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DANIEL B. STEPHENS & ASSOCIATES, INC.

ENVIRONMENTAL SCIENTISTS AND ENGINEERS

GROUND-WATER ASSESSMENT REPORT

OF

LAGUNA COMPRESSOR STATION NO. 6

VOLUME I: REPORT TEXT, TABLES, FIGURES, AND APPENDICES A-B

SUBMITTED TO

TRANSWESTERN PIPELINE COMPANY

JANUARY 30, 1992

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1. EXECUTIVE SUMMARY

Daniel B. Stephens & Associates, Inc. has prepared this ground-water assessment report on Transwestern Pipeline Company's Compressor Station No. 6 in compliance with a United States Environmental Protection Agency (EPA) Region VI consent decree with Transwestern Pipeline Company. This report contains all hydrogeologic data collected subsequent to the initial hydrogeology report submitted to EPA in 1989 (DBS&A, 1989). The scope of this investigation includes completion of eight exploratory wells, ten monitor wells, and five coreholes, laboratory and field tests of hydraulic properties, a surface geophysical survey, and water quality sampling.

Compressor Station No. 6 is located near Laguna, New Mexico, approximately 45 miles west of Albuquerque. The site is underlain by unconsolidated aeolian and alluvial deposits which are approximately 6 to 11 feet thick. The Jurassic-age Bluff Sandstone occurs beneath these unconsolidated sediments. A perched aquifer occurs within weathered and fractured Bluff Sandstone. The perched water table surface approximately coincides with the top of the Bluff Sandstone. Depths to perched water are about 10 to 15 feet below land surface. The perched aquifer is approximately 15 feet thick across the site, and perched ground-water flow is toward the northeast. The horizontal hydraulic gradient is relatively low on the western portion of the station and steepens slightly on the eastern side of the property. Ground water in the perched aquifer is of moderate to poor quality (TDS >500 ppm); however, there are no known users of the perched aquifer water. The regional water table lies approximately 40 to 60 feet below the station in the lower, well-cemented Bluff Sandstone.

Polychlorinated biphenyl (PCB) compounds have been detected monthly since July 1991 in two perched zone monitor wells completed near the historical waste disposal area. Benzene, toluene, ethylbenzene, and xylene (BTEX) were also detected in several perched zone monitor wells. In the two wells closest to the historical waste pit, PCB and BTEX concentrations exceeded New Mexico Water Quality Control Commission (NMWQCC) ground-water standards. Along the site boundary downgradient of the waste pit, PCBs were not detected and BTEX concentrations were below NMWQCC standards.

2. INTRODUCTION

2.1 Purpose

Daniel B. Stephens & Associates (DBS&A) was retained by Transwestern Pipeline Company (Transwestern) in March 1989 to characterize the hydrogeology at Compressor Station No. 6, located along Transwestern's natural gas transmission line near Laguna, New Mexico. Organic liquid containing PCBs and petroleum hydrocarbon condensate cleaned from the pipeline was previously discharged into unlined pits and onto soils at the Laguna site. In accordance with the Consent Decree with EPA Region VI, a hydrogeologic investigation was undertaken to assess the potential for polychlorinated biphenyl compounds (PCBs) to impact ground water at the site. Results from the initial hydrogeological investigation, conducted by DBS&A from March 1989 through October 1989, were reported in November 1989 (DBS&A, 1989). This Ground-Water Assessment Report (GAR) contains hydrogeologic information that has been collected since November 1989.

2.2 Summary of Work Completed for the GAR

The principal ground-water investigations completed since the November 1989 report include the following:

- Aerial photo analysis of lineament orientations near the station;
- Drilling and geologic sample collection from five rock coreholes;
- An electromagnetic conductivity survey to help characterize the extent of perched water at the site;
- Drilling, completion, and geologic sampling of eight shallow exploratory wells within the western portion of the site for determination of extent, source, and characteristics of the perched system;

- Drilling, completion, and geologic sampling of ten additional shallow monitor wells near the historical waste pit for characterization of ground-water quality and the potential for contaminant transport downgradient of the pit;

- Laboratory testing of soil and rock cores to define saturated zones and rock porosity;

- Periodic water level measurements to establish water table elevations;

- Field bail-recovery tests to define hydraulic conductivity of the perched aquifer;

- Periodic water sampling and analysis of monitor wells for PCBs and BTEX; and

- Special sampling for inorganic and isotopic characteristics of the perched and regional ground-water systems.

3. SITE DESCRIPTION

3.1 Location and Setting

The Transwestern Compressor Station No. 6 is located on the Pueblo of Laguna approximately 1.5 miles southwest of Laguna, Cibola County, New Mexico. Laguna is located along Interstate 40, approximately 45 miles west of Albuquerque and 25 miles east of Grants, New Mexico (Figure 3.1). The Pueblo of Laguna includes 690 square miles of land surrounding the station.

The area near the station is characterized by high mesas, canyons, and lava flows all within the Colorado Plateau physiographic province. The land at the station slopes gently toward the northeast and is covered mostly with native grasses adapted to the relatively high-altitude, semi-arid environment. The station is about 5900 feet above mean sea level and has a mean annual precipitation of about 8 inches.

Phreatophytes occur along the flood plain of the perennial eastward-flowing Rio San Jose (located north of the station) and at isolated places along its ephemeral tributary, the Rio Gypsum. The steeply incised Rio Gypsum flows northward and drains the eastern portion of the compressor station (Figure 3.1). A few poorly defined drainages cross the station and feed into the Rio Gypsum or merge directly with the Rio San Jose.

The locations of wells, waste pits, and other features are shown on Figure 3.2. The area of concentrated ground-water monitoring is in the eastern part of the site near the historical waste pit (Figure 3.2).

3.2 Geology

The station is located in the southern part of the San Juan Basin of the Colorado Plateau. The geologic units near the site comprise a thick sequence of gently north-dipping sedimentary units of Permian through Cretaceous age, with local deposits of Quaternary-age aeolian/alluvial units and basalt flows (Figure 3.3). The site is underlain by about 6 to 11 feet of unconsolidated aeolian/alluvial deposits which lie above the indurated sedimentary bedrock units. Figure 3.4 shows a generalized stratigraphic column of units beneath the station. Regional stratigraphic units are described in detail within the 1989 DBS&A report.

DBS&A site investigations performed since the November 1989 report have been confined to the Bluff Sandstone of Jurassic age and the overlying unconsolidated Quaternary cover. The Bluff Sandstone is a yellowish gray to white, fine- to medium-grained, well cemented sandstone which is approximately 130 feet thick at the station. The Bluff can be divided into three zones based on the degree of weathering and fracturing. The upper zone is approximately 1 foot thick and consists of the disaggregated sand which contains iron staining and weathered minerals. The middle sandstone is moderately to heavily fractured and is about 10 to 15 feet thick. The lower sandstone is relatively unfractured and massive and is about 110 feet thick. Fractures in vertical Bluff Sandstone cores are mainly low angle and controlled by bedding planes. The Quaternary cover consists of silty sand, slightly damp to damp, brown to red brown, moderately to well sorted, and about 6 to 11 feet thick. Drilling and well completion logs for all boreholes completed since the first DBS&A report are given in Appendix A.

Structural folding and faulting appear to be limited to areas relatively far from the station. However, we identified from aerial photographs two distinct lineament orientations near the station (Figure 3.5). They include a broad set of east-west lineaments between the Laguna Pueblo and the compressor station and a set of north-northeast trending lineaments parallel to the surficial drainage patterns. Lineament orientation is likely controlled by regional uplift and folding stress release. Aerial photos do not indicate displacement along these trends.

4. HYDROGEOLOGIC INVESTIGATIONS

Bedrock formations beneath the compressor station are not considered to be major aquifers, because they yield only small quantities of ground water to wells and/or they contain poor-quality ground water. The Bluff Sandstone, the first bedrock formation encountered beneath the station, can be subdivided into three lithologic units and two hydrogeologic units. The upper and middle Bluff constitute one such hydrogeologic unit, and the lower Bluff comprises the second hydrogeologic unit. The hydrologic characteristics of both units have been investigated by DBS&A. During the initial site investigation (DBS&A, 1989), wells were completed within the massive lower Bluff Sandstone. The recent investigation was initiated after the discovery of shallow perched water in the upper and middle Bluff. The following sections summarize the hydrogeologic investigations undertaken to characterize ground-water flow and aquifer properties in the Bluff Sandstone.

4.1 Initial Hydrogeologic Site Investigation

The initial hydrogeologic investigation at the Laguna compressor station was undertaken in 1989 to characterize the uppermost aquifer beneath the site. At that time, all available literature on the region indicated that ground water occurred in the lower Bluff and deeper formations. Drilling during the first phase of work was done by air rotary methods supplemented with light foam. As drilling advanced, on-site personnel periodically stopped drilling activities to check for perched water zones. No free water was observed flowing into the boreholes during drilling through the Bluff Sandstone or even after several days of leaving the boreholes open. Five well pairs were installed in the massive lower Bluff and Summerville Formations, after setting surface casing, to monitor for possible free water. These wells were completed with approximately 30 feet of bentonite separating screened intervals of approximately 30 to 130 feet and 160 to 300 feet. The upper intervals are designated as 6-1S to 6-5S, and the deeper intervals are designated as 6-1D to 6-5D. Detailed well completion records are included in the 1989 DBS&A report. After several months of observations, water levels in the five lower Bluff wells (6-1S through 6-5S) stabilized at approximately 40 feet below land surface.

Aquifer testing of the lower Bluff Sandstone by slug injection techniques resulted in a geometric mean hydraulic conductivity of 2.2×10^{-8} cm/sec (DBS&A, 1989). The slow recovery from drilling and from subsequent water sampling events was due to the low permeability of the bedrock. The rate of ground-water movement in the lower Bluff was estimated to be 0.06 feet per year toward the north-northeast. Recharge to the bedrock aquifers is believed to occur primarily in the outcrop areas southwest of the station on the slopes of Casa Blanca Mesa (Figure 3.1).

At the request of the EPA in May 1989, DBS&A drilled several hollow-stem auger holes to the top of the Bluff Sandstone in order to characterize the unconsolidated cover. No free water was observed in these boreholes.

The first indication of shallower sources of ground water came in 1988 from two rock borings completed in the upper Bluff Sandstone by Condor Geotechnical Services north of the on-site offices and water tank. After leaving two borings open overnight, Condor discovered free water at 13.5 and 11.0 feet in holes having respective total depths of 21.6 and 59.0 feet. Originally it was thought that this water was the result of documented heavy rains filling the open boreholes (DBS&A, 1989), so these borings were subsequently abandoned. The second indication of shallow water came from rock corings (6-CH1 through 6-CH5) completed by DBS&A to verify fracturing and potential contamination that had been reported by Harding Lawson and Associates (HLA). These borings were advanced by coring rather than by air rotary methods, and extensive fracturing, along with free water, was encountered in some of the boreholes.

4.2 Site Investigations Since the November 1989 Report

Hydrogeologic characterization performed since the 1989 DBS&A report has focused on determining the source and quality of the perched water described above. The DBS&A investigation can be divided into four sub-investigations on the basis of their primary objectives. These include: 1) the coreholes (6-CH1 through 6-CH5), drilled for the purpose of verifying the possible contamination reported by HLA; 2) the surface geophysical survey, to determine the locations for further shallow borehole investigations; 3) the exploratory perched water series holes (6-PW1 through 6-PW8), drilled to determine the extent and source of the confirmed perched water; and 4) the ten perched monitor wells (6-6 through 6-15), drilled in the vicinity of the historical waste disposal areas to monitor for PCB and BTEX in the shallow ground water.

Geologic samples were collected during the sub-investigations using a drive core to the alluvium-Bluff contact. Beyond the contact the borings were continued with air rotary or rotary coring methods. A summary of well completion information is shown in Table 4.1, and drilling and well completion logs for each well constructed during this investigation are shown in Appendix A.

4.2.1 Corehole Investigation

In October 1990, five continuously cored holes were completed by DBS&A to verify reports of fractures and shallow ground water in the upper and middle Bluff Sandstone. The locations of the coreholes are shown on Figure 3.2. Three of the coreholes (6-CH1, 6-CH2, and 6-CH5) were advanced to approximately 100 feet to investigate the extent of fracturing. Coreholes 6-CH3 and 6-CH4 were terminated at 18 and 23 feet, respectively (Table 4.1). DBS&A observed shallow perched ground water and fractures during coring and confirmed HLA's findings. The degree of fracturing exhibited large lateral variations over a distance of approximately 30 feet.

The source of perched water at the time of the corehole drilling was thought to be a water main leak and/or water from tile drain fields. During corehole drilling, DBS&A was informed that site workers had in August of that year discovered and repaired some leaking water supply lines in the vicinity of the water tank north of the office complex. An investigation was initiated to determine if the perched water was due to the leaking water supply lines.

Figure 4.1 shows the water use at the Laguna station since March 1987. A significant increase in water use is not obvious from the water use graph, suggesting that either there had been a slow continuous leak on the order of 10,000 to 20,000 gallons per month or that the leak was brief and comprised a relatively small portion of total water usage. When the main line from the supply well to the tank was pressure-tested in April 1991, following the leak repair, the line held over 105 psi for more than four hours (Ted Ryther, ENRON Corp., personal communication, 1991). Inasmuch as the leak appeared to be fixed and actual usage showed a peak in late summer 1990 that was similar to previous years, we infer that the leak was of only a brief duration. Consequently, additional sources for the perched aquifer were considered, such as natural infiltration from precipitation and runoff, or seepage from other area piping. An electromagnetic conductivity survey was performed and eight exploratory wells were drilled to help determine the source and extent of the perched water.

4.2.2 Electromagnetic Conductivity Survey

In February and March 1991 DBS&A performed an electromagnetic conductivity survey (EM-conductivity) at the compressor station. This survey was performed in order to determine the lateral extent of saturated zones within the near surface bedrock, and further, to identify the source of the perched water found in coreholes 6-CH3 and 6-CH4.

The survey was implemented using portable EM-conductivity survey equipment (EM34-3XL, Geonics, Ontario, Canada). The major advantage of this type of instrument and method is the relative ease of collecting many measurements over a large area. The EM-34 instrument consists of separate hand-held transmitter and receiver coils and power sources. During the operation of the instrument, the transmitter coil is energized by a low-frequency alternating current that radiates an electromagnetic field into the earth. The instrument records a bulk measurement of conductivity comprised of the cumulative responses of the subsurface conditions extending from the surface to the effective depth of penetration. The penetration depth is dependent on the separation distances of the hand-held coils and their orientations relative to the ground surface: the greater the coil separation, the greater the depth of penetration. A more in-depth discussion of the EM-conductivity method can be found in the Ground-Water Assessment Report for Compressor Station No. 5 (DBS&A, 1991).

A total of 25 survey lines were run (Figure 4.2). The distance between stations on each line was 20 feet. Tables containing station numbers and EM-conductivity values are shown in Appendix B.

A control test was run in early February 1991 to determine the ability of the EM-34 tool to produce significantly different conductivity readings in saturated versus unsaturated areas. Lines 1 through 5 were run near the corehole and water tank areas where shallow perched water occurred, while lines 6 and 7 were run away from the coreholes in areas that were perceived to be dry. The resulting data did appear to differentiate saturated from unsaturated zones. EM values near the coreholes averaged more than 21 mmho/m, whereas EM values from lines 6 and 7 averaged less than 21 mmho/m. Based on these preliminary data, DBS&A designed and implemented an EM-conductivity survey for the Laguna site.

During the period of March 8 through March 19, 1991, lines 8 through 25 were run using a 10-meter coil separation. At the 10-meter separation, the depth of penetration was about 22 feet. Areas of higher electromagnetic conductivity (over 18 mmho/m) were identified, and in these areas wells were drilled, based on the assumption that saturated alluvium and/or sandstone would be more electromagnetically conductive than unsaturated material.

4.2.3 Exploratory Wells for Determination of Perched Water Source

In March of 1991, exploratory wells 6-PW1 through 6-PW8 were drilled to determine the source and the extent of the perched water based on the results of the EM-34 survey. The 6-PW series wells were drilled west of the historical waste pit (Figure 3.2). The total depths of drilling ranged from 17 to 30 feet below land surface (Table 4.1). With the exception of 6-PW1, all wells encountered water during drilling and/or well construction. The first six wells (6-PW1 through 6-PW6) were located based on areas of high EM-34 conductivity and proximity to potential man-made water sources. Exploratory wells 6-PW7 and 6-PW8 were drilled farthest away from possible man-made sources of water in areas where EM-34 values were lower. These wells also encountered shallow water, indicating that the EM survey did not positively differentiate between saturated and unsaturated zones. The difference in conductivity values is most likely the result of the depth to bedrock or the degree of fracturing and cementation rather than the degree of saturation. It was apparent from this drilling program that the perched aquifer is continuous beneath the compressor station.

In each of the 6-PW-series holes, the Bluff Sandstone was cored to the total depth of the borehole. Fractures were documented in the field, and core samples were collected every foot and later analyzed in the DBS&A soils laboratory for percent saturation and porosity. The fracture density for all cores ranged from 0 to 15 fractures per foot. Laboratory results and fracture density plots are presented in Appendix C.

The geometric mean porosity in each well was calculated from laboratory results of all samples collected below the water table and ranges from 9.9 to 20.8%. The calculated porosities are slightly high for a well-cemented sandstone, which suggests that weathering of the upper 15 feet of sandstone has increased the matrix porosity. Below the perched water table, percent saturation is generally above 70%. Saturation percentages less than 100 probably reflect entrapped air.

4.2.4 Perched Water Monitor Wells

In March 1991 water was encountered at the top of the bedrock during excavation of PCB-contaminated soils around the historical waste pit, indicating that the perched water that was encountered on the western part of the site was also present in the pit area in the eastern part of the site. To comply with the EPA Consent Decree by monitoring the first water-bearing unit, DBS&A installed three new shallow monitor wells to sample perched water upgradient and downgradient of the excavation (monitor wells 6-6, 6-7, and 6-8) in the beginning of April 1991. After backfilling the excavation, downgradient monitor wells 6-9 and 6-10 were installed within 75 feet of the historical pit boundaries (Figure 3.2). When PCB was discovered in monitor wells 6-9 and 6-10, additional monitor wells (6-11 through 6-15) were installed to define the extent of PCB in ground water downgradient of the historical waste pit.

Monitor wells were cased and developed following EPA protocol (EPA, 1986) and Exhibit F in the Consent Decree, except when deviations from the Consent Decree received prior approval from the EPA. All wells were constructed with new 2-inch Schedule 40, threaded PVC casing and screened with either 0.010- or 0.020-inch machine slot PVC. The top of the monitor well screens were set at least 1 foot above the water table elevation at the time of well construction. A 10-20 silica sand was placed to at least 1 foot above the screened interval in the annular space. Bentonite pellets were placed above the sand pack and hydrated with distilled water. A bentonite slurry was placed in the annulus to ground surface. All wells were completed above grade and protected with locking steel caps. Well schematics are shown in Appendix A. Monitor wells 6-6 through 6-15 are currently being sampled monthly for PCB and BTEX. Further discussion of the monthly sampling program, results, and interpretation is given in Section 5.

4.3 Hydrogeology of the Perched Aquifer

4.3.1 Thickness and Extent of the Perched Aquifer

Ground water in the weathered upper Bluff is perched upon the massive unweathered lower Bluff Sandstone. The aquifer thickness and lateral extent are controlled by the degree of fracturing and weathering. The degree of fracturing is greatest west of the compressor building where the bedrock is near the surface. Fractures are mainly low-angle along sandstone bedding planes. Fracture density plots indicate that fracturing is limited to the upper 5 to 15 feet of sandstone (Appendix C). Fracture densities are greatest in cores from wells 6-PW5 and 6-PW8 and least in cores from wells 6-PW1, 6-PW2, and 6-PW4, shown in the central portion of Figure 3.2. From the fracture data and observations from the regional monitor wells, we infer that the perched system is approximately 15 feet thick across the site.

Several hydrogeologic cross sections were constructed from drilling logs in order to determine the subsurface geometry (refer to Figure 4.3 for cross section locations). In general, the bedrock contact mirrors the surface topography. Cross sections illustrate that the contact between the Bluff Sandstone and the unconsolidated deposits generally dips to the east and northeast across the site (Figures 4.4 through 4.8). Unconsolidated sediments increase in thickness toward the east. The bedrock contact elevations are relatively flat at the western end of the station, where the Bluff Sandstone is near the surface, and steepen east of 6-PW6 and 6-PW2 (Figures 4.4 and 4.6). The bedrock contact dip appears to flatten again northeast of 6-6 (Figure 4.7). Swales in the Bluff bedrock surface are apparent in outcrops along the Rio Gypsum arroyo directly east of the station and are evident in cross section lines B-B' and E-E' (Figures 4.5 and 4.8).

4.3.2 Perched Aquifer Recharge and Discharge

Recharge to the perched aquifer occurs primarily as infiltration of rainfall, runoff, and snowmelt on the Transwestern property. The downward percolating infiltration encounters the massive Bluff Sandstone of lower permeability, where perched conditions develop. Man-made sources, such as the leaking water supply lines, also may contribute to perched aquifer recharge. Delineation of perched aquifer sources is discussed in further detail in Section 5.1.

Perched ground-water discharge is apparently in part to the Rio Gypsum arroyo which is incised into the Bluff Sandstone approximately 450 feet east of the compressor station's eastern boundary. The eastward projection of the perched water table at the site is at an elevation above the arroyo bottom. Phreatophytes, which occur in clusters along the arroyo near the station, may delineate principal zones of discharge (Figure 4.9). The presence of salt accumulating on the arroyo banks and the lack of springs or seeps reflect the high evaporative potential and very low ground-water discharge rates.

4.3.3 Perched Aquifer Water Levels and Ground-Water Flow Directions

Depth to perched water in the shallow wells ranges from approximately 10 to 20 feet below land surface. Measured depths to water collected since the DBS&A November 1989 report are given in Tables 4.2 through 4.5. Water table elevation contours for the perched aquifer constructed from December 18, 1991 water level data indicate an eastern to northeastern flow direction (Figure 4.10). Contours suggest that ground-water mounding occurs in the vicinity of the compressor plant.

The hydraulic gradient in the perched aquifer varies from 0.006 ft/ft west of the compressor building to 0.04 ft/ft east of the radio tower. In general, the ground-water gradient is toward the northeast and appears to mirror the surface topography across the site. The slope of the perched water table on the west side of the site has been essentially flat since depth to water measurements began. From April 1991 to July 1991 the water table between 6-PW8 and 6-PW5 sloped westward. This suggests that a local ground-water divide exists between the two wells, which is consistent with surface water drainage patterns near the site. Steep gradients occur between 6-PW3 and 6-PW1 and near monitor well 6-7 (Figure 4.10). The steep gradient near 6-7 and 6-PW1 is probably a result of a lower than average permeability region, as evidenced by the slow recovery of water levels in these wells.

Hydrographs for wells completed in the perched aquifer are given in Appendix D. Hydrographs reveal water level elevation changes of approximately 1 to 7 feet in the perched aquifer between April and December 1991. Slowly rising water table elevations are attributed to equilibration of wells with formation pressures after drilling. In some wells equilibration with formation pressures required 1 to 3 months, owing to the low permeability of the aquifer. Brief but sharp declines in water levels in early April are due to slow recovery after collection of inorganic and isotope water chemistry samples. Most of the wells show that water levels have now stabilized and represent formation pressures. Seasonal recharge and discharge periods are difficult to positively identify since the wells were only recently installed. However, cyclic water level fluctuations of 0.2 to 0.5 feet during the period of mid-May through mid-June and rising water level trends indicate possible recharge to the perched system during the spring and early summer. Since July, water levels have generally decreased by 0.5 to 2.0 feet, with the exception of wells PW-1, PW-2, PW-3, PW-7, and 6-7, which have remained relatively stable after equilibration with formation pressures.

4.4 Aquifer Hydraulic Testing

4.4.1 Methodology

4.4.1.1 Field Data Collection. Bail-recovery tests were conducted on wells 6-PW1 through 6-PW8 and 6-6 through 6-15 in October and November 1991. Prior to beginning each test the depth to static water was measured and recorded. An amount of water roughly equal to the total amount of water stored within the well bore was then bailed from each well. This volume ranged from approximately 2 to 9 gallons depending on the length of screen below the water table. Bailing the well bores nearly dry assured that we were primarily testing the perched aquifer and not the sand pack surrounding each of the 18 wells. Table 4.6 lists the total volume, time, and average bailing rate for each test.

During recovery, elapsed time and depth to water were measured using a stop watch and electrical sounder. Measurement frequency depended on the recharge rate of each individual well and the ability of the data to provide adequate coverage on graphic plots for aquifer test analysis.

4.4.1.2 Data Analysis. Data were analyzed using equations developed for both recovery from constant-rate pumping tests (Jacob-Cooper, 1946) and for slug withdrawal tests (Bouwer and Rice, 1976), for comparison of hydraulic conductivity estimates. The above solutions are based on modifications of the Theis (transient) and Theim (steady-state) equations for ground-water flow toward a pumping well. Both analyses assume homogenous, isotropic conditions within the test zone.

The Jacob-Cooper solution for confined aquifers can be applied to the late time recovery data by treating the bail-down tests as short-term pumping tests. The late time data are more accurate, because at early time well bore storage effects can significantly distort recovery data. Graphical plots of water-level recovery (arithmetic scale) versus t/t' (logarithmic scale) were constructed to analyze the data (Appendix E). The value t/t' equals the total time since bailing initially began divided by the time since bailing stopped. At small values of t/t' (late time), data fall on a straight line. The total recovery over one log cycle and the average bailing rate are used to estimate transmissivity. The calculated transmissivity was divided by the saturated thickness to estimate the average hydraulic conductivity for the test.

Bouwer and Rice (1976) developed an analysis of recovery data from an "instantaneous" removal of water from the well bore for an unconfined aquifer. The Bouwer-Rice procedure requires a graphical plot of residual head or recovery (logarithmic scale) versus time (arithmetic scale). A straight line is then fitted to the data. The straight line and factors determined from the well geometry are used to estimate values for hydraulic conductivity. Data plots are included in Appendix E.

4.4.2 Results and Observations

The estimated values of hydraulic conductivity range from 1.4 x 10^{-7} cm/sec to 1.3 x 10^{-4} cm/sec (Table 4.7). Hydraulic conductivities at each well calculated from the two separate analyses are within an order-of-magnitude of each other (Table 4.7). Several of the lower permeability wells do not lend themselves to a Jacob-Cooper recovery analysis since recovery takes several days to a week. In those cases the Bouwer-Rice solution provides the best approximation of the actual stresses imposed on the aquifer. The geometric mean hydraulic conductivity for both analytical methods is on the order of 10^{-6} cm/sec. Although the geometric mean hydraulic conductivities are in close agreement, the Jacob-Cooper mean is biased since analysis of the lower permeability wells was not possible.

All of the Jacob-Cooper recovery curves have the same characteristic concave shape (Appendix E). The flat portion of the curve, which persists for approximately 1.5 log cycles, is probably the result of well bore storage effects. The Jacob-Cooper analysis consistently estimated lower values for hydraulic conductivity than the Bouwer-Rice solution. The Bouwer-Rice solution is probably more accurate than the Jacob-Cooper method because it more closely models the imposed stress on the perched aquifer. However, the Jacob-Cooper approximation did provide order-of-magnitude estimates of hydraulic conductivity.

The Bouwer-Rice plots exhibit the straight line portion necessary for analysis. However, many of the recovery plots show a steepening in slope at later times once water levels are within 3 to 4 feet of total recovery. This steepening of the recovery slope may be an indication of greater permeability within the upper 3 to 5 feet of the perched aquifer. This response is most pronounced in the recovery of monitor wells 6-8, 6-9, and 6-10. The higher degree of weathering observed during drilling through the upper few feet of the Bluff Sandstone could potentially correspond to a higher conductivity zone. In addition, saturated unconsolidated cover may be of higher permeability.

Figure 4.11 shows the estimated site hydraulic conductivities based on the Bouwer-Rice solution. The figure indicates a zone of approximately 10^{-5} cm/sec permeability trending southwest to northeast across the site. The site permeability decreases by 2 orders of magnitude to the north and south. Based on the available data, fracture-enhanced permeability does not appear to be significant.

4.5 Rate of Ground-Water Movement

Average flow velocities can be determined from the equation:

$$v = \frac{Ki}{n_e}$$

where

v = average pore velocity (l/t)
K = hydraulic conductivity (l/t)
i = hydraulic gradient (l/l)
n_e = effective porosity (%)

Using an effective porosity of 0.08 (estimated as 50% of the average total porosity), a hydraulic gradient of 0.04, and a hydraulic conductivity of 0.06 feet per day (the highest hydraulic conductivity estimate near the waste pit), the ground-water velocity is approximately 11 feet per year. This would be considered a conservative approach for determining the rate of contaminant transport, because the average site hydraulic conductivity is lower than the value that was used in the calculation, and the equation does not account for retardation effects that will inhibit contaminant migration (see Section 5.2 for additional detail).

5.0 GROUND-WATER CHEMISTRY

5.1 Inorganic Analyses of Perched Water

Inorganic analyses of perched water were undertaken to aid in defining the source of the perched aquifer. As discussed in Section 4.2, a leaking water supply line was suspected of contributing water to the perched aquifer. However, the presence of perched water upgradient of the suspected leak indicated that the aquifer could have resulted from natural recharge. Inorganic water quality was analyzed in an attempt to determine if the perched water originated from leaking water supply lines, from natural recharge, or from a combination of both.

The well that supplies Compressor Station No. 6 is located approximately four miles south of the station and is completed in the Bluff and/or Entrada Sandstone. The geochemistry of ground water in the deep Bluff and Entrada Sandstone should be different than that of shallow perched water which may be derived locally from natural infiltration of precipitation.

Samples were collected from the Transwestern supply tank and the perched water wells and analyzed for inorganic constituents, carbon-14, and tritium. A summary of the major inorganic constituents is presented in Table 5.1, and complete data are included in Appendix F. Iron, manganese, ammonia, nitrite and fluoride were analyzed, but are not included in Table 5.1 due to their relatively insignificant concentrations. Cation/anion balances are also presented in Table 5.1. The cation/anion balance can serve as a useful quality assurance measure, and in general, the sum of the cations should be within a few percent of the sum of the anions (Hem, 1985). The balances of several samples in Table 5.1 exceed this amount, indicating possible problems with analytical laboratory data quality, or the possible presence of anions or cations that were not measured.

Stiff diagrams were constructed for each of the samples listed in Table 5.1 and are shown in Appendix F. Stiff diagrams are a useful way of presenting inorganic data in which trends and differences in water chemistry can be readily identified. Concentrations of the three principal cations (sodium, calcium, magnesium) are compared with concentrations of the three principal anions (chloride, bicarbonate, sulfate). The cation concentrations increase to the left of the vertical axis (sodium on top, calcium in the middle, and magnesium on the bottom), while the anions increase to the right of the axis (chloride on top, bicarbonate in the middle, and sulfate on the bottom). Significant differences are observed between the various samples. Stiff diagrams were plotted next to each sampling location at the Laguna site (Figure 5.1). Examination of this map reveals that the water supply tank sample is relatively dilute (of better quality) compared with the perched water samples. A similar trend is shown in field measurements of electrical conductivity (Figure 5.2). A trend of increasing solute concentrations is observed with increasing distance from the tank. For example, samples from wells 6-PW3, 6-PW4, 6-PW6 and 6-6 all have relatively low solute concentrations; however, solutes in 6-8, for example, are significantly more concentrated than in these wells. It can also be seen that the upgradient wells (6-PW5, 6-PW7 and 6-PW8) have the highest solute concentrations, although solute concentrations in 6-PW8 are not as high as those in 6-PW5 and 6-PW7. The reason for this anomaly is unclear, but it is possible that 6-PW5 is completed in a more gypsiferous zone, as evidenced by the higher percentages of calcium and sulfate. The higher upgradient concentrations, mixed with the relatively dilute tank water, would yield lower downgradient concentrations, as is shown on Figures 5.1 and 5.2. This indicates it is feasible that the tank leak could have contributed to the perched water system. The relatively dilute concentrations in 6-PW3, upgradient from the leak, could be due to ground-water mounding from a tank-line leak or a leak at another location on the site.

Inorganic data from the coreholes (6-CH3 and 6-CH5, Figure 5.1 and Appendix F) are consistent with the data collected from the perched water wells. Corehole 6-CH3 is 18 feet deep, located near 6-PW4, and has dilute solute concentrations consistent with other perched water wells in close proximity to the tank. Corehole 6-CH5 is located only a few feet from 6-CH3, but is 98 feet deep. Samples from 6-CH5 contain high solute concentrations, consistent with a deeper, older water, in contrast to the relatively low solute concentrations observed in perched water from other coreholes. This suggests very limited communication between shallow and deeper zones in the Bluff Sandstone.

Figure 5.3 shows a trilinear diagram of inorganic chemistry. The trilinear diagram is a method of grouping wells that have similar inorganic chemistry. Figure 5.3 shows that the upgradient well water (from wells 6-PW8, 6-PW5, and 6-PW7) is of the calcium/sodium-sulfate type and that the water from the supply tank, along with that from wells 6-PW3, 6-PW4, 6-PW6, and 6-6 is of the calcium-bicarbonate type. The similar chemistry of wells located near the tank (6-PW3, 6-PW4, 6-PW6, and 6-6) and the tank water supports the conclusion that the tank water has mixed with shallow perched water.

Table 5.1 shows that nitrate concentrations were elevated above the New Mexico Water Quality Control Commission (NMWQCC) standard of 10 mg/l as nitrogen in wells 6-PW4 and 6-6. Since the drain tile field for the sanitary system at the station is located just upgradient of 6-PW4 and 6-6, the elevated nitrate concentrations may suggest that the drain tile field has contributed to the perched water in the vicinity of these wells.

Table 5.2 shows results of tritium dating. Atmospheric tritium concentrations increased markedly after 1952, when testing of nuclear fission devices was initiated. Consequently, tritium data can be utilized to identify ground water that has received recent atmospheric recharge. In general, ground water with tritium concentrations of less than approximately 2 tritium units (TU) can be assumed to be older than 30 years (Davis & Bently, 1982). The tritium data indicate that the age of the perched water is greater than 30 years in the supply tank and in 6-CH5. Both of these samples represent ground water from the lower Bluff Sandstone or deeper units. Conversely, a sample collected from the perched aquifer (6-CH3) had a higher tritium concentration, indicating the presence of water less than 30 years old. This supports the theory that the recent recharge contributes to the shallow perched system.

Carbon-14 data are given in Table 5.2 as "apparent" ages, which in general have no direct agreement with actual ages. This is because dilution by "dead carbon" from dissolution of carbonate minerals will give apparent ages, which are much older than the actual age of the water. Dilute tank water has the youngest apparent carbon-14 age, while wells least affected by tank water input have the highest apparent ages. As water from the tank percolates through the vadose zone to the perched aquifer, its apparent age will increase as it dissolves carbonate minerals and mixes with perched water with an older apparent age. As indicated in Table 5.2, the supply well has an average apparent age of 2670 years. Wells or shallow coreholes near the tank are slightly older at 3545 years (CH3) and 3385 years (PW4), and the upgradient wells 6-PW8 and 6-PW5 had carbon-14 ages of 5650 and 8345 years respectively. These data are consistent with the other chemistry data in that the "relatively young" tank water, mixed with the "older" upgradient water, would yield intermediate carbon-14 ages downgradient, as were observed in 6-CH3 and 6-PW4. Corehole 6-CH5 (98 feet deep) and well 6-5D (232 feet deep) both had carbon-14 ages of greater than 30,000 years, indicating that circulation from the shallow perched aquifer and/or recharge areas to the deeper units is very slow. The relatively young carbon-14 age of the supply well, in spite of its deep completion, may be due to its proximity to recharge areas to the south, which would minimize the time for carbonate and sulfate dissolution.

In summary, the inorganic chemistry data indicate that a water supply line leak and the drain tile field have likely contributed to shallow perched water. Variations in solute concentrations are most likely due to mixing of man-made sources with natural perched water and to subsurface heterogeneity.

5.2 PCB and BTEX Concentrations in Ground-Water Samples

Routine water sampling for PCBs and BTEX has been conducted at the Laguna compressor station since July 1990. Standard operating procedures for water sample collection are included as Appendix G. Copies of actual sample laboratory data sheets (QA/QC blank, split, and replicate data sheets, chains of custody, and other supporting information) are available upon request.

PCB and BTEX sampling was originally conducted in the regional aquifer monitor wells (wells 6-1 through 6-5). Results of the regional well sampling are shown in Table 5.3. The only PCBs detected in the regional monitor wells was in October 1990, when 3.4 micrograms per liter (μg/l) of Aroclor 1254 and 0.23 μg/l of Aroclor 1248 were detected in monitor wells 6-4D and 6-5S, respectively. A split of the sample from 6-4D was sent to another laboratory for verification, and PCBs were not detected. Minor amounts of BTEX were detected on a few occasions in the regional wells (Table 5.3); those BTEX levels were below NMWQCC standards. The infrequent detections and low concentrations suggest that the BTEX in the regional wells may be a result of sampling or laboratory contamination rather than actual ground-water concentrations.

After shallow ground water was discovered, monitor wells 6-6, 6-7, and 6-8 were drilled to serve as compliance monitor wells for the perched aquifer. Routine sampling of wells 6-1 through 6-5 was discontinued at that time. Monthly sampling of monitor wells 6-6 through 6-8 began in April 1991. Monitor well 6-6 is upgradient of the historical waste pit (Figure 3.2). Monitor wells 6-7 and 6-8 were installed approximately 200 feet downgradient of the historical waste pit, because excavation activities at the time of drilling prevented closer placement. Monitor wells 6-9 and 6-10 were installed about 65 feet downgradient of the waste pit, after the excavation was backfilled. PCBs were detected in water samples from monitor wells 6-9 and 6-10 in July 1991. Consequently, monitor wells 6-11 through 6-15 were drilled to define the extent of PCBs in the shallow ground water. Well completion records are included in Appendix A, and PCB and BTEX data for the shallow perched wells is included in Table 5.4

PCB (Aroclor 1242) was detected in monitor wells 6-9 and 6-10 in concentrations ranging from 370 to 18,000 and 34 to 290 µg/l, respectively (Table 5.4). The solubility values of Aroclor 1242 from various sources are as follows: 240 µg/l and 340 µg/l at 25°C, 100 µg/l at 24°C, and 200 µg/l at 20°C (Montgomery and Welkom, 1990). Linear regression of these data gives an extrapolated solubility of 110 µg/l at 15°C, which is approximately the average temperature of the perched aquifer. This is the maximum concentration which can be expected in ground water when the water is in equilibrium with free-phase PCBs. The PCB concentrations in monitor wells 6-9 and 6-10 exceeded the extrapolated solubility limit, indicating that either free-phase or colloidal-state PCBs were present. PCBs were not detected in any of the other perched aquifer monitor wells, indicating that PCBs do not appear to be migrating rapidly and are limited in extent to the area close to the historical waste pit.

The retardation factor for PCB migration can be approximated by the equation:

$$R_F = 1 + \frac{\rho_s K_d (1-n)}{n}$$

(Domenico and Schwartz, 1990)

where

R_F = retardation factor

ρ_s = dry bulk density

K_d = distribution coefficient

n = porosity

Assuming a relatively low value of organic carbon content (F_{oc} = 0.01 to 0.1%) and an organic carbon partition coefficient (log K_{oc}) for Aroclor 1242 of 3.71 (Montgomery and Welkom, 1990), the distribution coefficient (where log K_d = log K_{oc} x log F_{oc}) ranges from 0.513 to 5.13. Using a porosity of 0.16 and a dry bulk density of 2.2 g/cm^3, as obtained from the laboratory data, the retardation factor ranges from 7 to 60. Assuming a ground-water velocity of 11 feet per year (as discussed in Section 4.5), the PCBs would be transported at a rate of approximately 0.2 to 2 feet per year. At 2 feet per year, it will take approximately 260 years for PCBs to travel from monitor well 6-9 to the site boundary.

In addition to PCB, samples for BTEX were also collected from the monitor wells. BTEX constituents were detected in perched aquifer wells 6-7, 6-8, 6-9, 6-10, 6-12 and 6-14 (Table 5.4). The BTEX levels did not exceed the NMWQCC ground-water standards, with the exception of benzene in wells 6-9, 6-10 and 6-14.

During the drilling of coreholes 6-CH1 and 6-CH5, samples were taken every 5 feet from the continuous cores and analyzed by EPA method 8240 for volatile organic compounds. Additionally, in December 1990 the coreholes were bailed and sampled for PCBs and BTEX (Table 5.5). With the exception of trace concentrations of toluene, none of the above chemicals was encountered at depth in the corehole samples. The complete results of core chemical analyses are presented in Appendix F.

