | | | | |
| 5.0 | 1.4 | | | | | | | | | |
| | 1.6 | | | | | | 5.0 | 50.0 | 11.1 | 14.1 |
| 6.0 | 1.8 | | | | | | | | | |
| | | | SM | Yellowish brown (10YR 5/4) silty sand wth gravel. Sand is very fine to coarse, rounded to subangular. Gravel is fine to medium, subrounded, to subangular, moist. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1270 dpm Scan: 20 uR/hr Gamma | | | | |
| 7.0 | 2.0 | | | | | | | | | |
| | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3Z3 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628194.40 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1399587.00 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5751.90 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 10.00 | |
| DATE HOLE STARTED: 05/31/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/31/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 2000.0 | TPH Total (mg/kg) 0.0 – 4000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | DM | Light yellowish brown (2.5Y 6/4) dry, bentonite clay (drill mud). | | Consistancy soft PID in breathing zone: NA Scan of sample with Electra: 1200 dpm Scan: 17 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | DC | Dark yellowish brown (10YR 4/4) poorly sorted sand, some drill mud. | | | 82.7 | 80.1 | 52.6 | 115.0 |
| 2.0 | 0.6 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand very fine to coarse, rounded to subangular. Gravel fine to coarse, angular to subrounded, dry. | | Consistancy: soft PID in breathing zone: 1.8 ppm Scan of sample with Electra: 1200 dpm Scan: 18 uR/hr Gamma | 3.0 | 50.0 | 15.0 | 18.0 |
| 4.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1190 dpm Scan: 19 uR/hr Gamma | 2.7 | 50.0 | 10.2 | 12.9 |
| 6.0 | 1.8 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1380 dpm Scan: 16 uR/hr Gamma | | | | |
| 7.0 | 2.0 | | CL | Yellowish brown (01YR 5/4) sandy clay, moist. | | | | | | |
| 8.0 | 2.4 | | SP | Dark yellowish brown (10YR 5/4) poorly sorted sand with gravel. Sand fine to coarse, rounded to subangular. Gravel coarse, angular to subangular. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1230 dpm Scan: 18 uR/hr Gamma | | | | |
| 9.0 | 2.6 | | | | | | | | | |
| | 2.8 | | | | | | | | | |
| | 3.0 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3Z4 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628266.90 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1399366.00 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: C. Birney | HOLE SURFACE ELEVATION: 5749.30 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 8.00 | |
| DATE HOLE STARTED: 05/31/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 05/31/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0.0 4000.0 | 0.0 1000.0 | 0.0 2000.0 |
| 0.0 | 0.0 | | DM-DC | Light olive bronw (2.5Y 5/3) drill mud and drill cuttings, dry to moist. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1110 dpm Scan: 18 uR/hr Gamma | 188.0 | 189.0 | 488.0 | 676.0 |
| 2.0 | 0.6 | | SM | Dark yellowish brown (10YR 4/4) silty sand with gravel. Sand is very fine to coarse, rounded to subangular. Gravel fine to medium, angular to subrounded, dry. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1300 dpm Scan: 18 uR/hr Gamma | 2.9 | 50.0 | 11.0 | 13.9 |
| 4.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1200 dpm Scan: 19 uR/hr Gamma | 11.0 | 50.0 | 31.0 | 43.4 |
| 6.0 | 1.8 | | | Dark yellowish brown (10YR 4/4) silty sand. Sand is very fine to coarse, rounded to subangular, dry. No gravel. | | Consistancy: very hard drilling. PID in breathing zone: NA Scan of sample with Electra: 1050 dpm Scan: 17 uR/hr Gamma | | | | |
| 7.0 | 2.2 | | | | | | | | | |
| | 2.4 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3Z5 Page #1 of 1 |
|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push |
| UTM EASTING: 628129.50 | DRILLING CONTRACTOR: McLaren-Hart |
| UTM NORTHING: 1399597.80 | ELEVATION DATUM: Mean Sea Level |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5749.70 |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 |
| DATE HOLE STARTED: 06/03/97 | COMMENTS: |
| DATE HOLE COMPLETED: 06/03/97 | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0 0 1000 0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 2000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Dark brown (10YR 3/3) sand with silt, dry. Sand is fine grained, trace medium grains, poorly graded, subangular to subrounded, volcanic detrital, massive loosely consolidated, organics (roots) in upper 3 inches. | | Consistancy soft PID in breathing zone: NA Scan of sample with Electra: 1157 dpm Scan: 23 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 3.5 | 30.0 | 16.9 | 20.4 |
| | 0.4 | | | Same as above, but trace clay, well consolidated. | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1157 dpm Scan: 23 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 3.0 | 30.0 | 11.3 | 14.3 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | Same as above, but color change to brown (7.5YR 5/4). Total depth is 6.0 ft. | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1127 dpm Scan: 20 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | | | | |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3Z6 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628226.80 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1399366.50 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5747.50 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 | |
| DATE HOLE STARTED: 06/03/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/03/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) 0 0 1000 0 | Cr (Total) (mg/kg) 0 0 4000 0 | TPH Motor Oil (mg/kg) 0 0 1000 0 | TPH Total (mg/kg) 0 0 2000 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Yellowish brown (10YR 5/4) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic detrital, massive, loosely consolidated, organics (roots) in upper 3 inches, trace clay. | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra 1048 dpm Scan: 22 uR/hr Gamma | | | | |
| 1.0 | 0.2 | | | | | | 2.9 | 50.0 | 18.4 | 21.3 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | Same as above, well consolidated. | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra 1048 dpm Scan: 22 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | 1.0 | | | | | | 3.0 | 50.0 | 11.0 | 14.0 |
| 4.0 | 1.2 | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1156 dpm Scan: 22 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | 1.6 | | | Same as above, trace pebble sized gravel, rounded, tuff. Total depth is 6.0 ft. | | | | | | |
| | 1.8 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3Z7 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628260.80 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1399276.10 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5746.80 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 | |
| DATE HOLE STARTED: 06/03/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/03/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0 0 4000 0 | 0 0 1000 0 | 0 0 2000 0 |
| 0.0 | 0.0 | | SP-SM | Yellowish brown (10YR 5/4) sand with silt, dry. Sand is fine to medium grained, poorly graded, subangular to subrounded, volcanic detrital, massive, loosely consolidated, organics (roots) in upper 3 inches, trace clay. | | Consistancy. soft PID in breathing zone: NA Scan of sample with Electra: 1148 dpm Scan: 20 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 2.9 | 50.0 | 17.3 | 20.4 |
| | 0.4 | | | Same as above, well consolidated. | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1148 dpm Scan: 20 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 5.0 | 50.0 | 12.8 | 15.8 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | Same as above, trace gravel, pebble sized, poorly graded. Total depth is 6.0 ft. | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1023 dpm Scan: 22 uR/hr Gamma | | | | |
| | 1.4 | | | | | | | | | |
| 5.0 | | | | | | | | | | |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3Z8 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628311.90 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1399370.50 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5748.10 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 | |
| DATE HOLE STARTED: 06/03/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/03/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No | Remarks | TPH Diesel (mg/kg) | Cr (Total) (mg/kg) | TPH Motor Oil (mg/kg) | TPH Total (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.0 1000.0 | 0 0 4000 0 | 10 0 1000 0 | 10 0 2000 0 |
| 0.0 | 0.0 | | SP-SM | Dark yellowish brown (10YR 4/4) sand with silt, dry, sand is fine grained with trace medium grains, poorly graded, subangular to massive, loosely consolidated, some trace chert (red). | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1323 dpm Scan: 22 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 3.2 | 50.0 | 20.5 | 23.7 |
| | 0.4 | | | Same as above, well consolidated. | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1323 dpm Scan: 22 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 2.5 | 50.0 | 10.8 | 13.7 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: firm PID in breathing zone: NA Scan of sample with Electra: 1039 dpm Scan: 20 uR/hr Gamma | | | | |
| | 1.4 | | | Same as above, increase trace gravel, pebble sized, rounded, welded tuff, well consolidated. Total depth is 6.0 ft. | | | | | | |
| 5.0 | | | | | | | | | | |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