Samples of unconsolidated sediments from borings 6-6 through 6-15 were collected at the bedrock contact to determine if PCBs or BTEX were present. Samples were analyzed using EPA methods 8020 and 8080. No PCBs were detected in the soil samples. The only BTEX that was detected was 55 µg/kg of benzene (near the reporting limit of 50 µg/kg) in the soil sample from boring 6-10.

6. SUMMARY AND CONCLUSIONS

Based on the data gathered to date, the following conclusions can be made regarding aquifer properties and ground-water quality at the Laguna compressor station:

- Extensive drilling investigations have shown that the uppermost aquifer is a shallow fractured bedrock system in the Bluff Sandstone that is perched on underlying massive Bluff Sandstone of lower permeability. The thickness of the perched system is approximately 15 feet.

- Weathering and fracturing of the near-surface bedrock are important geologic features that control flow within the perched aquifer. Most fracturing occurs in the upper 10 to 15 feet of the Bluff Sandstone.

- The perched aquifer flow direction is toward the northeast over most of the site. A ground-water divide for the perched aquifer is located near the western property boundary.

- Near the ground-water divide for the perched aquifer, at the western portion of the station, hydraulic gradients are relatively flat, but increase to approximately 0.04 ft/ft toward the eastern station boundary.

- Laboratory tests indicate that the perched aquifer has an average porosity of approximately 16% and that sediments at the bedrock contact are near saturation.

- Bail-recovery tests indicate that the average hydraulic conductivity of the perched aquifer is approximately 10^{-6} cm/sec.

- Inorganic and isotopic chemistry data suggest that ground water from a leaking supply line and/or leaking drain tile fields has probably mixed with perched water resulting from natural infiltration. Isotopic data also suggest that ground-water movement within the perched ground-water system is extremely slow.

- PCBs have been detected in ground water from the two shallow monitor wells that are approximately 65 feet east and northeast of the historical waste disposal area.

- PCBs have not been detected in shallow monitor wells located further downgradient of the disposal area. Estimated travel times indicate that it will take a minimum of approximately 260 years for PCBs to reach the site boundary.

- PCBs do not appear to have impacted the regional aquifer.

- Benzene has been detected at levels exceeding NMWQCC standards in three shallow monitor wells located downgradient of the historical waste disposal area. Benzene appears to be migrating slowly in the perched aquifer due to low ground-water velocities.

7. REFERENCES

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TABLES

TABLE 4.1 COREHOLE AND WELL COMPLETION INFORMATION LAGUNA COMPRESSOR STATION NO.6

Date Completed	Well ID	Location		Elevation TOC (fmsl)	Total Depth (feet)	Borehole Diameter (inches)	Casing Diameter (inches)	Screened Interval (Depth from ground)		Top of Sand Pack (feet)	MP Above Ground (feet)	Top of Bluff Sandstone Below Ground (feet)
		Northing (feet)	Easting (feet)					Top (feet)	Bottom (feet)			
07/06/89	6-1S	808.08	-26.19	5897.81	317.0	8¾	2	40.0	133.0	30.0	0.8	8.0
07/06/89	6-1D	808.08	-26.19	5897.81	317.0	8¾	2	173.0	316.0	163.0	0.8	8.0
07/06/89	6-2S	809.81	-169.10	5898.88	341.0	8¾	2	40.0	130.0	30.0	0.3	6.5
07/06/89	6-2D	809.81	-169.10	5898.88	341.0	8¾	2	170.0	341.0	160.0	0.3	6.5
07/06/89	6-3S	541.36	-52.17	5901.15	215.0	8¾	2	40.5	135.0	30.0	-0.2	8.5
07/06/89	6-3D	541.36	-52.17	5901.15	215.0	8¾	2	174.0	215.0	165.0	-0.2	8.5
07/06/89	6-4S	296.73	-25.09	5904.83	221.0	8¾	2	40.0	138.0	30.0	0.1	8.0
07/06/89	6-4D	296.73	-25.09	5904.83	221.0	8¾	2	166.0	221.0	156.0	0.1	8.0
07/06/89	6-5S	222.29	-358.63	5916.10	232.0	8¾	2	40.0	138.0	30.0	0.3	10.0
07/06/89	6-5D	222.29	-358.63	5916.10	232.0	8¾	2	178.0	232.0	168.0	0.3	10.0
10/05/90	6-CH1	629.26	-455.06	5915.12	100.0	8¾ (to 15') 4½ (to TD)	5½ (to 15')	none	none	none	3.1	8.0
10/09/90	6-CH2	631.44	-465.06	5915.48	100.0	7⅞ (to 15') 4½ (to TD)	5½ (to 35')	none	none	none	2.9	10.0
10/11/90	6-CH3	617.00	-468.91	5916.23	18.0	7⅞ (to 15') 4½ (to TD)	5½ (to 15')	none	none	none	2.9	10.0

TOC = top of steel casing
MP = measuring point

fmsl = feet above mean sea level

TABLE 4.1 COREHOLE AND WELL COMPLETION INFORMATION LAGUNA COMPRESSOR STATION NO. 6 (CONTINUED)

Date Completed	Well ID	Location		Elevation TOC (fmsl)	Total Depth (feet)	Borehole Diameter (inches)	Casing Diameter (inches)	Screened Interval (Depth from ground)		Top of Sand Pack (feet)	MP Above Ground (feet)	Top of Bluff Sandstone Below Ground (feet)
		Northing (feet)	Easting (feet)					Top (feet)	Bottom (feet)			
10/15/90	6-CH4	615.95	473.69	5916.77	23.0	7⅞ (to 20') 4½ (to TD)	5½ (to 20')	none	none	none	3.1	10.0
10/17/90	6-CH5	621.55	-473.00	5916.23	98.0	8¾ (to 35') 4½ (to TD)	5½ (to 35')	none	none	none	2.8	8.5
03/14/91	6-PW1	647.70	-698.13	5918.21	25.0	5⅝	2	5.0	25.0	2.8	2.4	6.3
03/14/91	6-PW2	490.52	-555.74	5922.41	17.0	5⅝	2	5.0	17.0	2.4	2.5	7.0
03/15/91	6-PW3	558.93	-862.62	5926.41	20.0	5⅝	2	4.0	20.0	2.7	2.5	5.3
03/15/91	6-PW4	526.15	-499.48	5919.25	20.0	5⅝	2	7.5	20.0	3.3	2.4	9.0
03/16/91	6-PW5	326.74	-1038.72	5934.00	20.0	5⅝	2	5.0	20.0	3.5	2.6	5.7
03/16/91	6-PW6	284.44	-704.07	5925.59	20.0	5⅝	2	5.0	20.0	3.5	2.6	6.7
03/26/91	6-PW7	19.83	-873.03	5931.10	30.0	5⅝	2	10.0	30.0	3.5	2.5	7.8
03/27/91	6-PW8	230.64	-1297.79	5932.59	25.0	5⅝	2	5.0	25.0	3.5	2.5	3.8
04/09/91	6-6	506.85	-354.55	5911.96	25.0	5⅝	2	9.2	24.2	7.0	1.3	11.0
04/09/91	6-7	426.74	-7.53	5902.17	23.0	5⅝	2	7.5	22.5	6.0	1.9	10.0
04/09/91	6-8	765.10	-108.66	5898.49	25.0	5⅝	2	4.3	24.3	2.8	2.3	7.0
07/16/91	6-9	539.71	-128.13	5903.17	26.8	5⅝	2	10.8	25.8	6.2	1.9	7.5

TOC = top of steel casing
MP = measuring point

fmsl = feet above mean sea level

TABLE 4.1 COREHOLE AND WELL COMPLETION INFORMATION LAGUNA COMPRESSOR STATION NO. 6 (CONTINUED)

Date Completed	Well ID	Location		Elevation TOC (fmsl)	Total Depth (feet)	Borehole Diameter (inches)	Casing Diameter (inches)	Screened Interval (Depth from ground)		Top of Sand Pack (feet)	MP Above Ground (feet)	Top of Bluff Sandstone Below Ground (feet)
		Northing (feet)	Easting (feet)					Top (feet)	Bottom (feet)			
07/16/91	6-10	607.46	-160.91	5902.14	24.6	5⅝	2	9.6	24.6	7.5	2.0	7.5
09/03/91	6-11	525.42	-5.92	5901.76	26.8	6¼	2	7.5	26.8	5.6	2.0	8.0
09/03/91	6-12	643.92	-5.46	5899.10	27.3	6¼	2	7.3	27.3	5.0	2.2	8.0
11/20/91	6-13	491.91	-94.76	5903.10	21.9	5⅝	2	5.0	20.0	3.0	2.2	7.9
11/20/91	6-14	589.86	-77.48	5901.50	22.5	5⅝	2	7.0	22.0	4.0	2.4	8.7
11/20/91	6-15	666.84	-169.88	5901.27	21.0	5⅝	2	5.0	20.4	3.0	2.3	8.3

TOC = top of steel casing
MP = measuring point

fmsl = feet above mean sea level

TABLE 4.2 MONITOR WELL SERIES DEPTH TO WATER LAGUNA COMPRESSOR STATION NO. 6
(Feet Below Measuring Point [MP])

Date	6-6 MP Elev.[a] 5911.77	6-7 MP Elev.[a] 5901.96	6-8 MP Elev.[a] 5898.31	6-9 MP Elev.[a] 5903.05[b]	6-10 MP Elev.[a] 5902.06[c]	6-11 MP Elev.[a] 5901.62[d]	6-12 MP Elev.[a] 5898.95	6-13 MP Elev.[a] 5902.93	6-14 MP Elev.[a] 5901.34	6-15 MP Elev.[a] 5901.08
04/11/91	11.92	DRY	10.70	*	*	*	*	*	*	*
04/16/91	12.24	22.38	10.72	*	*	*	*	*	*	*
04/17/91	12.25	**	10.70	*	*	*	*	*	*	*
05/01/91	12.47	21.59	10.65	*	*	*	*	*	*	*
05/08/91	12.57	18.94	10.65	*	*	*	*	*	*	*
05/17/91	12.67	17.52	10.57	*	*	*	*	*	*	*
05/22/91	12.77	17.33	10.58	*	*	*	*	*	*	*
05/29/91	**	17.17	10.49	*	*	*	*	*	*	*
05/30/91	12.86	**	**	*	*	*	*	*	*	*
06/12/91	13.10	18.21	10.46	*	*	*	*	*	*	*
06/20/91	13.21	17.47	10.48	*	*	*	*	*	*	*

* Well not yet drilled
** Not measured

[a] Feet above mean sea level
[b] Elevation after 11/8/91: 5902.77 (MP elevation for 6-9 was altered due to sampling pump installation.)
[c] Elevation after 11/8/91: 5901.81 (MP elevation for 6-10 was altered due to sampling pump installation.)
[d] Elevation after 12/5/91: 5901.49 (MP elevation for 6-11 was altered due to wellhead protection activities.)

TABLE 4.2 MONITOR WELL SERIES DEPTH TO WATER LAGUNA COMPRESSOR STATION NO. 6 (CONTINUED)

(Feet Below Measuring Point [MP])

Date	6-6 MP Elev.[a] 5911.77	6-7 MP Elev.[a] 5901.96	6-8 MP Elev.[a] 5898.31	6-9 MP Elev.[a] 5903.05[b]	6-10 MP Elev.[a] 5902.06[c]	6-11 MP Elev.[a] 5901.62[d]	6-12 MP Elev.[a] 5898.95	6-13 MP Elev.[a] 5902.93	6-14 MP Elev.[a] 5901.34	6-15 MP Elev.[a] 5901.08
07/01/91	13.36	18.65	10.33	*	*	*	*	*	*	*
07/18/91	12.48	17.13	10.42	10.94	10.60	*	*	*	*	*
07/22/91	13.52	**	**	10.96	10.64	*	*	*	*	*
08/06/91	**	**	**	11.13	10.81	*	*	*	*	*
08/07/91	13.62	**	**	**	**	*	*	*	*	*
09/05/91	13.70	16.58	10.94	**	**	*	*	*	*	*
09/06/91	**	**	**	11.33	11.02	25.32	*	*	*	*
09/07/91	**	**	**	11.48	**	**	12.08	*	*	*
09/30/91	13.85	16.73	10.80	**	**	14.47	**	*	*	*
10/01/91	**	**	**	11.38	11.14	**	12.24	*	*	*
10/14/91	13.55	17.38	10.83	11.43	11.18	14.60	12.28	*	*	*

* Well not yet drilled
** Not measured

a Feet above mean sea level
b Elevation after 11/8/91: 5902.77 (MP elevation for 6-9 was altered due to sampling pump installation.)
c Elevation after 11/8/91: 5901.81 (MP elevation for 6-10 was altered due to sampling pump installation.)
d Elevation after 12/5/91: 5901.49 (MP elevation for 6-11 was altered due to wellhead protection activities.)

TABLE 4.2 MONITOR WELL SERIES DEPTH TO WATER LAGUNA COMPRESSOR STATION NO. 6 (CONTINUED)

(Feet Below Measuring Point [MP])

Date	6-6 MP Elev.[a] 5911.77	6-7 MP Elev.[a] 5901.96	6-8 MP Elev.[a] 5898.31	6-9 MP Elev.[a] 5903.05[b]	6-10 MP Elev.[a] 5902.06[c]	6-11 MP Elev.[a] 5901.62[d]	6-12 MP Elev.[a] 5898.95	6-13 MP Elev.[a] 5902.93	6-14 MP Elev.[a] 5901.34	6-15 MP Elev.[a] 5901.08
10/23/91	**	16.67	**	**	**	14.26	12.36	*	*	*
10/24/91	13.91	**	10.92	**	11.27	**	**	*	*	*
10/25/91	**	**	**	11.56	**	**	**	*	*	*
11/07/91	15.94	17.50	11.02	**	**	14.52	12.44	*	*	*
11/08/91	**	**	**	11.50	11.11	**	**	*	*	*
11/22/91	**	**	**	**	**	**	**	22.20	12.67	11.14
11/26/91	**	**	**	**	**	**	**	17.80	12.60	11.20
12/05/91	13.99	16.90	11.15	**	**	14.55	12.59	20.85	**	11.24
12/06/91	**	**	**	11.32	11.11	**	**	**	12.70	**
12/18/91	14.04	18.08	11.16	11.33	10.90	15.02	12.60	13.80	12.66	11.18

* Well not yet drilled
** Not measured

[a] Feet above mean sea level
[b] Elevation after 11/8/91: 5902.77 (MP elevation for 6-9 was altered due to sampling pump installation.)
[c] Elevation after 11/8/91: 5901.81 (MP elevation for 6-10 was altered due to sampling pump installation.)
[d] Elevation after 12/5/91: 5901.49 (MP elevation for 6-11 was altered due to wellhead protection activities.)

TABLE 4.3 PERCHED WATER SERIES WELLS DEPTH TO WATER LAGUNA COMPRESSOR STATION NO. 6
(Feet below Measuring Point [MP])

Date	6-PW1 MP Elev.[a] 5918.01	6-PW2 MP Elev.[a] 5922.23	6-PW3 MP Elev.[a] 5926.04	6-PW4 MP Elev.[a] 5919.09	6-PW5 MP Elev.[a] 5933.84	6-PW6 MP Elev.[a] 5925.41	6-PW7 MP Elev.[a] 5930.94	6-PW8 MP Elev.[a] 5932.42
03/15/91	DRY	19.09	*	*	*	*	*	*
03/18/91	25.89	18.68	11.07	15.17	13.86	13.63	*	*
03/19/91	25.52	18.46	10.52	15.12	13.80	13.62	*	*
03/20/91	**	**	11.06	15.24	13.82	13.64	*	*
03/26/91	23.77	17.52	10.96	15.29	13.84	13.56	*	*
04/02/91	22.34	16.56	11.28	15.54	14.15	13.99	24.34	12.96
04/04/91	22.72	17.30	20.80	15.27	14.11	14.21	27.96	12.92
04/10/91	24.48	17.27	10.99	14.43	13.62	13.86	26.49	12.72
04/16/91	28.75	16.19	11.23	14.62	14.06	14.04	22.10	12.85
04/17/91	22.66	16.12	**	14.65	13.98	14.04	20.68	12.83
05/01/91	23.70	16.14	11.31	15.20	14.07	14.22	20.19	12.86
05/08/91	21.96	16.13	11.31	15.29	14.11	14.38	17.34	12.90
05/17/91	20.81	16.14	11.21	15.45	14.02	14.29	17.28	12.79
05/22/91	20.47	16.14	11.19	15.34	14.02	14.31	17.27	12.77
05/30/91	20.06	16.07	11.10	15.02	13.96	14.07	17.20	12.69
06/12/91	19.76	16.14	11.26	14.98	14.04	14.16	17.32	12.74
06/20/91	19.64	16.14	11.30	15.27	14.06	14.21	17.31	12.75
07/01/91	19.38	16.17	11.30	15.09	14.07	14.29	17.29	12.73
07/18/91	19.33	16.13	11.21	14.93	14.06	13.99	17.25	13.22
09/04/91	18.83	16.19	11.23	16.04	13.97	13.05	17.24	12.09
10/14/91	18.39	16.15	11.04	15.78	14.32	13.22	17.12	12.59
10/21/91	**	**	**	15.71	14.37	**	**	12.64
10/22/91	18.33	16.10	10.96	**	**	13.33	**	**
10/23/91	**	**	**	**	**	**	17.04	**
12/18/91	18.50	16.32	11.28	16.56	15.18	14.12	17.48	13.54

a Feet above mean sea level
* Well not yet drilled
** Not measured

TABLE 4.4 COREHOLE SERIES DEPTH TO WATER LAGUNA COMPRESSOR STATION NO. 6

(Feet Below Measuring Point [MP])

Date	6-CH1 MP Elevation[a] 5912.02[b]	6-CH2 MP Elevation[a] 5912.55[c]	6-CH3 MP Elevation[a] 5913.35[d]	6-CH4 MP Elevation[a] 5913.81[e]	6-CH5 MP Elevation[a] 5913.45[f]
10/08/90	93.44	*	*	*	*
10/10/90	93.10	*	*	*	*
10/17/90	91.91	48.50	11.14	22.35	DRY
12/27/90	84.12	**	**	**	93.30
01/23/91	81.76	51.46	11.00	15.91	91.72
01/28/91	**	**	11.00	16.64	92.42
01/30/91	**	**	**	16.58	92.44
02/25/91	**	**	11.55	20.47	93.39
02/28/91	77.40	49.29	11.30	20.29	92.91
03/04/91	76.94	49.24	11.55	20.16	92.24
03/27/91	77.62	53.23	15.92	14.91	99.22
04/02/91	77.09	52.43	14.90	21.86	98.21
04/10/91	**	**	14.80	**	**
04/16/91	**	**	15.03	**	**
04/26/91	75.16	52.68	14.95	20.93	99.31
05/01/91	74.71	52.74	15.19	20.72	98.29
05/08/91	74.24	52.90	15.22	20.49	97.09

* Well not yet drilled
** Not measured
[a] Feet above mean sea level

NOTE: MP elevations were altered in mid-March due to wellhead protection activities.

[b] Elevation after mid-March 1991: 5915.10
[c] Elevation after mid-March 1991: 5915.46
[d] Elevation after mid-March 1991: 5916.21
[e] Elevation after mid-March 1991: 5916.75
[f] Elevation after mid-March 1991: 5916.20

TABLE 4.4 COREHOLE SERIES DEPTH TO WATER
LAGUNA COMPRESSOR STATION NO. 6 (CONTINUED)
(Feet Below Measuring Point [MP])

Date	6-CH1 MP Elevation[a] 5912.02[b]	6-CH2 MP Elevation[a] 5912.55[c]	6-CH3 MP Elevation[a] 5913.35[d]	6-CH4 MP Elevation[a] 5913.81[e]	6-CH5 MP Elevation[a] 5913.45[f]
05/17/91	73.62	53.03	15.30	20.19	95.47
05/22/91	73.30	53.16	15.34	20.04	94.62
05/30/91	72.85	53.27	15.28	19.82	93.31
06/12/91	72.14	53.53	15.53	19.47	91.26
06/20/91	71.73	53.68	15.61	19.26	90.04
07/01/91	71.24	53.77	15.72	19.02	88.45
07/18/91	70.62	54.20	15.81	18.68	86.14
09/04/91	**	**	16.27	17.96	**
10/14/91	**	**	16.47	17.60	**
12/18/91	67.84	56.43	16.83	17.40	73.44

* Well not yet drilled
** Not measured
[a] Feet above mean sea level

NOTE: MP elevations were altered in mid-March due to wellhead protection activities.

[b] Elevation after mid-March 1991: 5915.10
[c] Elevation after mid-March 1991: 5915.46
[d] Elevation after mid-March 1991: 5916.21
[e] Elevation after mid-March 1991: 5916.75
[f] Elevation after mid-March 1991: 5916.20

TABLE 4.5 DEEP MONITOR WELL SERIES DEPTH TO WATER LAGUNA COMPRESSOR STATION NO. 6

(Feet Below Measuring Point [MP])

Date	6-1S MP Elevation[a] 5896.75	6-2S MP Elevation[a] 5898.22	6-3S MP Elevation[a] 5899.69	6-4S MP Elevation[a] 5903.67	6-5S MP Elevation[a] 5915.03
07/30/90	36.90	36.50	39.60	37.61	80.20
09/25/90	57.10	48.00	45.50	49.80	72.60
10/30/90	**	**	50.80	**	**
10/31/90	51.90	**	**	**	**
12/12/90	**	45.24	**	**	**
12/13/90	53.64	**	45.88	**	**
12/14/90	**	44.48	**	42.72	80.72
01/15/91	**	**	**	49.77	**
01/18/91	**	**	**	**	114.84
01/22/91	49.94	44.57	**	**	**
02/25/91	**	50.71	**	**	**
02/26/91	63.11	**	47.59	**	**
02/27/91	**	**	**	54.43	112.97
03/26/91	70.62	47.92	**	49.93	116.62
03/27/91	**	**	**	49.42	115.71
04/22/91	**	**	44.81	45.53	**
04/24/91	76.64	**	**	**	112.88
04/25/91	**	46.22	**	**	**
05/08/91	82.14	50.33	49.40	53.22	110.97
05/17/91	71.60	46.92	46.71	47.85	105.40
05/28/91	60.90	**	45.37	**	**
05/29/91	**	44.90	**	**	**
05/30/91	**	**	**	43.82	96.37
06/12/91	78.29	47.81	49.22	54.57	106.36

[a] Feet above mean sea level

** Not measured

TABLE 4.5 DEEP MONITOR WELL SERIES DEPTH TO WATER LAGUNA COMPRESSOR STATION NO. 6 (CONTINUED)

(Feet Below Measuring Point [MP])

Date	6-1S MP Elevation[a] 5896.75	6-2S MP Elevation[a] 5898.22	6-3S MP Elevation[a] 5899.69	6-4S MP Elevation[a] 5903.67	6-5S MP Elevation[a] 5915.03
06/20/91	68.68	45.60	46.77	49.17	93.88
07/01/91	57.79	43.62	45.29	45.02	84.03
07/18/91	47.90	42.39	43.78	42.02	74.56
12/04/91	**	**	**	**	82.74
12/05/91	40.18	**	39.02	**	**
12/18/91	**	**	**	37.43	81.03

[a] Feet above mean sea level

** Not measured

TABLE 4.6 SUMMARY OF PURGE VOLUMES FOR PERCHED AQUIFER HYDRAULIC TESTS LAGUNA COMPRESSOR STATION NO. 6

Date	Well No.	Static Water Level (below MP)	Total Well Depth (below MP)	Total Volume Bailed (gallons)	Total Bailing Time (minutes)	Average Flow Rate (gpm)
10/22/91	6-PW1	18.33	27.14	3.4	20.0	0.17
10/22/91	6-PW2	16.10	19.50	0.6	4.5	0.14
10/22/91	6-PW3	10.96	22.44	4.8	25.0	0.19
10/21/91	6-PW4	15.71	22.10	2.3	7.9	0.28
10/21/91	6-PW5	14.37	22.73	3.0	9.8	0.31
10/22/91	6-PW6	13.33	22.39	3.5	11.0	0.32
10/23/91	6-PW7	17.04	32.90	5.8	19.0	0.31
10/21/91	6-PW8	12.64	27.50	6.5	17.0	0.38
10/24/91	6-6	13.91	25.50	4.1	17.0	0.24
10/23/91	6-7	16.67	24.25	2.5	16.0	0.16
10/24/91	6-8	10.92	26.20	7.2	21.0	0.34
10/25/91	6-9	11.56	28.40	9.0	30.0	0.30
10/24/91	6-10	11.27	27.54	8.5	57.0	0.15
10/23/91	6-11	14.26	29.44	6.4	29.0	0.22
10/23/91	6-12	12.36	30.18	6.0	23.0	0.26
11/26/91	6-13	17.80	22.80	2.0	18.0	0.11
11/26/91	6-14	12.60	24.44	6.0	29.0	0.21
11/26/91	6-15	11.20	22.75	5.0	22.0	0.23

MP = Measuring Point
gpm = gallons per minute

**TABLE 4.7 RESULTS OF PERCHED AQUIFER HYDRAULIC TESTS
LAGUNA COMPRESSOR STATION NO. 6**

Well No.	Hydraulic Conductivity (K in cm/sec)	
	Jacob-Cooper Method, 1946	Bouwer-Rice Method, 1976
6-PW1	**	1.4×10^{-7}
6-PW2	**	5.6×10^{-7}
6-PW3	5.8×10^{-6}	1.9×10^{-5}
6-PW4	2.4×10^{-5}	1.3×10^{-4}
6-PW5	1.1×10^{-5}	3.1×10^{-5}
6-PW6	3.7×10^{-6}	7.6×10^{-6}
6-PW7	**	1.5×10^{-7}
6-PW8	9.5×10^{-6}	6.0×10^{-5}
6-6	6.7×10^{-6}	1.9×10^{-5}
6-7	**	5.6×10^{-7}
6-8	5.3×10^{-6}	2.3×10^{-5}
6-9	2.9×10^{-6}	7.1×10^{-6}
6-10	2.9×10^{-6}	2.0×10^{-5}
6-11	**	5.6×10^{-7}
6-12	2.4×10^{-6}	1.1×10^{-5}
6-13	**	1.3×10^{-6}
6-14	**	2.9×10^{-6}
6-15	**	3.6×10^{-6}
	$K_{GM} = 5.7 \times 10^{-6}$ cm/sec	$K_{GM} = 4.7 \times 10^{-6}$ cm/sec

** - data insufficient for analysis

K_{GM} - geometric mean hydraulic conductivity

TABLE 5.1 MAJOR ION CHEMICAL ANALYSES
LAGUNA COMPRESSOR STATION NO. 6

Well ID	Date	Calcium		Magnesium		Sodium		Potassium		Sulfate		Chloride		Bicarbonate as CaCO3		Nitrate as N		Cation-Anion Balance* (%)	pH
		mg/l	meq/l	mg/l	meq/l	mg/l	meq/l	mg/l	meq/l	mg/l	meq/l	mg/l	meq/l	mg/l	meq/l	mg/l	meq/l		
6-Tank	1/24/91	41.1	2.05	8.9	0.73	21.2	0.92	<5.0	<0.13	31	0.65	10.9	0.31	121	2.42	1.5	0.10	-6.5	7.7
6-CH3	1/23/91	49.6	2.48	15.9	1.31	257	11.18	<5.0	<0.13	200	4.16	101	2.85	207	4.14	0.73	0.05	-28.8	7.1
6-CH4	1/24/91	211	10.53	<0.2	<0.016	566	24.62	208	5.32	200	4.16	372	10.49	**	**	9.5	0.15	-35.4	12.2
6-CH5	1/24/91	86.4	4.31	27.1	2.23	1010	43.93	<10.0	<0.26	1350	28.11	397	11.20	521	10.41	<0.01	<0.001	-1.5	7.9
6-PW3	3/20/91	89.8	4.48	51.2	4.21	122	5.31	<5.0	<0.13	115	2.39	<3.0	<0.08	524	10.47	0.88	0.06	-8.0	7.1
6-PW4	3/20/91	99.7	4.98	30.9	2.54	113	4.92	<5.0	<0.13	16	0.33	<3.0	<0.08	424	8.47	27.0	1.92	-14.8	7.3
6-PW5	3/20/91	338	16.87	78.5	6.46	588	25.58	5.2	0.13	1650	34.35	238	6.71	416	8.31	8.2	0.58	1.9	7.3
6-PW6	3/20/91	83.8	4.18	26.5	2.18	142	6.18	<5.0	<0.13	105	2.19	31.8	0.90	443	8.85	1.3	0.09	-4.1	7.1
6-Tank	4/17/91	52.1	2.60	9.5	0.78	22.6	0.98	1.7	0.04	30	0.62	13	0.37	166	3.32	NA	NA	-2.1	8.1
6-PW4	4/17/91	113	5.64	33.7	2.77	104	4.52	5.4	0.14	130	2.71	68	1.92	279	5.57	42	3.00	1.0	7.7
6-PW5	4/18/91	276	13.77	54.6	4.49	546	23.75	4.4	0.11	1300	27.07	132	3.72	475	9.49	NA	NA	-4.5	7.4
6-PW7	4/18/91	187	9.33	51.3	4.22	430	18.70	8.6	0.22	770	16.03	480	13.54	171	3.42	NA	NA	1.6	7.5
6-PW8	4/18/91	254	12.67	45.9	3.78	72.2	3.14	3.2	0.08	460	9.58	29	0.82	296	5.91	NA	NA	-18.7	7.4
6-6	4/17/91	67.3	3.36	23.5	1.93	133	5.79	2.6	0.07	120	2.50	39	1.10	343	6.85	15	1.07	3.3	7.6
6-8	4/17/91	76.6	3.82	48.4	3.98	368	16.01	1.2	0.03	340	7.08	111	3.13	680	13.59	0.33	0.02	-0.1	7.5

* = ([A-C]/[(A+C)/2]) 100, where A = sum of anions (meq/l); C = sum of cations (meq/l)
** = Alkalinity for 6-CH4 consisted of 140 mg/l (2.8 meq/l) carbonate as CaCO3 and 1070 mg/l (10.7 meq/l) hydroxide as CaCO3
mg/l = milligrams per liter
meq/l = milliequivalents per liter
NA = not analyzed

TABLE 5.2 SUMMARY OF RADIOISOTOPE DATING OF GROUND WATER LAGUNA COMPRESSOR STATION NO. 6

Well ID	Date Sampled	Aquifer	Flow Relationship*	Apparent Carbon-14 Age (Years)	Tritium Data	
					Tritium Units	Tritium Age (Years)
6-PW8	04/05/91	Perched	Upgradient	5650 ± 190		
6-PW5	04/04/91	Perched	Upgradient	8345 ± 145		
6-Tank	03/19/91	Jb, Je?	NA	2800 ± 85	2.8 ± 2.2	>30
Supply Well	04/05/91	Jb, Je?	NA	2670 ± 90		
6-CH3	03/19/91	Perched	Downgradient	3545 ± 90	7.1 ± 2.3	<30
6-PW4	04/05/91	Perched	Downgradient	3385 ± 150		
6-CH5	03/19/91	Jb	Downgradient	>42000	2.8 ± 2.2	>30
6-5D	04/05/91	Jb, Js	Downgradient	30400 ± 3900		

* = Flow Relationship Referenced to Location of Water Tanks
Jb = Bluff Sandstone
Je = Entrada Sandstone
Js = Summerville Formation

TABLE 5.3 SUMMARY OF ANALYTICAL RESULTS LAGUNA COMPRESSOR STATION NO. 6 REGIONAL AQUIFER MONITOR WELLS

WELL	DATE	CONCENTRATION (μg/l)				
		Total PCB*	Benzene	Toluene	Ethyl-benzene	Xylene
6-01D	07/90	ND	ND	ND	ND	ND
	08/90	ND	ND	ND	ND	ND
	11/90	ND	ND	1.1	ND	ND
	01/91	ND	ND	ND	ND	ND
6-01S	07/90	ND	ND	ND	ND	ND
	08/90	ND	ND	ND	ND	ND
	09/90	ND[a]	ND[a]	ND[a]	ND[a]	ND[a]
	12/90	ND	ND	ND	ND	ND
	01/91	ND	ND	ND	ND	ND
	02/91	ND	ND	0.90	ND	ND
	03/91	ND	ND	ND	ND	ND
	04/91	ND	ND	ND	ND	ND
	05/91	ND	ND	ND	ND	ND
	12/91	ND	ND	ND	ND	ND
6-02D	07/90	ND	ND	ND	ND	ND
	08/90	ND	ND	ND	ND	ND
	10/90	ND[a]	ND[a]	ND[a]	ND[a]	ND[a]
	01/91	ND	ND	ND	ND	ND
6-02S	07/90	ND	ND	ND	ND	ND
	08/90	ND	ND	ND	ND	ND
	09/90	ND[a]	ND[a]	ND[a]	ND[a]	ND[a]

ND = Not detected

[a] Sample analyzed at Assaigai Analytical Laboratories. Standard Reporting Limit = 1.0 μg/l.

* Total PCB includes: Aroclor 1016, Aroclor 1221, Aroclor 1232, Aroclor 1242, Aroclor 1248, Aroclor 1254, Aroclor 1260

TABLE 5.3 SUMMARY OF ANALYTICAL RESULTS LAGUNA COMPRESSOR STATION NO. 6 REGIONAL AQUIFER MONITOR WELLS (CONTINUED)

WELL	DATE	CONCENTRATION (µg/l)				
		Total PCB*	Benzene	Toluene	Ethyl-benzene	Xylene
6-02S	12/90	ND	ND	ND	ND	ND
	01/91	ND	ND	ND	ND	ND
	02/91	ND	ND	ND	ND	ND
	03/91	ND	ND	ND	ND	ND
	04/91	ND	ND	ND	ND	ND
	05/91	ND	ND	ND	ND	ND
6-03D	07/90	ND	ND	ND	ND	ND
	08/90	ND	ND	ND	ND	ND
	10/90	ND[a]	ND[a]	ND[a]	ND[a]	ND[a]
	01/90	ND	ND	0.92	ND	ND
6-03S	07/90	ND	ND	ND	ND	ND
	08/90	ND	ND	ND	ND	ND
	11/90	ND[a]	ND[a]	ND[a]	ND[a]	ND[a]
	12/90	ND	0.55	0.80	0.50	ND
	01/91	ND	ND	ND	ND	ND
	02/91	ND	ND	0.64	ND	ND
	04/91	ND	ND	ND	ND	ND
	05/91	ND	ND	ND	ND	ND
	12/91	ND	ND	ND	ND	ND

ND = Not detected

[a] Sample analyzed at Assaigai Analytical Laboratories. Standard Reporting Limit = 1.0 µg/l.

* Total PCB includes: Aroclor 1016, Aroclor 1221, Aroclor 1232, Aroclor 1242, Aroclor 1248, Aroclor 1254, Aroclor 1260

TABLE 5.3 SUMMARY OF ANALYTICAL RESULTS LAGUNA COMPRESSOR STATION NO. 6 REGIONAL AQUIFER MONITOR WELLS (CONTINUED)

WELL	DATE	CONCENTRATION (µg/l)				
		Total PCB*	Benzene	Toluene	Ethyl-benzene	Xylene
6-04D	07/90	ND	ND	ND	ND	ND
	08/90	ND	ND	ND	ND	ND
	10/90	3.4[b]	ND[a]	ND[a]	ND[a]	ND[a]
	10/90	ND	ND	ND	ND	ND
	01/90	ND	ND	ND	ND	ND
6-04S	07/90	ND	ND	ND	ND	ND
	08/90	ND	ND	ND	ND	ND
	09/90	ND[a]	ND[a]	ND[a]	ND[a]	ND[a]
	10/90	ND[a]	ND[a]	ND[a]	ND[a]	ND[a]
	12/90	ND	ND	ND	ND	ND
	01/91	ND	ND	ND	ND	ND
	02/91	ND	ND	ND	ND	ND
	03/91	ND	ND	0.70	ND	ND
	04/91	ND	ND	ND	ND	ND
	05/91	ND	ND	ND	ND	ND
6-05D	07/90	ND	ND	ND	ND	ND
	08/90	ND	ND	ND	ND	ND
	09/90	ND[a]	ND[a]	ND[a]	ND[a]	ND[a]
	10/90	ND[a]	ND[a]	ND[a]	ND[a]	ND[a]
	01/91	ND	ND	ND	ND	ND

ND = Not detected

[a] Sample analyzed at Assaigai Analytical Laboratories. Standard Reporting Limit = 1.0 µg/l.
[b] Aroclor 1254, sample analyzed at Assaigai Analytical Laboratories. Standard Reporting Limit = 0.1 µg/l.

* Total PCB includes: Aroclor 1016, Aroclor 1221, Aroclor 1232, Aroclor 1242, Aroclor 1248, Aroclor 1254, Aroclor 1260

TABLE 5.3 SUMMARY OF ANALYTICAL RESULTS LAGUNA COMPRESSOR STATION NO. 6 REGIONAL AQUIFER MONITOR WELLS (CONTINUED)

WELL	DATE	CONCENTRATION (µg/l)				
		Total PCB*	Benzene	Toluene	Ethyl-benzene	Xylene
6-05S	07/90	ND	ND	ND	ND	ND
	08/90	ND	ND	ND	ND	ND
	10/90	0.23[c]	ND[a]	ND[a]	ND[a]	ND[a]
	12/90	ND	**	**	**	**
	01/91	ND	ND	ND	ND	ND
	02/91	ND	ND	ND	ND	ND
	03/91	ND	ND	ND	ND	ND
	04/91	ND	ND	ND	1.7	1.5
	05/91	ND	ND	ND	ND	ND
	12/91	ND	ND	ND	ND	ND

ND = Not detected

[a] Sample analyzed at Assaigai Analytical Laboratories. Standard Reporting Limit = 1.0 µg/l.
[c] Aroclor 1248, sample analyzed at Assaigai Analytical Laboratories. Standard Reporting Limit = 0.1 µg/l.

* Total PCB includes: Aroclor 1016, Aroclor 1221, Aroclor 1232, Aroclor 1242, Aroclor 1248, Aroclor 1254, Aroclor 1260

** Sample bottles were received broken at the lab. No BTEX results available for 12/90.

NOTES:

Unless noted, all chemistry was analyzed at ENSECO's Houston Laboratory.

Standard reporting limit from ENSECO's Houston Laboratory (in µg/l):
PCB = 1.0 Benzene = 0.50
Toluene = 0.50 Ethylbenzene = 0.50
Xylene = 0.50

New Mexico Water Quality Control Commission (NMWQCC) standards (in µg/l):
PCB = 1 Benzene = 10
Toluene = 750 Ethylbenzene = 750
Xylene = 6201

TABLE 5.4 SUMMARY OF ANALYTICAL RESULTS LAGUNA COMPRESSOR STATION NO. 6 PERCHED AQUIFER MONITOR WELLS

WELL	DATE	CONCENTRATION (µg/l)				
		Total PCB*	Benzene	Toluene	Ethyl-benzene	Xylene
6-06	04/91	ND	ND	1.5	ND	ND
	05/91	ND	ND	ND	ND	ND
	06/91	ND	ND	ND	ND	ND
	07/91	ND	NA	NA	NA	NA
	08/91	ND	ND	ND	ND	ND
	09/91	ND	ND	ND	ND	ND
	10/91	ND	ND	ND	ND	ND
	11/91	ND	ND	ND	ND	ND
	12/91	ND	ND	ND	ND	ND
6-07	04/91	ND	ND	0.80	ND	ND
	05/91	ND	ND	ND	ND	ND
	06/91	ND	ND	0.55	ND	ND
	09/91	ND	ND	ND	ND	ND
	10/91	ND	ND	ND	ND	ND
	11/91	ND	ND	ND	ND	ND
	12/91	ND	ND	ND	ND	ND
6-08	04/91	ND	ND	0.97	ND	ND
	05/91	ND	0.55	0.59	ND	ND
	06/91	ND	0.77	2.0	ND	1.1
	09/91	ND	0.50	ND	ND	ND

* Total PCB includes: Aroclor 1016, Aroclor 1221, Aroclor 1232, Aroclor 1242, Aroclor 1248, Aroclor 1254, Aroclor 1260

All PCB detected was Aroclor 1242

ND = Not detected
NA = Not analyzed

TABLE 5.4 SUMMARY OF ANALYTICAL RESULTS LAGUNA COMPRESSOR STATION NO. 6 PERCHED AQUIFER MONITOR WELLS (CONTINUED)

WELL	DATE	CONCENTRATION (µg/l)				
		Total PCB*	Benzene	Toluene	Ethyl-benzene	Xylene
6-08	10/91	ND	ND	ND	ND	ND
	11/91	ND	ND	ND	ND	ND
	12/91	ND	ND	ND	ND	ND
6-09	07/91	370[a]	NA	NA	NA	NA
	08/91	2000[b]	16[c]	21[c]	6.5[c]	88[d]
	09/91	4500[b]	22[d]	34[d]	20[d]	200[e]
	10/91	4200[b]	16[c]	34[c]	16[c]	140[c]
	11/91	1500[f]	15[c]	35[c]	12[c]	140[c]
	12/91	18000[g]	5.5[h]	17[h]	4.6[h]	45[h]
6-10	07/91	34[d]	NA	NA	NA	NA
	08/91	160[a]	31[c]	9.5[c]	8.9[c]	95[d]
	09/91	270[a]	23[d]	13[d]	14[d]	99[e]
	10/91	290[a]	13[h]	11[h]	8.1[h]	62[h]
	11/91	110[i]	ND	11	7.7	61
	12/91	200[a]	5.8	5.5	3.7	35
6-11	09/91	ND	ND	ND	ND	ND
	10/91	ND	ND	ND	ND	ND

* Total PCB includes: Aroclor 1016, Aroclor 1221, Aroclor 1232, Aroclor 1242, Aroclor 1248, Aroclor 1254, Aroclor 1260

All PCB detected was Aroclor 1242

ND = Not detected
NA = Not analyzed

a Reporting Limit = 50
b Reporting Limit = 500
c Reporting Limit = 2.5
d Reporting Limit = 5
e Reporting Limit = 10
f Reporting Limit = 1000
g Reporting Limit = 5000
h Reporting Limit = 1.2
i Reporting Limit = 100

**TABLE 5.4 SUMMARY OF ANALYTICAL RESULTS
LAGUNA COMPRESSOR STATION NO. 6
PERCHED AQUIFER MONITOR WELLS (CONTINUED)**

		CONCENTRATION (µg/l)				
WELL	DATE	Total PCB*	Benzene	Toluene	Ethyl-benzene	Xylene
6-11	11/91	ND	ND	ND	ND	ND
	12/91	ND	ND	ND	ND	ND
6-12	09/91	ND	4.3	1.5	0.84	5.4
	10/91	ND	2.3	0.73	ND	1.1
	11/91	ND	4.8	1.4	ND	2.8
	12/91	ND	1.6	ND	ND	ND
6-13	12/91	ND	ND	ND	ND	ND
6-14	12/91	ND	38[h]	5.9[h]	14[h]	42[h]
6-15	12/91	ND	ND	ND	ND	ND

* Total PCB includes: Aroclor 1016, Aroclor 1242, Aroclor 1254, Aroclor 1221, Aroclor 1248, Aroclor 1260, Aroclor 1232
All PCB detected was Aroclor 1242

ND = Not detected

[h] Reporting Limit = 1.2

NOTES:

Standard reporting limit from ENSECO's Rocky Mountain Analytical Laboratory (in µg/l):
PCB = 1.0 Benzene = 0.50
Toluene = 0.50 Ethylbenzene = 0.50
Xylene = 0.50

New Mexico Water Quality Control Commission (NMWQCC) standards (in µg/l):
PCB = 1 Benzene = 10
Toulene = 750 Ethylbenzene = 750
Xylene = 620

TABLE 5.5 SUMMARY OF PCB AND BTEX RESULTS LAGUNA COMPRESSOR STATION NO. 6 EXPLORATORY COREHOLES

Corehole	Date	Concentration (µg/l)				
		Total PCBs*	Benzene	Toluene	Ethyl-benzene	Xylene
6-CH1	01/91	ND	ND	ND	ND	ND
6-CH2	01/91	ND	ND	ND	ND	ND
6-CH3	03/91	ND	ND	ND	ND	ND
6-CH5	12/90	NS	0.67	3.0	ND	1.8
	01/91	ND	ND	0.55	ND	ND

NOTES:

* Total PCB includes: Aroclor 1016, Aroclor 1221, Aroclor 1232, Aroclor 1242, Aroclor 1248, Aroclor 1254, Aroclor 1260

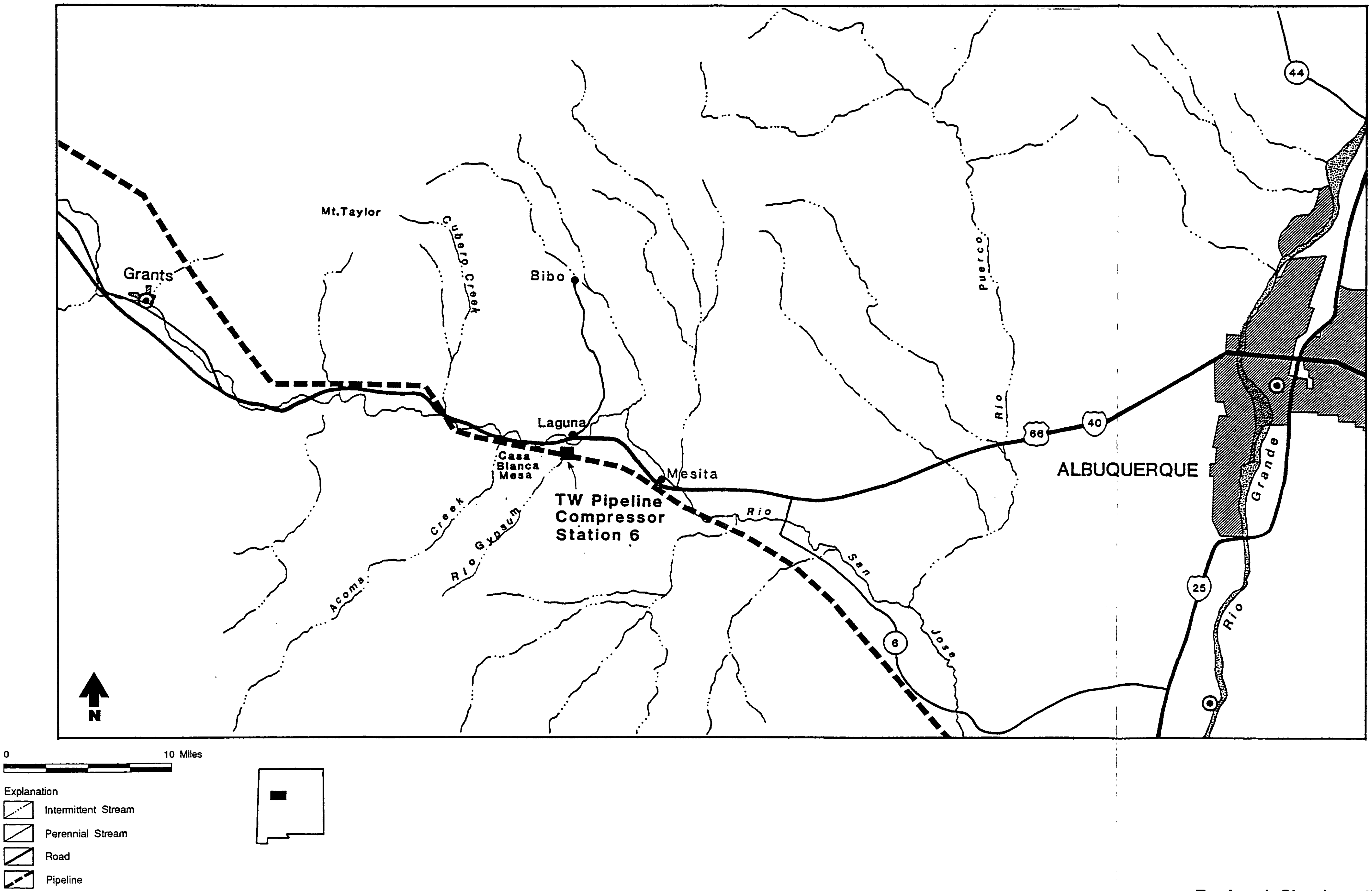
ND = Not Detected
NS = Not Sampled

These holes are not compliance monitor wells. They are exploratory wells only.

All chemistry was analyzed at ENSECO's Houston Laboratory.

Standard reporting limit from ENSECO's Houston Laboratory (in µg/l):
PCB = 1.0
Benzene = 0.50
Toluene = 0.50
Ethylbenzene = 0.50
Xylene = 0.50

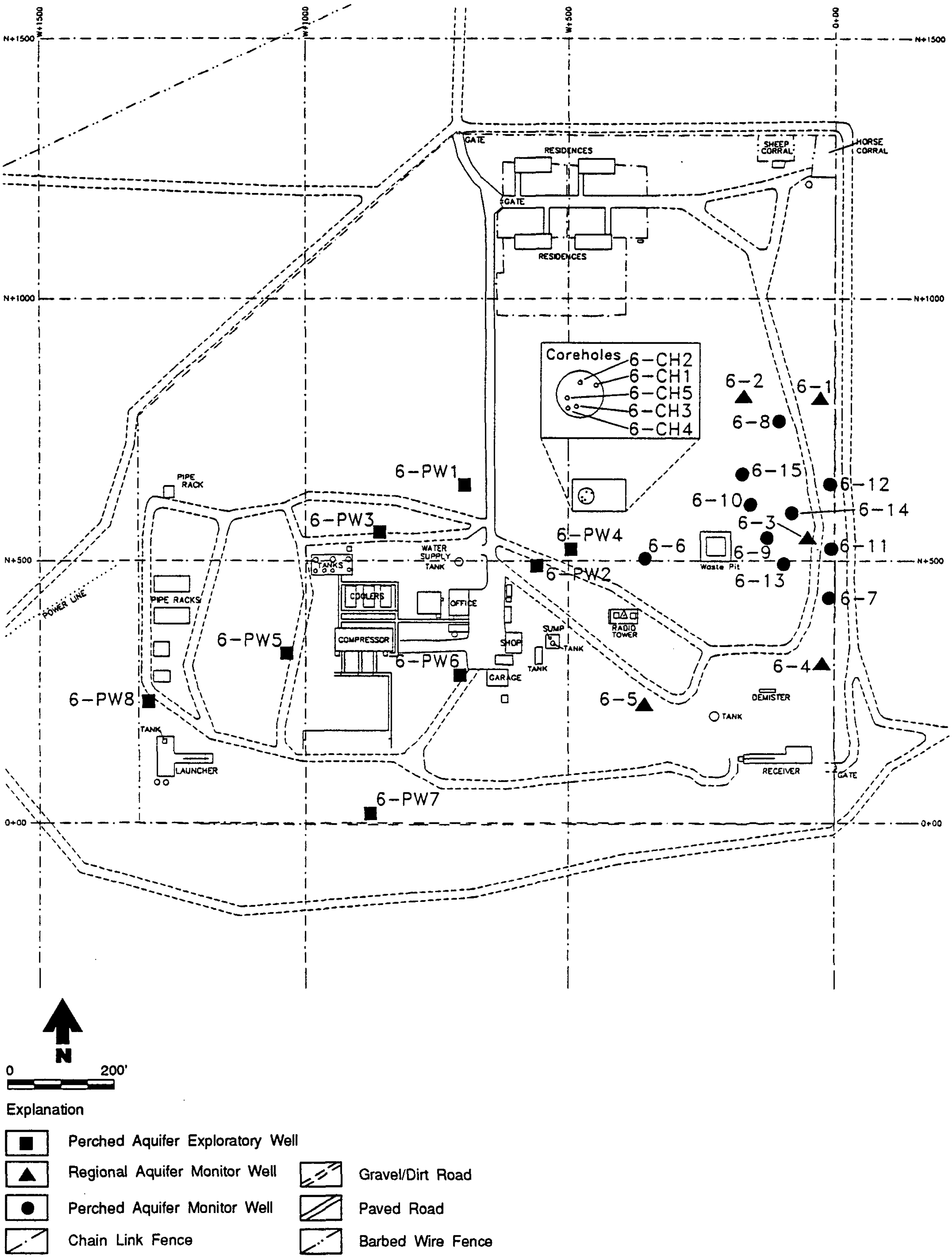
FIGURES



Regional Site Location Map

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92
JN 92-100

Figure 3.1

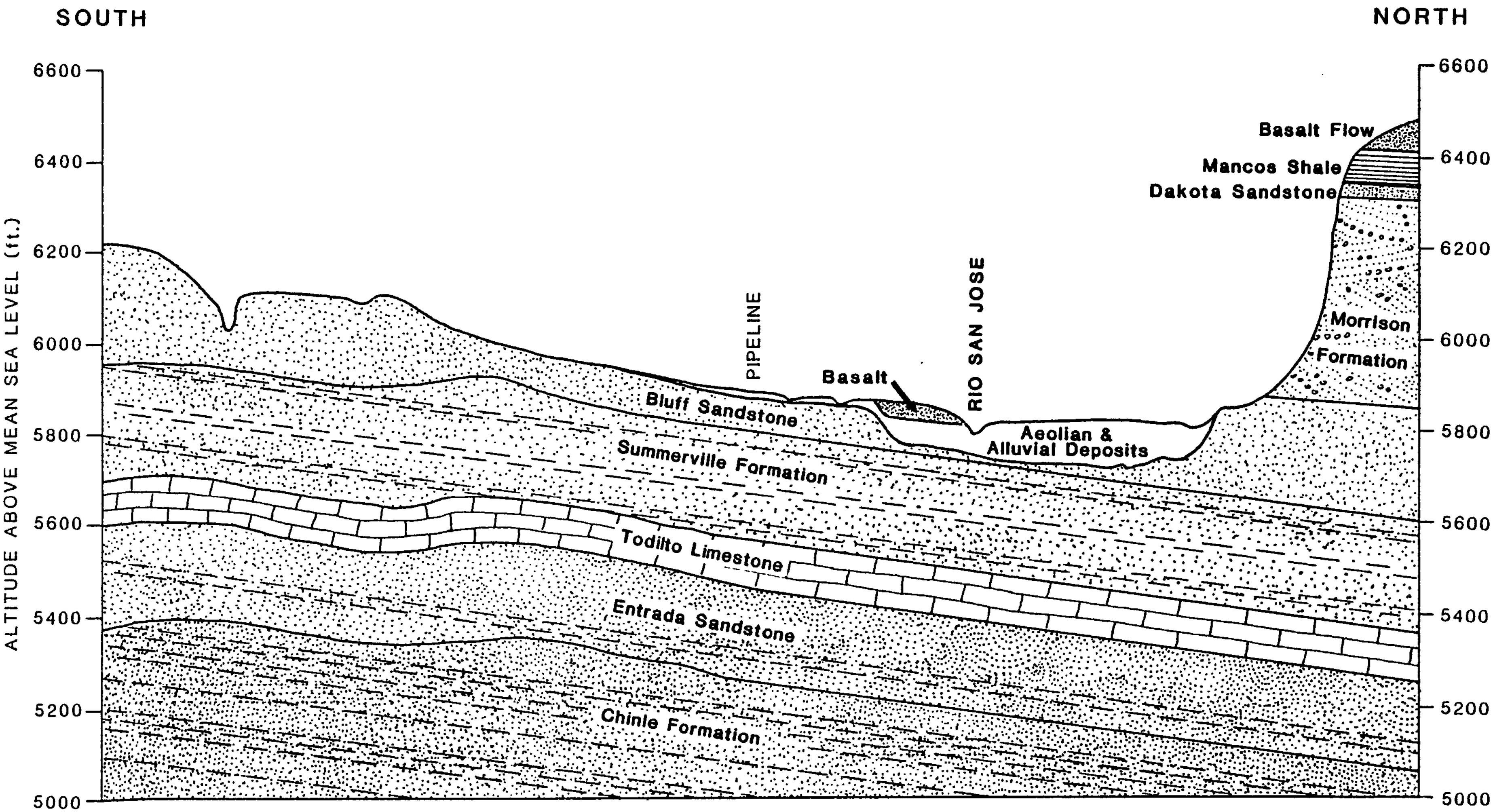


Site Map

DANIEL B. STEPHENS & ASSOCIATES, INC.

1-92 JN 92-100

Figure 3.2



(Based on Maxwell, 1982; Risser & Lyford, 1983)

0 1/2 Mile

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100

Generalized Geologic Cross Section Near Compressor Station No. 6

Figure 3.3

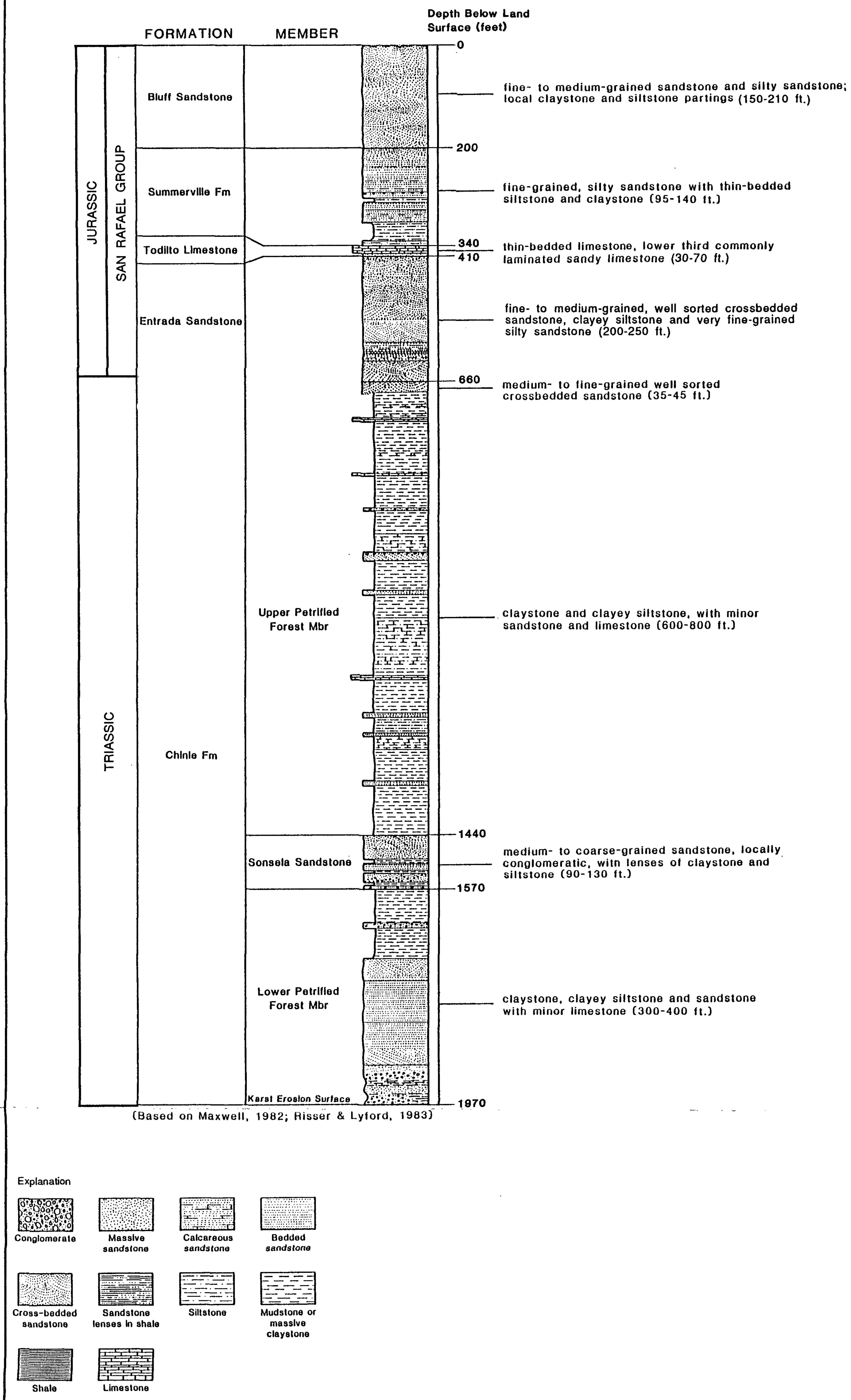
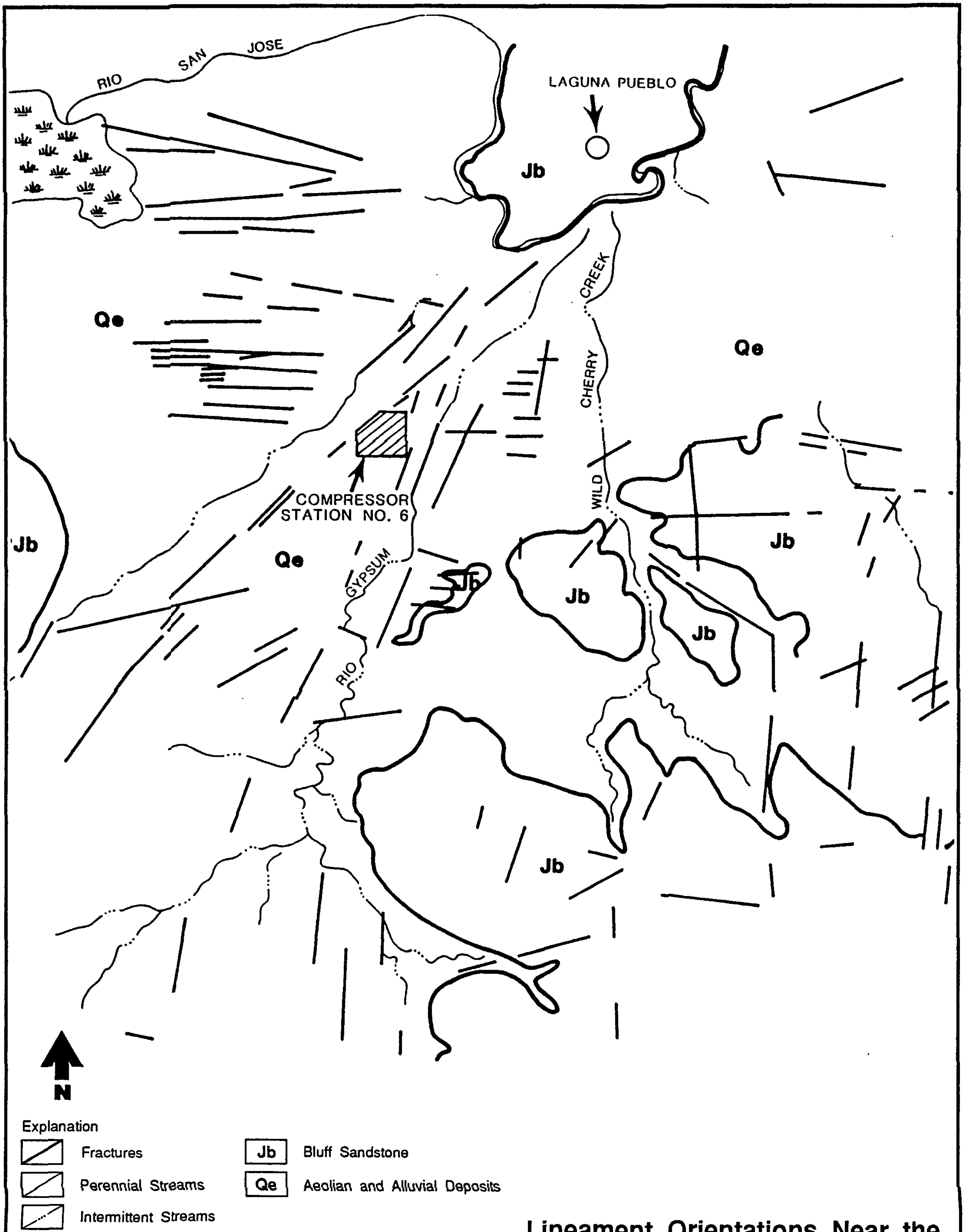


Figure 3.4

Generalized Stratigraphic Column

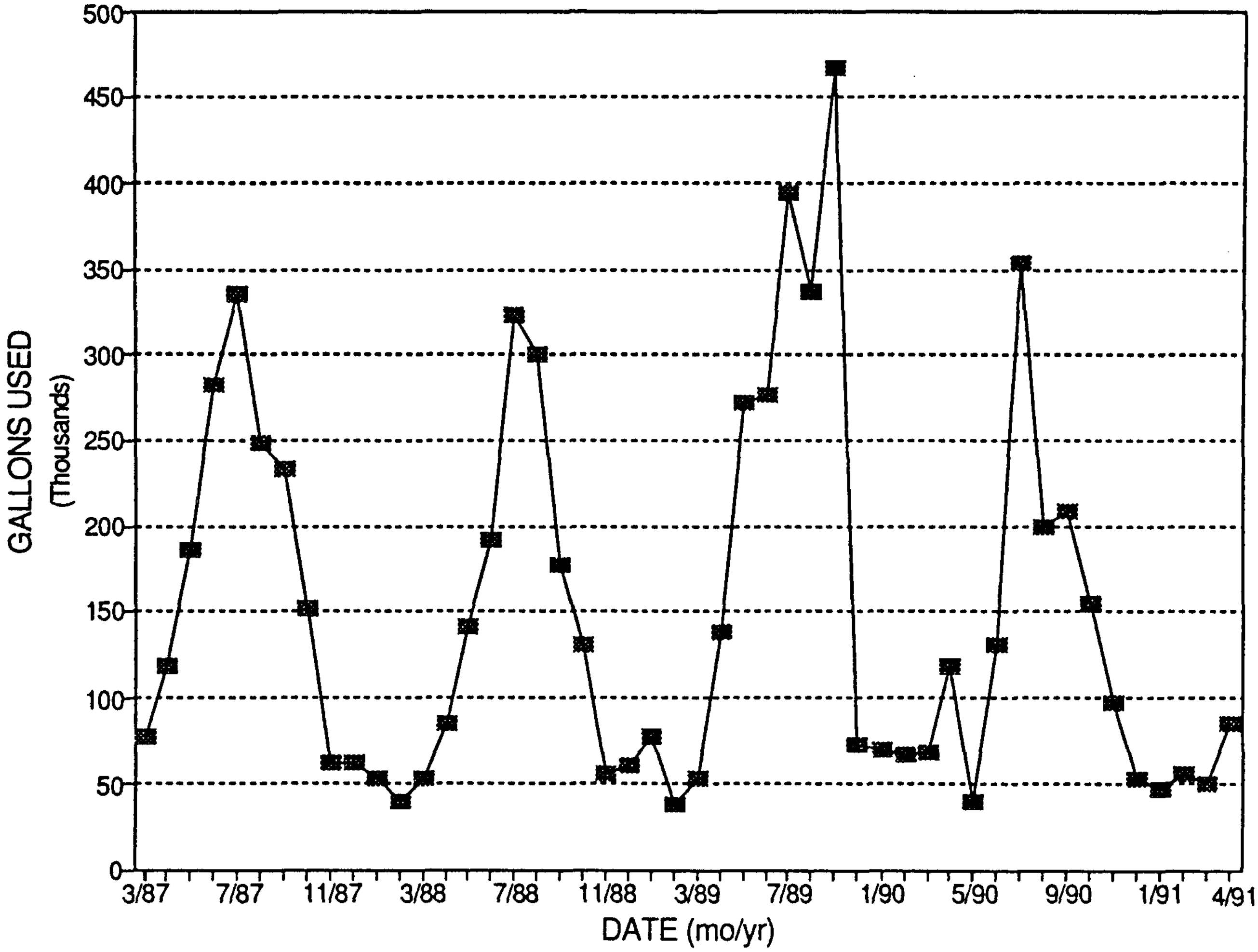


Lineament Orientations Near the Laguna Compressor Station Based on Aerial Photo Analysis

DANIEL B. STEPHENS & ASSOCIATES, INC.

1-92 JN 92-100

Figure 3.5

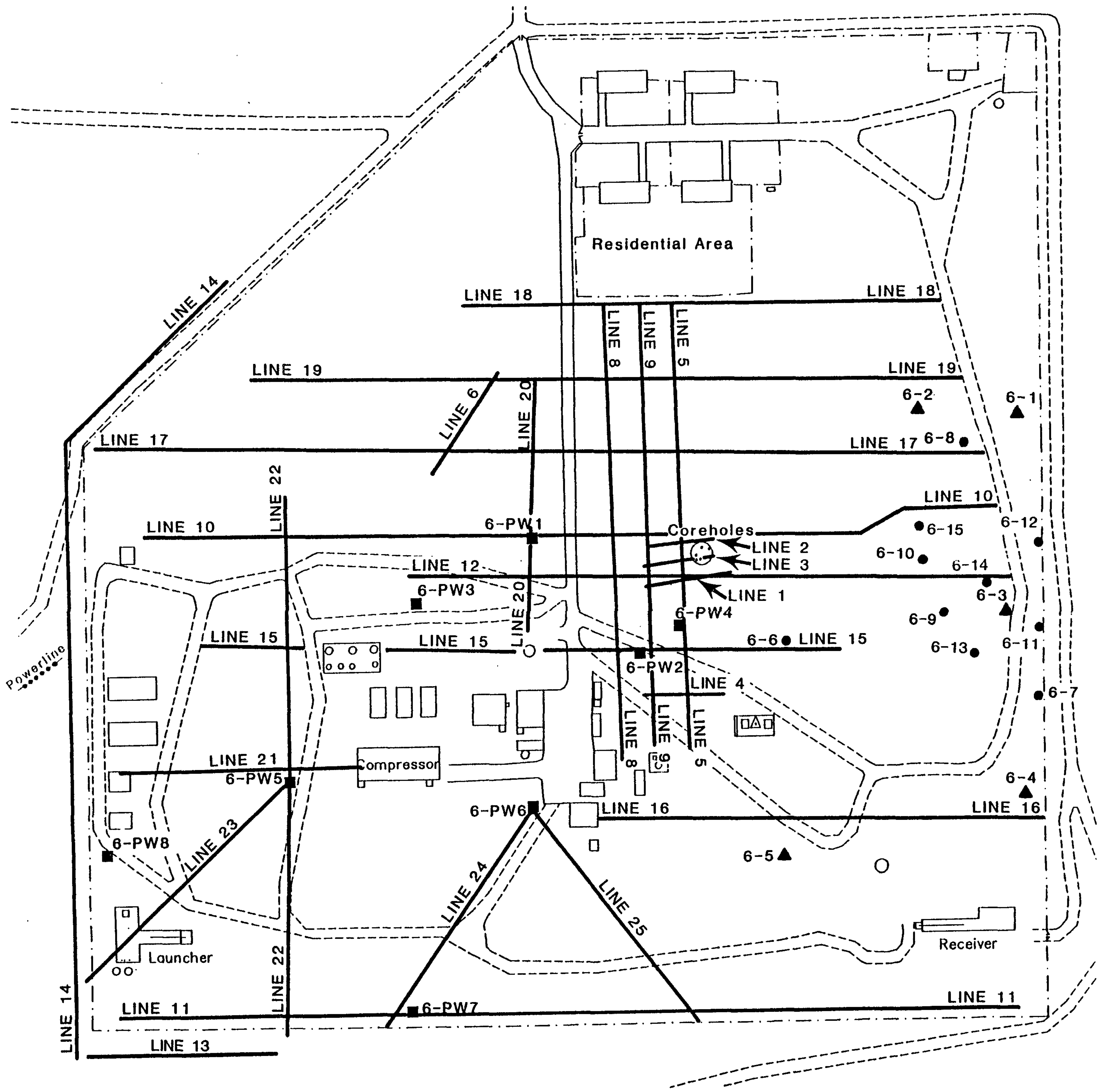


Laguna Water Supply Tank Usage
March 1987 to April 1991
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.

1-92 JN 92-100

Figure 4.1



NOTE: Line 7 not shown, located west of property.

N

0 200'

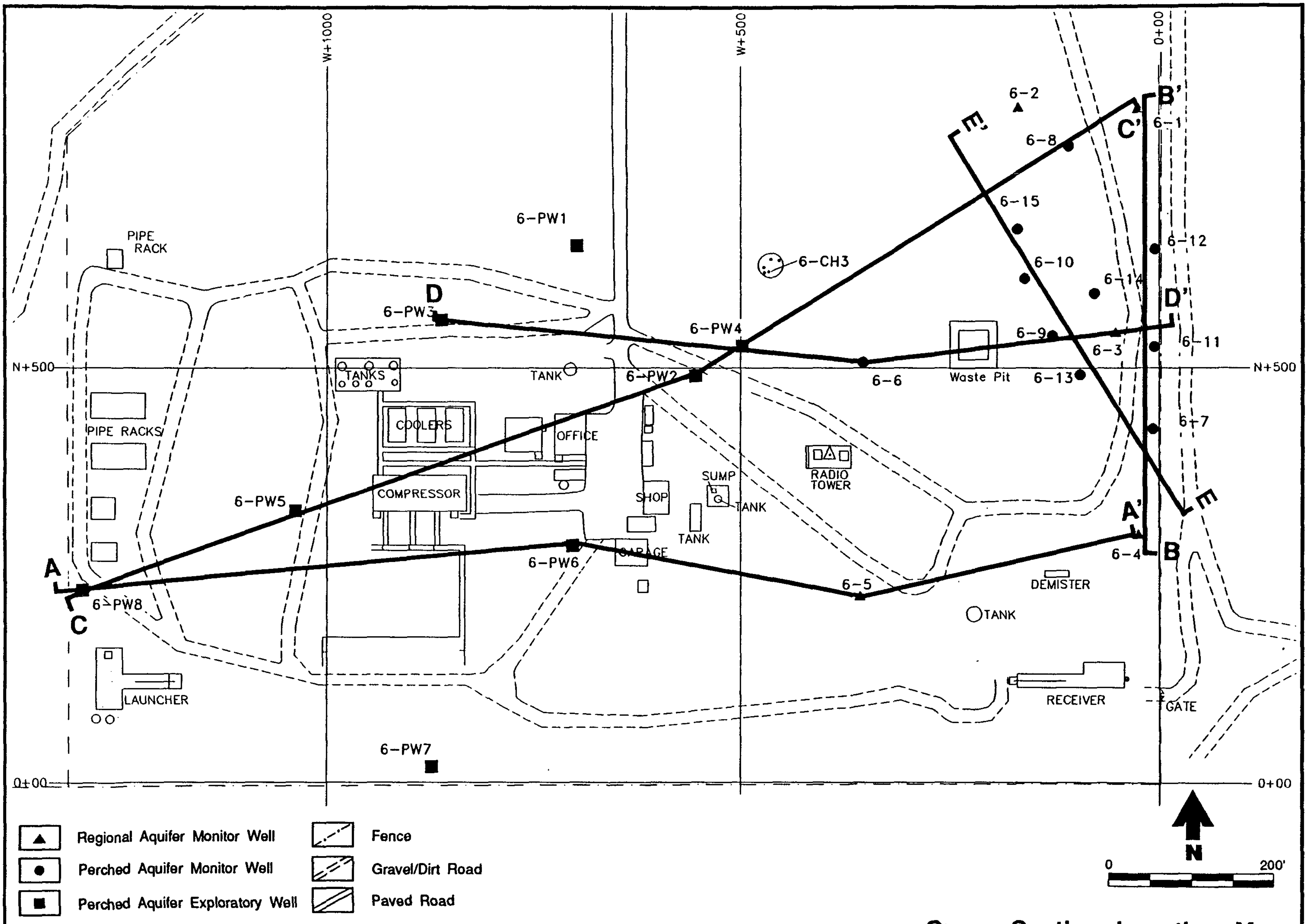
Explanation

- Perched Aquifer Exploratory Well
- Regional Aquifer Monitor Well
- Perched Aquifer Monitor Well
- Fence
- Gravel/Dirt Road
- Paved Road
- EM-Conductivity Line Location

Figure 4.2

Location of EM-Conductivity Survey Lines

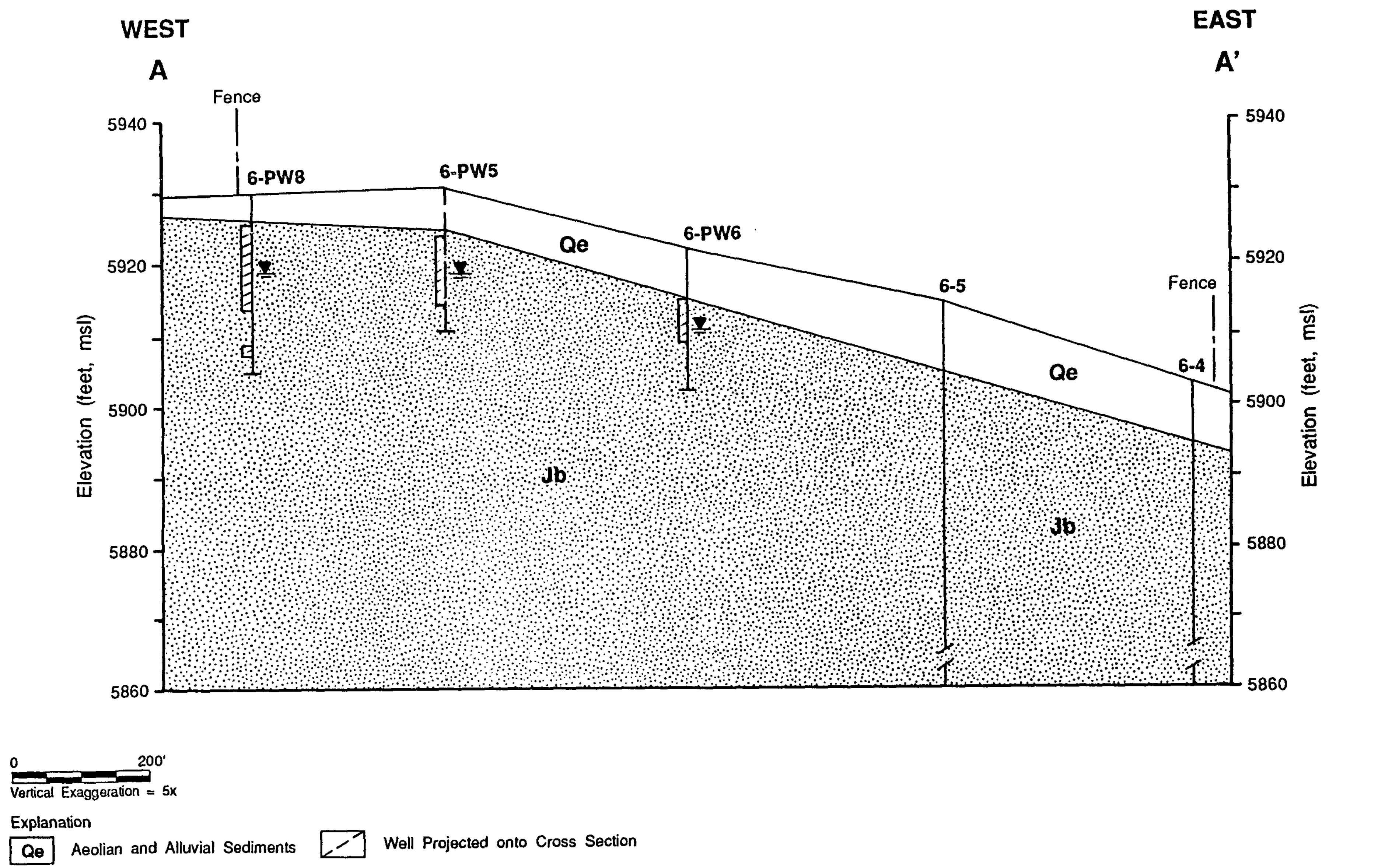
DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100



Cross Section Location Map

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100

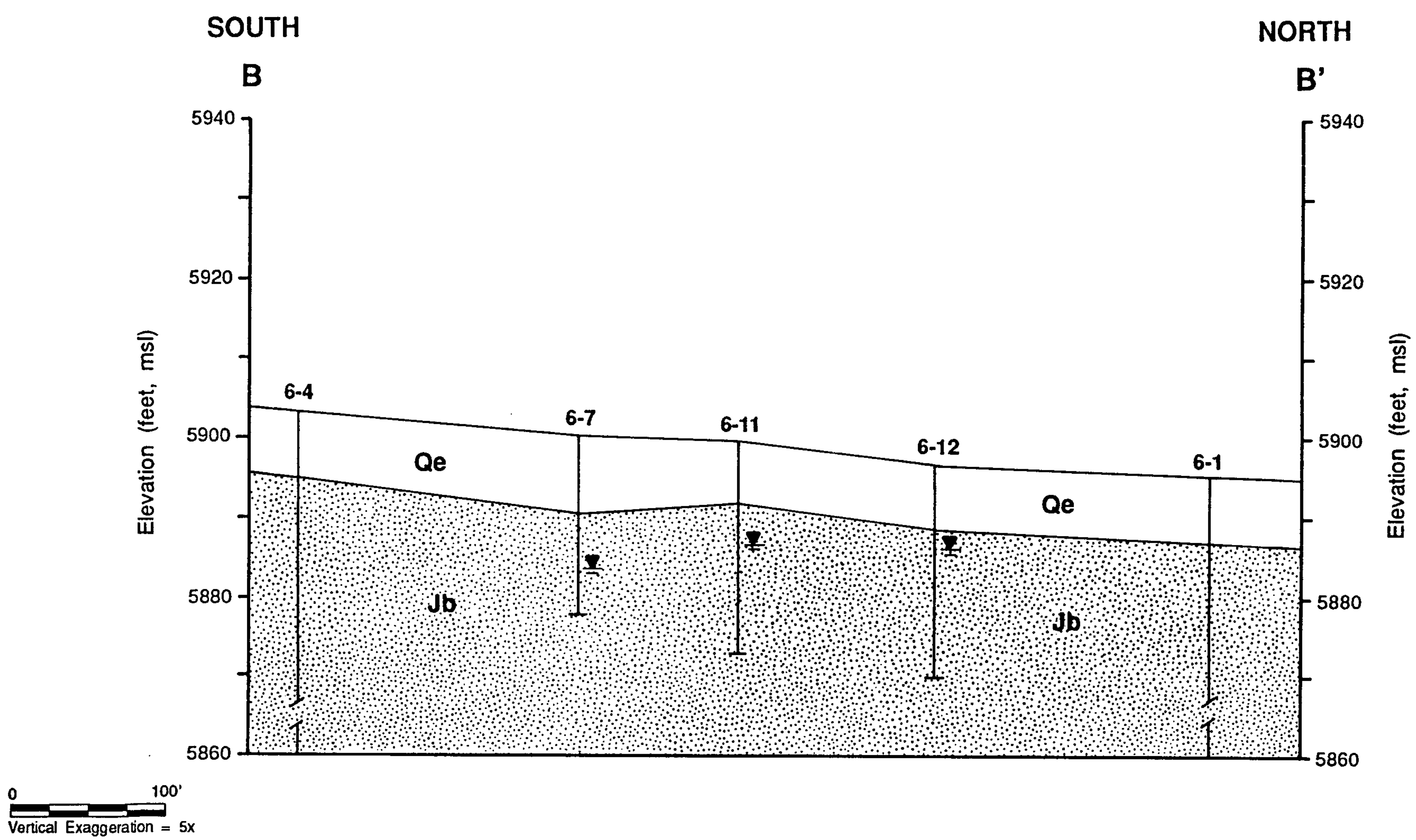
Figure 4.3



Hydrogeologic Cross Section A-A'
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100