| SOIL BORING LOG | BORING NUMBER: U3Z9 | Page #1 of 1 |
|---|---|---|
| PROJECT NAME: NYE COUNTY, NV | ENVIRONMENTAL CONTRACTOR: IT CORP | |
| PROJECT NUMBER: 771062.02.01.00.00 | DRILLING METHOD: Direct Push | |
| UTM EASTING: 628294.00 | DRILLING CONTRACTOR: McLaren-Hart | |
| UTM NORTHING: 1399550.80 | ELEVATION DATUM: Mean Sea Level | |
| GEOLOGIST: M. Flaugher | HOLE SURFACE ELEVATION: 5750.00 | |
| QA CHECK: A. Welcher | TOTAL DEPTH OF HOLE: 6.00 | |
| DATE HOLE STARTED: 06/03/97 | COMMENTS: | |
| DATE HOLE COMPLETED: 06/03/97 | | |

| Depth (feet) | Depth (meters) | Legend | USCS | Classification (Description) | Sample No. | Remarks | TPH Diesel (mg/kg) 0.0 – 1000.0 | Cr (Total) (mg/kg) 0.0 – 4000.0 | TPH Motor Oil (mg/kg) 0.0 – 1000.0 | TPH Total (mg/kg) 0.0 – 2000.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | | SP-SM | Dark brown (7.5YR 3/3) sand with silt, dry. Sand is fine grained, poorly graded, subangular to subrounded, volcanic detrital, massive, loosely consolidated, organics in upper 3 inches (roots). | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1375 dpm Scan: 23 uR/hr Gamma | | | | |
| | 0.2 | | | | | | | | | |
| 1.0 | | | | | | | 2.9 | 50.0 | 4.3 | 17.2 |
| | 0.4 | | | | | | | | | |
| 2.0 | 0.6 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1375 dpm Scan: 23 uR/hr Gamma | | | | |
| | 0.8 | | | | | | | | | |
| 3.0 | | | | | | | 2.9 | 50.0 | 10.8 | 13.7 |
| | 1.0 | | | | | | | | | |
| 4.0 | 1.2 | | | | | Consistancy: soft PID in breathing zone: NA Scan of sample with Electra: 1297 dpm Scan: 22 uR/hr Gamma | | | | |
| | 1.4 | | | Same as above, increase in trace gravel, pebble sized, rounded, tuff. Total depth is 6.0 ft. | | | | | | |
| 5.0 | | | | | | | | | | |
| | 1.6 | | | | | | | | | |
| | 1.8 | | | | | | | | | |

# APPENDIX G: CHEMICAL ANALYSIS

## Appendix G
## Proposed On-Site Analytical Program - Central Nevada Testing Area

Total Petroleum Hydrocarbons (TPH)

*Sample Preparation USEPA method 3545I*

McLaren/Hart proposes the use of USEPA Method 3545*, Accelerated Solvent Extraction (ASE) for sample preparation. This extraction procedure uses elevated temperatures and pressures to achieve analyte recoveries equivalent to those from Soxhlet and Sonication extraction. The benefits of this procedure are significant reductions in extraction solvent and extraction time.

*Sample Analysis USEPA SW-846 Method 8015 Modified*

This analysis will be performed using a Hewlett Packard (HP) 5890 *plus* GC equipped with electronic pressure control coupled with an HP Flame Ionization Detector or an HP 5890 *plus* GC equipped with electronic pressure control coupled with an HP 5972 Mass Selective Detector. Sample introduction will be performed using an HP 7673 100 position automatic sampler.

**Total Chromium analysis by X-ray Fluorescence**

*Sample Preparation*

This process will be performed using a mechanical grinder (tungsten carbide) or manual grinding device - mortar and pestle (tungsten carbide). Samples will be dried in an oven (as necessary) and ground to a fine powder of consistent particle size.

*Sample Analysis*

This analysis will be performed using a Spectrace 6000 X-ray Fluorescence Unit. This instrument is capable of analyzing for total Chromium with a practical quantitation limit of 20 ppm in soils.

**Total Chromium Analysis by Graphite Furnace Atomic Absorption**

*Sample Preparation USEPA Method 3051*

Sample preparation for total chromium will be performed using microwave digestion. Microwave digestion is a rapid, automated digestion process providing less operator intervention during the preparation cycle and shorter sample preparation times. Digestates will be analyzed by Graphite Furnace Atomic Absorption (GFAA).

*Sample Analysis USEPA Method 7191*

This analysis will be performed using a Perkin-Elmer 3110 or equivalent, Graphite Furnace Atomic Absorption Spectrometer (GFAA) with autosampler. This method delivers detection limits of approximately 1 ug/Kg.

**Hexavalent Chromium**

*Sample Preparation USEPA Method 3060A*

McLaren/Hart proposes USEPA Method 3060A, an alkaline digestion procedure for extracting hexavalent chromium [Cr(VI)] from soluble, adsorbed, and precipitated forms of chromium compounds in soils, sludges, and sediments.

*Sample Analysis USEPA Method 7196A*

This analysis will be performed using an Hitachi U-2000 UV/visible Spectrophotometer or equivalent.

**General Analytical Approach**

*Total Petroleum Hydrocarbons:*

Because the bottleneck in sample analysis most often occurs in the extraction process it is imperative we utilize the most effective technologies currently available to increase production, especially when operating in the ESC mode. For this reason, McLaren/Hart proposes the use of USEPA Method 3545*, Accelerated Solvent Extraction (ASE), for sample extraction. This method will significantly increase overall sample throughput, minimize solvent waste and increase overall production. Without a concentration step, a 30 gram soil sample will provide practical quantitation limits of 10 ppm.

Example: Conventional extraction procedures such as Soxhledt and Sonication use an average of 400-500 mls of solvent with extraction times of approximately 2 hours and 16 hours respectively. The ASE extraction procedure requires 50 mls of solvent with an extraction time of 15 minutes to produce a final extraction with equivalent analyte recoveries.

Based on the example shown above, the daily throughput of TPH sample analysis (based on a 12 hour day) will be increased from 10 to 12 samples/day to approximately 15 to 18 samples/day. In addition, the automation of this system will help free up an otherwise dedication extractionist to assist with other tasks.

It is important to note that this method is not currently listed as a fully approved method. It has completed the review process and will be listed in the Federal Register as an approved method in November or December of 1996.

*Chromium:*

The analysis of chromium will be performed using three methods based on the following rational:

*X-ray Fluorescence(XRF)*-As in the TPH analysis, sample throughput for metals analysis is equally important for this field investigation. For this reason the Spectrace 6000 XRF is proposed for the analysis of *Total Chromium*. This analytical procedure requires minimal sample preparation, provides rapid turnaround times, has a dynamic range that corresponds to typical soil concentrations (ppm to 100%), and furnishes accurate quantitative analysis.

This instrument is capable of accurately determining concentrations of chromium in soil with a practical quantitation limit of 20 ppm with a relative standard deviation (RSD) within 10%. Based on a

site action level of 400 ppm this instrument will be quite capable of accurately determining concentrations within the required range. Although there are no USEPA approved methods for XRF, this instrument is accepted by the USEPA as a level II analytical method according to the guidelines for Data Quality Objectives for Remedial Response Activities.

In order to verify the quality of this data, any sample which falls within the 350 to 450 ppm concentration with the use of the XRF will be confirmed on-site using USEPA Method 7191 (GFAA).

*GFAA, USEPA Method 7191* - This approved method will be used for all analysis of samples which fall within the 350 to 450 ppm range during analysis by the XRF. At a minimum, a total of at least 10% of all samples analyzed by the XRF will also be analyzed by this method.

*Hexavalent Chromium, USEPA Method 7196A* - Due to the potential for the presence of Chromium VI at this site, the 24-hour analytical requirements for sample analysis, and the logistical difficulties in sample shipping, it is proposed to perform this analytical procedure on-site. This analysis will be performed on 10% of the soil samples collected from chromium analysis each day. The samples selected for this analysis will be based upon the highest chromium concentrations detected.

## On-Site Mobile Laboratory Requirements

In order to provide adequate work space for the required instrumentation and personnel McLaren/Hart will require one (1) mobile laboratory on site. This laboratory will consist of a single 24 ft. trailer. This unit is a true mobile laboratory complete with fume hood, deionized water system, sinks, carbon trap vent systems, etc. In addition, this mobile laboratory will have an onboard generator.

# APPENDIX H: STATISTICAL LAYER ANALYSIS AND RESULTS

## Statistical Layer Analysis

A statistical approach was used to determine which depth intervals or layers inside individual mud pits and shaker pad areas were above the action level at the 90% confidence level for either total TPH or hexavalent chromium. In general, six locations inside each mud pit were selected for sampling at two ft. depth intervals.

The irregular or unknown shape and slope of the shaker pad areas made application of the statistical test questionable. The shaker pad at UC-1 was assumed to be directly south of the UC-1 emplacement hole, although no historical documents confirm this. The suspected area also exhibits a steep slope. The shaker pad area at UC-3 is not visible at the surface and was filled and graded prior to demobilization from the site in the early late 1960's. The shaker pad area at UC-4 is visible but is comprised of several tiers of pooled runoff in a ravine.

The statistical test is described in detail in the CAIP and gave two results: "Nd", the minimum number of samples required to make a statistically valid decision, and "A", the amount by which a given layer was above or below the action level, taking into account the standard deviation of the measurements in the layer and the false positive/false negative rates allowed. The values used in the TPH test were total TPH (diesel + motor oil). The values used in the chromium test were hexavalent chromium, if available. If a hexavalent chromium value was not available, the total chromium value was used as a "worst case scenario" for hexavalent chromium. If both XRF and FLAA values for total chromium were available for a given sample, the higher of the two was used.

The CAIP was written such that any sample with a value of total chromium above 300 mg/kg would also be analyzed for hexavalent chromium. This cutoff value was chosen so that if all of the chromium was hexavalent, any value close to but still below the 390 mg/kg PAL would be measured by the definitive hexavalent chromium method.

As work proceeded, it became clear that the percentage of hexavalent chromium in the total chromium of the sample was always less than 3%. The raw hexavalent vs. total chromium data are contained in Appendix G. These data indicate that for XRF values below about 1500 mg/kg, the hexavalent chromium measurements are non-detects. It was decided by the core team in the field that measurements of total chromium below 1200 mg/kg would not always be followed by a hexavalent chromium measurement.

If Nd was less than or equal to the actual number of samples measured for the given layer, then a statistically valid decision regarding clean vs. contaminated could be made. In practice, contaminated layers often had high Nd values even after six samples were analyzed. In such cases, the affected layer was declared to be above the action level. Rarely was the A value so small that additional sampling was indicated.

The results of the statistical tests are given in following table. A review of the data shows that no layer was determined to be above the hexavalent chromium action level, while a significant number of layers are above the TPH action level. Therefore, the results sections of this report focus on the TPH results only.

# Statistical Analysis by Layer

NOTES on TABLES

| 1 | 2 | 3 | 4 | 5 | etc | are sample position numbers |
|---|---|---|---|---|---|---|

Entries are all in units of mg/kg for both TPH and Hex Cr

Nd = number of samples needed to make decision

<> = mean value of all measurements in given layer

U = upper confidence limit

AL = action level (100mg/kg TPH & 390 mg/kg Hex Cr)

If <>+U-AL > 0 then layer is above Action Level But if <0 then layer is below Action level

TPH = sum of diesel and motor oil components

H= sample taken but not analyzed

R = sample absent because of direct push refusal

NA = entry not applicable

## Central Mud Pit

### TPH

| CMP | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 0-2' | 692 | 1230 | 1820 | 382 | 676 | 2560 |
| 2-4' | 8.9 | 5.6 | 434 | 401 | 673 | 1570 |
| 4-6' | 152.3 | R | 7 | 6.2 | 7.1 | 305.6 |
| 6-8' | 6.3 | R | R | 8.5 | 7.2 | 5.5 |
| 8-10' | | | | | 6.7 | |

### TPH

| CMP | 7 | 8 | 9 | 10 | 11 | Nd | <>+U-AL | 12 breach |
|---|---|---|---|---|---|---|---|---|
| 0-2' | 903 | 1470 | 821 | 1730 | 1570 | 3 | 1425 | 23.1 |
| 2-4' | 6.1 | H | 426 | 392 | 2290 | 14 | 846 | 29.9 |
| 4-6' | | | | | | 6138 | 87 | 13.6 |
| 6-8' | | | | | | 1 | -92 | 13.4 |
| 8-10' | | | | | | NA | NA | |

### Hex Cr

| CMP | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 0-2' | 22.7 | 28.1 | 21.9 | 30.5 | 43.2 | 56.5 |
| 2-4' | 69.8 | 122 | 16.9 | 20.3 | 25.3 | 28.5 |
| 4-6' | 102 | R | 174 | 103 | 107 | 14.1 |
| 6-8' | 64 | R | R | 64 | 113 | 144 |
| 8-10' | | | | | 91.2 | |

### Hex Cr

| CMP | 7 | 8 | 9 | 10 | 11 | Nd | <>+U-AL | 12 breach |
|---|---|---|---|---|---|---|---|---|
| 0-2' | 22.4 | 21.6 | 53 | 32.6 | 64.7 | 1 | -347 | 50 |
| 2-4' | 169 | 151 | 17.3 | 16.6 | 30 | 1 | -305 | 50 |
| 4-6' | R | R | R | R | R | 1 | -251 | 50 |
| 6-8' | | | | | | 1 | -262 | 50 |
| 8-10' | | | | | | NA | NA | |

UC1 AREA -- TPH

| PIT 1A | 1 | 2 | Nd | <>+U-AL | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Elev | 6053.4 | 6053.5 | | | 6054.4 | 6053.2 | 6053.8 | 6053.0 | 6049.9 | 6051.5 | 6052.5 |
| 0-2' | 247.6 | 710 | 5 | 1090 | 13.4 | 18.9 | 393 | 313 | 19.5 | 21.3 | 14.2 |
| 2-4' | 20 | 256 | 127 | 401 | 13.6 | 13.8 | 18 | 20.6 | 16.5 | 13.6 | 14.1 |
| 4-6' | 15 | 33 | 1 | -48 | 15 | 13.5 | 76 | 18.6 | 13.6 | 13.5 | 13.8 |
| 6-8' | 13.6 | 13.3 | 1 | -86 | | | | | 13.4 | H | 13.7 |
| 8-10' | H | H | | | | | | | | | |