Figure 4.4



Explanation

Qe Aeolian and Alluvial Sediments

Jb Bluff Sandstone

Perched Aquifer Water Level 12-18-91

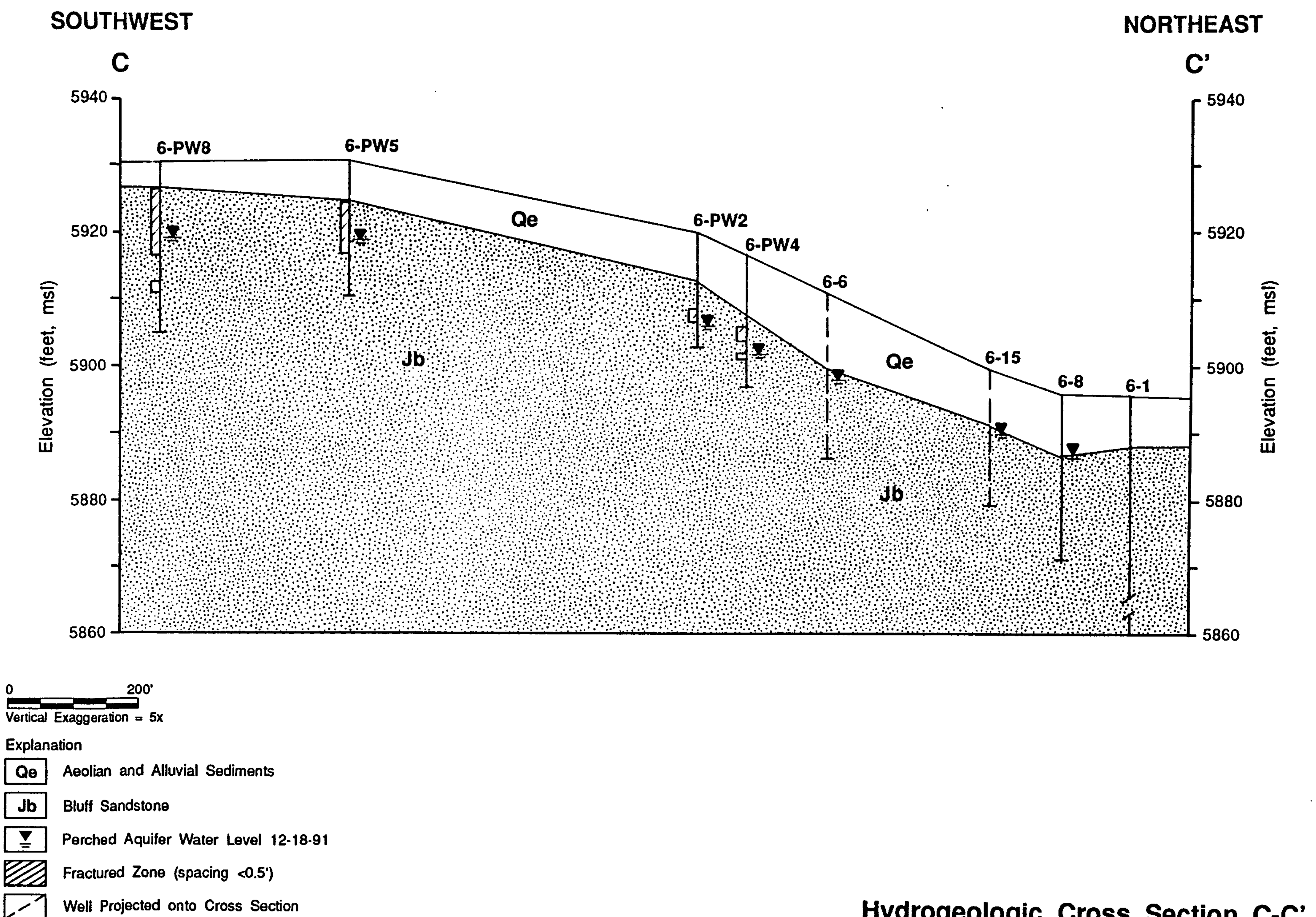
Fractured Zone (spacing <0.5')

Well Projected onto Cross Section

Hydrogeologic Cross Section B-B'
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100

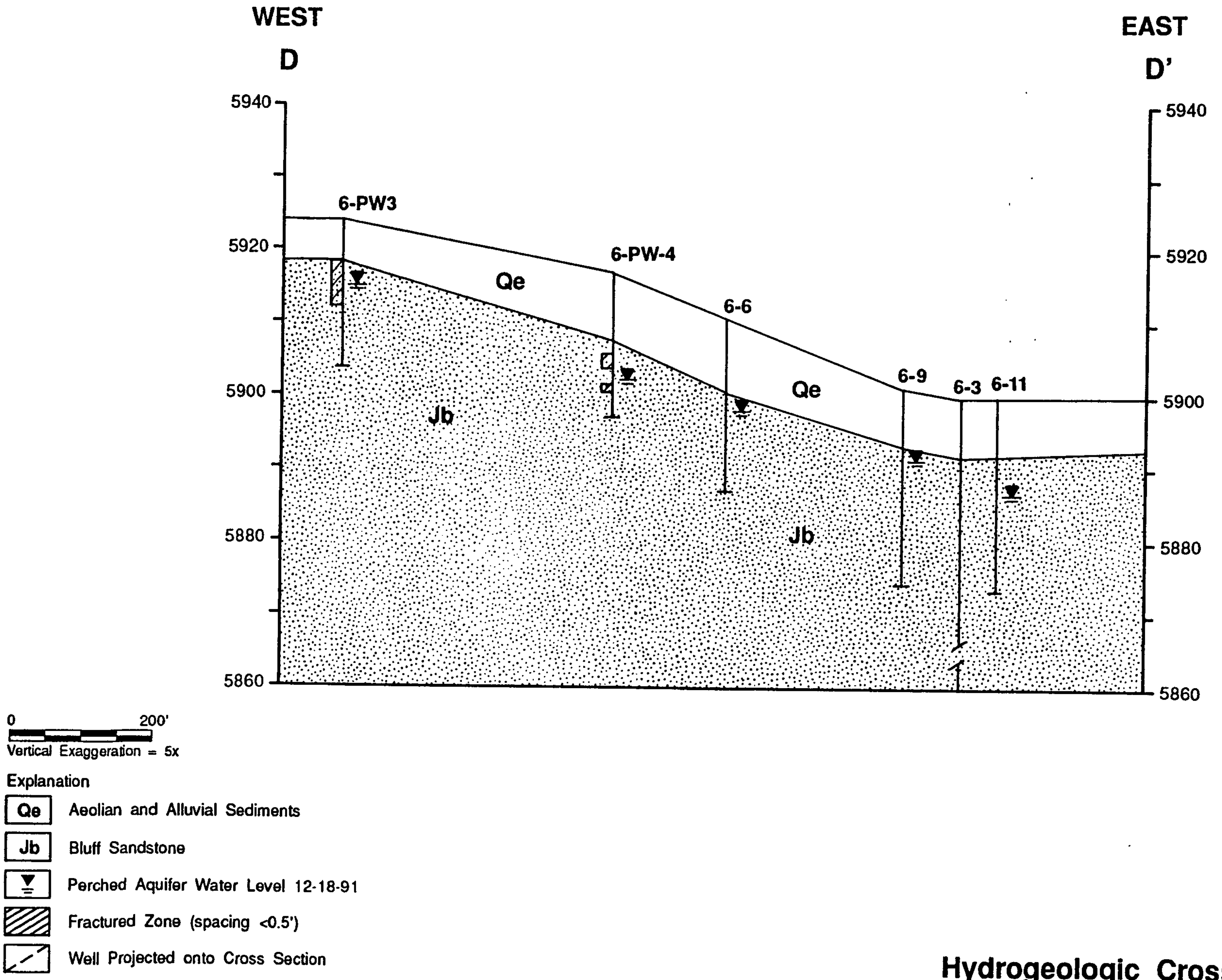
Figure 4.5



Hydrogeologic Cross Section C-C'
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100

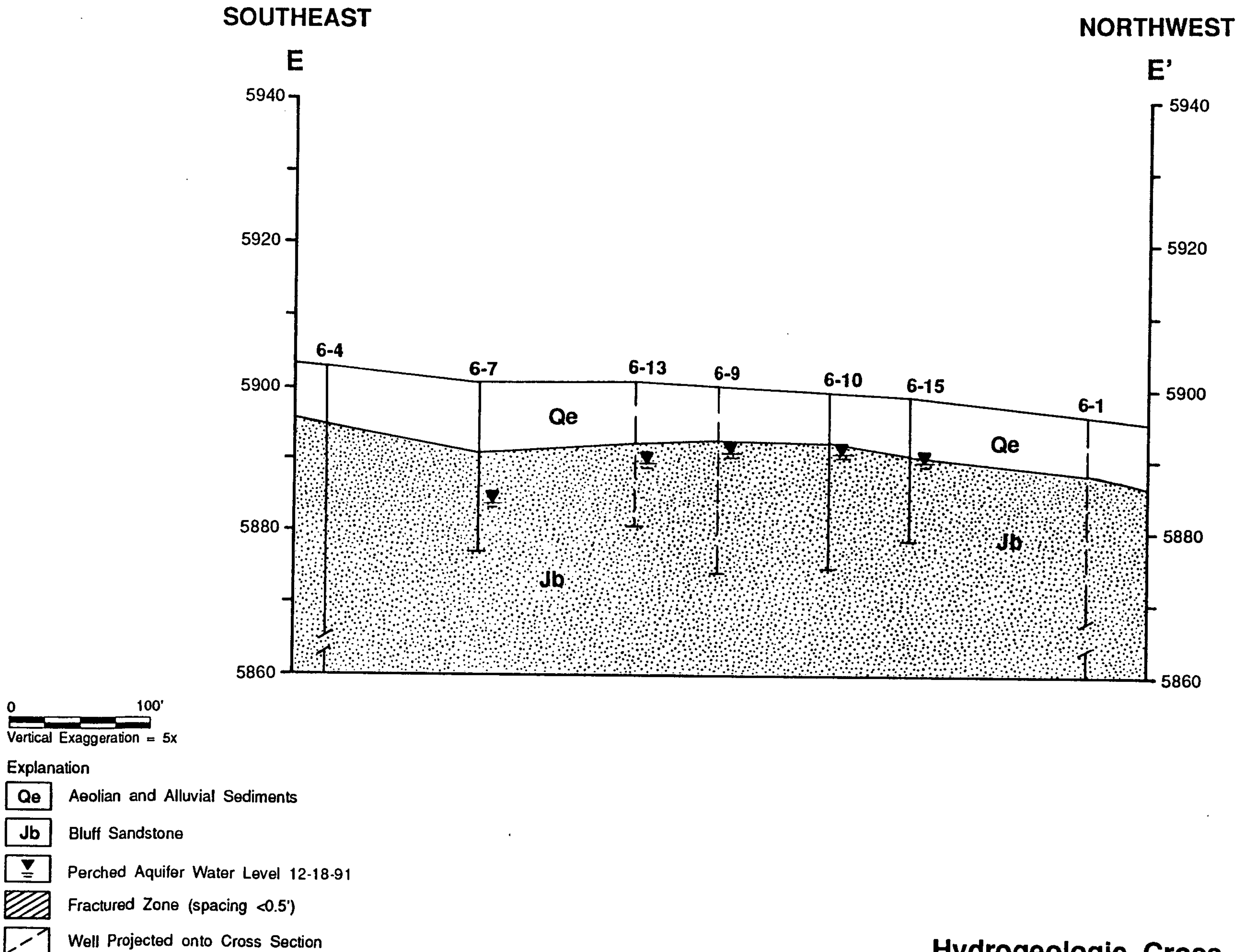
Figure 4.6



Hydrogeologic Cross Section D-D'
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100

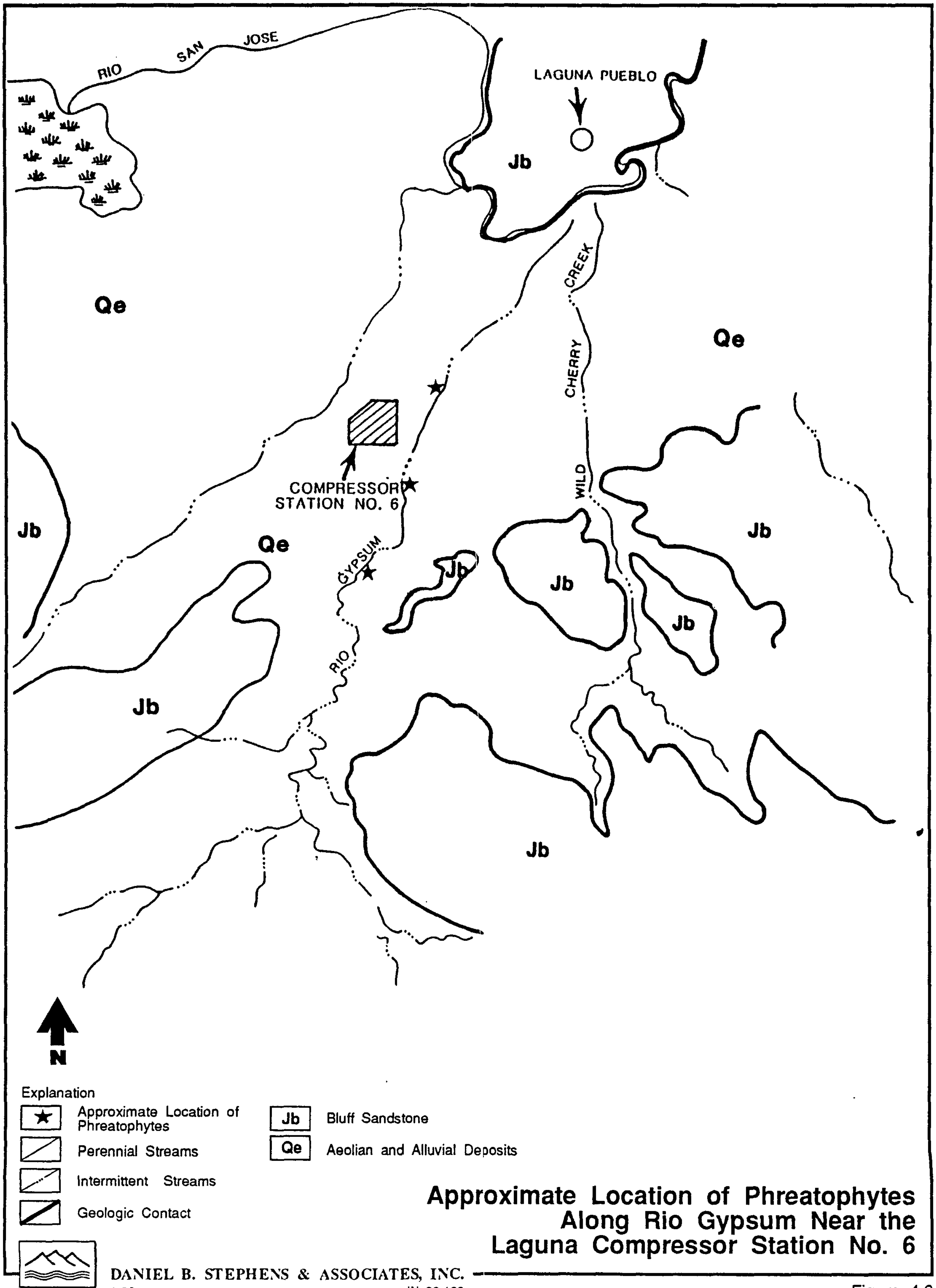
Figure 4.7



Hydrogeologic Cross Section E-E'
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100

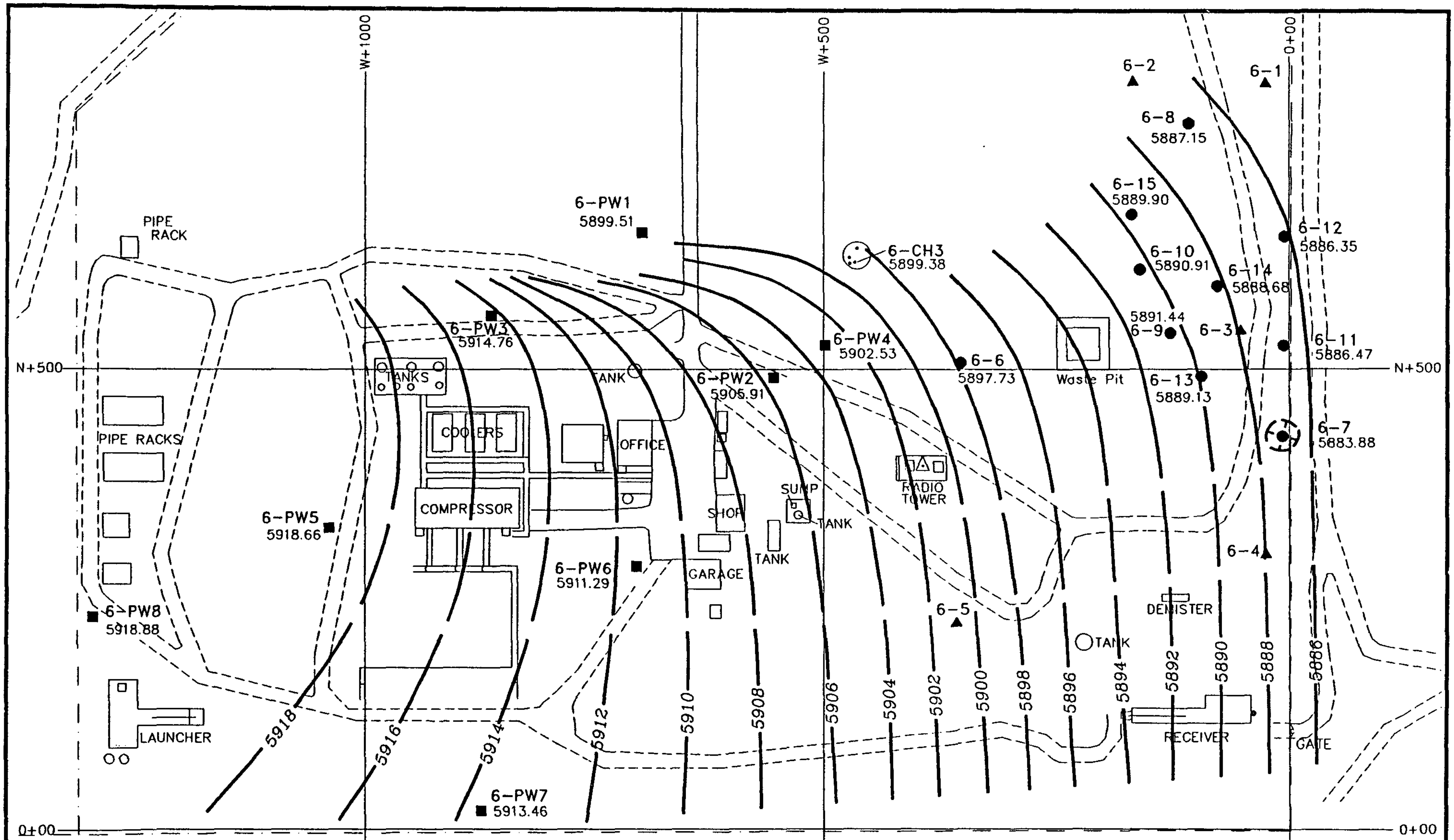
Figure 4.8



Approximate Location of Phreatophytes Along Rio Gypsum Near the Laguna Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100

Figure 4.9



Explanation

■	Perched Aquifer Exploratory Well
▲	Regional Aquifer Monitor Well
●	Perched Aquifer Monitor Well
	Fence
	Gravel/Dirt Road
	Paved Road
	Water Level Contour (feet, msl)

Ground-Water Elevations for Perched Aquifer December 18, 1991

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100

Figure 4.10

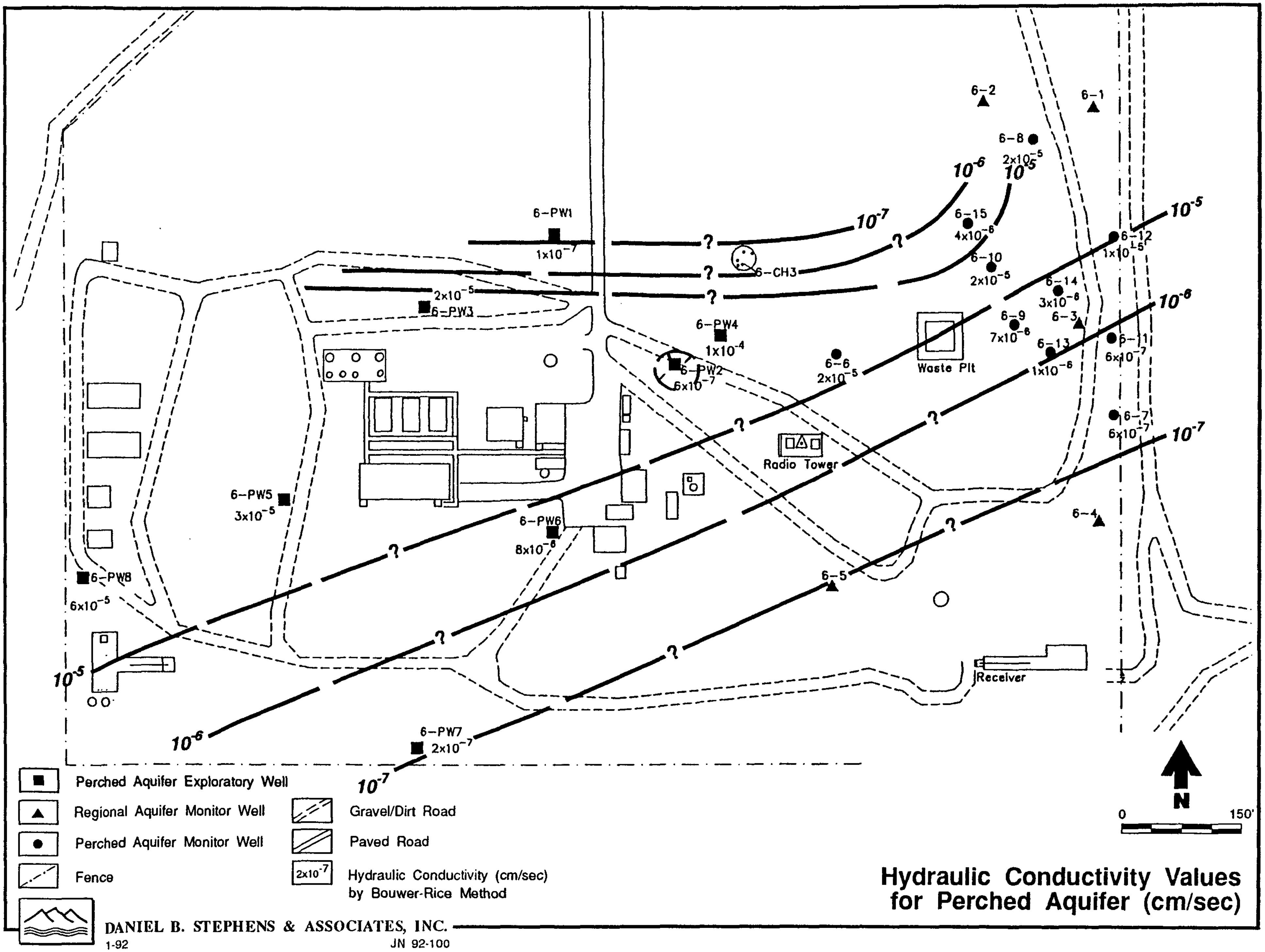
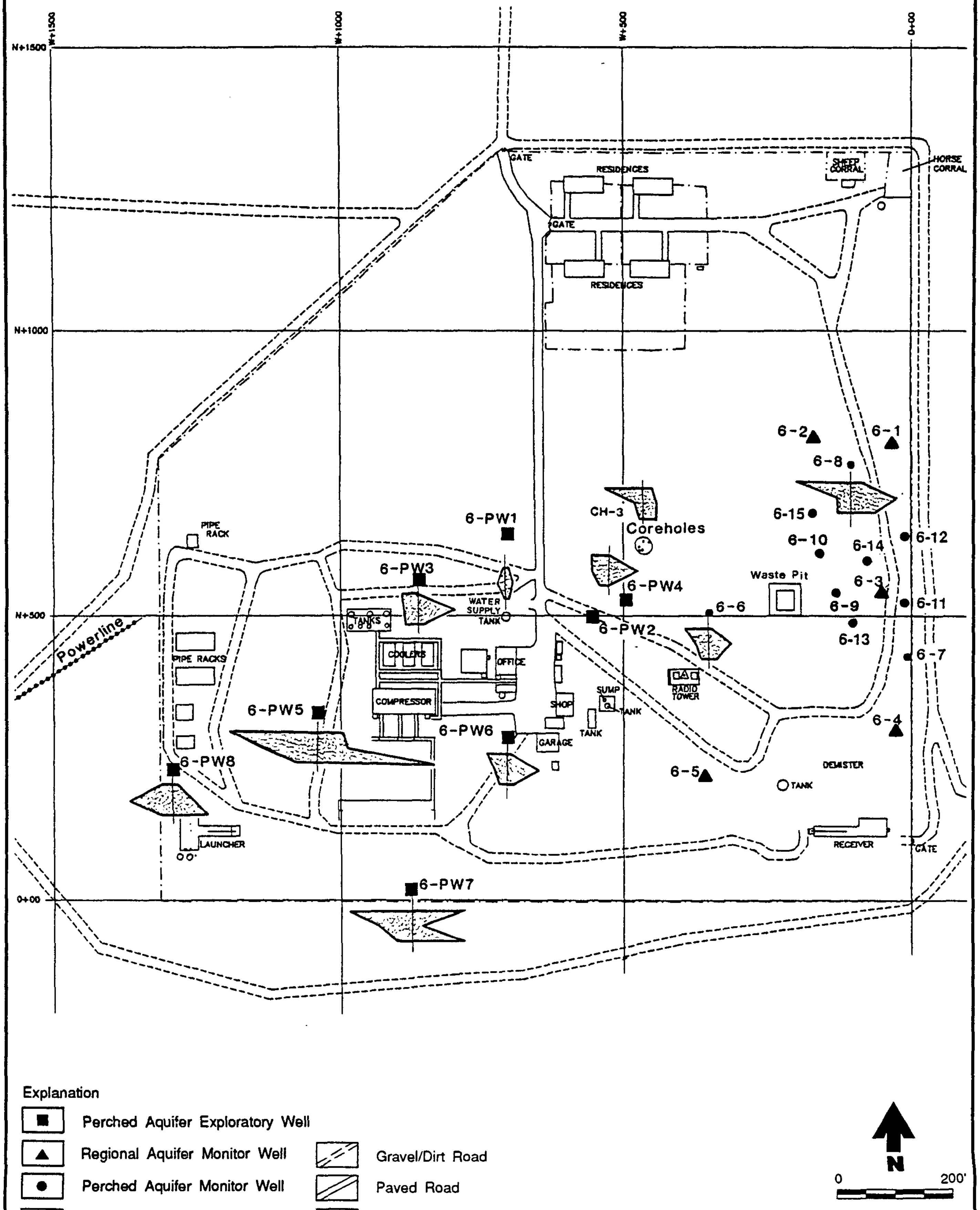

Hydraulic Conductivity Values
for Perched Aquifer (cm/sec)
6-1
6-2
6-3
6-4
6-5
6-8
2x10^-5
6-15
4x10^-6
6-10
2x10^-5
6-12
1x10^-5
6-14
3x10^-6
6-9
7x10^-6
6-13
1x10^-6
6-11
6x10^-7
6-7
6x10^-7
6-6
2x10^-5
6-CH3
6-PW1
1x10^-7
6-PW2
6x10^-7
6-PW3
2x10^-5
6-PW4
1x10^-4
6-PW5
3x10^-5
6-PW6
8x10^-6
6-PW7
2x10^-7
6-PW8
6x10^-5
10^-5
10^-6
10^-7
Waste Pit
Radio Tower
Receiver
N
0
150'
Perched Aquifer Exploratory Well
Regional Aquifer Monitor Well
Perched Aquifer Monitor Well
Fence
Gravel/Dirt Road
Paved Road
2x10^-7
Hydraulic Conductivity (cm/sec)
by Bouwer-Rice Method
DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92
JN 92-100

Figure 4.11



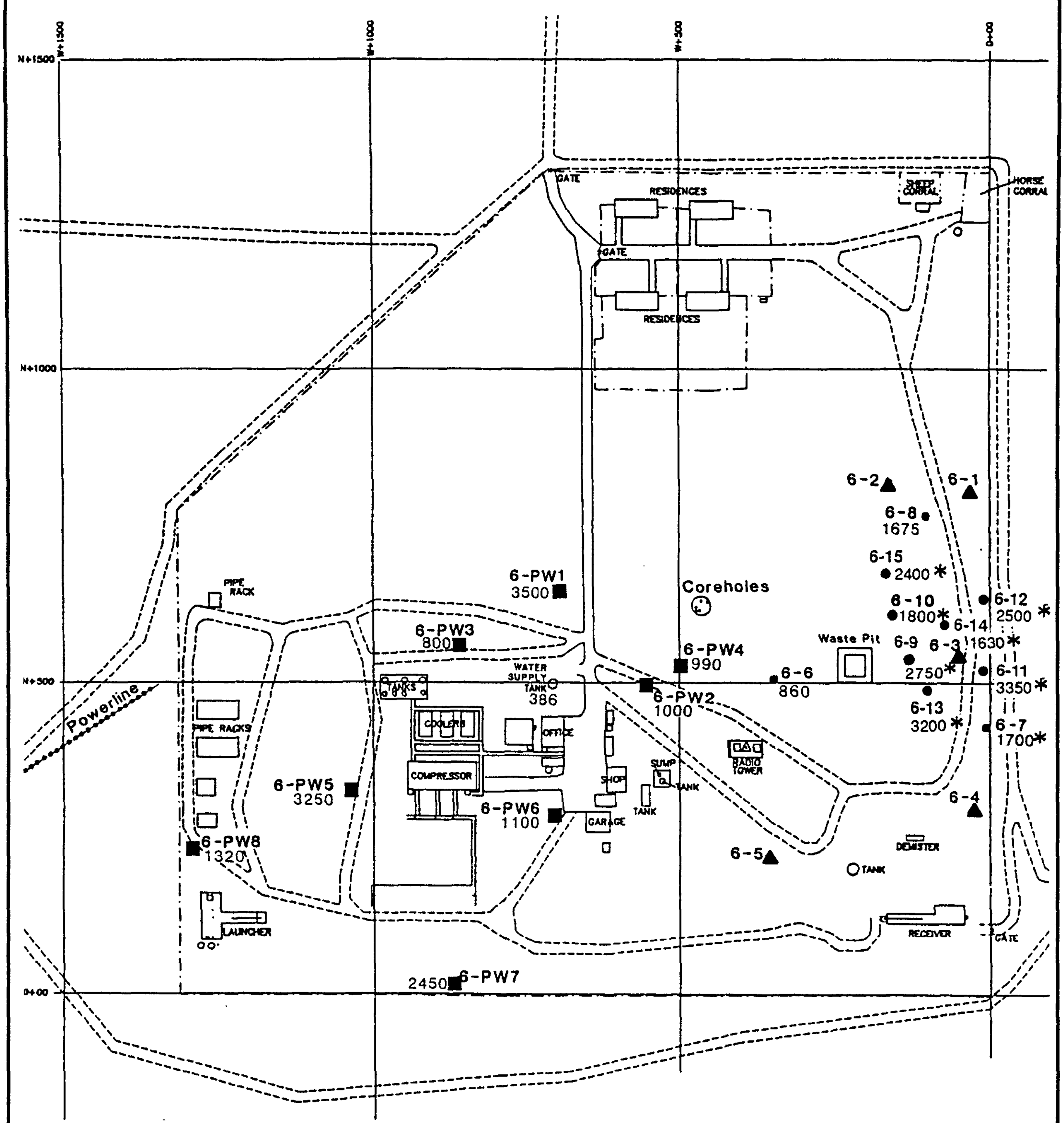
Site Map with Stiff Diagrams Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.

1-92

JN 92-100

Figure 5.1



Explanation

- Perched Aquifer Exploratory Well
- Regional Aquifer Monitor Well
- Perched Aquifer Monitor Well
- Fence
- Gravel/Dirt Road
- Paved Road
- 1100 Electrical Conductivity Measured April 1991
- * Electrical Conductivity Measured After April 1991

N

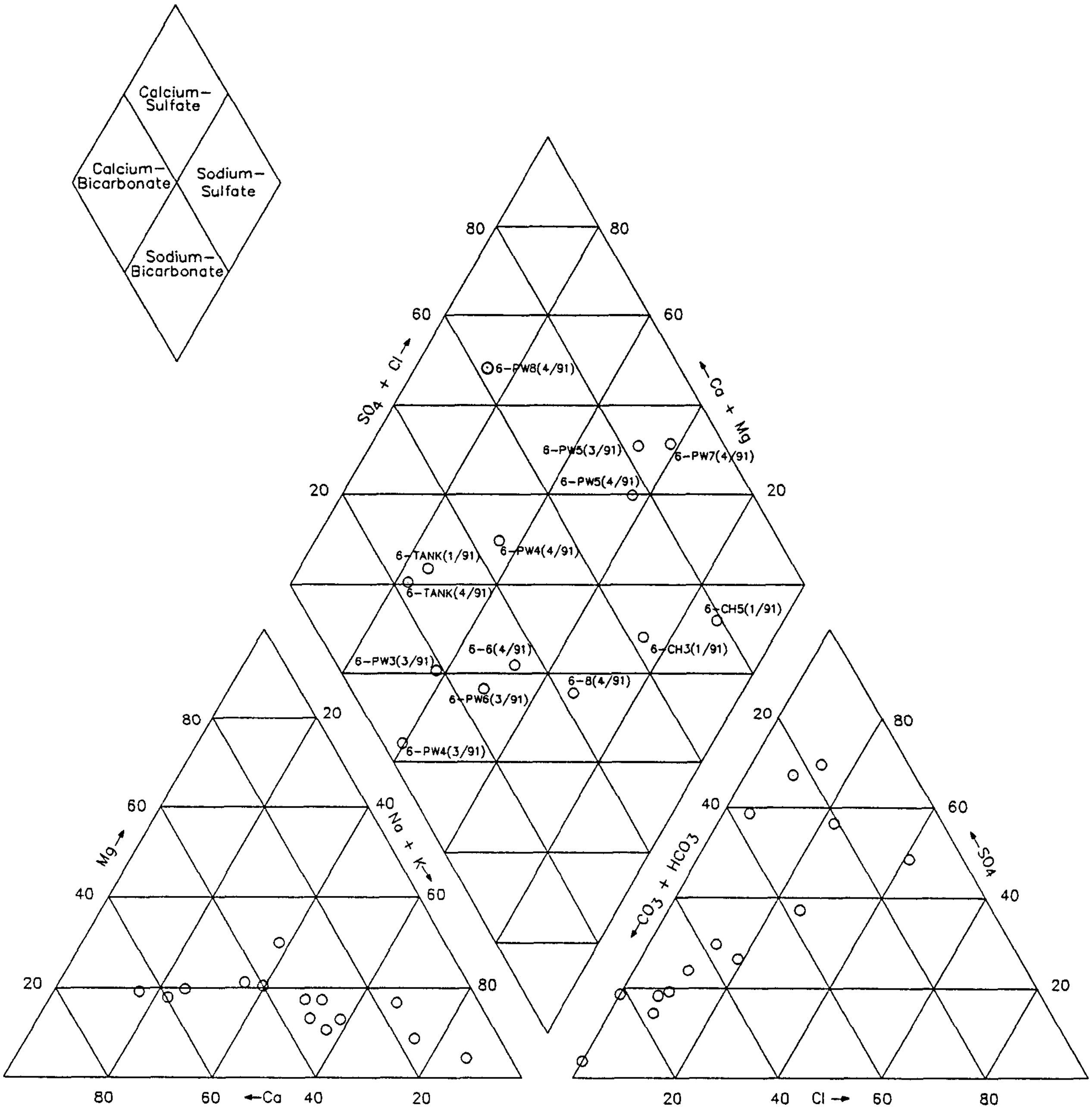
0 200'

Field Measurements of Electrical Conductivity

DANIEL B. STEPHENS & ASSOCIATES, INC.

1-92 JN 92-100

Figure 5.2



Trilinear Diagram Showing Inorganic Chemistry for Laguna Wells

Figure 5.3

APPENDIX A

BOREHOLE DRILLING LOGS AND WELL COMPLETION FORMS

BOREHOLE DRILLING LOGS

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Grants, NM
		Drilling Method:	Air Rotary Coring
Project No.:	89-030L		
Boring No.:	6-CH1		
Date Started:	10/3/90		
Date Completed:	10/5/90		
Total Depth Drilled:	100 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 8	Air Rotary Cuttings	Silty Sand	Very fine to fine grained, dry, tan, slightly damp at 7 ft
8 - 15	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Very fine to fine grained, quartz well rounded, lithified, white, no fractures
15 - 25	Air Rotary Core 15 - 25 100	Sandstone (Bluff Fm.)	Same as above except light blue gray (5 B 7/1); at 22 ft, dark yellowish orange (10 YR 6/6)
25 - 70	Air Rotary Core 25 - 70 100	Sandstone (Bluff Fm.)	Fine grained, well sorted, well cemented, damp, light blue (5 B 7/1), no fractures; at 34.4 to 35 ft, medium grained, moderately cemented yellow orange (10 YR 6/6)
70 - 80	Air Rotary Core 70 - 80 100	Sandstone (Bluff Fm.)	70 to 72 ft, same as 25 to 34.4 ft; 72 to 80 ft, fine grained, moderately cemented quartz sandstone (5 YR 4/4) to (5 YR 3/4)
80 - 90	Air Rotary Core 80 - 90 100	Sandstone (Bluff Fm.)	80 to 83 ft, same as above; 83 to 90 ft, color change to light blue gray (5 B 7/1)
90 - 100	Air Rotary Core 90 - 100 100	Sandstone (Bluff Fm.)	93.0 to 93.7 ft, medium to coarse grained, wet; rest of core same as above (5 YR 4/4) to (5 YR 3/4)

DANIEL B. STEPHENS & ASSOCIATES, INC.