TPH

| PIT1 B | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL | | 1X | 0-2' |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Elev | 6034.6 | 6033.6 | 6034.5 | 6033.8 | 6034.3 | 6034.7 | | | | | |
| 0-2' | 23.6 | 15.8 | 42.5 | 21.3 | 24.4 | 19.2 | 1 | -70 | | 1 | 13.1 |
| 2-4' | 31.4 | 16.2 | 19.6 | 14.5 | R 11.9 | R | 1 | -77 | | 2 | 13.1 |
| 4-6' | 13.4 | 18 | 20.5 | 14.6 | | | 1 | -81 | | 3 | 13.1 |
| 6-8' | R | | | R | | | | | | 4 | 13.1 |

TPH

| PIT1 C | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL |
|---|---|---|---|---|---|---|---|---|
| Elev | 6100.5 | 6102.9 | 6106.8 | 6100 | 6104.2 | 6106.5 | | |
| 0-2' | 13.6 | 13.6 | 25.2 | 13.7 | 13.6 | 13.3 | 1 | -82 |
| 2-4' | 13.7 | 13.3 | 20.9 | 13.6 | 14.1 | 13.4 | 1 | -83 |
| 4-6' | 18.3 | 22.3 | 25.4 | 13.7 | 15.5 | 13.3 | 1 | -79 |
| 6-8' | 13.7 | 32.1 | 11.5 | 21.6 | 16.3 | 13.3 | 1 | -77 |
| 8-10' | 11.9 | 14 | 14.8 | 21.4 | 27.9 | 13.3 | 1 | -79 |
| 10-12' | H | H | H | H | H | H | | |

TPH

| PIT1D | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL |
|---|---|---|---|---|---|---|---|---|
| Elev | 6100.5 | 6101.3 | 6100.7 | 6099.1 | 6099 | 6098.7 | | |
| 0-2' | 13.4 | 13.6 | 13.3 | 13.3 | 28.2 | 17.2 | 1 | -80 |
| 2-4' | 13.7 | 13.6 | 13.4 | 13.4 | 13.9 | 13.7 | 1 | -86 |
| 4-6' | 21.1 | 16.9 | 11.9 | 13.4 | 13.5 | 13.6 | 1 | -83 |
| 6-8' | 12.2 | 19.2 | 24.4 | 13.6 | 13.7 | 13.3 | 1 | -81 |
| 8-10' | 11.8 | 12.3 | 11.6 | 14.4 | 13.8 | 13.4 | 1 | -86 |
| 10-12' | H | H | H | H | H | H | | |

TPH

| PIT1E | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Nd | <>+U-AL | 8 Breach |
|---|---|---|---|---|---|---|---|---|---|---|
| Elev | 6084.8 | 6083.9 | 6083.3 | 6085.8 | 6084.7 | 6084.2 | 6084.6 | | | 6081.0 |
| 0-2' | 272 | 605 | 632 | 17.6 | 51.9 | 50.1 | | 19 | 342 | 19.2 |
| 2-4' | 15.1 | 587 | 323 | 22.9 | 21.1 | 37.8 | | 81 | 211 | 17.8 |
| 4-6' | 15.5 | 13.1 | 12.7 | 11.9 | 12.6 | 11.5 | | 1 | -86 | 15 |
| 10-12' | | | | | | | 13.9 | | | |

UC1 Shaker Area -- TPH

| 1S | 1 | 2 | 3 | 4 | Nd | <>+U-AL | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| Elev | 6092 | 6088.2 | 6085.9 | 6083.5 | | | 6099.9 | 6085.0 | 6082.4 |
| 0-2' | 4500 | 2146 | 1640 | 203.4 | 6 | 3485 | 16.6 | 41.5 | 24.5 |
| 2-4' | 2223 | 16.6 | 14.1 | 16.5 | 37 | 1371 | 13.6 | 13.4 | 13.4 |
| 4-6' | 75.2 | 23.9 | 15.6 | 14.1 | 2 | -44 | 20 | 14.1 | 13.2 |
| 6-8' | H | H | H | H | | | | | |

UC1 Suspect Depression --TPH

| U1Y | 1 | 2 | 3 | 4 | 5 | |
|---|---|---|---|---|---|---|
| Elev | 6036.8 | 6037.8 | 6044.2 | 6036.9 | 6036.8 | |
| 0-2' | 197.2 | 82.7 | 21.1 | 77.3 | 51.9 | |
| 2-4' | 13.5 | 14 | 18.5 | 13.6 | 13.7 | |
| 4-6' | 13.4 | 13.6 | 13.4 | 13.6 | 13.7 | |
| 6-8' | 13.4 | 13.4 | | | | |

UC3 AREA -- TPH

| PIT3A | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL |
|---|---|---|---|---|---|---|---|---|
| Elev | 5762.8 | 5762.3 | 5761.6 | 5762.3 | 5761.6 | 5761.4 | | |
| 0-2' | 13.7 | 21.2 | 13.6 | 14.2 | 13.6 | 16.6 | 1 | -83 |
| 2-4' | 22.2 | 21.3 | 24.8 | 17.9 | 15.1 | 25.3 | 1 | -77 |
| 4-6' | 16 | 24.5 | 14.3 | 13.8 | 19 | 14.7 | 1 | -80 |
| 6-8' | 67.6 | 43.3 | 13.8 | 13.7 | 18.1 | 14.2 | 1 | -58 |
| 8-10' | 33.2 | 15.9 | 16 | 17 | 25 | 13.8 | 1 | -75 |
| Pit3B | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL |
| Elev | 5762.6 | 5762.5 | 5762.4 | 5761.5 | 5761.2 | 5761.3 | | |
| 0-2' | 23.7 | 13.9 | 24.4 | 13.7 | 20.2 | 26.9 | 1 | -76 |
| 2-4' | 18.8 | 13.8 | 13.7 | 20 | 19.8 | 19.8 | 1 | -81 |
| 4-6' | 16.1 | 16 | 13.7 | 17.8 | 14.8 | 15.6 | 1 | -84 |
| 6-8' | 32 | 25.3 | 13.2 | 15 | 16.1 | 14.2 | 1 | -76 |
| 8-10' | 38.8 | 19.3 | 13.4 | 14.8 | 15.3 | 15 | 1 | -75 |
| Pit3C | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL |
| Elev | 5762.5 | 5762.5 | 5762.8 | 5761.4 | 5761.5 | 5761.4 | | |
| 0-2' | 13.6 | 21.1 | 13.6 | 27.5 | 29.2 | 13.6 | 1 | -76 |
| 2-4' | 17.9 | 13.6 | 13.6 | 13.4 | 16.5 | 13.8 | 1 | -84 |
| 4-6' | 14.2 | 14.3 | 13.8 | 17.4 | 13.9 | 11.9 | 1 | -85 |
| 6-8' | 17.2 | 16.2 | 13.1 | 17.7 | 16.4 | 11.7 | 1 | -83 |
| 8-10' | 16.5 | 24.4 | 15.8 | 14.9 | 13.4 | 14.1 | 1 | -81 |
| Pit3D | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL |
| Elev | 5762.9 | 5761.8 | 5761.2 | 5764.2 | 5762.8 | 5761.2 | | |
| 0-2' | 13.6 | 14.3 | 13.6 | 13.4 | 13.6 | 14.4 | 1 | -86 |
| 2-4' | 14.1 | 13.5 | 14.5 | 14.3 | 16 | 14.1 | 1 | -85 |
| 4-6' | 51.2 | 14.6 | 16.4 | 17.9 | 17 | 17 | 1 | -69 |
| 6-8' | 12.8 | 16.2 | 14.8 | 16 | 12.3 | 15.2 | 1 | -84 |
| 8-10' | 12.6 | 12.4 | 14.8 | 15.3 | 17.8 | 13.3 | 1 | -84 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
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| TPH | | | | | | | | | | | | |
| Pit3E | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL | 7 | 8 | 9 | 10 |
| Elev | 5759.1 | 5758.9 | 5758.5 | 5758.6 | 5758.5 | 5758.4 | | | 5760.1 | 5759.1 | 5759.0 | 5758.8 |
| 0-2' | 98.5 | 304.5 | 556 | 46.6 | 61.6 | 109.8 | 29 | 216 | 23.3 | 17.1 | 13.3 | 1074 |
| 2-4' | 48.4 | 610 | 231 | 58 | 28.4 | 57.2 | 65 | 209 | 23.5 | 14.4 | 14.1 | 422 |
| 4-6' | 571 | 3850 | 178.5 | 56.7 | 99.4 | 1877 | 15 | 1915 | 20.3 | 39.2 | 13.1 | 1209.0 |
| 6-8' | 15440 | 9910 | 1876 | 362 | 14.7 | 120.1 | 14 | 8445 | 32.6 | 30.2 | 14.9 | 17010 |
| 8-10' | 1645 | 590 | 595 | 14.8 | 12.9 | 16.2 | 19 | 763 | 75.3 | 13.6 | 13.4 | 1055 |
| 10-12' | 16.7 | 13.7 | 15.4 | 12.9 | 13.6 | 16.9 | 1 | -84 | 24.7 | 15.5 | | 2504 |
| 12-14' | | | | | | | | | | | | 7930 |
| 14-16' | | | | | | | | | | | | 5970 |
| 16-18' | | | | | | | | | | | | 854 |
| 18-20' | | | | | | | | | | | | R |
| TPH | | | | | | | | | | | | |
| Pit3E | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| Elev | 5758.9 | 5759.3 | 5758.7 | 5758.9 | 5759.2 | 5758.6 | 5759.4 | 5759.3 | 5759.2 | 5757.9 | 5757.8 | 5758.5 |
| 0-2' | 135.6 | 14.4 | 268.7 | H | 45.5 | 848 | 35.5 | 201.1 | 33.1 | 42.3 | 126 | 111 |
| 2-4' | 13.6 | 13.6 | 13.5 | H | 732 | 54.5 | 13.6 | 196 | 13.3 | 21.2 | 13.3 | 13.4 |
| 4-6' | 13.7 | 15.3 | 13.7 | H | 105 | 16.9 | 14.1 | | 23.1 | 21.2 | 13.4 | 13.7 |
| 6-8' | 13.7 | 13.6 | 17.6 | H | 1154 | 14.2 | 13.8 | | 14.2 | 13.8 | 90.1 | |
| 8-10' | 15.3 | 13.6 | 13.6 | H | 65.6 | 264 | 13.3 | 13.3 | 13.3 | 13.1 | 13.7 | |
| 10-12' | | 13.6 | 23.7 | 162 | 30.3 | R | 13.4 | | | R | | |
| 12-14' | | | | 37.2 | | | | | | | | |
| 14-16' | | | | 21.7 | | | | | | | | |
| TPH | | | | | | | | | | | | |
| Pit3E | 23 | 24 | 25 | | | | | | | | | |
| Elev | 5759.7 | 5757.1 | 5759.9 | | | | | | | | | |
| 0-2' | 195.7 | 13.7 | 22.3 | | | | | | | | | |
| 2-4' | 16.4 | 13.7 | 14.1 | | | | | | | | | |
| 4-6' | 13.9 | 13.6 | 14.6 | | | | | | | | | |
| 6-8' | 13.8 | | | | | | | | | | | |
| 8-10' | 13.7 | | | | | | | | | | | |
| 10-12' | | | | | | | | | | | | |
| 12-14' | | | | | | | | | | | | |
| 14-16' | | | | | | | | | | | | |
| 16-18' | | | | | | | | | | | | |
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UC3 Shaker Area

TPH

| 3S | 1 | 2 | 3 | 4 | 5 | Nd | <>+U-AL |
|---|---|---|---|---|---|---|---|
| Elev | 5760.5 | 5760.2 | 5760.8 | 5760.4 | 5760.3 | | |
| 0-2' | 15.7 | 17 | 28.5 | 19 | 24.7 | 1 | -75 |
| 2-4' | 29.8 | 17.4 | 14.1 | 39.4 | 32.4 | 1 | -66 |
| 4-6' | 16.4 | 16.6 | 19.1 | 1670 | 13.6 | 59 | 754 |
| 6-8' | 15.7 | 11.2 | 17.9 | 31.3 | 13.3 | 1 | -74 |
| 8-10' | 14.5 | 13.6 | 21 | 36.1 | | 1 | -70 |
| 10-12' | H | | | H | | | |

TPH

| 3U | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Elev | 5759.9 | 5759.9 | 5759.5 | 5759.5 | 5760.6 |
| 0-2' | 13.4 | 13.7 | H | H | H |
| 2-4' | 13.5 | 19.2 | 13.8 | 33.3 | 25.5 |
| 4-6' | 595.2 | 13./3 | 13.4 | 13.3 | 13.8 |
| 6-8' | 3209 | | 13.7 | 13.6 | 17.5 |
| 8-10' | 21.8 | | H | H | H |
| 10-12' | | | H | H | H |

TPH

| 3X N | 1 | 2 | 3 | 4 | 5 | Nd | <>+U-AL |
|---|---|---|---|---|---|---|---|
| Elev | 5773.0 | 5772.2 | 5775.2 | 5780.5 | 5774.4 | | |
| 0-2' | 30.9 | 29.4 | 24.3 | 20.8 | 26.9 | 1 | -71 |
| 2-4' | 40.7 | 18.6 | 12.3 | 14.6 | 19.6 | 1 | -71 |
| 4-6' | 17.8 | 12.7 | 12.4 | 16 | 14 | 1 | -84 |
| 6-8' | 15.1 | 15 | 15.8 | R | 13.8 | 1 | -85 |
| 8-10' | H | 13.7 | H | | | NA | NA |
| 10-12' | | H | H | | | | |

TPH

| 3Y SW | 1 | 2 | 3 | 4 | 5 | Nd | <>+U-AL |
|---|---|---|---|---|---|---|---|
| Elev | 5740.4 | 5741.7 | 5737.4 | 5734.1 | 5739.4 | | |
| 0-2' | 36.9 | 59.5 | 34.7 | 35.4 | 31.1 | 1 | -53 |
| 2-4' | 18.9 | 20.1 | 13.2 | 18.6 | 16.2 | 1 | -81 |
| 4-6' | 13.7 | 13.2 | 18 | 13.7 | 13.6 | 1 | -84 |
| 6-8' | H | H | | H | 13.6 | NA | NA |

TPH

| 3Z SE | 1 | 2 | 3 | 4 | Nd | <>+U-AL | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Elev | 5754.3 | 5753.3 | 5751.9 | 5749.3 | | | 5749.7 | 5747.5 | 5746.8 | 5748.1 | 5750.0 |
| 0-2' | 35.3 | 26.2 | 115.3 | 676 | 50 | 368 | 20.4 | 21.3 | 20.4 | 23.7 | 17.2 |
| 2-4' | 28.4 | 14.5 | 18 | 13.9 | 1 | -76 | 14.3 | 14 | 15.8 | 13.7 | 13.7 |
| 4-6' | 14.8 | 14.1 | 12.9 | 43.4 | 1 | -67 | | | | | |
| 6-8' | H | H | H | H | NA | NA | | | | | |