ENVIRONMENTAL SCIENTISTS AND ENGINEERS

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Grants, NM
		Drilling Method:	Air Rotary Coring
Project No.:	89-030L		
Boring No.:	6-CH2		
Date Started:	10/8/90		
Date Completed:	10/9/90		
Total Depth Drilled:	100 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 10	Air Rotary Cuttings	Sand	Fine grained, minor silt, damp
10 - 15	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Very fine to fine grained, well sorted, well indurated at 12.5 ft, damp, tan white, no fractures
15 - 20	Air Rotary Core 15 - 20 100	Sandstone (Bluff Fm.)	Fine to medium grained, well indurated, damp, dark yellowish orange (10 YR 6/6), no fractures
20 - 30	Air Rotary Core 20 - 30 100	Sandstone (Bluff Fm.)	20 to 22 ft, same as above; 22 to 30 ft, very fine grained, indurated, damp, light blue gray (5 B 7/1), no fractures
30 - 70	Air Rotary Core 30 - 70 100	Sandstone (Bluff Fm.)	Same as 22 to 30 ft
70 - 80	Air Rotary Core 70 - 80 100	Sandstone (Bluff Fm.)	70 to 72 ft, same as above; 72 to 80 ft, pale yellowish brown (10 YR 6/2), very fine grained, not as well sorted as above, damp, pale yellowish brown (10 YR 6/2), no fractures
90 - 100	Air Rotary Core 90 - 100 100	Sandstone (Bluff Fm.)	90 to 95.3 ft, same as above; 95.3 to 100 ft, very fine grained, well indurated, damp, light brown (5 YR 5/6) to moderate brown (5 YR 4/4)

Client: Transwestern Pipeline
Compressor Station No. 6
Laguna, NM

Drilling Contractor: Stewart Brothers
Grants, NM

Drilling Method: Air Rotary Coring

Project No.: 89-030L
Boring No.: 6-CH3
Date Started: 10/10/90
Date Completed: 10/11/90
Total Depth Drilled: 18 ft

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 10	Air Rotary Cuttings	Sand	Fine grained
10 - 15	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Very fine to fine grained, dry, very pale orange (10 YR 8/2)
15 - 18	Air Rotary Core	Sandstone (Bluff Fm.)	Very fine to fine grained, dry, very pale orange, wet, no fractures (10 YR 8/2)

DANIEL B. STEPHENS & ASSOCIATES, INC.

ENVIRONMENTAL SCIENTISTS AND ENGINEERS

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Grants, NM
		Drilling Method:	Air Rotary Coring
Project No.:	89-030L		
Boring No.:	6-CH4		
Date Started:	10/11/90		
Date Completed:	10/15/90		
Total Depth Drilled:	23 ft		

Depth Interval (ft)	**Sample Type Interval (ft) Recovery (%)**	**Material Type**	**Description**
0 - 10	Air Rotary Cuttings	Sand	Fine grained
10 - 20	Air Rotary Core 10 - 20 90	Sandstone (Bluff Fm.)	Wet, fractured at 14.8 ft
20 - 23	Air Rotary Core 20 - 23 84	Sandstone (Bluff Fm.)	Fine grained, indurated, well cemented, quartz, slightly calcareous, fractures

DANIEL B. STEPHENS & ASSOCIATES, INC.

ENVIRONMENTAL SCIENTISTS AND ENGINEERS

Client: Transwestern Pipeline, Compressor Station No. 6, Laguna, NM

Drilling Contractor: Stewart Brothers, Grants, NM

Drilling Method: Air Rotary Coring

Project No.: 89-030L

Boring No.: 6-CH5

Date Started: 10/16/90

Date Completed: 10/17/90

Total Depth Drilled: 98 ft

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 2	Air Rotary Cuttings	Silty Sand	Fine grained, red brown
2 - 4	Air Rotary Cuttings	Sand	Fine grained, less silt, red brown
4 - 7	Air Rotary Cuttings	Silty Clay	Damp, red brown
7 - 8.5	Air Rotary Cuttings	Silty Sand	Fine grained, less clay, red brown
8.5 - 10	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Fine to medium grained, rounded to subangular, moderately to well sorted, fractured
10 - 20	Air Rotary Core 10 - 20 86	Sandstone (Bluff Fm.)	Wet at 14 ft, heavily fractured
20 - 35	Air Rotary Core 20 - 28.5 100	Sandstone (Bluff Fm.)	Light gray with limonitic stains, fractured
35 - 70	Air Rotary Core 35 - 70 88	Sandstone (Bluff Fm.)	Medium grained, moderate sorting, clayey interbeds, weak calcite reaction, dry, limonitic stains, cross bedded, minor fractures, no fractures from 50 to 60 ft
70 - 80	Air Rotary Core 70 - 80 100	Sandstone (Bluff Fm.)	Fine to medium grained, round to subrounded, moderately to well sorted, moderate induration, damp, light gray, fractured
80 - 90	Air Rotary Core 80 - 90 100	Sandstone (Bluff Fm.)	Fine to medium grained, rounded to subangular, moderately to well sorted, clayey matrix, fractured
90 - 98	Air Rotary Core 90 - 100 100	Sandstone (Bluff Fm.)	Same as above except wet at 93 to 95 ft

DANIEL B. STEPHENS & ASSOCIATES, INC.

ENVIRONMENTAL SCIENTISTS AND ENGINEERS

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Grants, NM
		Rig Type:	Chicago Pneumatic 650SS
Project No.:	89-030L	**Drilling Method:**	Air Rotary Coring
Boring No.:	6-PW1		
Date Started:	3/14/91		
Date Completed:	3/14/91		
Total Depth Drilled:	25 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 6.3	Hand Excavate 0 - 1 N/A 3" Drive Core 1 - 5 100 2.5" Split Spoon 5 - 7 100	Silty Sand	Fine grained, trace fine gravel, moderately to well sorted, damp, rootlets to 4 ft, from 5.5 ft sand has caliche as fracture fill, brown (7.5 YR 4.5/4)
6.3 - 10	3" Air Rotary Core Run #1 7 - 17 100	Sandstone (Bluff Fm.)	Fine to medium grained, heavily to moderately weathered, heavily fractured to 9.5 ft (dominantly low-angle fractures), unconsolidated to poorly indurated, disseminated and bedding plane controlled Fe-staining, very damp (saturated below 9.5 ft), grayish yellow (5 YR 8/4)
10 - 25	Air Rotary Core Run #2 17 - 25 100	Sandstone (Bluff Fm.)	Fine grained, moderately to well sorted, well indurated, moist to approx. 20 ft then slightly moist to TD, zones of Fe staining from 14 to 17.3 ft and 17.8 to 18.7 ft, medium gray (N5 to 7)

DANIEL B. STEPHENS & ASSOCIATES, INC.

ENVIRONMENTAL SCIENTISTS AND ENGINEERS

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Grants, NM
		Rig Type:	Chicago Pneumatic 650SS
Project No.:	89-030L	**Drilling Method:**	Air Rotary Coring
Boring No.:	6-PW2		
Date Started:	3/14/91		
Date Completed:	3/14/91		
Total Depth Drilled:	17 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 4.8	Hand Excavate 0 - 1 N/A	Silty Sand	Fine grained, trace fine gravel, moderately to well sorted, loose, rootlets to 3 ft, moist 0 to 2 ft and 3.5 to 4.8 ft, brown (7.5 YR 4/5)
4.8 - 5.5	3" Drive Core 1 - 5 100	Sandy Silt	Sand is fine grained, dry to slightly damp, brown (7.5 YR 4/4)
5.5 - 7	2.5" Split Spoon 5 - 7 100	Silty Sand	Fine grained, moderately to well sorted, trace of rootlets, trace to some caliche as fracture fill, slightly moist, reddish brown (5 YR 4/4)
7 - 13.6	3" Air Rotary Core Run #1 7 - 12 78	Sandstone (Bluff Fm.)	Fine grained, moderately to poorly indurated, heavily fractured with unconsolidated sand filling fractures, black-stained fracture at 12.2 ft, slightly moist to moist, bedding plane controlled and disseminated Fe-stains, grayish yellow (5 YR 8/4)
13.6 - 17	3" Air Rotary Core Run #2 12 - 17 100	Sandstone (Bluff Fm.)	Fine grained, well cemented, stringers of moisture along fractures* and as 1-inch zones in unfractured sandstone, medium gray (N 6 to 7)

*See fracture density graph for 6-PW2

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Grants, NM
		Rig Type:	Chicago Pneumatic 650SS
Project No.:	89-030L	**Drilling Method:**	Air Rotary Coring
Boring No.:	6-PW3		
Date Started:	3/15/91		
Date Completed:	3/15/91		
Total Depth Drilled:	20 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 4	Hand Excavate 0 - 1 100	Silty Sand	Fine grained, moderately to well sorted, damp, trace rootlets, brown (7.5 YR 5/4)
4.3 - 4.8	3" Drive Core 4.3 - 5.3 100	Sandy Silt	Sand is fine grained, moist, brown (7.5 YR 5/4)
4.3 - 5.8	3" Drive Core 4.3 - 4.8 100	Sandy Silt	Fine grained, moderately to well sorted, trace rootlets, brown (7.5 YR 5/4)
4.8 - 5.3	3" Drive Core 4.8 - 5.3 100	Sandy Silt	Fine grained, moderately to well sorted, moist, trace rootlets, brown (7.5 YR 5/4)
5.3 - 8	3" Air Rotary Core Run #1 5.3 - 9 100	Sandstone (Bluff Fm.)	Fine grained, silty, moderately to well sorted, slightly moist, heavily fractured* (sand-filled to 6.6 ft), disseminated and fracture controlled Fe staining, traces of limonite modules to 0.25" diameter, grayish yellow (5 Y 8/4)
8 - 20	3" Air Rotary Core Run #2 9 - 15 100	Sandstone (Bluff Fm.)	Fine grained, moderately to well sorted, well indurated, saturated, trace disseminated Fe staining, some limonite concretions from 15 to 17.8 ft, unfractured from 12.2 to TD, yellow gray (7 Y 5/2)

*See fracture density graph for 6-PW3

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Grants, NM
		Rig Type:	Chicago Pneumatic 650SS
Project No.:	89-030L	**Drilling Method:**	Air Rotary Coring
Boring No.:	6-PW4		
Date Started:	3/15/91		
Date Completed:	3/15/91		
Total Depth Drilled:	20 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 9	Hand Excavate 0 - 1 100	Silty Sand	Fine grained, moderately to well sorted, slightly damp to dry, rootlets, caliche zone from 4.6 to 4.7 ft, gravelly from 9 to 9.5 ft, reddish brown (5 YR 4/4)
	3" Drive Core 1 - 5 100		
	2.5" Split Spoon 5 - 9 100		
9 - 14	3" Air Rotary Core Run #1 11 - 15 100	Sandstone (Bluff Fm.)	Fine grained, moderately to poorly indurated, moist, weathered, disseminated (heavily stained from 12 to 13.3 ft) as well as fracture* controlled Fe staining, traces of black fracture staining at 13 ft and purple stains in fractures at 12 and 14 ft, light gray (N6 to N7)
14 - 20	3" Air Rotary Core Run #2 15 - 20 100	Sandstone (Bluff Fm.)	Fine grained, moderately to well sorted, well indurated, moist, slight Fe stain to 16.5 ft, light gray (N7)

*See fracture density graph for 6-PW4

DANIEL B. STEPHENS & ASSOCIATES, INC.

ENVIRONMENTAL SCIENTISTS AND ENGINEERS

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Grants, NM
		Rig Type:	Chicago Pneumatic 650SS
Project No.:	89-030L	**Drilling Method:**	Air Rotary Coring
Boring No.:	6-PW5		
Date Started:	3/15/91		
Date Completed:	3/16/91		
Total Depth Drilled:	20 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 2.5	Hand Excavate 0 - 1 N/A	Sand	Fine grained, trace silt, well sorted, unconsolidated, moist, rootlets, reddish brown (5 YR 5/3)
2.5 - 3.5	3" Drive Core 1 - 5 100	Silty Sand	Fine grained, rootlets, unconsolidated, moist, reddish brown (5 YR 5/3)
3.5 - 5.7	2.5" Split Spoon 5 - 7 100	Sand	Fine grained, trace silt, unconsolidated, moist, reddish brown (5 YR 5/3)
5.7 - 15	3" Air Rotary Core Run #1 7 - 15 100	Sandstone (Bluff Fm.)	Medium to fine grained, poorly indurated, friable, heavily weathered, moist (dry from 11.6 to 12.2 ft), disseminated and fracture controlled Fe stain, heavily fractured* from 8 to 11 ft, pale yellow orange (10 YR 8/6)
15 - 20	3" Air Rotary Core Run #2 15 - 20 100	Sandstone (Bluff Fm.)	Fine grained, moderately to well sorted, well indurated, moist to saturated, irregular disseminated Fe stains, light gray (N7)

*See fracture density graph for 6-PW5

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ENVIRONMENTAL SCIENTISTS AND ENGINEERS

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Grants, NM
		Rig Type:	Chicago Pneumatic 650SS
Project No.:	89-030L	**Drilling Method:**	Air Rotary Coring
Boring No.:	6-PW6		
Date Started:	3/16/91		
Date Completed:	3/16/91		
Total Depth Drilled:	20 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 2.5	Hand Excavate 0 - 1 N/A	Silty Sand	Fine grained, trace fine gravel, unconsolidated, moist, strong brown (7.5 YR 4/6)
2.5 - 3.7	3" Drive Core 1 - 5 100	Sand	Fine grained, no gravel, unconsolidated, moist, rootlets, brownish yellow (10 YR 6/6)
3.7 - 6.7	2.5" Split Spoon 5 - 7 100	Silty Sand	Fine grained, trace caliche streaks, unconsolidated
6.7 - 7		Sandstone (Bluff Fm.)	Medium to fine grained, semi-consolidated, heavily weathered, damp, grayish orange (10 YR 7/4)
7 - 18	3" Air Rotary Core Run #1 7 - 14 100	Sandstone (Bluff Fm.)	Medium to fine grained, moderately sorted, heavily weathered, moderately to well indurated, moderately fractured*, dry with moist zones at 8 and 10 ft, saturated below 12 ft, disseminated and fracture controlled Fe staining, grayish orange (10 YR 7/4)
18 - 20	3" Air Rotary Core Run #2 14 - 20 100	Sandstone (Bluff Fm.)	Fine grained, well sorted, well indurated, not fractured, changes from saturated to moist at 18 ft, medium to light gray (N5 to N7)

*See fracture density graph for 6-PW6

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Grants, NM
		Rig Type:	Chicago Pneumatic 650SS
Project No.:	89-030L	**Drilling Method:**	Air Rotary Coring
Boring No.:	6-PW7		
Date Started:	3/26/91		
Date Completed:	3/26/91		
Total Depth Drilled:	30 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 7.8	Hand Excavate 0 - 1 100 3" Drive Core 1 - 5 100 2.5" Split Spoon 5 - 8 100	Sand	Fine to very fine grained, traces of fine sandstone gravel and silt, moderately to well sorted, caliche as fracture fill, slightly moist, rootlets, reddish yellow (7.5 YR 6/6) becomes lighter below 3 ft From 7.5 to 7.8 ft, becomes medium to coarse grained, moderately sorted, slightly moist, pale brown (10 YR 6/4)
7.8 - 23	3" Air Rotary Core Run #1 8 - 18 100 3" Air Rotary Core Run #2 18 - 20 100	Sandstone (Bluff Fm.)	Medium to fine grained, moderately to well sorted, heavily weathered, moderately to well indurated, moderately fractured*, slightly moist (saturated below 11.3 ft), disseminated and fracture controlled Fe staining, limonite nodules, yellowish gray (10 YR 6/5) to pale yellowish orange (10 YR 8/6)
23 - 30	3" Air Rotary Core Run #3 23 - 30 100	Sandstone (Bluff Fm.)	Fine grained, well sorted, well indurated, saturated to 22 ft, slightly moist 22 - 30 ft, no fractures below 14 ft, light gray (N7)

*See fracture density graph for 6-PW7

DANIEL B. STEPHENS & ASSOCIATES, INC.

ENVIRONMENTAL SCIENTISTS AND ENGINEERS

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Grants, NM
		Rig Type:	Chicago Pneumatic 650SS
Project No.:	89-030L	**Drilling Method:**	Air Rotary Coring
Boring No.:	6-PW8		
Date Started:	3/26/91		
Date Completed:	3/27/91		
Total Depth Drilled:	25 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 3.8	Hand Excavate 0 - 1 100	Silty Sand	Fine grained, slightly silty, moderately to well sorted, unconsolidated, moist, rootlets, dark brown (7.5 YR 4/2)
3.8 - 18.7	3" Drive Core 1 - 4 100	Sandstone (Bluff Fm.)	Fine grained, moderately to well sorted, moderately indurated, heavily weathered, moderately to heavily fractured*, moist (saturated below 5.6 ft) abundant disseminated and fracture controlled Fe staining, dark yellow orange (10 YR 6/6)
	3" Air Rotary Core Run #1 4 - 13 100		
18.7 - 25	3" Air Rotary Core Run #2 13 - 23 100	Sandstone (Bluff Fm.)	Fine grained, well sorted, well indurated, saturated to slightly moist, no fractures below 22 ft, light gray (N7)
	3" Air Rotary Core Run #3 23 - 25 100		

*See fracture density graph for 6-PW8

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM
Project No.:	89-030L
Boring No.:	6-6
Date Started:	4/8/91
Date Completed:	4/9/91
Total Depth Drilled:	25 ft
Drilling Contractor:	Western Technologies, Inc. Albuquerque, NM
Drilling Method:	Air Rotary

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 2	Shovel 0 - 2 100	Soil	Fine grained, moderately well sorted, trace fine gravel, loose, rootlets, slightly damp, brown (7.5 YR 5/4)
2 - 8	Drive Core 2 - 8 100	Silty Sand	Fine grained, well sorted, some clay, moist, brown (7.5 YR 5/4)
8 - 11	Drive Core 8 - 9 100	Silty Sand	Very fine grained, very well sorted, grayish brown (5 YR 3/2)
11 - 15	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Fine grained, moderately to poorly indurated, slightly moist to moist, Fe staining, grayish yellow (5 YR 8/4)
15 - 21	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Fine grained, moderately to poorly indurated, very moist, grayish yellow (5 YR 8/4)
21 - 25	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Fine grained, well indurated, dry to slightly moist, grayish yellow (5 YR 8/4)

Client: Transwestern Pipeline
Compressor Station No. 6
Laguna, NM

Drilling Contractor: Western Technologies, Inc.
Albuquerque, NM

Drilling Method: Air Rotary

Project No.: 89-030L
Boring No.: 6-7
Date Started: 4/9/91
Date Completed: 4/9/91
Total Depth Drilled: 23 ft

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 2	Shovel 0 - 2 100	Sand	Fine grained, moderately well sorted, loose, rootlets, slightly damp, brown (7.5 YR 5/4)
2 - 10	Drive Core 2 - 10 100	Silty Clay	Fine grained, moderately well sorted, moist, grayish brown (5 YR 3/2)
10 - 11	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Fine grained, moderately well sorted, moist, grayish brown (5 YR 3/2)
11 - 13	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Fine grained, weathered, moderately to poorly indurated, slightly moist, Fe staining, grayish yellow (5 YR 8/4)
13 - 16	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Fine grained, weathered, moderately to poorly indurated, slightly moist, Fe staining, grayish yellow (5 YR 8/4)
16 - 17	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Fine grained, weathered, moderately to poorly indurated, slightly moist, Fe staining, grayish yellow (5 YR 8/4)
17 - 23	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Fine grained, moderately indurated, very moist, grayish yellow (5 YR 8/4)

DANIEL B. STEPHENS & ASSOCIATES, INC.

ENVIRONMENTAL SCIENTISTS AND ENGINEERS

Client: Transwestern Pipeline
Compressor Station No. 6
Laguna, NM

Drilling Contractor: Western Technologies, Inc.
Albuquerque, NM

Drilling Method: Air Rotary

Project No.: 89-030L
Boring No.: 6-8
Date Started: 3/9/91
Date Completed: 3/9/91
Total Depth Drilled: 25 ft

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 2	Shovel 0 - 2 100	Sand	Fine grained, moderately well sorted, loose, rootlets, slightly damp, brown (7.5 YR 5/4)
2 - 4	Drive Core 2 - 4 100	Clayey Silt	Fine grained, traces fine gravel, some clay, well sorted, rootlets, moist, moderate brown (5 YR 4/4)
4 - 6	Drive Core 4 - 6 100	Clayey Silt	Fine to medium grained, some clay, moderately well sorted, moist, brown (7.5 YR 5/4)
6 - 7	Drive Core 6 - 7 100	Clayey Silt	Medium grained, well sorted, poorly graded, some slightly moist plastic clay, pale yellowish brown (10 YR 6/2)
7 - 8	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Medium grained, well sorted, some slightly moist plastic clay, pale yellowish brown (10 YR 6/2)
8 - 10	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Very fine grained, well sorted, damp, yellowish brown (10 YR 6/2)
10 - 15	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Fine grained, moderately to poorly indurated, slightly moist to moist, Fe staining, grayish yellow (5 YR 8/4)
15 - 17	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Fine grained, moderately well indurated, dry, Fe staining, grayish yellow (5 YR 8/4)
17 - 25	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Very fine grained, well indurated, dry, grayish yellow (5 YR 8/4)

DANIEL B. STEPHENS & ASSOCIATES, INC.

ENVIRONMENTAL SCIENTISTS AND ENGINEERS

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Grants, NM
		Rig Type:	CP 65055
Project No.:	89-030L	**Drilling Method:**	Air Rotary
Boring No.:	6-9		
Date Started:	7/16/91		
Date Completed:	7/16/91		
Total Depth Drilled:	26.8 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 2	Shovel 0 - 2 100	Sandy Silt	Fine grained, dry, tan brown
2 - 4	Drive Core 2 - 4 100	Silty Sand	Fine grained, subrounded, damp, reddish brown
4 - 7.5	Drive Core 2 - 7.5 100	Silty Sand	Fine grained, subrounded, low to medium plasticity, moist, reddish brown
7.5 - 8	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Medium to fine grained, heavily weathered, subrounded, moderately sorted, moist, buff white
8 - 17	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Fine grained, moderate sorting and cementation, dry, buff white
17 -26.8	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Same as above except color change to light gray at 17 ft, yellowish tan at 19 ft, and buff white at 25 ft

DANIEL B. STEPHENS & ASSOCIATES, INC.
ENVIRONMENTAL SCIENTISTS AND ENGINEERS

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Grants, NM
		Rig Type:	CP 65055
Project No.:	89-030L	**Drilling Method:**	Air Rotary
Boring No.:	6-10		
Date Started:	7/16/91		
Date Completed:	7/16/91		
Total Depth Drilled:	24.6 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 2	Shovel 0 - 2 100	Silty Sand	Fine grained, subrounded, poor gradation, dry, tan brown
2 - 7.5	Drive Core 2 - 7.5 100	Silty Sand	Same as above except slight increase in clay content, moist, reddish brown
7.5 - 8	Drive Core 7.5 - 8 100	Sandstone (Bluff Fm.)	Medium grained, yellow limonite staining, moist, buff white to yellow white
8 - 24.6	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Medium to fine grained, dry to slightly moist, buff white to yellow white

1Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Grants, NM
		Rig Type:	CP 65055
Project No.:	89-030L	**Drilling Method:**	Air Rotary
Boring No.:	6-11		
Date Started:	9/3/91		
Date Completed:	9/3/91		
Total Depth Drilled:	26.8 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 2	Shovel 0 - 2 100	Sand	Fine grained, dry to slightly damp, dark brown, roots
2 - 5	Drive Core 2 - 5 100	Silty Sand	Fine grained, moderately sorted, dry to slightly damp, light brown (7.5 YR 6/4)
5 - 8	Drive Core 5 - 8 100	Silty Sand	Fine grained, moderately sorted, dry to slightly damp, minor black staining 7 ft to 8 ft, strong brown (7.5 YR 6/5)
8 - 9	Drive Core 8 - 9 100	Sandstone (Bluff Fm.)	Medium to fine grained, heavily weathered, dry to slightly damp, yellow (10 YR 7/6)
9 - 26.8	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Medium to fine grained, dry to slightly damp, moist 15 to 26.8 ft, buff white

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Grants, NM
		Rig Type:	CP 65055
Project No.:	89-030L	**Drilling Method:**	Air Rotary
Boring No.:	6-12		
Date Started:	9/3/91		
Date Completed:	9/3/91		
Total Depth Drilled:	27.3 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 2	*Shovel* 0 - 2 100	*Sand*	*Fine grained, slightly moist to moist,* reddish brown (2.5 YR 4/4)
2 - 5	*Drive Core* 2 - 5 100	*Clayey Sand*	*Fine grained, medium gradation,* medium plasticity, moist
5 - 8	Drive Core 5 - 8 100	Clayey Sand	Same as above, except minor black staining, red (2.5 YR 4/6)
8 - 9	Drive Core 8 - 9 100	Sandstone (Bluff Fm.)	Medium to fine grained, moist, yellow limonite and black staining, buff white
9 - 27.3	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Medium to fine grained, moist, buff white, 13 to 17 ft light blue gray, 17 to 25 ft yellow tan, 25 to TD light blue gray

DANIEL B. STEPHENS & ASSOCIATES, INC.

ENVIRONMENTAL SCIENTISTS AND ENGINEERS

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Drilling Grants, NM
		Drilling Method:	Air Rotary
Project No.:	89-030L		
Boring No.:	6-13		
Date Started:	11/20/91		
Date Completed:	11/20/91		
Total Depth Drilled:	21.9 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 1	Shovel 0 - 1 100	Sand	Fine to very fine grained, moderately to well sorted, trace to some silt, moist, light brown
1 - 7.9	3" Split Spoon 1 - 7.9 100	Sand	Fine grained, well sorted, moist, light reddish brown, becomes very moist at approximately 7 ft, gradational color change from light reddish brown to reddish yellow
7.9 - 21.9	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Medium grained, subrounded, poorly sorted, slightly moist, pinkish gray (5 YR 8/1), becomes light gray and moderately indurated at approximately 10 ft

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Drilling Grants, NM
		Drilling Method:	Air Rotary
Project No.:	89-030L		
Boring No.:	6-14		
Date Started:	11/20/91		
Date Completed:	11/20/91		
Total Depth Drilled:	22.5 ft		

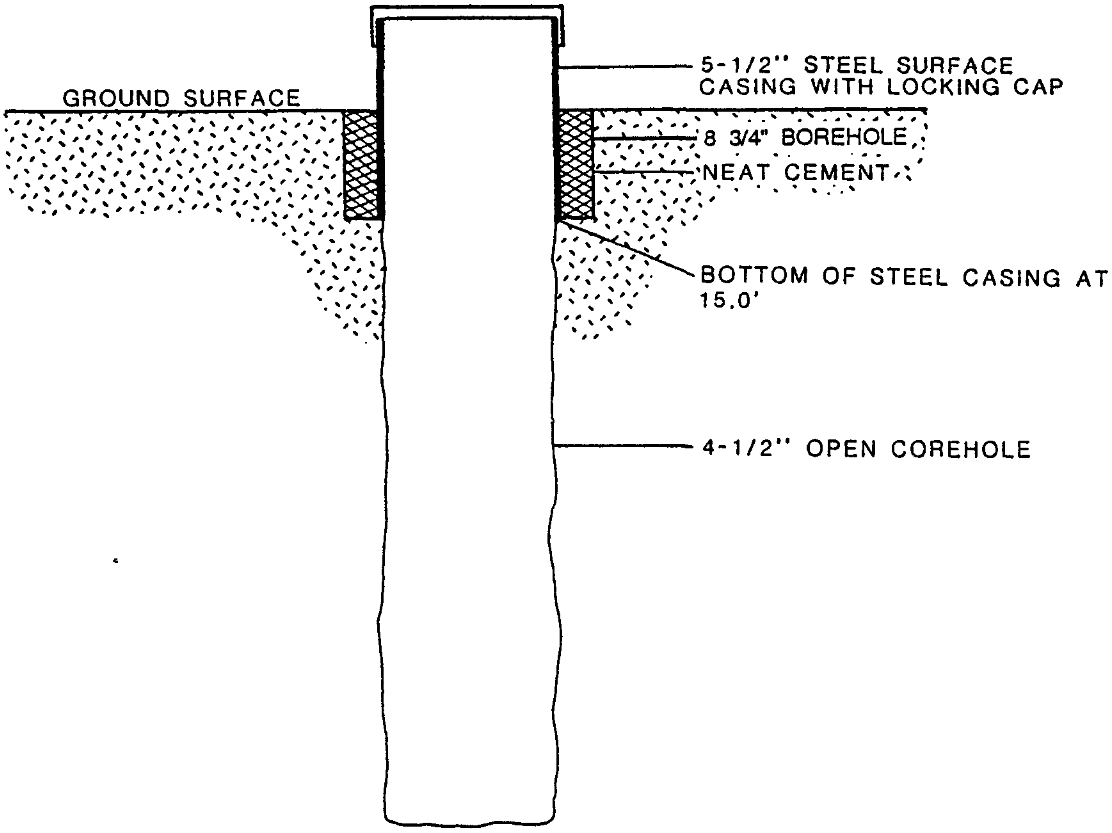
Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 1	Shovel 0 - 1 100	Sand	Fine to very fine grained, moderately to well sorted, trace to some silt, moist, light brown
1 - 8.7	3" Split Spoon 1 - 8.7 100	Sand	Fine grained, well sorted, moist, light reddish brown, becomes very moist at approximately 7 ft, gradational color change from light reddish brown to reddish yellow
8.7 - 22.5	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Medium grained, subrounded, poorly sorted, friable, moist, pinkish gray (5 YR 8/1), becomes light gray and moderately indurated at approximately 10 ft, from 9.5 to 12.5 ft cuttings are gray to dark gray with oily odor

DANIEL B. STEPHENS & ASSOCIATES, INC.
ENVIRONMENTAL SCIENTISTS AND ENGINEERS

Client:	Transwestern Pipeline Compressor Station No. 6 Laguna, NM	**Drilling Contractor:**	Stewart Brothers Drilling Grants, NM
		Drilling Method:	Air Rotary
Project No.:	89-030L		
Boring No.:	6-15		
Date Started:	11/20/91		
Date Completed:	11/20/91		
Total Depth Drilled:	21 ft		

Depth Interval (ft)	Sample Type Interval (ft) Recovery (%)	Material Type	Description
0 - 1	Shovel 0 - 1 100	Sand	Fine to very fine grained, moderately to well sorted, trace to some silt, moist, light brown
1 - 8.7	3.5" Split Spoon 1 - 8.3 100	Sand	Fine grained, well sorted, moist, light reddish brown, becomes very moist at approximately 7 ft, gradational color change from light reddish brown to reddish yellow, from 5 to 8 ft ⅛" to ½" diameter dark gray to black spots in sand
8.3 - 21.0	Air Rotary Cuttings	Sandstone (Bluff Fm.)	Medium grained, subrounded, poorly sorted, friable, moist, pinkish gray (5 YR 8/1), becomes light gray and moderately indurated at approx-imately 10 ft, from approximately 9 to 14 ft cuttings are gray to dark gray

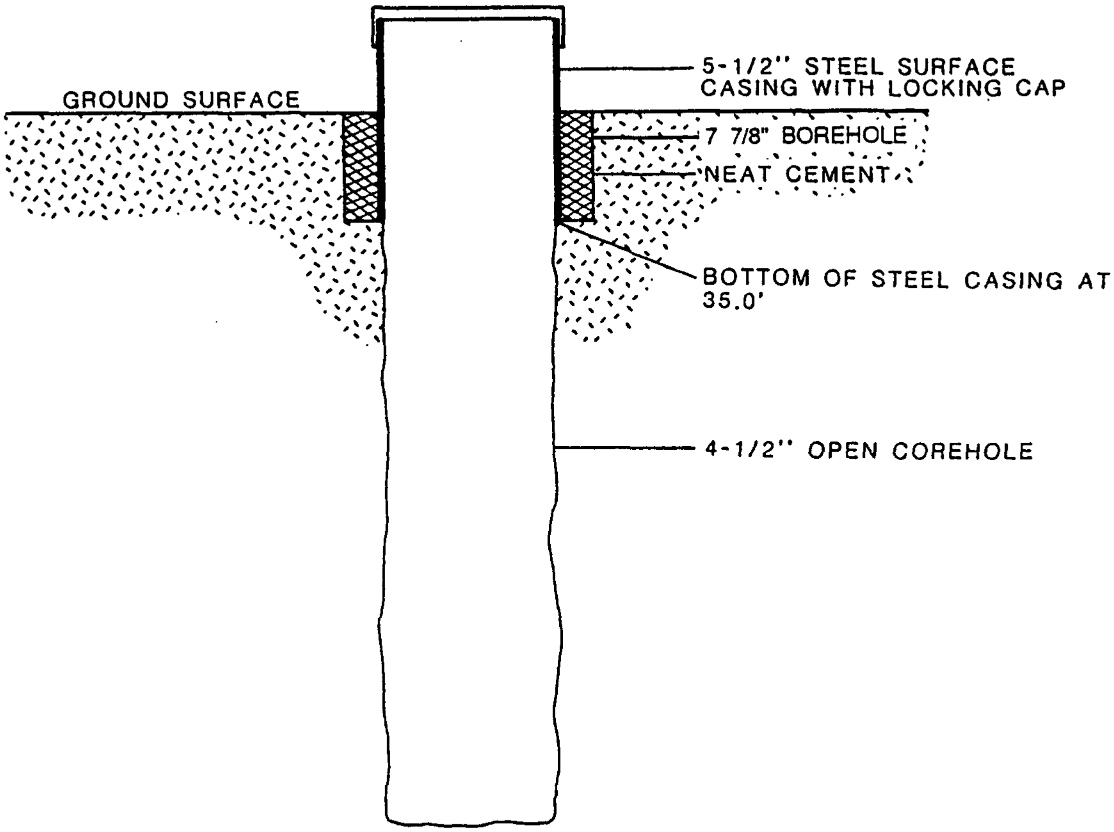
WELL COMPLETION FORMS



DATE COMPLETED: 10/5/90
TOTAL DEPTH: 100.0'

Corehole Completion 6-CH1
Compressor Station No. 6

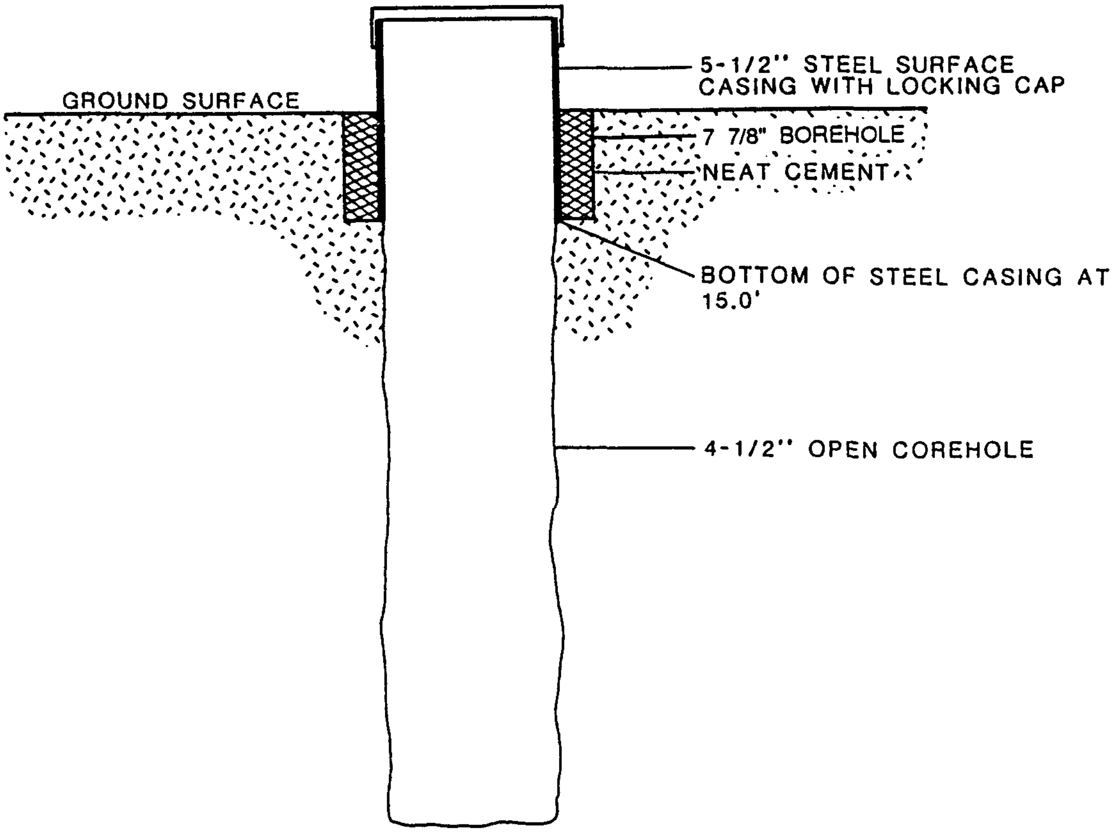
DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100



DATE COMPLETED: 10/9/90
TOTAL DEPTH: 100.0'

Corehole Completion 6-CH2
Compressor Station No. 6

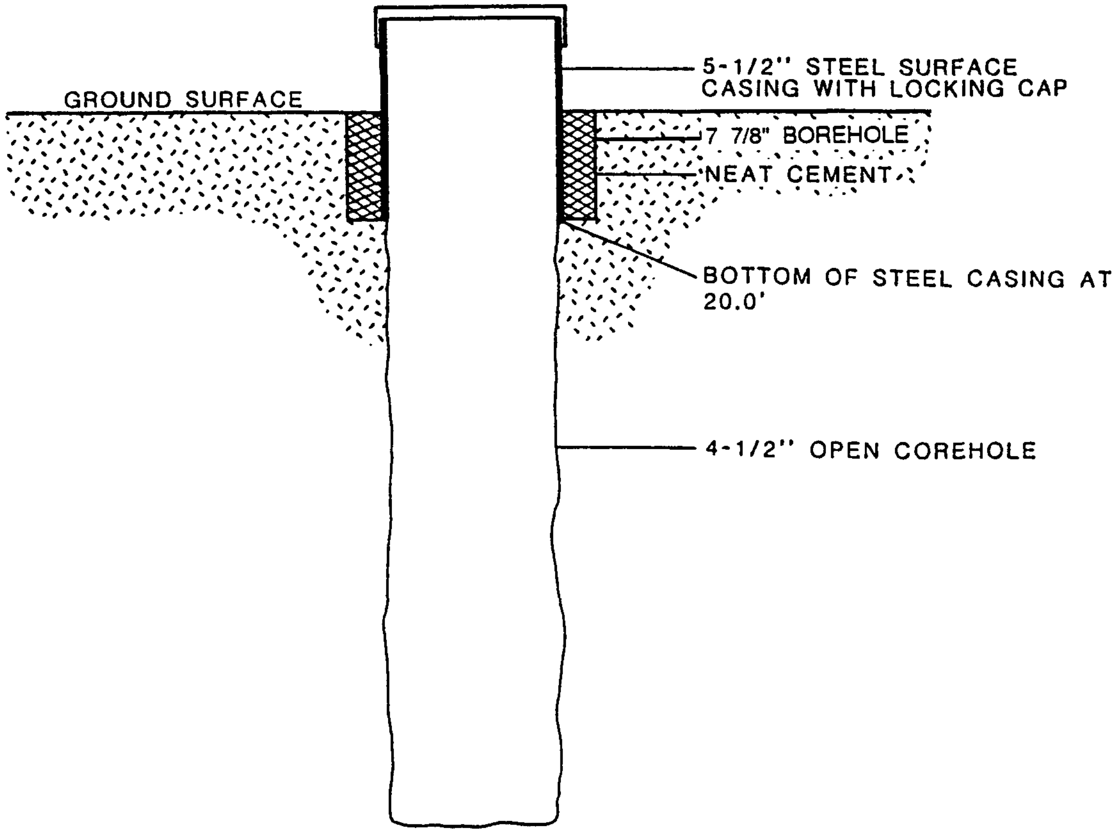
DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100



DATE COMPLETED: 10/11/90
TOTAL DEPTH: 18.0'