UC4 AREA -- TPH

| PIT 4A | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| Elev | 6558.8 | 6558.5 | 6558.3 | 6558.1 | 6558.4 | 6558.4 | | | 6559.0 | 6559.7 |
| 0-2' | 34.7 | 24.9 | 24.9 | 39.2 | 54.9 | 14.5 | 1 | -59 | H | H |
| 2-4' | 65.5 | 116.6 | 31.2 | 87.6 | 24.7 | 25.5 | 6 | -19 | 16.7 | 14.5 |
| 4-6' | 15.2 | 132.3 | 68.9 | 235.8 | 88.8 | 107.4 | 555 | 53 | 14.2 | 14.3 |
| 6-8' | 164.4 | 336 | 289.5 | 272 | 285.2 | 264 | 1 | 203 | 13.7 | 14.2 |
| 8-10' | 131.6 | 176.5 | 123.3 | 117.8 | 319.9 | 204.2 | 7 | 125 | 35.6 | 18 |
| 10-12' | 48.6 | 63.2 | 59.6 | 58.8 | 59.1 | 94.5 | 2 | -27 | R | R |

TPH

| PIT 4B | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL | 7 |
|---|---|---|---|---|---|---|---|---|---|
| Elev | 6558.8 | 6558.5 | 6558.3 | 6558.5 | 6557.6 | 6557.1 | | | 6556.8 |
| 0-2' | 17.3 | | | | | | NA | NA | H |
| 2-4' | 11.5 | 40.3 | 79.3 | 41.2 | 68.2 | 52.5 | 2 | -37 | 76.1 |
| 4-6' | 84.2 | 64.3 | 88.6 | 55.9 | 83.7 | 99.5 | 5 | -11 | 96.3 |
| 6-8' | 162.4 | 71.8 | 198.3 | 117.5 | 235.2 | 248.1 | 6 | 114 | 89.7 |
| 8-10' | 100.2 | 78.2 | 69.5 | 93.7 | 59.5 | 52.1 | 4 | -13 | 13.7 |
| 10-12' | 11 | | 60.2 | 62 | 61.6 | | 2 | -31 | |

TPH

| PIT 4C | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Nd | <>+U-AL |
|---|---|---|---|---|---|---|---|---|---|
| Elev | 6554.4 | 6554.5 | 6552.1 | 6552.4 | 6551.8 | 6552.3 | 6552.4 | | |
| 0-2' | 120.5 | 185.1 | 493 | 160.2 | 985 | 900 | | 8 | 607 |
| 2-4' | 148.5 | 275.7 | | 121.5 | 381 | 178.2 | 231.9 | 4 | 180 |
| 4-6' | R | R | R | R | R | R | 150.2 | NA | NA |

TPH

| PIT 4C | 8Breach | 9Breach | 10 | 11 |
|---|---|---|---|---|
| Elev | 6550.1 | 6544.4 | 6549.9 | 6550.1 |
| 0-2' | 73.2 | 63.4 | 21.6 | 35.8 |
| 2-4' | | | 28.7 | 44.3 |
| 4-6' | | | 58.5 | 27.1 |
| 6-8' | | | 17.7 | 13.8 |

TPH

| PIT4D | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| Elev | 6545.1 | 6545.6 | 6543 | 6543.4 | 6542.8 | 6542.1 | | | 6544.2 | 6542.0 |
| 0-2' | 43.6 | 26.8 | 64.4 | 22.6 | 73.4 | 37.9 | 1 | -43 | H | H |
| 2-4' | 66.4 | 74.4 | 30 | 27.8 | 21 | 54.1 | 2 | -41 | H | 28 |
| 4-6' | 75.4 | 184.1 | 302 | 60.1 | 55.3 | 33.8 | 210 | 81 | 53.4 | 66.8 |
| 6-8' | 1700 | 167 | 46.2 | 178.9 | 25.1 | 1504 | 16 | 973 | 12.8 | 38.7 |
| 8-10' | 157.2 | 77 | 35.7 | 961 | 81.3 | 47.9 | 54 | 345 | 13.2 | 38.3 |
| 10-12' | 57.7 | 15.9 | | 49.8 | 78.9 | 51.1 | 2 | -34 | H | |
| 12-14' | | | | 61 | | | NA | NA | | |

TPH

| PIT 4E | 1 | 2 | Nd | <>+U-AL |
|---|---|---|---|---|
| Elev | 6552.7 | 6552.2 | | |
| 0-2' | 70.1 | 82.2 | 1 | -5 |
| 2-4' | 55.2 | 60.4 | 1 | -34 |
| 4-6' | 58.6 | R | NA | NA |

UC4 Shaker area -- TPH

| 4S | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Nd | <>+U-AL | 9 by 6 | 10by1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Elev | 6551 | 6547.2 | 6545.4 | 6536.5 | 6525.2 | 6521.8 | 6523.8 | 6524.5 | | | 5526.8 | 6557 |
| 0-2' | 49.4 | 43.3 | 273 | 29.4 | 49.9 | 182.6 | | | 3101 | 65 | 15.9 | 14.5 |
| 2-4' | 22.6 | 268 | 61.7 | 100.8 | 38.3 | 862 | 40.5 | 14.3 | 96 | 221 | 17.4 | 15.3 |
| 4-6' | 41.7 | 117.9 | 26.4 | 45.2 | 20.1 | 493 | 192 | 17.2 | 473 | 101 | 13.7 | 15.7 |
| 6-8' | 23.7 | 17.5 | 56.5 | 14.6 | 14.3 | 257.5 | 18.9 | 13.9 | 21 | -6 | 36.7 | 13.5 |
| 8-10' | 22.6 | 23.8 | 123.6 | | 13.6 | 16.2 | 13.6 | | 3 | -38 | 26.7 | 29.6 |
| 10-12' | 13.8 | | | | 21.9 | | | | 1 | -70 | R | 14.2 |

TPH

| 4S | 11 | 12 | 13 | 14 |
|---|---|---|---|---|
| Elev | 6558.9 | 6545.6 | 6539.5 | 6559.4 |
| 0-2' | 57.9 | 51 | 21.3 | 29.8 |
| 2-4' | 47.9 | 32.6 | 13.6 | 52.7 |
| 4-6' | 53 | 42.8 | 13.3 | 48.7 |
| 6-8' | 14 | 24.1 | 13.7 | 50.2 |
| 8-10' | 16.4 | 29.3 | 13.2 | 47.9 |
| 10-12' | | | | H |

UC4 South drainage -- TPH

| 4W | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Elev | 6547.9 | 6534.5 | 6532.4 | 6529.9 | 6525.9 | 6522.2 |
| 0-2' | 128.6 | 51.3 | 18 | 76.7 | H | H |
| 2-4' | 207.6 | 54 | 13.6 | 24 | H | H |
| 4-6' | 301.3 | 36.3 | H | H | H | H |
| 6-8' | 145.9 | R | | | | |
| 8-10' | 27.5 | R | | | | |
| 10-12' | 13.7 | R | | | | |

UC4 Eastern drainage -- TPH

| 4X | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Elev | 6517.8 | 6508.0 | 6506.3 | 6502.7 | 6497.3 |
| 0-2' | 73.8 | 59.1 | 39.9 | 48.2 | H |
| 2-4' | 65.6 | 33.2 | 22.2 | 29.3 | H |
| 4-6' | 131.2 | R | H | H | H |
| 6-8' | 82.5 | R | | | |
| 8-10' | 22 | R | | | |
| 10-12' | R | R | | | |

HEXAVALENT CHROMIUM

(Highest value of either XRF or FLAA, if no hex Cr available)

UC1 AREA -- Hex. Cr

| PIT 1A | 1 | 2 | Nd | <>+U-AL | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 93.3 | 79.3 | 1 | -282 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| 2-4' | 50 | 50 | 0 | -340 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| 4-6' | 50 | 50 | 0 | -340 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| 6-8' | 50 | 50 | 0 | -340 | | | | | | | 50 |

Hex. Cr

| PIT 1B | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL | | X1 | 0-2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 | | 1 | 50 |
| 2-4' | 50 | 50 | 50 | 50 | 50 | R | 0 | -340 | | 2 | 50 |
| 4-6' | 50 | 50 | 50 | 64 | | | 1 | -331 | | 3 | 50 |
| 6-8' | | | | R | | | | | | 4 | 50 |

Hex. Cr

| PIT 1C | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Nd | <>+U-AL |
|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 50 | 50 | 50 | 50 | 50 | 50 | H | 0 | -340 |
| 2-4' | 50 | 50 | 50 | 50 | 50 | 50 | H | 0 | -340 |
| 4-6' | 50 | 50 | 50 | 50 | 50 | 50 | | 0 | -340 |
| 6-8' | 50 | 50 | 64 | 50 | 50 | 50 | | 1 | -334 |
| 8-10' | 64 | 50 | 50 | 50 | 50 | 50 | | 1 | -334 |
| 10-12' | H | H | H | 50 | H | H | | NA | NA |

Hex. Cr

| PIT 1D | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL |
|---|---|---|---|---|---|---|---|---|
| 0-2' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 |
| 2-4' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 |
| 4-6' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 |
| 6-8' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 |
| 8-10' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 |
| 10-12' | H | H | H | H | H | H | | |

Hex. Cr

| PIT 1E | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Nd | <>+U-AL | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 50 | 80.2 | 50 | 64 | 50 | 50 | 50 | 1 | -325 | 50 |
| 2-4' | 50 | 68 | 50 | 50 | 50 | 50 | | 1 | -333 | 50 |
| 4-6' | 50 | 50 | 64 | 50 | 50 | 50 | | 1 | -334 | 50 |
| 10-12' | | | | | | | 50 | | | |

UC1 Shaker area

Hex. Cr

| 1S | 1 | 2 | 3 | 4 | Nd | <>+U-AL | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 82 | 102 | 87.7 | 50 | 1 | -292 | 50 | 50 | 50 |
| 2-4' | 58.4 | 50 | 50 | 50 | 1 | -334 | 50 | 64 | 50 |
| 4-6' | 50 | 50 | 50 | 50 | 0 | -340 | 50 | 50 | 50 |
| 6-8' | | | | | | | | | |

| Hex. Cr | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| U1Y | 1 | 2 | 3 | 4 | 5 | | | | | | | |
| 0-2' | 50 | 50 | 50 | 50 | 50 | | | | | | | |
| 2-4' | 50 | 50 | 50 | 50 | 50 | | | | | | | |
| 4-6' | 50 | 50 | 50 | 50 | 50 | | | | | | | |
| 6-8' | 50 | 50 | | | | | | | | | | |
| | | | | | | | | | | | | |
| UC3 Area -- Hex Cr | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Pit3A | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL | | | | |
| 0-2' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 | | | | |
| 2-4' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 | | | | |
| 4-6' | 50 | 50 | 50 | 64 | 50 | 60.6 | 1 | -332 | | | | |
| 6-8' | 140 | 50 | 50 | 50 | 50 | 50 | 1 | -303 | | | | |
| 8-10' | 50 | 50 | 50 | 58.7 | 50 | 50 | 1 | -336 | | | | |
| Hex. Cr | | | | | | | | | | | | |
| Pit3B | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL | | | | |
| 0-2' | 50 | 64 | 64 | 50 | 50 | 52.4 | 1 | -331 | | | | |
| 2-4' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 | | | | |
| 4-6' | 50 | 50 | 50 | 64 | 50 | 50 | 1 | -334 | | | | |
| 6-8' | 50 | 70.4 | 50 | 50 | 50 | 50 | 1 | -332 | | | | |
| 8-10' | 160 | 50 | 50 | 50 | 50 | 50 | 1 | -295 | | | | |
| Hex. Cr | | | | | | | | | | | | |
| Pit3C | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL | | | | |
| 0-2' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 | | | | |
| 2-4' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 | | | | |
| 4-6' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 | | | | |
| 6-8' | 50 | 50 | 64 | 50 | 50 | 50 | 1 | -334 | | | | |
| 8-10' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 | | | | |
| 10-12' | 50 | 50 | 50 | | | | 0 | -340 | | | | |
| Hex. Cr | | | | | | | | | | | | |
| Pit3D | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL | | | | |
| 0-2' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 | | | | |
| 2-4' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 | | | | |
| 4-6' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 | | | | |
| 6-8' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 | | | | |
| 8-10' | 50 | 50 | 64 | 50 | 50 | 50 | 1 | -334 | | | | |
| Hex. Cr | | | | | | | | | | | | |
| Pit3E | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL | 7 | 8 | 9 | |
| 0-2' | 64 | 50 | 50 | 50 | 50 | 50 | 1 | -334 | 50 | 50 | 50 | |
| 2-4' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 | 50 | 50 | 50 | |
| 4-6' | 51.1 | 14.6* | 50 | 50 | 59.4 | 250 | 1 | -260 | 50 | 50 | 50 | |
| 6-8' | 17.6 | 21.8* | 26.4 | 50 | 50 | 172 | 1 | -299 | 50 | 50 | 50 | |
| 8-10' | 17 | 286 | 206 | 54.3 | 50 | 50 | 1 | -214 | 50 | 64 | 50 | |
| 10-12' | 66.8 | 50 | 50 | 50 | 50 | 50 | 1 | -333 | 50 | 50 | 50 | |

| Hex. Cr | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pit3E | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 0-2' | 64 | 50 | 50 | 50 | H | 50 | 64 | 50 | 50 | 50 | 50 | 50 |
| 2-4' | 50 | 50 | 50 | 50 | H | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| 4-6' | 50 | 50 | 50 | 50 | H | 50 | 50 | 50 | | 50 | 50 | 50 |
| 6-8' | 50 | 50 | 50 | 50 | H | 50 | 50 | 50 | | 50 | 50 | 58.5 |
| 8-10' | 50 | 50 | 50 | 50 | H | 50 | 50 | 50 | 50 | 50 | 64 | 50 |
| 10-12' | 50 | | 50 | 50 | 50 | 50 | R | 64 | | | R | |
| 12-14' | 50 | | | | 50 | | | | | | | |
| 14-16' | 50 | | | | 50 | | | | | | | |
| 16-18' | 50 | | | | | | | | | | | |

| Hex. Cr | | | | | |
|---|---|---|---|---|---|
| Pit3E | 22 | 23 | 24 | 25 | |
| 0-2' | 64 | 50 | 50 | 50 | |
| 2-4' | 64 | 50 | 50 | 50 | |
| 4-6' | 50 | 50 | 50 | 50 | |
| 6-8' | | 50 | | | |
| 8-10' | | 50 | | | |

UC3 Shaker area -- Hex. Cr

| 3S | 1 | 2 | 3 | 4 | 5 | Nd | <>+U-AL |
|---|---|---|---|---|---|---|---|
| Elev | 5760.5 | 5760.2 | 5760.8 | 5760.4 | | | |
| 0-2' | 50 | 50 | 50 | 50 | 50 | 0 | -340 |
| 2-4' | 50 | 50 | 50 | 50 | 64 | 1 | -333 |
| 4-6' | 50 | 64 | 50 | 50 | 50 | 1 | -333 |
| 6-8' | 50 | 50 | 50 | 50 | 50 | 0 | -340 |
| 8-10' | 50 | 50 | 66.1 | 62.4 | | 1 | -326 |

UC3 Protruding Pipe area

Hex. Cr

| 3U | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Elev | | | | | |
| 0-2' | 50 | 50 | H | H | H |
| 2-4' | 50 | 50 | | | |
| 4-6' | 50 | 50 | | | |
| 6-8' | | | | | |
| 8-10' | | | | | |