Corehole Completion 6-CH3
Compressor Station No. 6

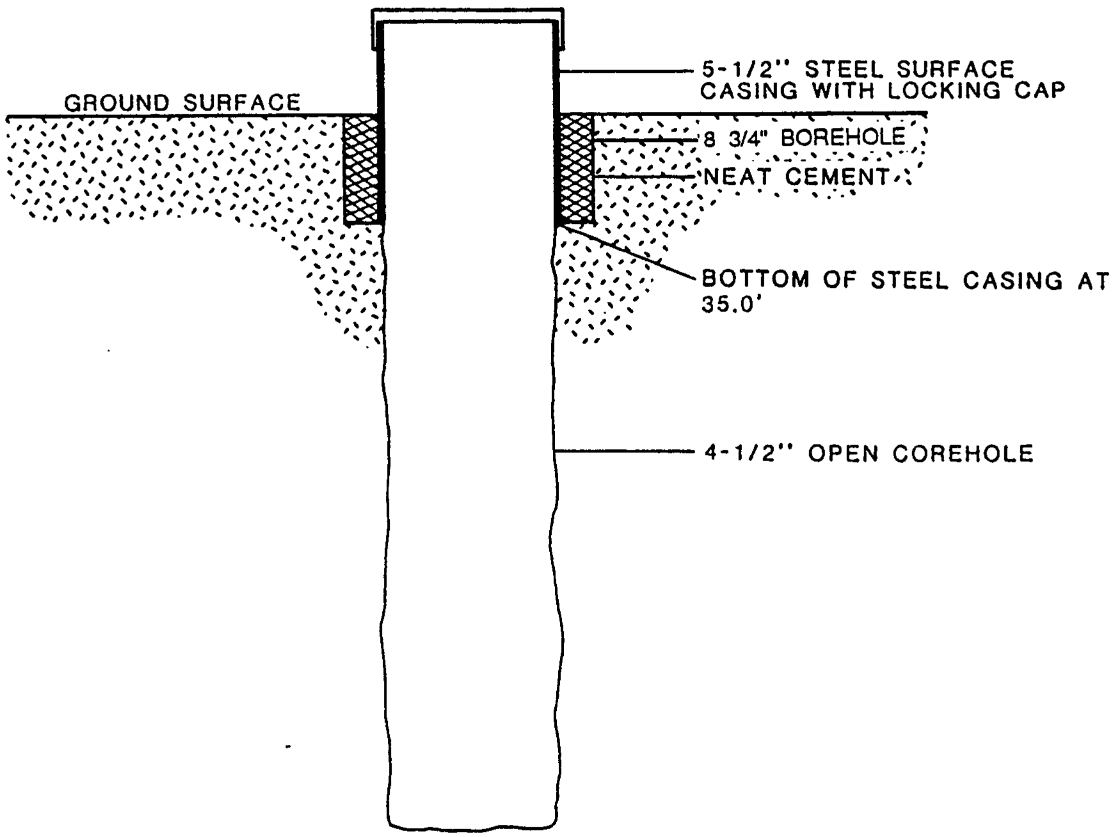
DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100



DATE COMPLETED: 10/15/90
TOTAL DEPTH: 23.0'

Corehole Completion 6-CH4
Compressor Station No. 6

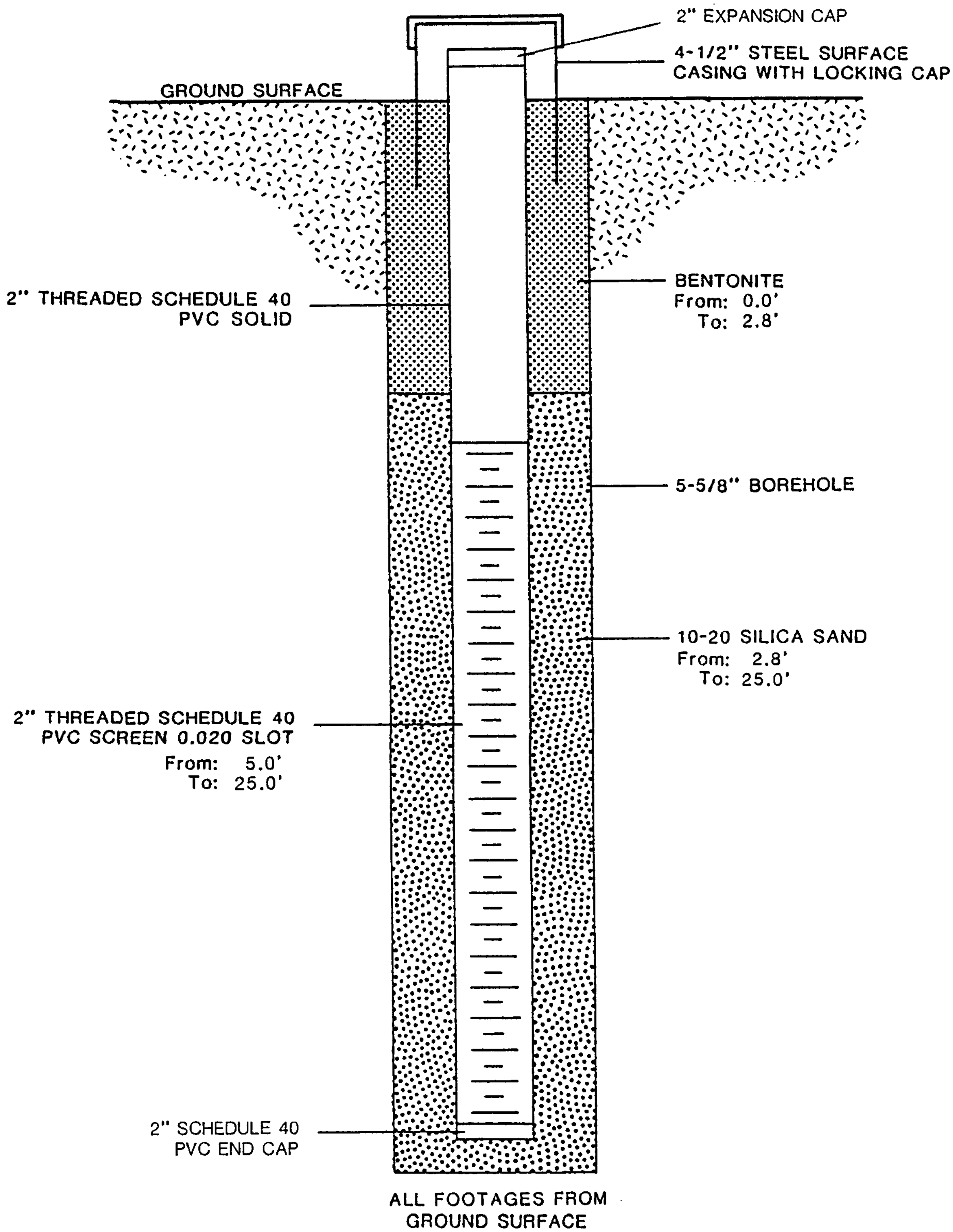
DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100



DATE COMPLETED: 10/17/90
TOTAL DEPTH: 98.0'

Corehole Completion 6-CH5
Compressor Station No. 6

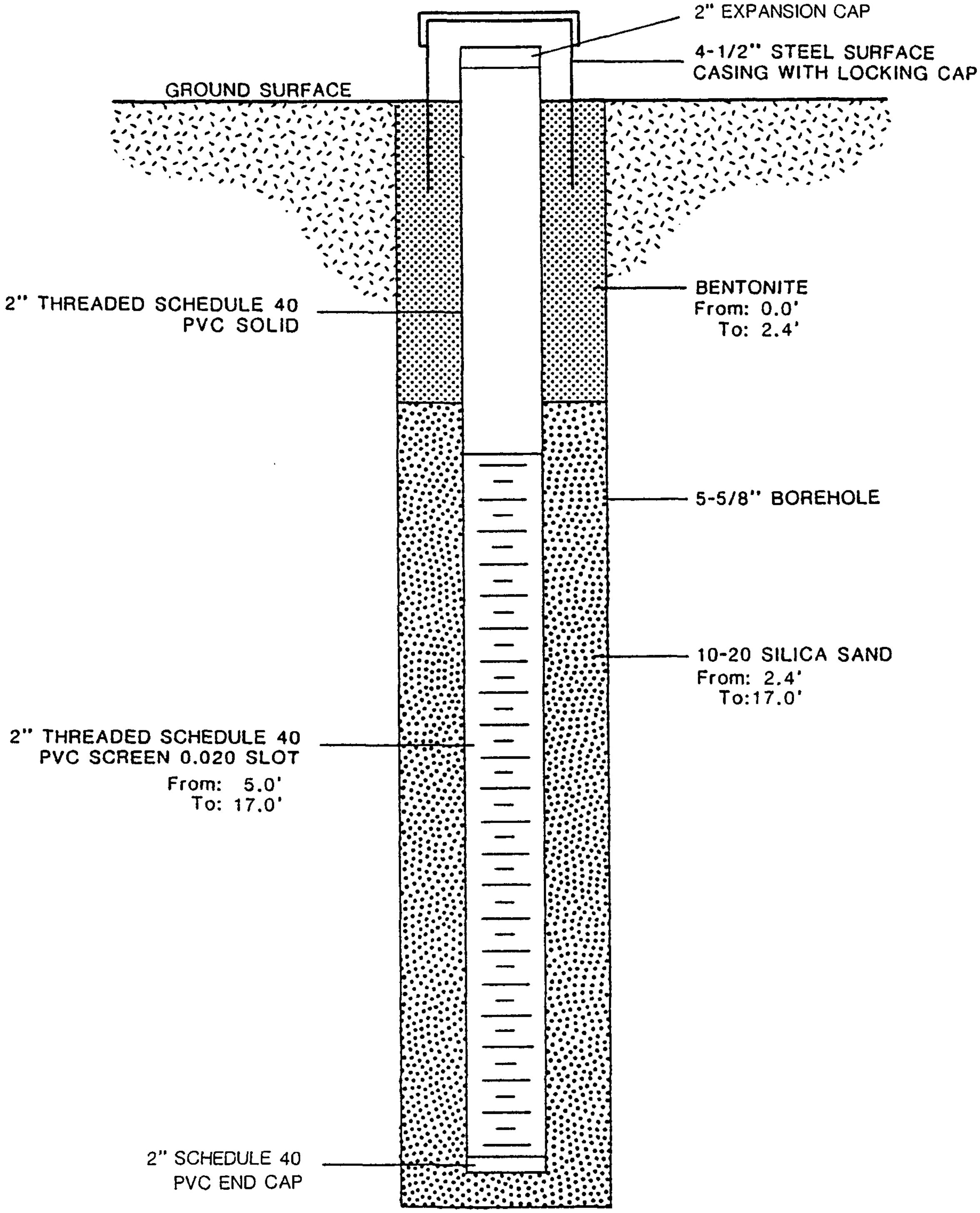
DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100



DATE COMPLETED: 3/14/91
TOTAL DEPTH: 25.0'

Exploratory Well Completion 6-PW1
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100

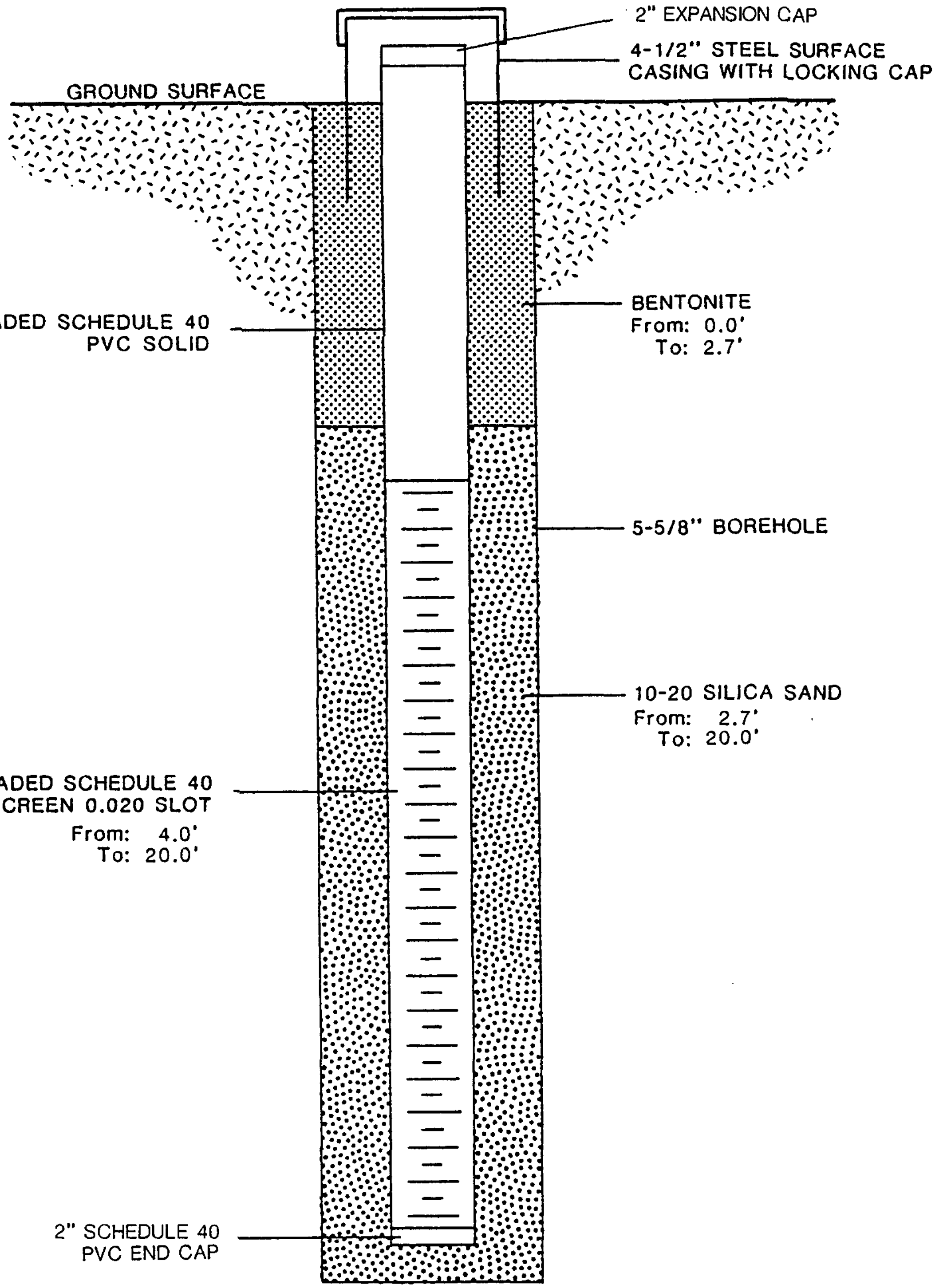


ALL FOOTAGES FROM GROUND SURFACE

DATE COMPLETED: 3/14/91
TOTAL DEPTH: 17.0'

Exploratory Well Completion 6-PW2
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100



ALL FOOTAGES FROM GROUND SURFACE

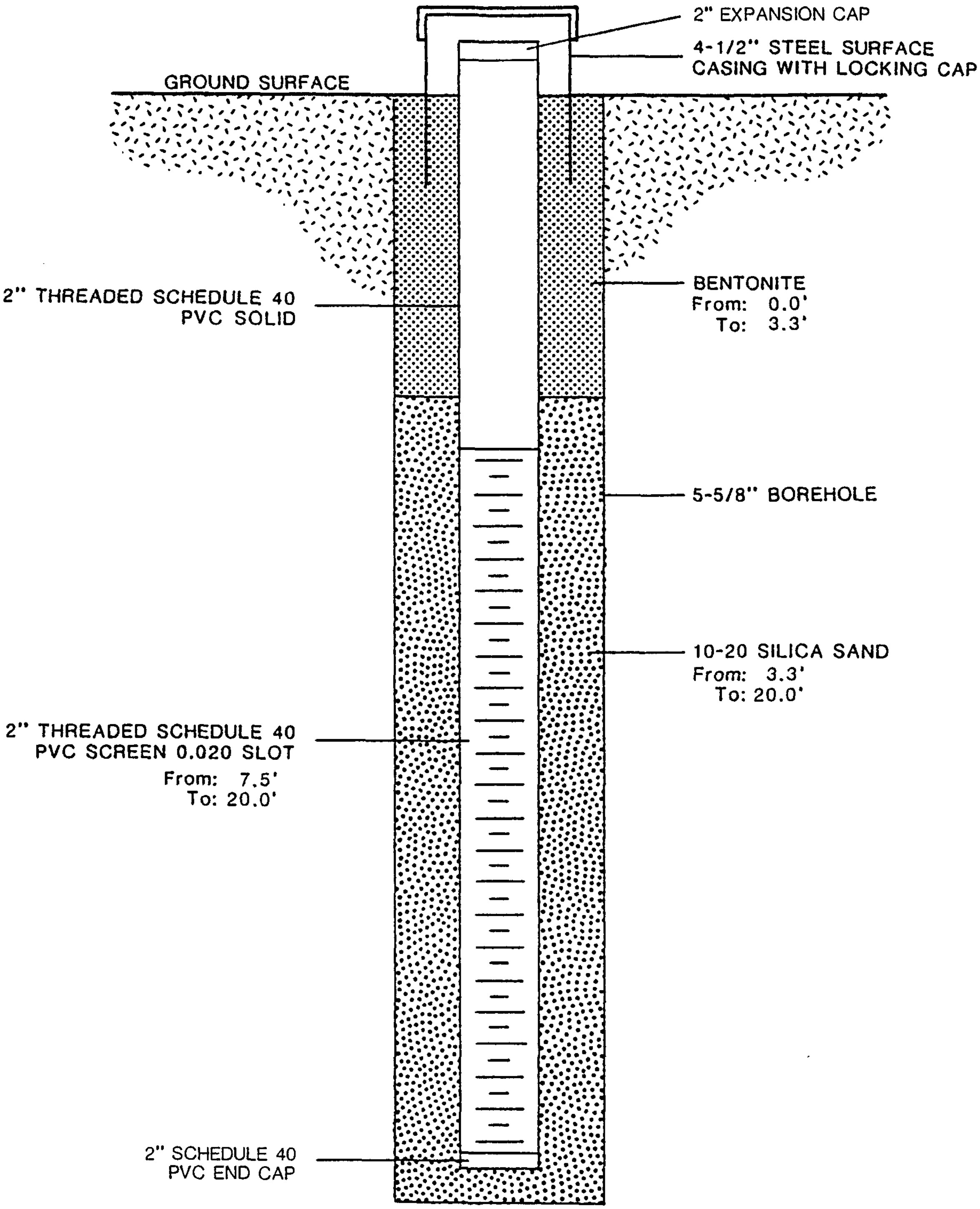
DATE COMPLETED: 3/15/91

TOTAL DEPTH: 20.0'

Exploratory Well Completion 6-PW3
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.

1-92 JN 92-100

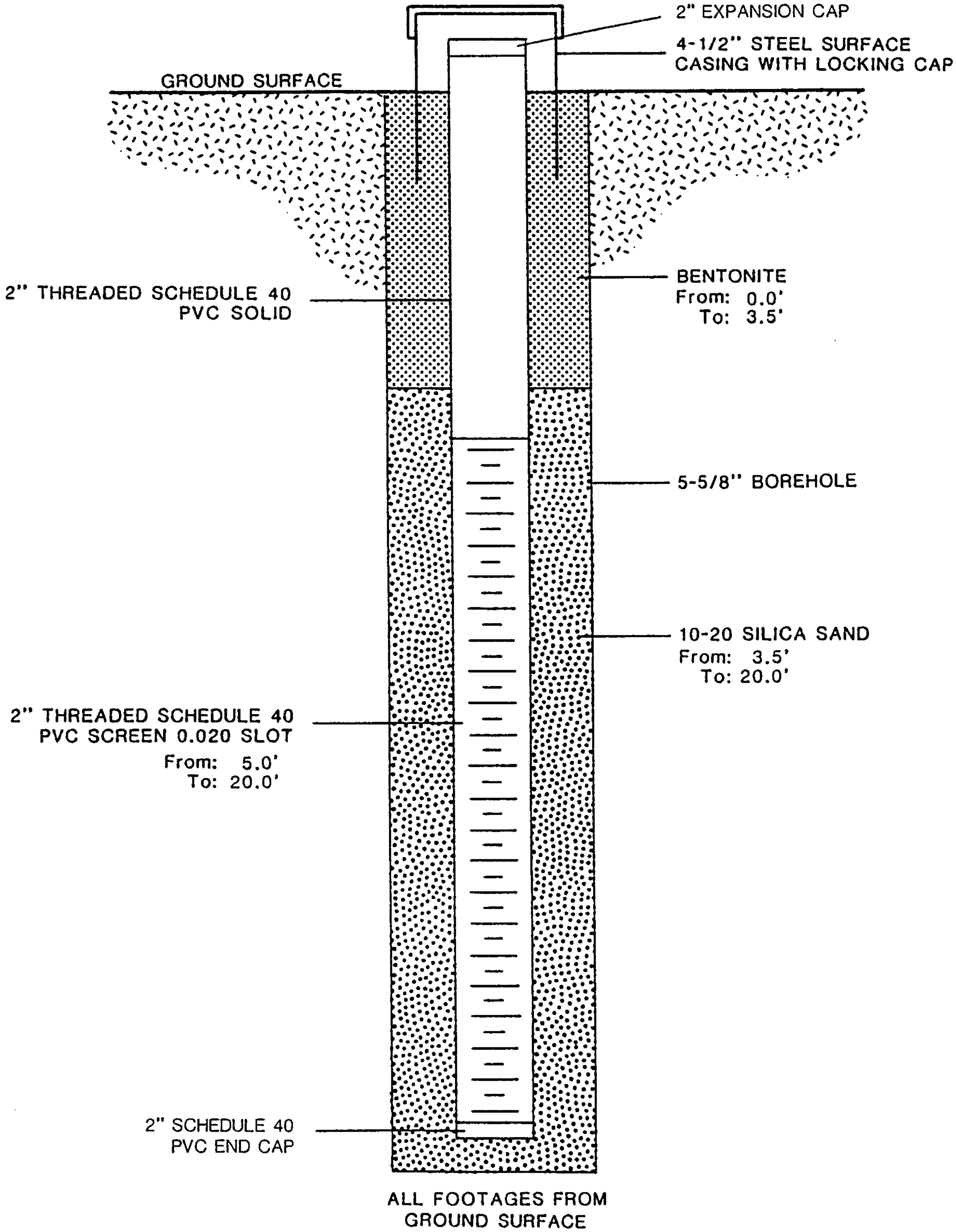


ALL FOOTAGES FROM GROUND SURFACE

DATE COMPLETED: 3/15/91
TOTAL DEPTH: 20.0'

Exploratory Well Completion 6-PW4
Compressor Station No. 6

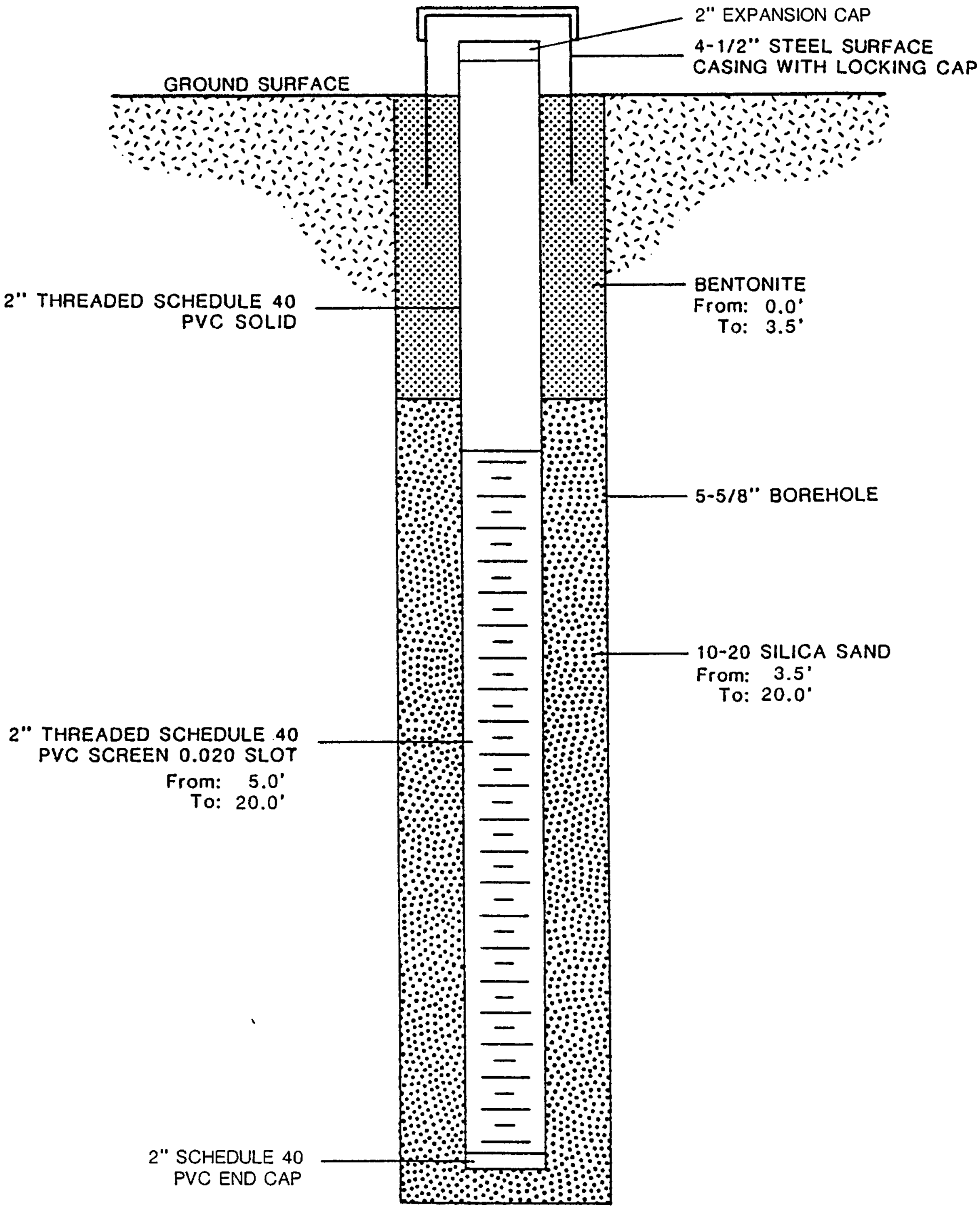
DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100



DATE COMPLETED: 3/16/91
TOTAL DEPTH: 20.0'

Exploratory Well Completion 6-PW5
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100

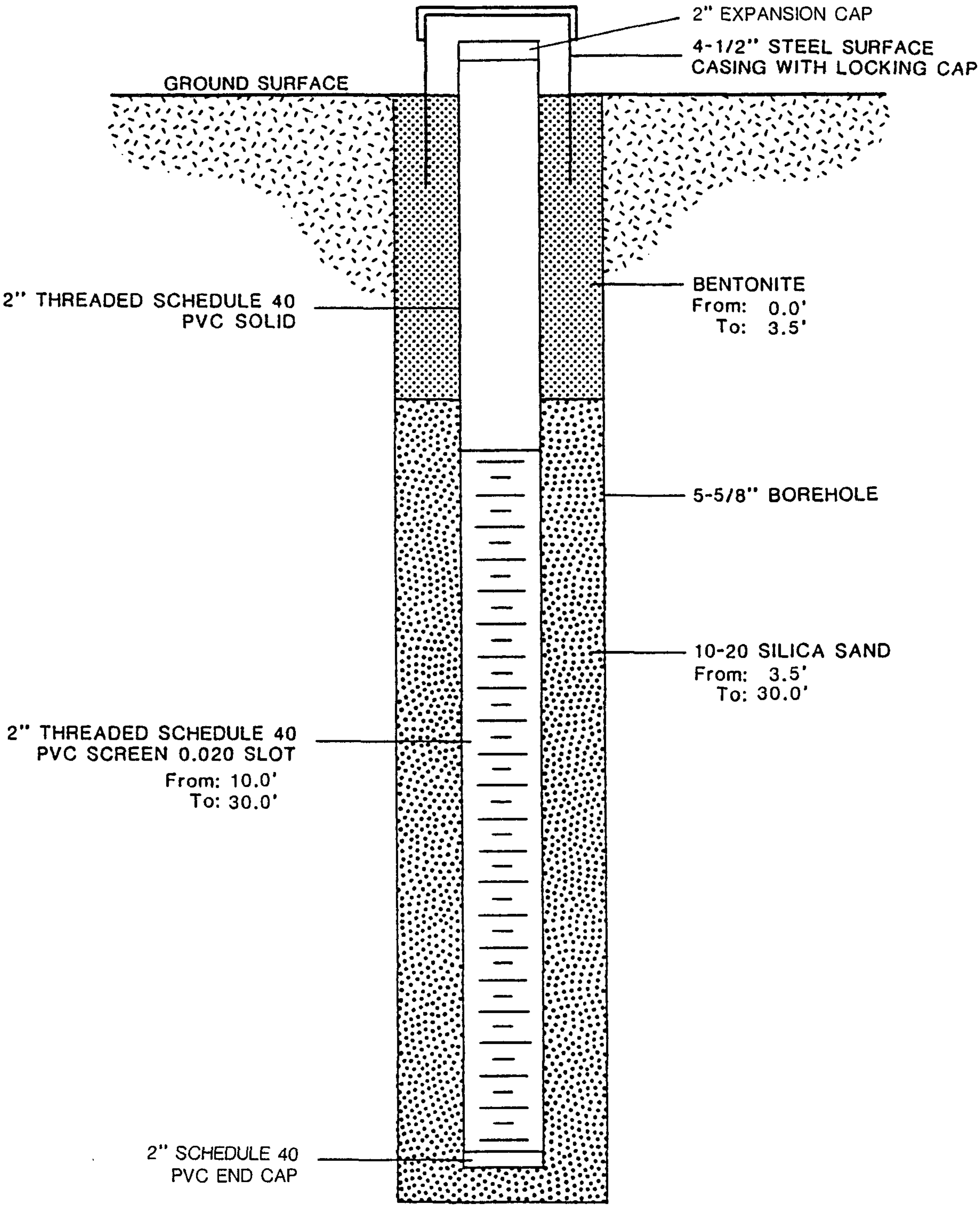


ALL FOOTAGES FROM GROUND SURFACE

DATE COMPLETED: 3/16/91
TOTAL DEPTH: 20.0'

Exploratory Well Completion 6-PW6
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100



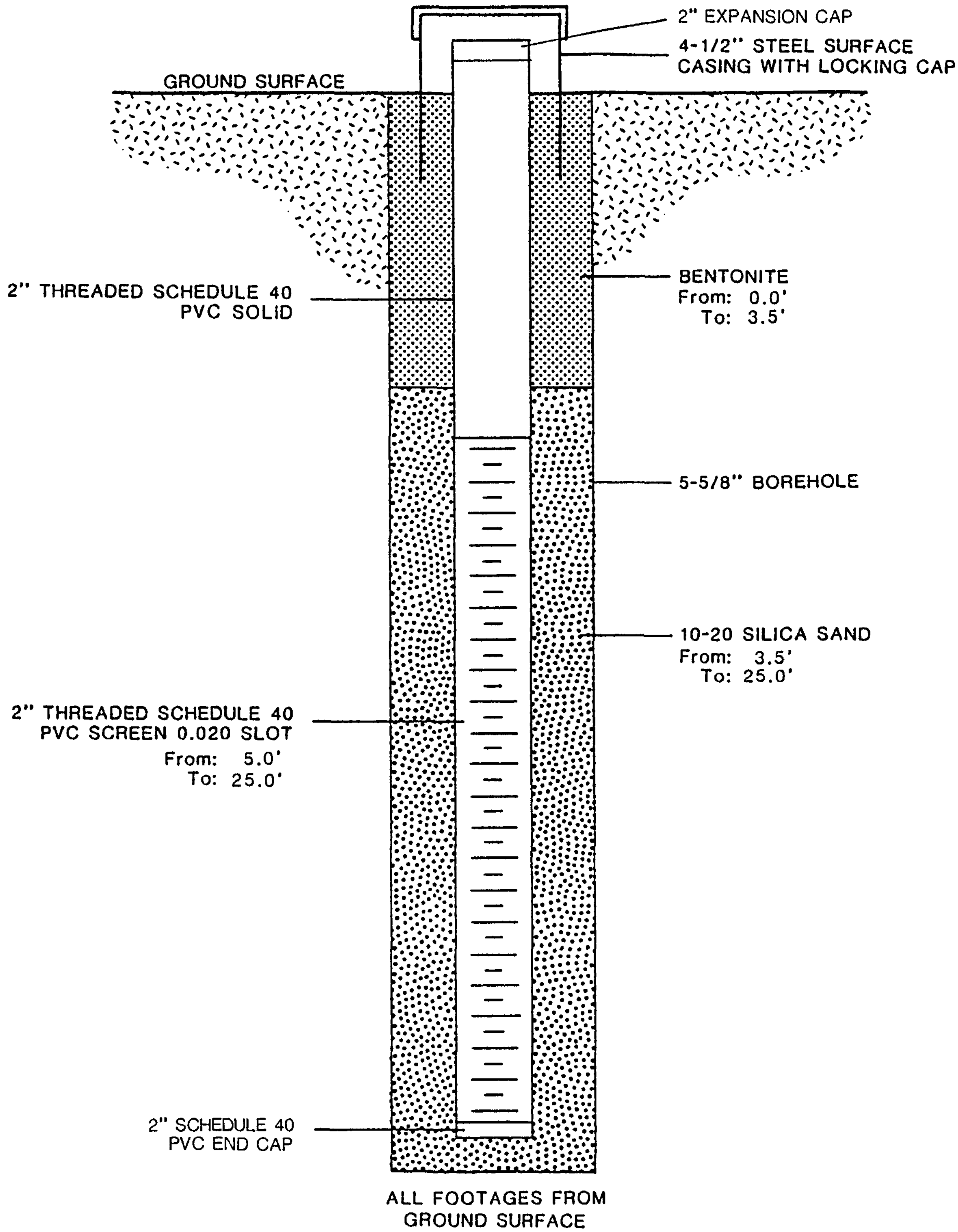
ALL FOOTAGES FROM GROUND SURFACE

DATE COMPLETED: 3/26/91
TOTAL DEPTH: 30.0'

Exploratory Well Completion 6-PW7
Compressor Station No. 6

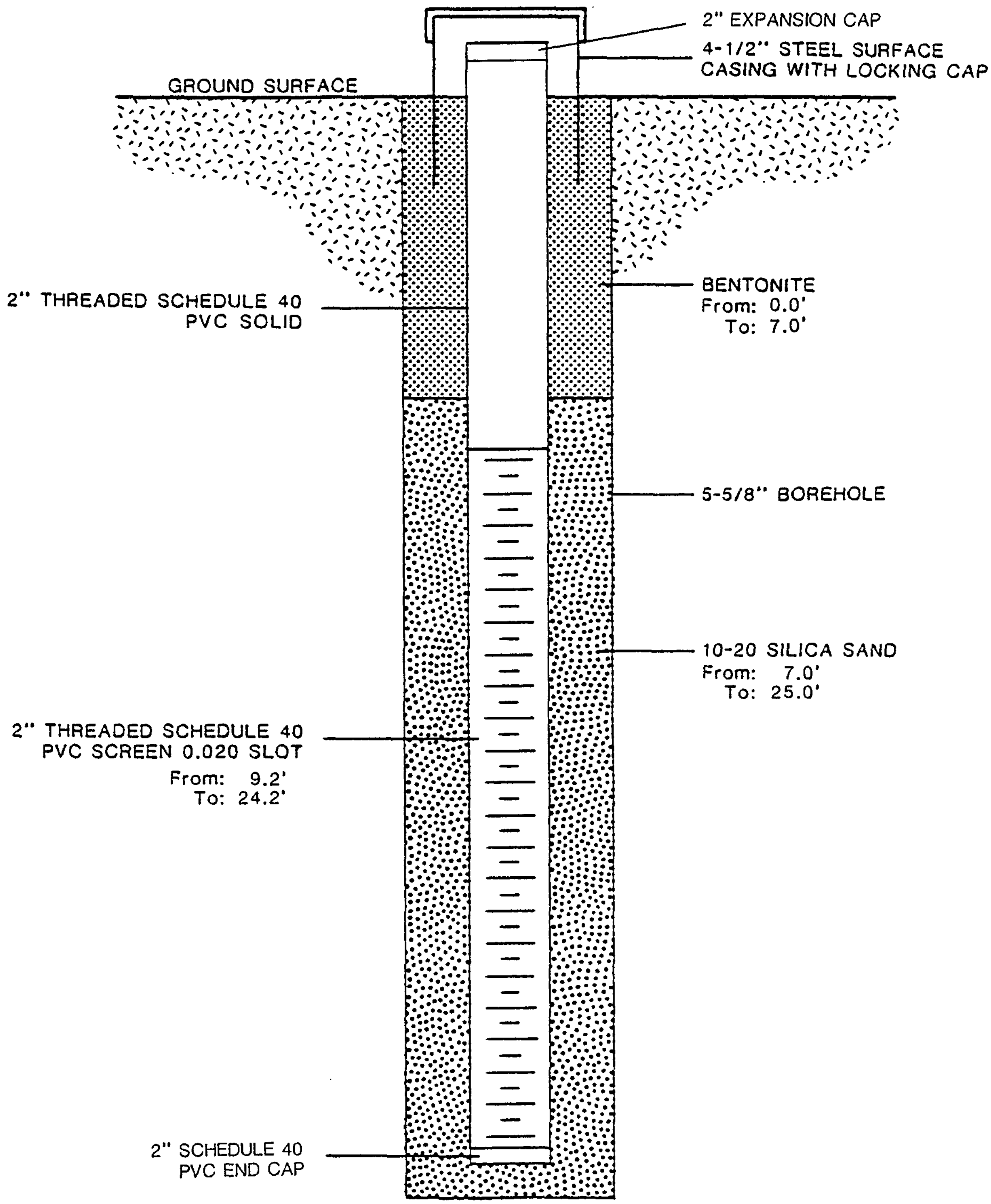
DANIEL B. STEPHENS & ASSOCIATES, INC.