UC3 northern cuttings piles

Hex. Cr

| 3X N | 1 | 2 | 3 | 4 | 5 | Nd | <>+U-AL |
|---|---|---|---|---|---|---|---|
| Elev | | | | | | | |
| 0-2' | 102 | 123 | 103 | 62.1 | 105 | 1 | -276 |
| 2-4' | 115 | 50 | 50 | 50 | 50 | 1 | -307 |
| 4-6' | 50 | 50 | 64 | 50 | 50 | 1 | -333 |
| 6-8' | 50 | 50 | 50 | R | 50 | 0 | -340 |
| 8-10' | | 50 | | | | | |

| UC3 southwestern cuttings piles | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hex. Cr | | | | | | | |
| 3Y SW | 1 | 2 | 3 | 4 | 5 | Nd | <>+U-AL |
| Elev | | | | | | | |
| 0-2' | 88.8 | 132 | 88 | 94.3 | 144 | 1 | -262 |
| 2-4' | 50 | 63 | 50 | 50 | 50 | 1 | -333 |
| 4-6' | 50 | 50 | 50 | 50 | 50 | 0 | -340 |
| 6-8' | | | | | 50 | NA | NA |

| UC3 southeastern cuttings piles | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Hex. Cr | | | | | | | | | | | |
| 3Z SE | 1 | 2 | 3 | 4 | Nd | <>+U-AL | 5 | 6 | 7 | 8 | 9 |
| Elev | | | | | | | | | | | |
| 0-2' | 138 | 146 | 80.1 | 189 | 1 | -215 | 50 | 50 | 50 | 50 | 50 |
| 2-4' | 60.2 | 50 | 50 | 50 | 1 | -333 | 50 | 50 | 50 | 50 | 50 |
| 4-6' | 50 | 50 | 64 | 50 | 1 | -331 | H | H | H | H | H |
| 6-8' | | | | | | | | | | | |

UC4 Area -- Hex. Cr

| PIT 4A | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 50 | 50 | 50 | 62.4 | 50 | 50 | 1 | -335 | | |
| 2-4' | 50 | 50 | 50 | 50 | 50 | 50 | 0 | -340 | 50 | 64 |
| 4-6' | 50 | 95.4 | 50 | 14.9* | 196 | 14.3* | 1 | -279 | 50 | 50 |
| 6-8' | 215 | 274 | 15.5* | 296 | 217 | 15.5* | 2 | -142 | 50 | 50 |
| 8-10' | 200 | 15.1* | 15.1* | 192 | 16.3* | 116 | 1 | -244 | 50 | 50 |
| 10-12' | 60.8 | 64.4 | 50 | 50 | 50 | 50 | 1 | -322 | | |

Hex. Cr

| PIT 4B | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL | 7 |
|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 50 | | | | | | NA | NA | |
| 2-4' | 50 | 50 | H | 50 | 50 | 50 | 0 | -340 | 50 |
| 4-6' | 50 | 50 | 50 | 50 | 50 | 264 | 1 | -252 | 50 |
| 6-8' | 13.7* | 237 | 14.5* | 13.4* | 14.4* | 14.5* | 1 | -284 | 50 |
| 8-10' | 207 | 15.3* | 121 | 217 | 50 | 75.7 | 1 | -226 | 50 |
| 10-12' | 50 | | 50 | 50 | 50 | | 0 | -340 | |

Hex. Cr

| PIT 4C | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Nd | <>+U-AL |
|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 13* | 15* | 18.7* | 13.1* | 20.2* | 32.7* | ND | 1 | -367 |
| 2-4' | 15.4* | 21.5* | NT | 13.6* | 16.9* | 20.4* | 15.5* | 1 | -371 |
| 4-6' | R | R | R | R | R | R | 50 | NA | NA |

Hex. Cr

| PIT 4C | 8 | 9 | 10 | 11 |
|---|---|---|---|---|
| 0-2' | 195 | 12.2 | 50 | 50 |
| 2-4' | | | 50 | 50 |
| 4-6' | | | 50 | 50 |
| 6-8' | | | 50 | 50 |

Hex. Cr

| PIT 4D | 1 | 2 | 3 | 4 | 5 | 6 | Nd | <>+U-AL | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 84.4 | 69.7 | 306 | 50 | 107 | 96.8 | 1 | -214 | | |
| 2-4' | 50 | 50 | 103 | 50 | 50 | 50 | 1 | -315 | | 50 |
| 4-6' | 50 | 189 | 16.3* | 50 | 50 | 50.2 | 1 | -286 | 50 | 64 |
| 6-8' | 255 | 14.7* | 13.3* | 13.5* | 64.9 | 17.4* | 1 | -269 | 50 | 50 |
| 8-10' | 50 | 50 | 52.2 | 15.6* | 66.8 | 214 | 1 | -273 | 50 | 50 |
| 10-12' | 50 | 50 | | 70.2 | 50 | 50 | 1 | -330 | | |
| 12-14' | | | | 50 | | | NA | NA | | |

Hex. Cr

| PIT 4E | 1 | 2 | Nd | <>+U-AL |
|---|---|---|---|---|
| 0-2' | 50 | 13.4* | 1 | -302 |
| 2-4' | 50 | 50 | 1 | -340 |
| 4-6' | 50 | R | NA | NA |

UC4 Shaker Area

Hex. Cr

| 4S | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Nd | <>+U-AL | 9 by 6 | 10by1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-2' | 98 | 271 | 14.9* | 158 | 289 | 13.5* | | | 2 | -176 | 50 | 50 |
| 2-4' | 157 | 17.9* | 17.9* | 15* | 50 | 20.3* | 153 | 50 | 1 | -300 | 50 | 50 |
| 4-6' | 14 | 264 | 295 | 65 | 50 | 20.1* | 14.4* | 50 | 1 | -236 | 50 | 50 |
| 6-8' | 149 | 242 | 206 | 50 | 50 | 17.1* | 199 | 50 | 1 | -225 | 50 | 50 |
| 8-10' | 120 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 1 | -316 | 50 | 50 |
| 10-12' | 50 | | | | 50 | | | | 0 | -340 | R | 50 |

Hex. Cr

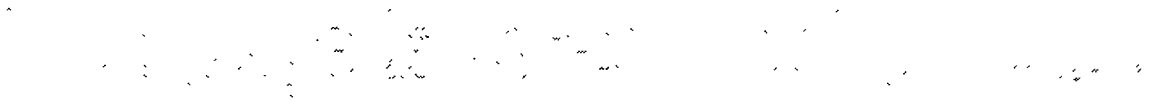
| 4S | 11 | 12 | 13 | 14 |
|---|---|---|---|---|
| 0-2' | 210 | 96.1 | 122 | 50 |
| 2-4' | 13.5 | 50 | 50 | 72.2 |
| 4-6' | 275 | 50 | 50 | 64 |
| 6-8' | 69.1 | 50 | 50 | 50 |
| 8-10' | 51 | 76.6 | 50 | 50 |

UC4 Eastern drainage

Hex. Cr

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 0-2' | 14* | 12.4* | 100 | 402 | H | H |
| 2-4' | 16.8* | 50 | 50 | 118 | H | H |
| 4-6' | 15.6* | 50 | H | H | H | H |
| 6-8' | 17.*6 | | | | | |
| 8-10' | 147 | | | | | |
| 10-12' | 50 | | | | | |

UC4 Southern drainage

Hex. Cr

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 0-2' | 14.5* | 12.7* | 257 | 191 | H | |
| 2-4' | 15.4* | 52.1 | 50 | 50 | H | |
| 4-6' | 15.4* | R | H | H | H | |
| 6-8' | 63.6 | | | | | |
| 8-10' | 80.5 | | | | | |