1-92 JN 92-100



DATE COMPLETED: 3/27/91
TOTAL DEPTH: 25.0'

Exploratory Well Completion 6-PW8
Compressor Station No. 6

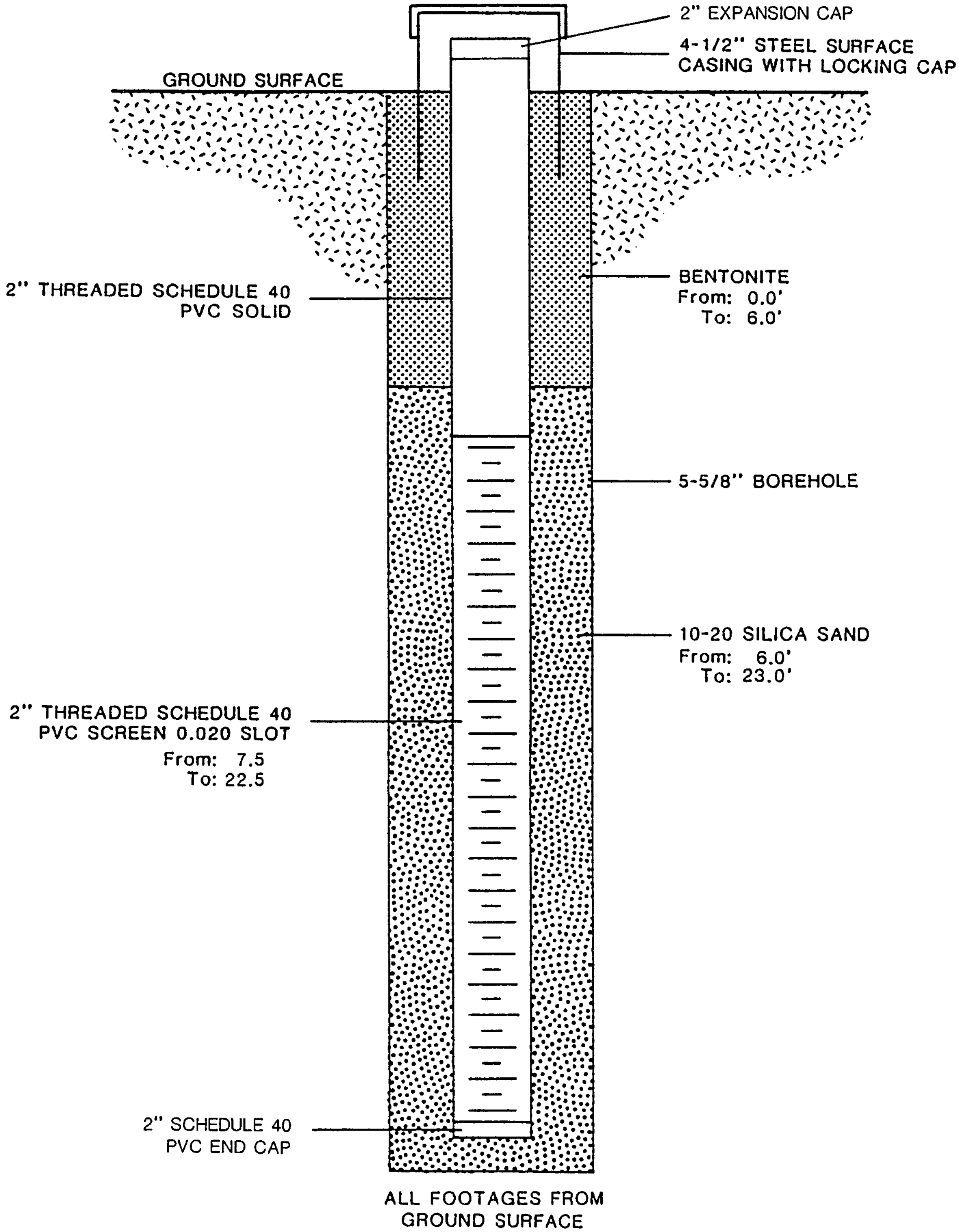


ALL FOOTAGES FROM GROUND SURFACE

DATE COMPLETED: 4/9/91
TOTAL DEPTH: 25.0'

Monitor Well Completion 6-6
Compressor Station No. 6

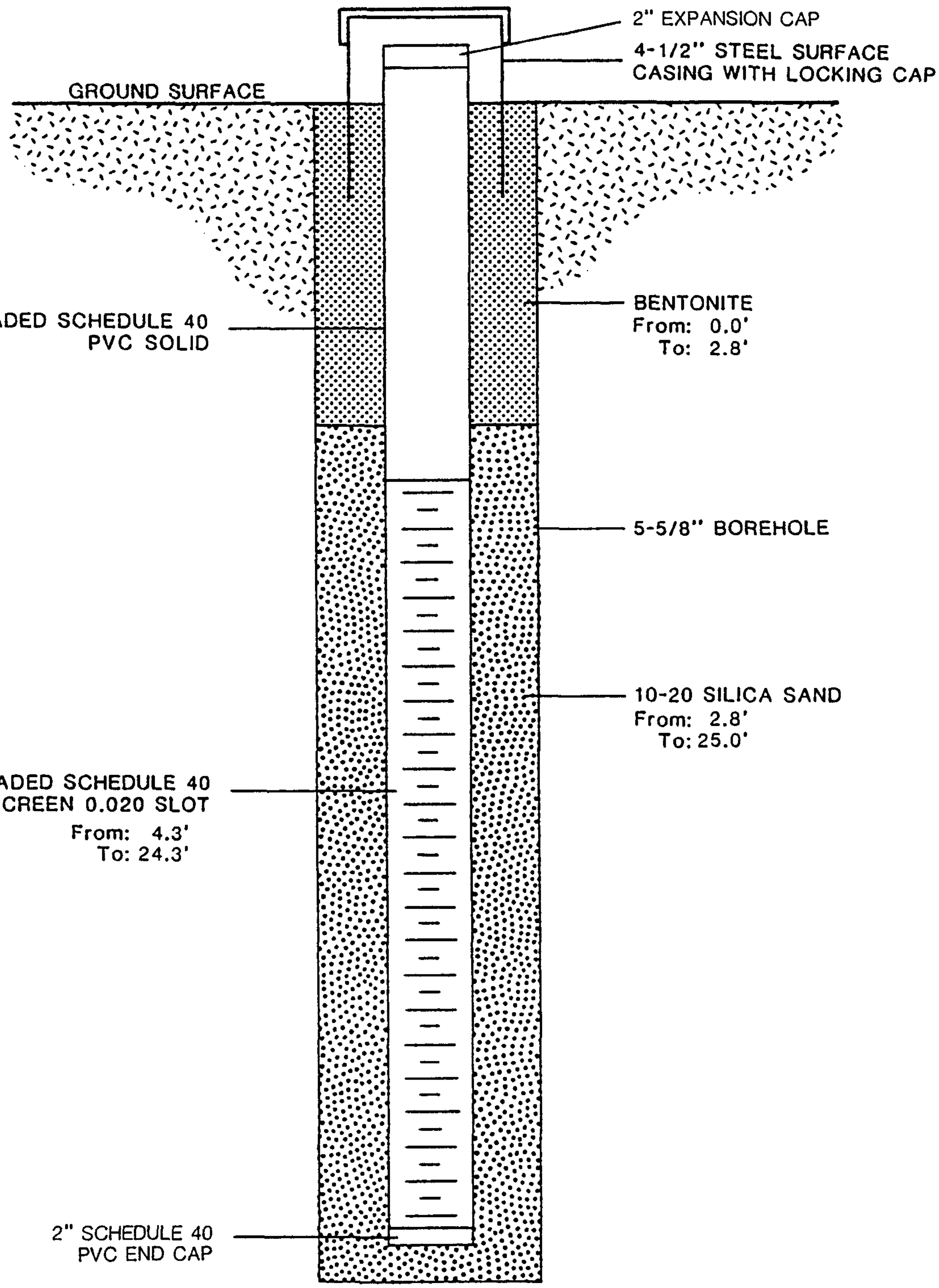
DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100



DATE COMPLETED: 4/9/91
TOTAL DEPTH: 23.0'

Monitor Well Completion 6-7
Compressor Station No. 6

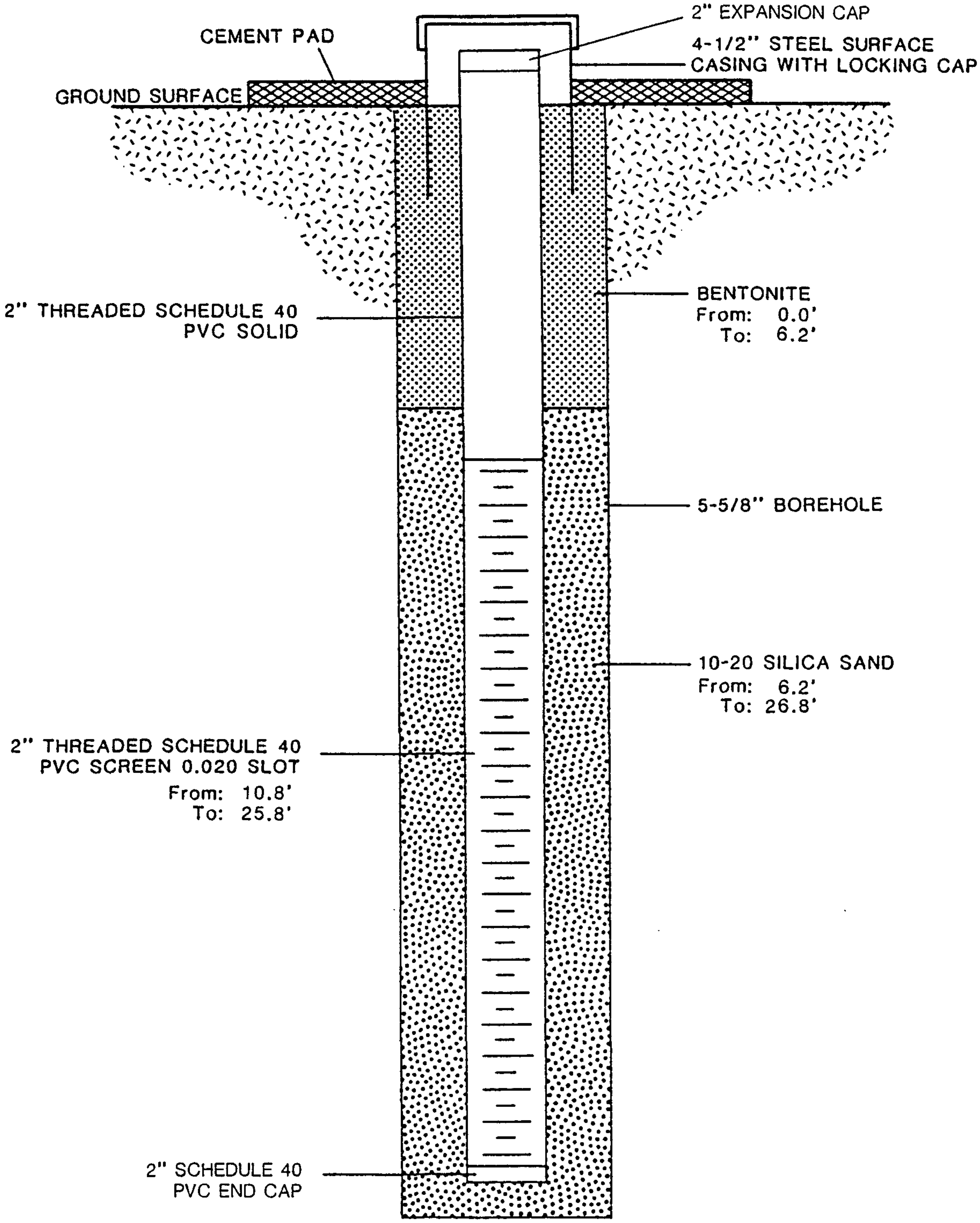
DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100



ALL FOOTAGES FROM
GROUND SURFACE

DATE COMPLETED: 4/9/91
TOTAL DEPTH: 25.0'

Monitor Well Completion 6-8
Compressor Station No. 6



ALL FOOTAGES FROM GROUND SURFACE

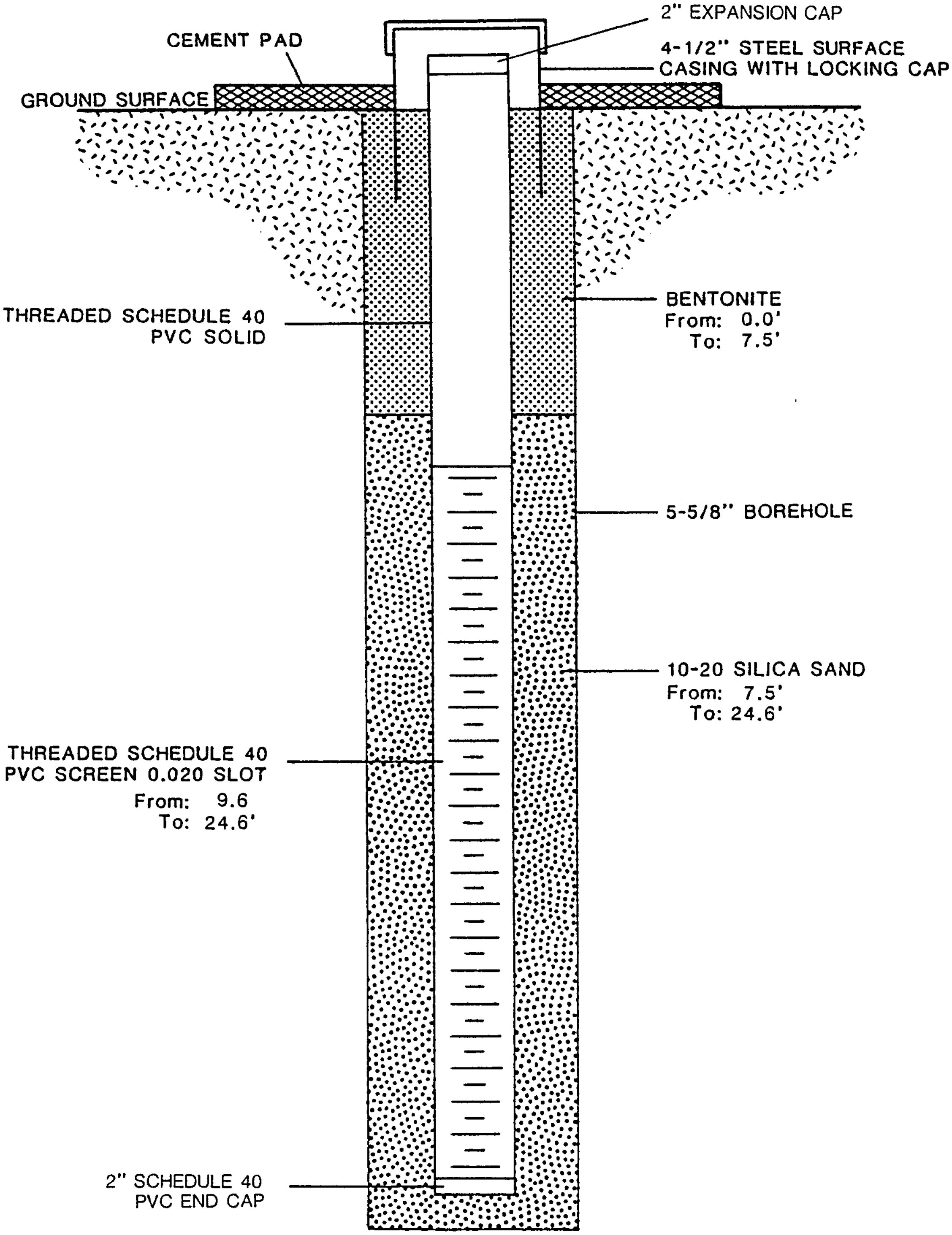
DATE COMPLETED: 7/16/91

TOTAL DEPTH: 26.8'

Monitor Well Completion 6-9
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.

1-92 JN 92-100



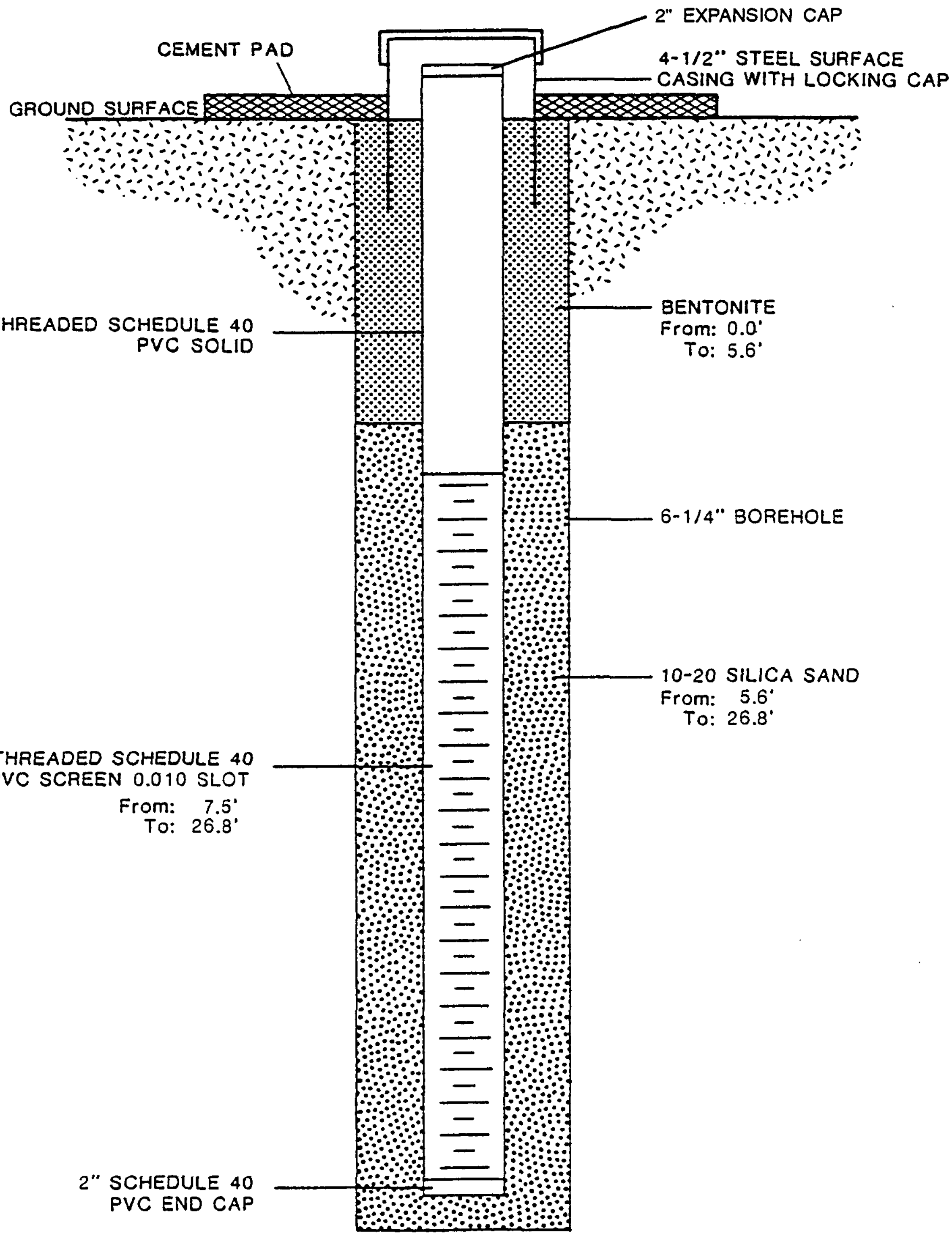
ALL FOOTAGES FROM GROUND SURFACE

DATE COMPLETED: 7/16/91
TOTAL DEPTH: 24.6'

Monitor Well Completion 6-10
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.

1-92 JN 92-100

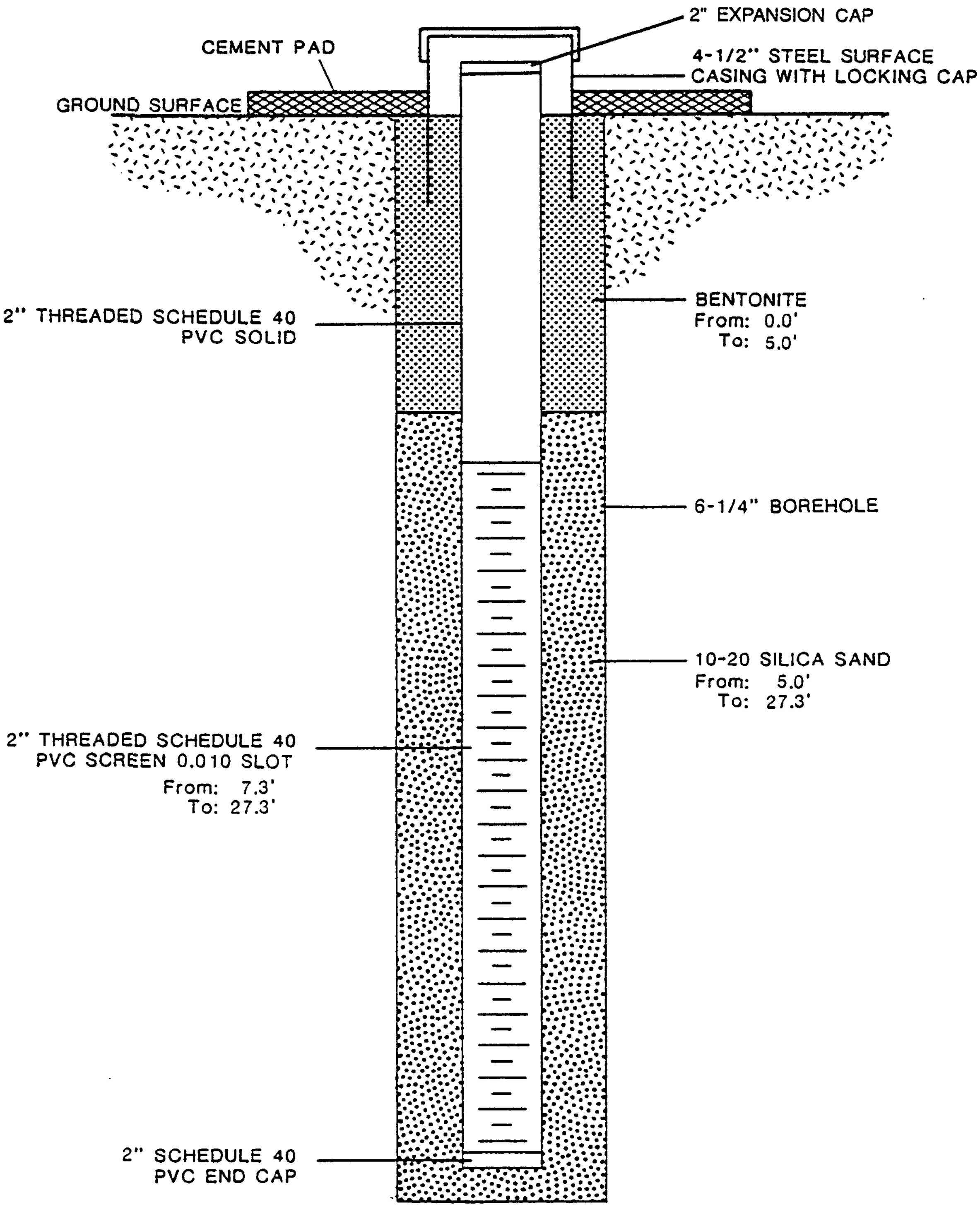


ALL FOOTAGES FROM GROUND SURFACE

DATE COMPLETED: 9/3/91
TOTAL DEPTH: 26.8'

Monitor Well Completion 6-11
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100

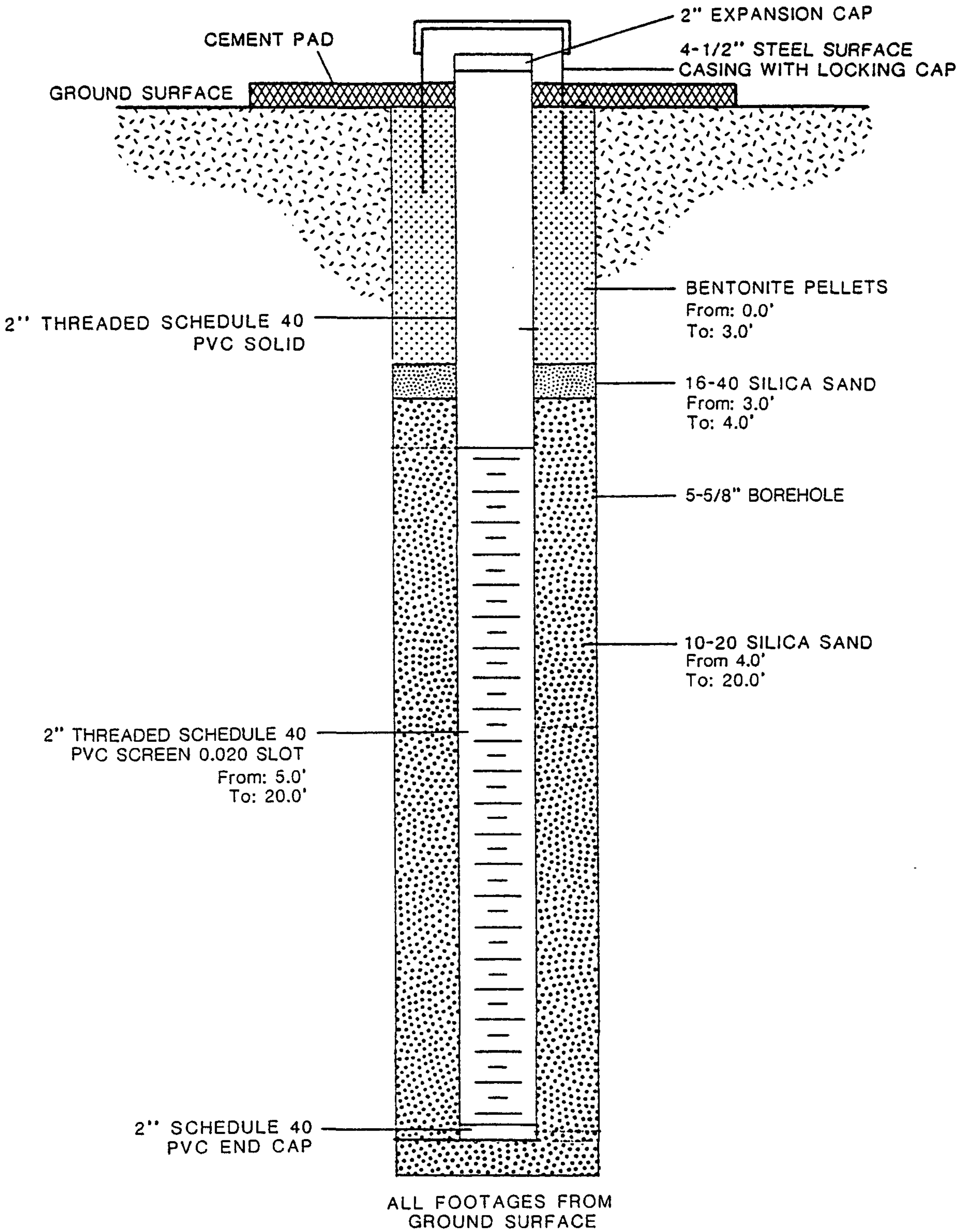


ALL FOOTAGES FROM GROUND SURFACE

DATE COMPLETED: 9/3/91
TOTAL DEPTH: 27.3'

Monitor Well Completion 6-12
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100



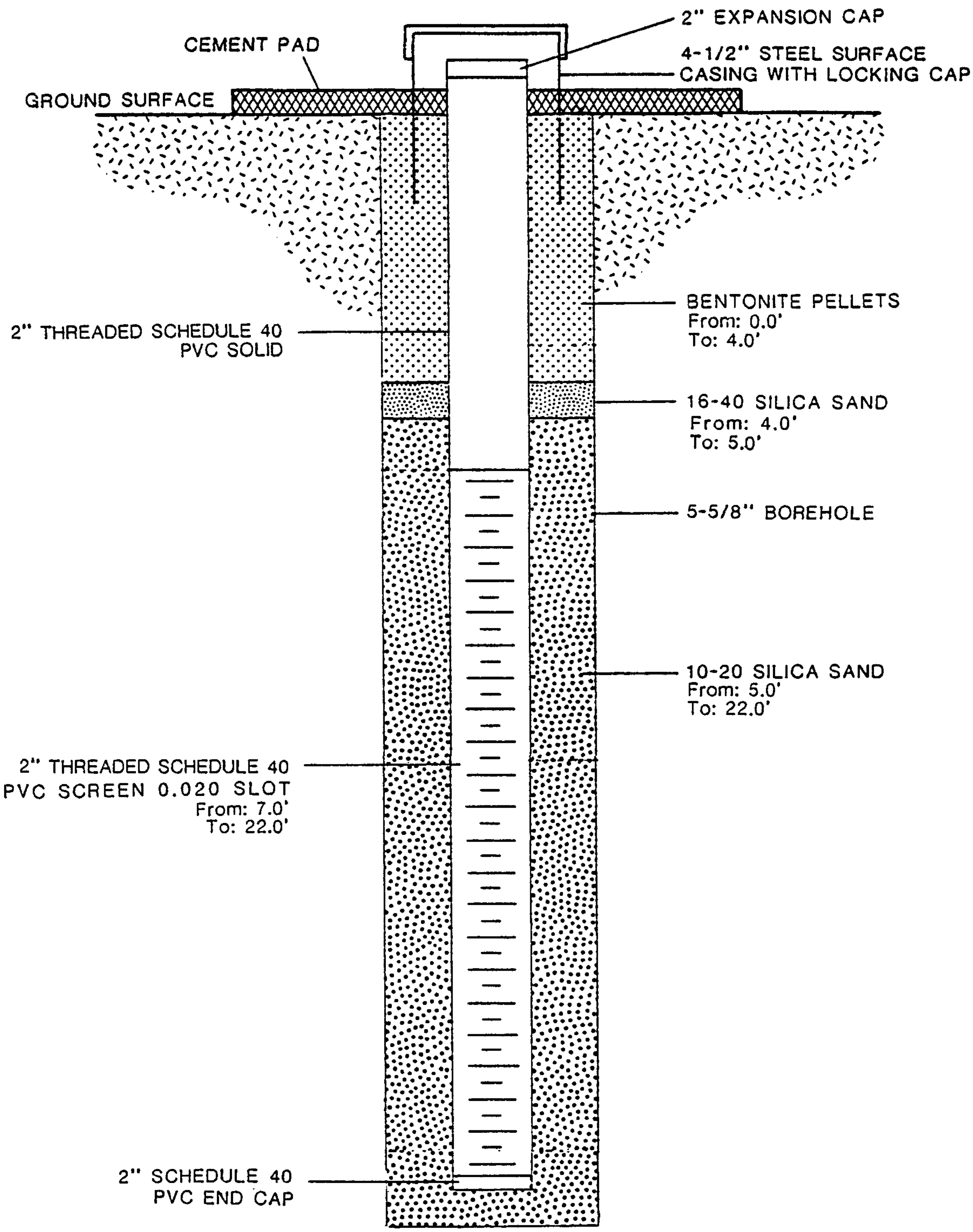
DATE COMPLETED: 11/20/91

TOTAL DEPTH: 21.9'

Monitor Well Completion 6-13
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.

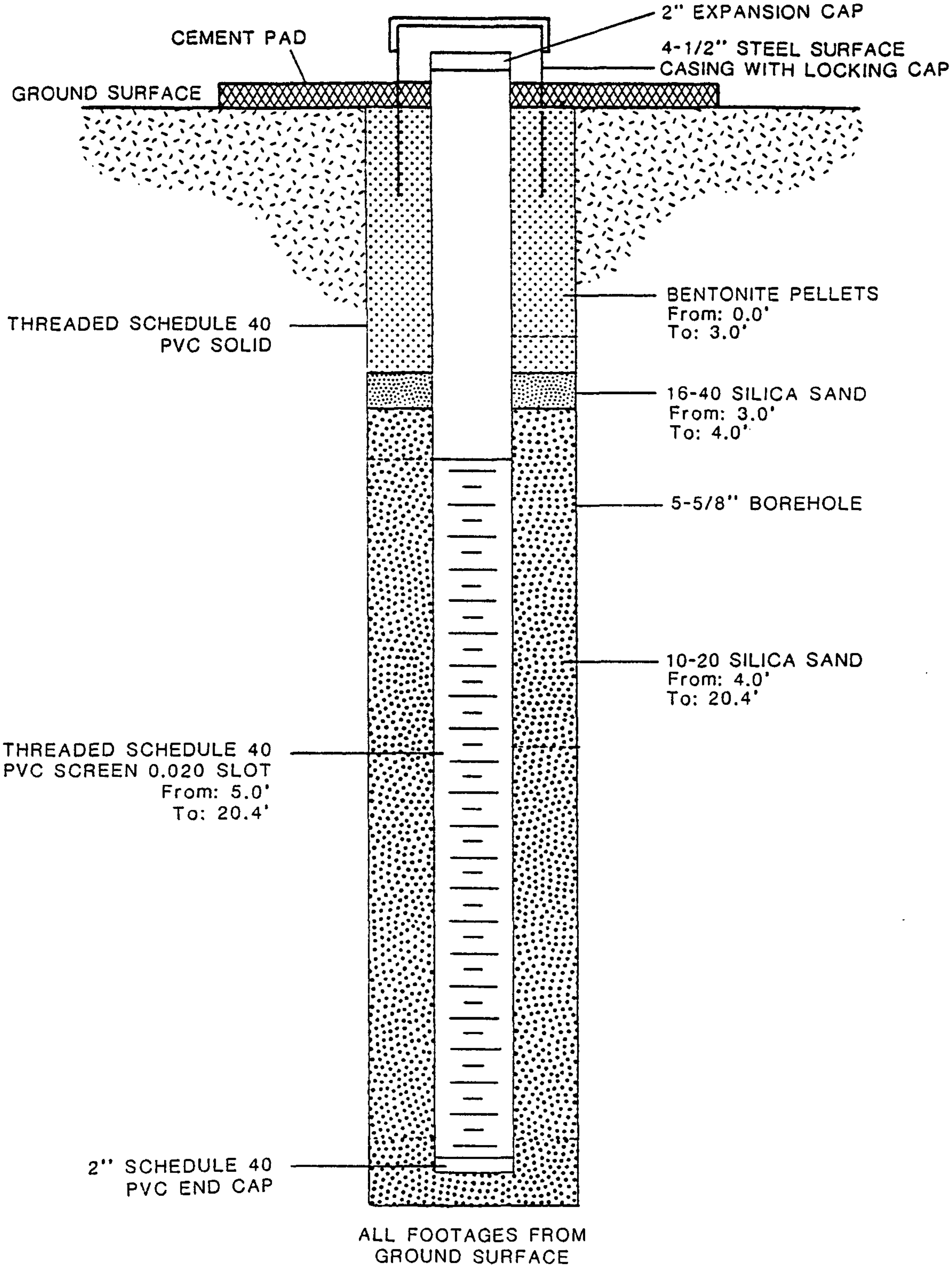
1-92 JN 92-100



ALL FOOTAGES FROM
GROUND SURFACE

DATE COMPLETED: 11/20/91
TOTAL DEPTH: 22.5'

Monitor Well Completion 6-14
Compressor Station No. 6



DATE COMPLETED: 11/20/91
TOTAL DEPTH: 21.0'

Monitor Well Completion 6-15
Compressor Station No. 6

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-92 JN 92-100

APPENDIX B

SURFACE GEOPHYSICS DATA

Laguna Compressor Station # 6 EM-34 Survey

Date: 2/8/91
Coil Sep.: 20 m Horizontal Dipole
Line: Line 1
Line North of Core Holes
Extending West in a Southerly Direction

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	23.8
2	20	23.0
3	40	21.0
4	60	19.5
5	80	19.5
6	100	21.0
7	120	21.5
8	140	24.5
9	160	24.0
10	180	25.0
11	200	24.0

Laguna Compressor Station # 6 EM-34 Survey

Date: 2/8/91
Coil Sep.: 20 m Vertical Dipole
Line: Line 1
Line North of Core Holes
Extending West in a Southerly Direction

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	23.3
2	20	23.5
3	40	27.5
5	80	9.3
6	100	8.2
7	120	35.5
8	140	23.3
9	160	24.0
10	180	18.3
11	200	18.0
12	240	16.0

Laguna Compressor Station # 6 EM-34 Survey

Date: 2/8/91
Coil Sep.: 20 m Horizontal Dipole
Line: Line 2

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	26.0
2	20	25.0
3	40	23.5
4	60	23.3
5	80	22.0
6	100	21.0
7	120	20.8
8	140	19.0
9	160	18.8
10	180	19.3
11	200	18.0

Laguna Compressor Station # 6 EM-34 Survey

Date: 2/8/91
Coil Sep.: 20 m Vertical Dipole
Line: Line 2

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	38.0
2	20	20.5
3	40	20.5
4	60	17.0
5	80	20.5
6	100	21.0
7	120	23.0
8	140	43.0
9	160	4.4
10	180	8.8
11	200	6.6

Laguna Compressor Station # 6 EM-34 Survey

Date: 2/8/91
Coil Sep.: 20 m Horizontal Dipole
Line: Line 3

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	24.2
2	20	24.0
3	40	24.1
4	60	21.5
5	80	20.8
6	100	19.5
7	120	19.5
8	140	19.0
9	160	18.0
10	180	18.3
11	200	18.8

Laguna Compressor Station # 6 EM-34 Survey

Date: 2/8/91
Coil Sep.: 20 m Vertical Dipole
Line: Line 3

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	25.2
2	20	21.0
3	40	17.0
5	80	22.0
6	100	25.0
7	120	44.0
8	140	55.0
9	160	7.0
10	180	0.0
11	200	27.8
12	240	23.8

Laguna Compressor Station # 6 EM-34 Survey

Date: 2/8/91
Coil Sep.: 20 m Horizontal Dipole
Line: Line 4
West to East Through Septic Field

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	24.5
2	20	25.0
3	40	26.0
4	60	26.3
5	80	25.0
6	100	18.5

Laguna Compressor Station # 6 EM-34 Survey

Date: 2/8/91
Coil Sep.: 20 m Verticle Dipole
Line: Line 4
West to East Through Septic Field

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	45.0
2	20	50.0
3	40	44.3
4	60	52.0
5	80	42.0
6	100	42.8

Laguna Compressor Station # 6 EM-34 Survey

Date: 2/8/91
Coil Sep.: 20 m Verticle Dipole
Line: Line 5A
South to North Through Septic Field to Coreholes

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	39.3
2	20	30.5
3	40	29.8
4	60	25.0
5	80	29.0
6	100	22.0
7	120	22.0
8	140	21.3
9	160	20.3

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/8/91
Coil Sep.: 10 m Horizontal Dipole
Line: Line 5A
South to North Through Septic Field to Coreholes

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	13.8
2	20	33.0
3	40	26.5
4	60	22.0
5	80	16.3
6	100	19.0
7	120	21.0
8	140	19.5
9	160	17.5
10	180	16.3
11	200	16.0
12	220	16.5
13	240	17.3
14	260	19.5
15	280	19.8
16	300	22.5
17	320	21.5
18	340	20.5
19	360	21.3
20	380	19.0
21	400	18.8
22	420	17.0
23	440	17.5
24	460	17.5
25	480	18.3
26	500	19.5
27	520	20.6
28	540	23

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/19/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 5 re-run No.2

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	23.25
2	20	21.25
3	40	20.00
4	60	18.50
5	80	18.00
6	100	18.75
7	120	19.00
8	140	20.00
9	160	21.75
10	180	21.25
11	200	22.00
12	220	21.25
13	240	23.00
14	260	20.25
15	280	19.25
16	300	18.00
17	320	17.25
18	340	16.50

Laguna Compressor Station # 6 EM-34 Survey

Date: 2/8/91
Coil Sep.: 20 m Horizontal Dipole
Line: Line 6
Southwest to Northeast

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	21.3
2	20	21.5
3	40	20.5
4	60	19.8
5	80	19.3
6	100	19.0

Laguna Compressor Station # 6 EM-34 Survey

Date: 2/8/91
Coil Sep.: 20 m Horizontal Dipole
Line: Line 7
West of Station

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	24.0
2	20	20.5
3	40	19.3
4	60	18.5
5	80	18.0
6	100	19.0

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/8/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 8
South to North 40' West of Tank Berm

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	3.0
2	20	12.5
3	40	18.0
4	60	28.0
5	80	24.8
6	100	23.3
7	120	22.5
8	140	22.0
9	160	24.0
10	180	22.5
11	200	22.0
12	220	21.0
13	240	22.0
14	260	22.5
15	280	22.3
16	300	22.5
17	320	22.3
18	340	24.3
19	360	25.0
20	380	24.3
21	400	24.0
22	420	20.0
23	440	18.3
24	460	17.3
25	480	17.0
26	500	17.0
27	520	17.3
28	540	19.3

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/8/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 9
South to North from Sump Tank to Residences

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	20.0
2	20	32.0
3	40	28.0
4	60	26.5
5	80	25.0
6	100	24.5
7	120	25.0
8	140	24.0
9	160	23.0
10	180	22.5
11	200	21.0
12	220	20.3
13	240	20.0
14	260	22.5
15	280	23.0
16	300	23.8
17	320	23.0
18	340	22.0
19	360	21.5
20	380	20.0
21	400	19.3
22	420	19.5
23	460	20.8
24	480	20.8
25	500	19.3
26	520	18.0
27	540	18.8
28	560	20.0

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/8/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 10
20' West of Road (near pipe racks) Past Waste Pits

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	15.5
2	20	13.5
3	40	14.5
4	60	15.0
5	80	15.0
6	100	16.0
7	120	16.0
8	140	15.0
9	160	17.5
10	180	19.0
11	200	19.5
12	220	18.3
13	240	18.0
14	260	18.5
15	280	19.5
16	300	20.5
17	320	21.0
18	340	21.0
19	360	19.0
20	380	18.8
21	400	16.5
22	420	19.0
23	440	19.8
24	460	19.5
25	480	21.3
26	500	22.0
27	520	21.0
28	540	22.3
29	560	20.3
30	580	25.3
31	600	9.5

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/8/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 10 (continued)
20' West of Road (near pipe racks) Past Waste Pits

Station	Distance (feet)	Conductivity (millimho/meter)
32	620	19.5
33	640	25.0
34	660	23.8
35	680	22.5
36	700	22.0
37	720	22.0
38	740	21.5
39	760	21.0
40	780	20.0
41	800	19.0
42	820	19.5
43	840	21.8
44	860	22.8
45	880	24.0
46	900	24.5
47	920	26.3
48	940	26.8
49	960	30.0
50	980	32.0
51	1000	27.0
52	1020	26.0
53	1040	25.5
54	1060	26.0
55	1080	26.0
56	1100	23.5
57	1120	25.0
58	1140	21.0

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/8/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 11
20' North of Southwest Property Corner
West to East Along Fence

Station	Distance (feet)	Conductivity (millimho/meter)
1	20	22.0
2	40	20.0
3	60	20.0
4	80	17.0
5	100	18.0
6	120	17.0
7	140	16.3
8	160	16.8
9	180	15.8
10	200	16.0
11	220	16.3
12	240	17.5
13	260	18.0
14	280	18.0
15	300	17.0
16	320	16.0
17	340	14.3
18	360	13.5
19	380	13.5
20	400	14.0
21	420	15.5
22	440	16.8
23	460	18.0
24	480	19.0
25	500	18.0
26	520	16.0
27	540	15.0
28	560	15.3
29	580	15.8
30	600	15.3
31	620	14.5

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/8/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 11 (continued)
20' North of Southwest Property Corner
West to East Along Fence

Station	Distance (feet)	Conductivity (millimho/meter)
32	640	13.8
33	660	14.0
34	680	14.3
35	700	15.0
36	720	15.3
37	740	15.0
38	760	15.0
39	780	15.5
40	800	17.0
41	820	18.0
42	840	18.0
43	860	17.3
44	880	17.5
45	900	17.0
46	920	16.8
47	940	19.0
48	960	20.0
49	980	22.5
50	1000	22.0
51	1020	21.5
52	1040	22.5
53	1060	21.0
54	1080	19.5
55	1100	20.0
56	1120	22.5
57	1140	23.0
58	1160	26.0

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/8/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 12
West-East Between Exclusion Zones

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	16.5
2	20	16.5
3	40	15.8
4	60	16.0
5	80	17.5
6	100	18.8
7	120	20.0
8	140	19.8
9	160	21.3
10	180	20.3
11	200	22.0
12	220	10.5
13	240	24.5
14	260	20.8
15	280	18.8
16	300	18.0
17	320	20.0
18	340	20.3
19	360	22.5
20	380	25.0
21	400	27.5
22	420	27.5
23	440	26.3
24	460	26.0
25	480	24.0
26	500	23.0
27	520	23.0
28	540	26.5
29	560	31.0
30	580	28.0

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/8/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 12 (continued)
West-East Between Exclusion Zones

Station	Distance (feet)	Conductivity (millimho/meter)
31	600	25.3
32	620	24.0
33	640	24.3
34	660	24.0

Laguna Compressor Station # 6 EM-34 Survey

Date: 2/8/91
Coil Sep.: 20 m Horizontal Dipole
Line: Line 13
Southwest Corner West to East Outside Fence

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	14.0
2	20	13.5
3	40	14.5
4	60	14.8
5	80	15.0
6	100	16.8
7	120	16.0

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/12/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 14
South West Corner South to North Outside Fence on Western Side of Station

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	14.3
2	20	13.5
3	40	14.5
4	60	15.0
5	80	17.8
6	100	16.0
7	120	16.5
8	140	17.0
9	160	14.5
10	180	14.0
11	200	16.5
12	220	16.3
13	240	16.8
14	260	16.5
15	280	16.8
16	300	16.3
17	320	15.0
18	340	15.5
19	360	15.3
20	380	15.0
21	400	16.5
22	420	17.5
23	440	17.3
24	460	18.3
25	480	17.8
26	500	18.0
27	520	15.8
28	540	19.0
29	560	20.5
30	580	21.0
31	600	21.3

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/12/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 14 (continued)
South West Corner South to North Outside
Fence on Western Side of Station

Station	Distance (feet)	Conductivity (millimho/meter)
32	620	19.5
33	640	17.0
34	660	18.0
35	680	17.3
36	700	17.0
37	720	17.0
38	740	16.8
39	760	16.5
40	780	17.0
41	800	21.3
42	820	21.0
43	840	22.0
44	860	21.0
45	880	20.5
46	900	21.5
47	920	20.0
48	940	20.0
49	960	16.5
50	980	18.5
51	1000	17.5
52	1020	16.8
53	1040	17.0

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/12/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 15a, 15b, 15c
From Pipe Racks to Tanks West to East

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	15.5
2	20	14.5
3	40	14.8
4	60	15.0
5	80	12.3
6	100	16.8
7	120	17.0
8	140	18.0
9	160	18.0
10	180	19.5
NE Corner of Tank Berm to Water Tank		
0	200	20.3
1	220	20.5
2	240	17.3
3	260	15.5
4	280	18.8
5	300	17.5
6	320	11.0
Water Tank Toward 6-4		
0	0	23.0
1	20	21.0
2	40	24.3
3	60	8.5
4	80	24.5
5	100	23.5
6	120	22.8
7	140	21.8
8	160	18.0
9	180	18.3
10	200	20.8
11	220	22.3
12	240	19.3

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/12/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 15a, 15b, 15c (continued)
From Pipe Racks to Tanks West to East

Station	Distance (feet)	Conductivity (millimho/meter)
13	260	25.0
14	280	24.8
15	300	24.3

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/12/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 16
West to East, Garage to North of Demister

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	27.3
2	20	18.5
3	40	18.3
4	60	18.3
5	80	18.8
6	100	19.0
7	120	18.8
8	140	18.0
9	160	20.0
10	180	20.0
11	200	20.5
12	220	21.0
13	240	22.0
14	260	25.8
15	280	26.0
16	300	19.5
17	320	21.0
18	340	21.3
19	360	20.0
20	380	20.0
21	400	22.0
22	420	13.5
23	440	11.0
24	460	21.0
25	480	22.0
26	500	32.0

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/12/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 17
From Fence at West Boundary East to Eastern Road

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	17.0
2	20	17.3
3	40	17.3
4	60	18.8
5	80	17.3
6	100	19.3
7	120	17.3
8	140	18.8
9	160	19.5
10	180	21.3
11	200	21.0
12	220	19.3
13	240	20.8
14	260	21.5
15	280	21.0
16	300	23.5
17	320	23.0
18	340	24.3
19	360	24.8
20	380	24.8
21	400	20.3
22	420	22.0
23	440	22.5
24	460	20.0
25	480	20.3
26	500	22.0
27	520	23.3
28	540	22.8
29	560	26.3
30	580	13.0
31	600	27.5
32	620	23.3

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/12/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 17 (continued)
From Fence at West Boundary East to Eastern Road

Station	Distance (feet)	Conductivity (millimho/meter)
33	640	19.8
34	660	17.5
35	680	17.5
36	700	18.0
37	720	17.0
38	740	16.5
39	760	15.0
40	780	19.3
41	800	21.5
42	820	19.5
43	840	17.5
44	860	18.0
45	880	20.5
46	900	22.0
47	920	22.5
48	940	23.0
49	960	22.5
50	980	20.8
51	1000	22.3
52	1020	21.5

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/12/91
Coil Separ.: 10m Horizontal Dipole
Line: Line 18
West to East from Road Along Fence at Trailer

Station	Distance (feet)	Conductivity (millimho/meter)
1	20	13.0
2	40	12.5
3	60	13.8
4	80	15.0
5	100	16.8
6	120	18.0
7	140	19.5
8	160	21.0
9	180	7.5
10	200	29.0
11	220	29.3
12	240	25.0
13	260	21.8
14	280	17.5
15	300	16.0
16	320	18.0
17	340	18.0
18	360	19.3
19	380	22.5
20	400	22.3
21	420	20.0
22	440	22.0
23	460	22.5
24	480	21.5
25	500	18.5
26	520	16.3
27	540	15.5
28	560	16.8

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/12/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 19
West to East Roughly Parallel to Line 18

Station	Distance (feet)	Conductivity (millimho/meter)
1	20	17.5
2	40	16.5
3	60	19.0
4	80	19.3
5	100	19.0
6	120	19.3
7	140	19.8
8	160	7.5
9	180	19.0
10	200	21.5
11	220	22.0
12	240	20.5
13	260	17.5
14	280	16.8
15	300	16.5
16	320	17.0
17	340	16.0
18	360	16.3
19	380	16.0
20	400	15.5
21	420	16.3
22	440	16.5
23	460	16.5
24	480	15.3
25	500	14.5
26	520	15.5
27	540	17.8
28	560	18.0

Laguna Compressor Station # 6 EM-34 Survey

Date:	3/12/91
Coil Sep.:	10m Horizontal Dipole
Line:	Line 20
	South to North From Water Tank

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	24.0
2	20	19.0
3	40	17.0
4	60	17.8
5	80	19.5
6	100	22.5
7	120	24.5
8	140	21.8
9	160	20.8
10	180	18.5
11	200	18.3
12	220	17.0
13	240	16.0
14	260	17.0
15	280	15.0
16	300	16.0

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/19/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 21
East to West

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	29.0
2	20	21.5
3	40	19.8
4	60	18.5
5	80	18.0
6	100	19.3
7	120	20.8
8	140	20.0
9	160	19.8
10	180	19.8
11	200	18.5
12	220	17.0
13	240	16.8
14	260	19.5

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/19/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 22
South to North

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	18.0
2	20	18.3
3	40	15.5
4	60	18.0
5	80	19.5
6	100	21.3
7	120	12.0
8	140	14.0
9	160	19.3
10	180	19.5
11	200	17.8
12	220	18.0
13	240	18.8
14	260	18.8
15	280	19.8
16	300	21.0
17	320	14.5
18	340	14.5
19	360	16.8
20	380	15.5
21	400	17.9
22	420	17.9
23	440	18.0
24	460	18.0
25	480	18.8
26	500	19.0
27	520	18.5
28	540	16.3
29	560	17.0
30	580	17.8
31	600	18.8
32	620	19.10

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/19/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 23
Northeast to Southwest

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	18.5
2	20	18.5
3	40	0.0
4	60	18.0
5	80	18.3
6	100	17.1
7	120	16.5
8	140	15.5
9	160	15.0
10	180	16.5
11	200	16.9
12	220	25.0
13	240	13.3

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/19/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 24
Northeast to Southwest

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	25.0
2	20	21.5
3	40	19.5
4	60	17.5
5	80	17.3
6	100	17.8
7	120	18.0
8	140	16.5
9	160	16.3
10	180	14.8
11	200	16.8
12	220	16.3
13	240	16.0
14	260	15.5
15	280	16.3
16	300	18.8

Laguna Compressor Station # 6 EM-34 Survey

Date: 3/19/91
Coil Sep.: 10m Horizontal Dipole
Line: Line 25
Southeast to Northwest

Station	Distance (feet)	Conductivity (millimho/meter)
1	0	18.3
2	20	14.8
3	40	14.8
4	60	14.0
5	80	15.3
6	100	16.0
7	120	15.3
8	140	14.8
9	160	15.0
10	180	16.0
11	200	17.0
12	220	18.0
13	240	20.0
14	260	22.3
15	280	25.3
16	300	26.3
17	320	20.1

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GROUND-WATER ASSESSMENT REPORT

OF

LAGUNA COMPRESSOR STATION NO. 6

VOLUME II: APPENDICES C-G

SUBMITTED TO

TRANSWESTERN PIPELINE COMPANY

JANUARY 30, 1992

6020 ACADEMY NE • SUITE 100 • ALBUQUERQUE, NM 87109 • (505) 822-9400

APPENDIX C

LABORATORY HYDROLOGIC PARAMETER TEST DATA AND FRACTURE DENSITY PLOTS

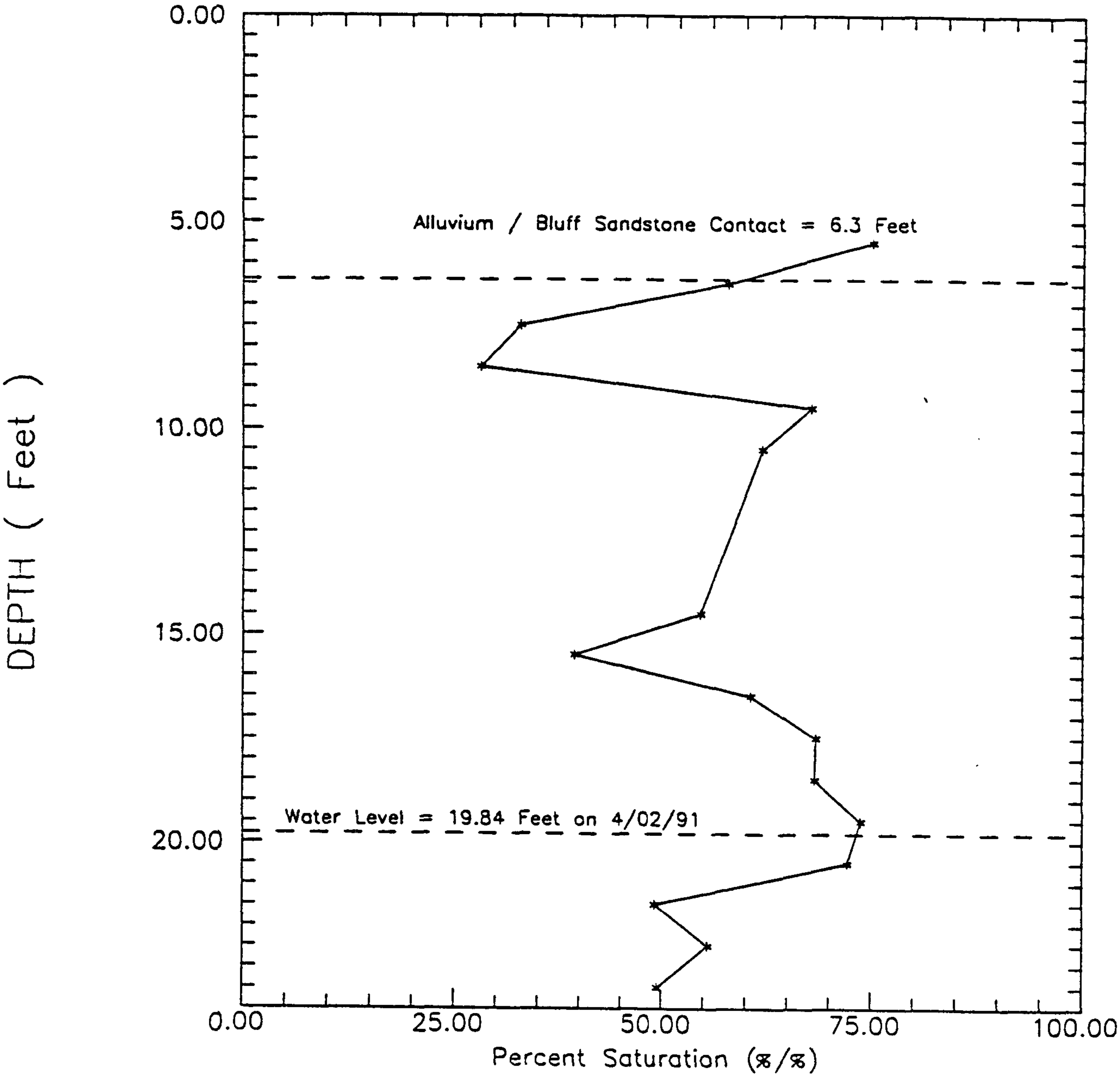
LABORATORY HYDROLOGIC PARAMETER TEST DATA

SUMMARY OF INITIAL MOISTURE CONTENT, DRY BULK DENSITY, AND POROSITY

Well #6-Pw-1

SAMPLE NUMBER	INITIAL MOISTURE CONTENT GRAVIMETRIC (%, g/g)	INITIAL MOISTURE CONTENT VOLUMETRIC (%, cm^3/cm^3)	DRY BULK DENSITY (g/cm^3)	CALCULATED POROSITY (%)	DEGREE OF SATURATION (%)
5.5-6.0	14.21	25.08	1.76	33.4	75.0
6.5-7.0	10.70	19.02	1.78	32.9	57.8
7.5-8.0*	6.06	10.79	1.78	32.8	32.9
8.5-9.0*	5.19	9.23	1.78	32.8	28.1
9.5-10.0	4.63	10.38	2.24	15.3	67.9
10.5-11.0	4.84	10.64	2.20	17.2	62.0
14.5-15.0	5.02	10.69	2.13	19.6	54.6
15.5-16.0	5.86	11.14	1.90	28.3	39.3
16.5-17.0	5.37	11.52	2.14	19.0	60.6
17.5-18.0	5.90	12.73	2.16	18.6	68.4
18.5-19.0	5.21	11.48	2.0	16.8	68.3
19.5-20.0	4.84	10.93	2.26	14.8	73.7
20.5-21.0	4.96	11.11	2.24	15.4	72.2
21.5-22.0	4.75	10.02	2.11	20.4	49.2
22.5-23.0	4.59	9.98	2.17	18.0	55.5
23.5-24.0	4.04	8.80	2.18	17.8	49.5

* Bulk density from similar interval; unable to measure volume.



Saturation Vs Depth for 6-PW-1

SUMMARY OF INITIAL MOISTURE CONTENT, DRY BULK DENSITY, AND POROSITY

Well #6-Pw-2

SAMPLE NUMBER	INITIAL MOISTURE CONTENT GRAVIMETRIC (%, g/g)	INITIAL MOISTURE CONTENT VOLUMETRIC (%, cm^3/cm^3)	DRY BULK DENSITY (g/cm^3)	CALCULATED POROSITY (%)	DEGREE OF SATURATION (%)
5.5-6.0	10.10	14.97	1.48	44.0	34.0
6.5-7.0	8.79	14.79	1.68	36.5	40.6
9.5-10.0*	9.46	15.92	1.68	36.5	43.6
10.5-11.0*	4.06	6.84	1.68	36.5	18.7
11.5-12.0*	4.88	11.22	2.30	13.3	84.2
12.5-13.0	3.14	7.22	2.30	13.3	54.3
13.5-14.0	4.52	10.39	2.30	13.3	78.4
14.5-15.0	1.83	4.48	2.45	7.6	58.7
15.5-16.0	4.36	10.81**	2.48	6.4	---
16.5-17.0	4.38	9.85	2.25	15.2	65.0

* Bulk density from similar interval; unable to measure volume.

** Volumetric moisture content inaccurate due to poor sample recovery.

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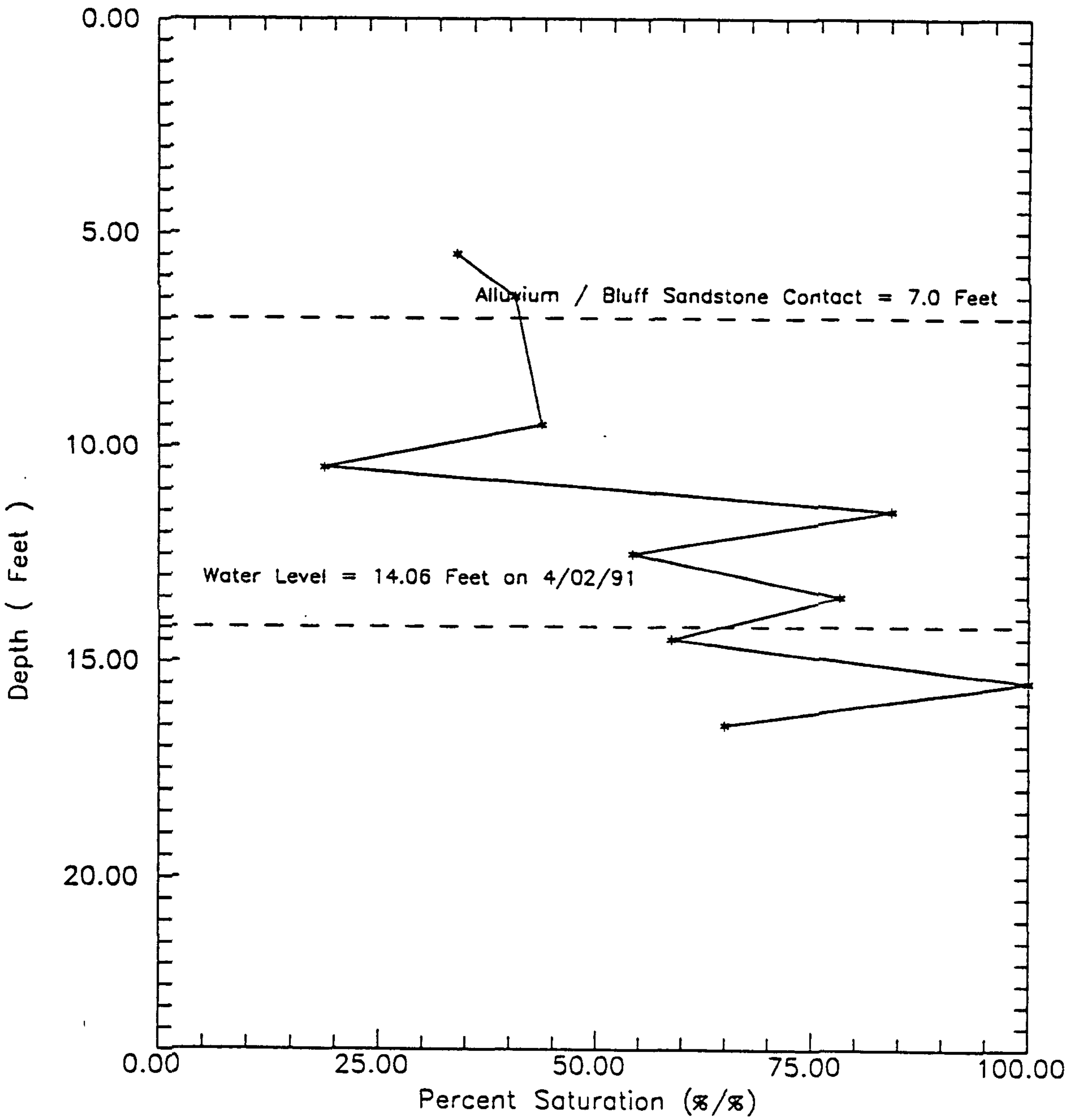

Saturation Vs Depth for 6-PW-2

SUMMARY OF INITIAL MOISTURE CONTENT, DRY BULK DENSITY, AND POROSITY

Well #6-Pw-3

SAMPLE NUMBER	INITIAL MOISTURE CONTENT GRAVIMETRIC (%, g/g)	VOLUMETRIC (%, cm^3/cm^3)	DRY BULK DENSITY (g/cm^3)	CALCULATED POROSITY (%)	DEGREE OF SATURATION (%)
5.5-6.0*	4.87	10.99	2.26	14.9	74.0
6.5-7.0*	3.54	7.99	2.26	14.9	55.8
7.5-8.0	3.16	7.12	2.26	14.9	48.0
9.5-10.0	4.33	9.80	2.26	14.5	67.7
10.5-11.0*	4.15	9.37	2.26	14.9	63.1
11.5-12.0	1.64	3.71	2.26	14.5	25.5
13.5-14.0	5.27	10.95	2.10	21.5	50.9
14.5-15.0	4.34	9.79	2.26	14.9	65.8
15.5-16.0	4.70	10.44	2.22	16.1	64.9
16.5-17.0	5.51	12.29	2.23	15.9	77.6
17.5-18.0	5.58	11.85	2.12	19.9	59.5
18.5-19.0	5.52	11.66	2.11	20.2	57.7
19.5-20.0	5.21	11.38	2.18	17.6	64.7

* Bulk density from similar interval; unable to measure volume.

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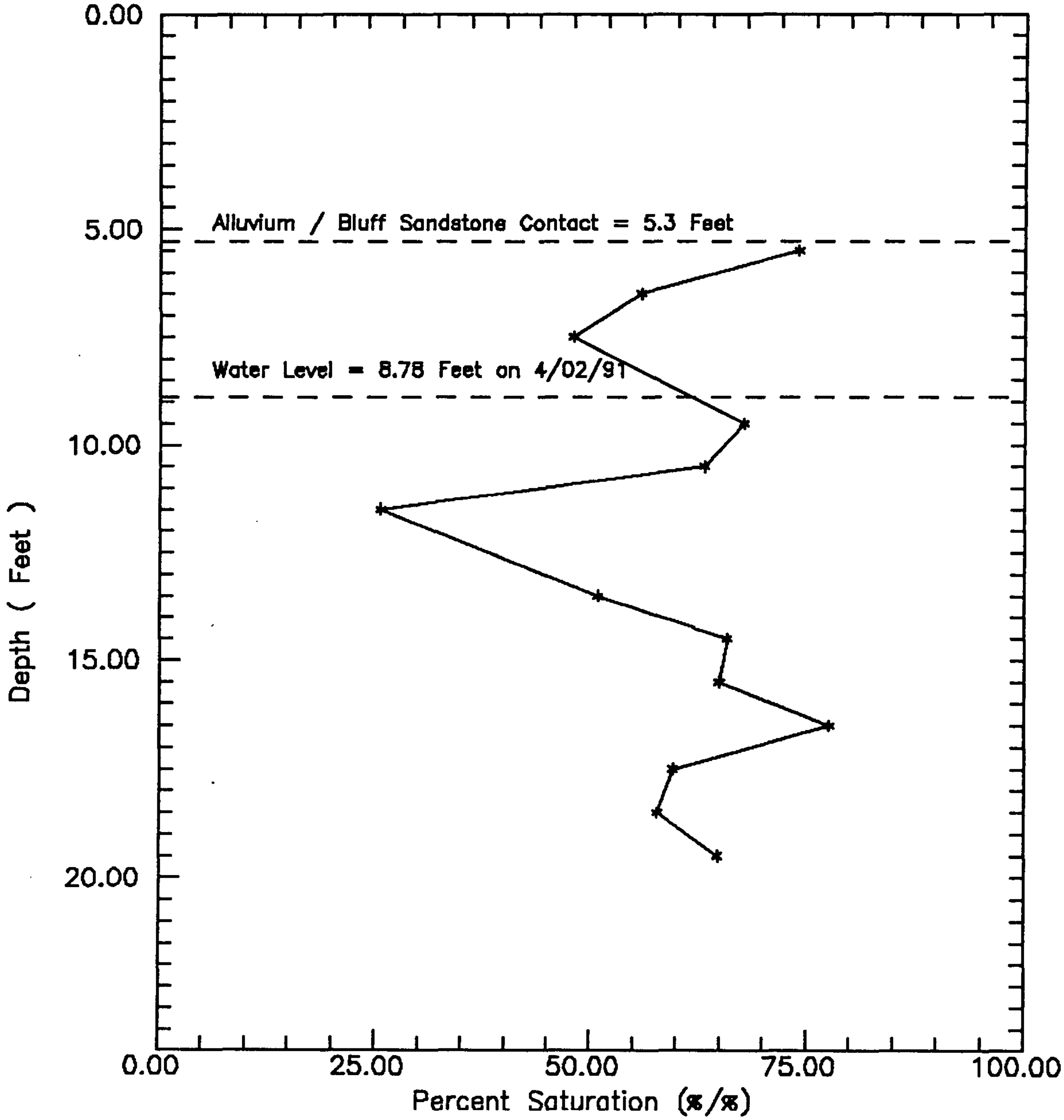

Saturation Vs Depth for 6-PW-3

SUMMARY OF INITIAL MOISTURE CONTENT, DRY BULK DENSITY, AND POROSITY

Well #6-Pw-4

SAMPLE NUMBER	INITIAL MOISTURE CONTENT GRAVIMETRIC (%, g/g)	INITIAL MOISTURE CONTENT VOLUMETRIC (%, cm^3/cm^3)	DRY BULK DENSITY (g/cm^3)	CALCULATED POROSITY (%)	DEGREE OF SATURATION (%)
5.5-6.0	3.38	5.11	1.51	42.9	11.9
6.5-7.0	4.18	6.72	1.61	39.4	17.0
7.5-8.0	5.75	8.99	1.56	41.0	21.9
8.5-9.0	10.83	19.49	1.80	32.1	60.7
9.5-10.0	13.51	21.23	1.57	40.7	52.1
10.5-11.0	18.64	28.90	1.55	41.5	69.6
11.5-12.0*	4.74	7.35	1.55	41.5	17.7
12.5-13.0*	5.10	10.66	2.09	21.1	50.4
13.5-14.0*	4.15	8.67	2.09	21.1	41.0
14.5-15.0	5.67	11.87	2.09	21.0	56.6
15.5-16.0*	4.60	9.97	2.17	18.1	55.0
16.5-17.0	5.85	12.71	2.17	18.0	70.7
17.5-18.0	5.07	10.80	2.13	19.6	55.0
18.5-19.0	5.45	11.78	2.16	18.4	64.0
19.5-20.0*	5.75	10.41	1.81	31.7	32.8

* Bulk density from similar interval; unable to measure volume.

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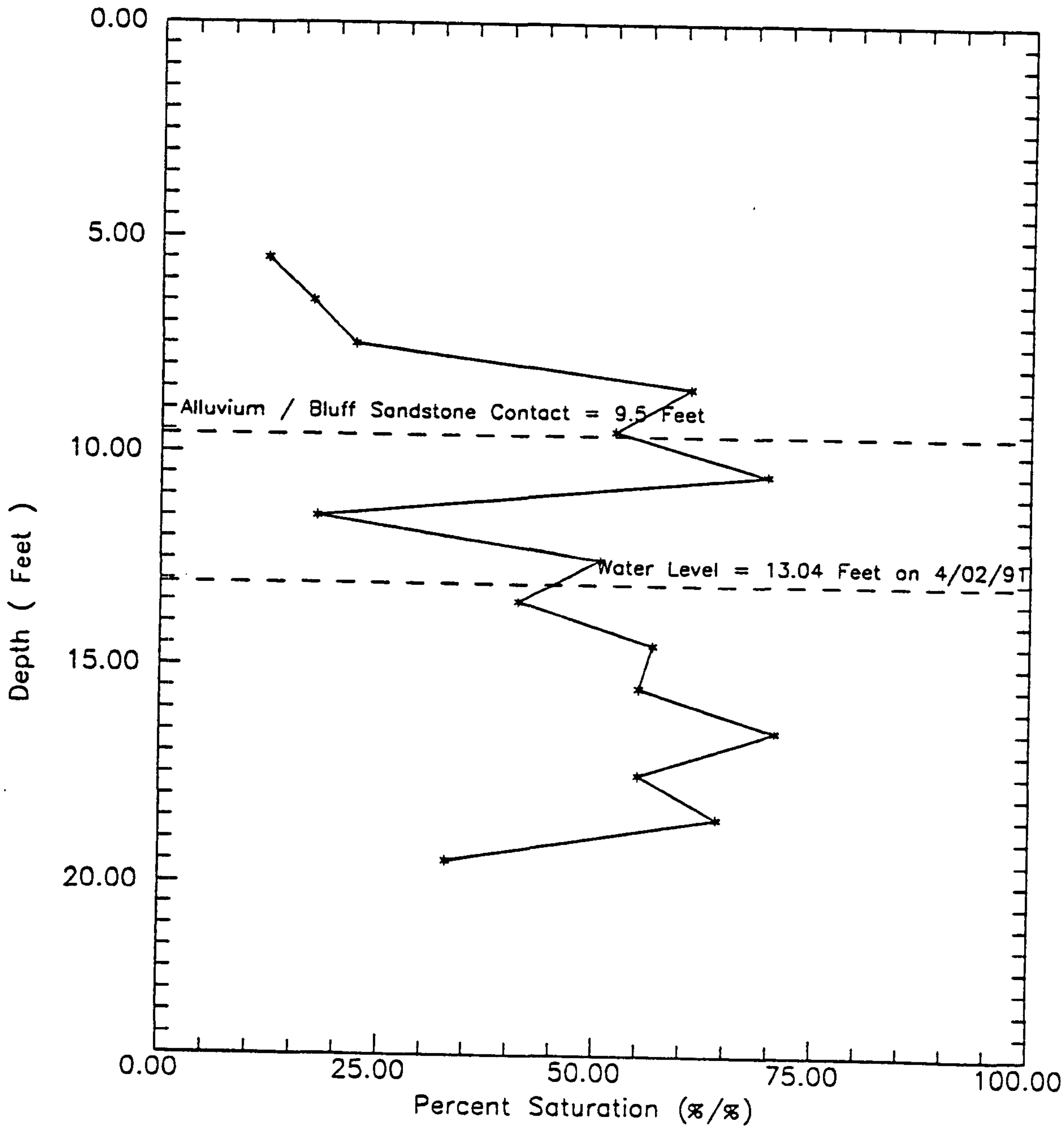

Saturation Vs Depth for 6-PW-4

SUMMARY OF INITIAL MOISTURE CONTENT, DRY BULK DENSITY, AND POROSITY

Well #6-Pw-5

SAMPLE NUMBER	INITIAL MOISTURE CONTENT GRAVIMETRIC (%, g/g)	INITIAL MOISTURE CONTENT VOLUMETRIC (%, cm^3/cm^3)	DRY BULK DENSITY (g/cm^3)	CALCULATED POROSITY (%)	DEGREE OF SATURATION (%)
5.5-6.0	10.46	17.33	1.66	37.4	46.3
6.5-7.0	8.59	15.66	1.82	31.2	50.7
7.5-8.0*	5.69	9.44	1.66	37.4	25.3
8.5-9.0*	6.38	10.59	1.66	37.4	28.3
9.5-10.0*	6.79	11.27	1.66	37.4	30.2
10.5-11.0*	6.26	10.39	1.66	37.4	27.8
11.5-12.0	3.60	8.02	2.23	15.8	50.8
12.5-13.0	5.77	12.52	2.17	18.1	69.0
13.5-14.0	5.89	12.67	2.15	18.9	67.1
14.5-15.0	4.87	10.25	2.10	20.7	49.6
15.5-16.0	5.37	11.34	2.11	20.4	55.7
16.5-17.0	5.81	12.69	2.18	17.6	72.1
17.5-18.0	5.46	11.72	2.15	19.0	61.8
18.5-19.0	5.65	11.80	2.10	21.2	55.6
19.5-20.0	5.23	11.41	2.18	17.8	64.3

* Bulk density from similar interval; unable to measure volume.

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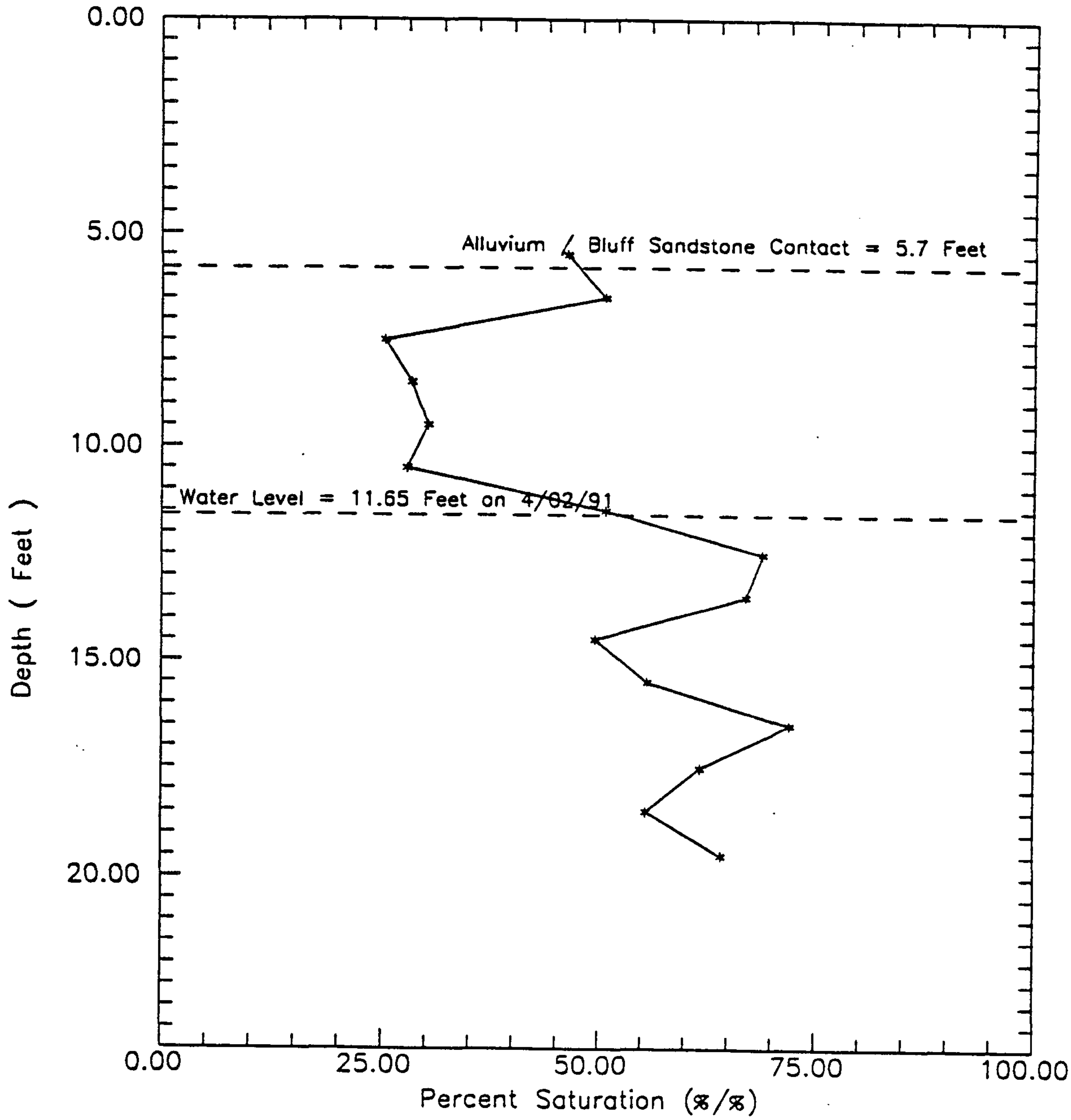


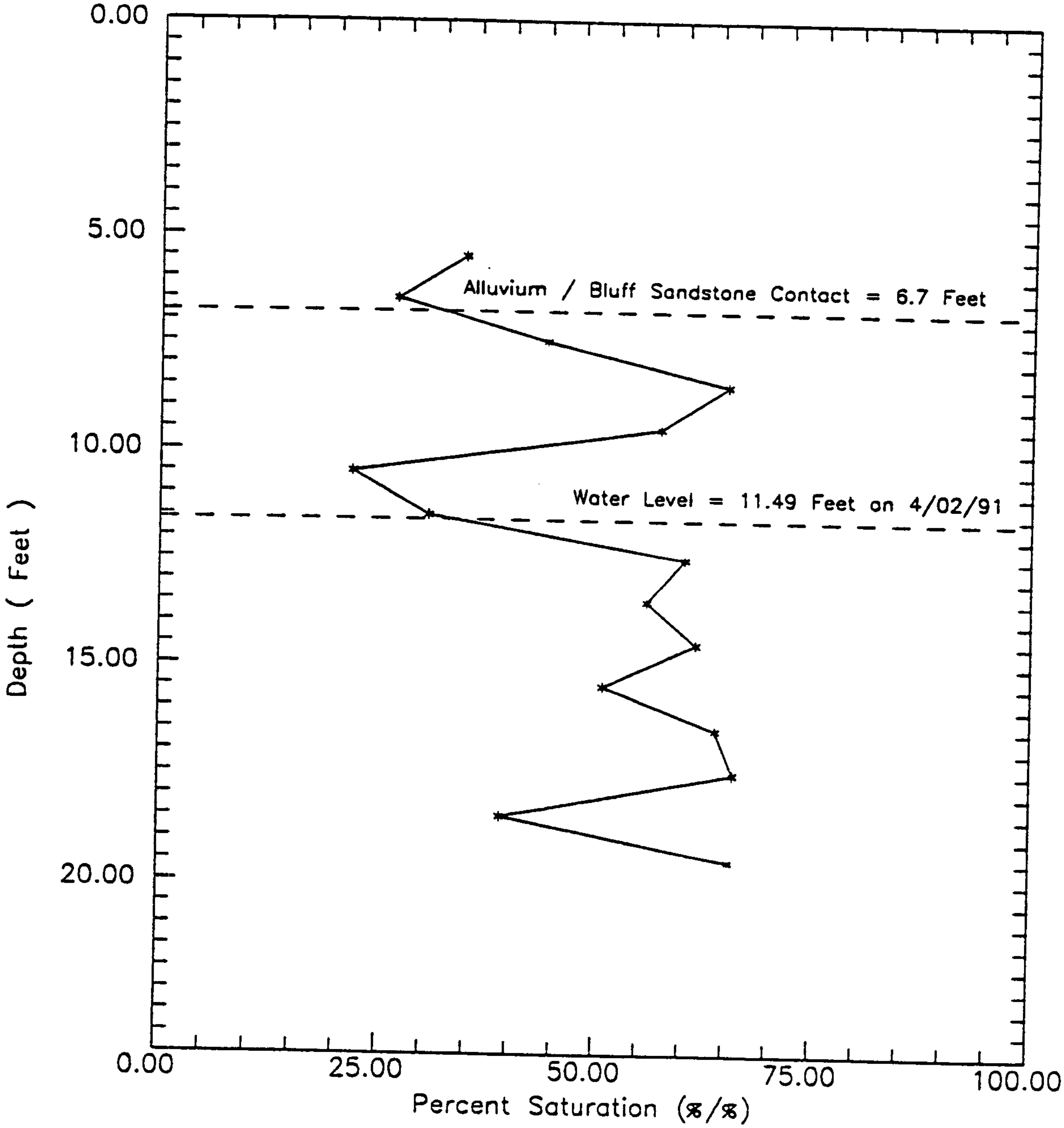
Saturation Vs Depth for 6-PW-5

SUMMARY OF INITIAL MOISTURE CONTENT, DRY BULK DENSITY, AND POROSITY

Well #6-Pw-6

SAMPLE NUMBER	INITIAL MOISTURE CONTENT GRAVIMETRIC (%, g/g)	INITIAL MOISTURE CONTENT VOLUMETRIC (%, cm^3/cm^3)	DRY BULK DENSITY (g/cm^3)	CALCULATED POROSITY (%)	DEGREE OF SATURATION (%)
5.5-6.0	9.42	1.62	1.54	42.0	34.5
6.5-7.0	5.40	1.04	1.73	34.8	26.8
7.5-8.0	1.54	3.74	2.43	8.5	43.9
8.5-9.0	3.98	9.08	2.28	14.0	65.0
9.5-10.0*	3.51	8.00	2.28	14.0	57.3
10.5-11.0	0.82	1.97	2.40	9.0	21.8
11.5-12.0*	3.29	6.79	2.06	22.3	30.5
12.5-13.0*	6.51	13.41	2.06	22.3	60.2
13.5-14.0	5.97	12.32	2.06	22.0	55.8
14.5-15.0	4.40	9.80	2.23	15.9	61.5
15.5-16.0	4.51	9.68	2.15	19.0	50.8
16.5-17.0	4.77	10.55	2.21	16.9	63.8
17.5-18.0	4.16	9.45	2.27	14.3	65.9
18.5-19.0	3.34	7.21	2.16	18.4	39.0
19.5-20.0	2.57	6.16	2.40	9.4	65.5

* Bulk density from similar interval; unable to measure volume.



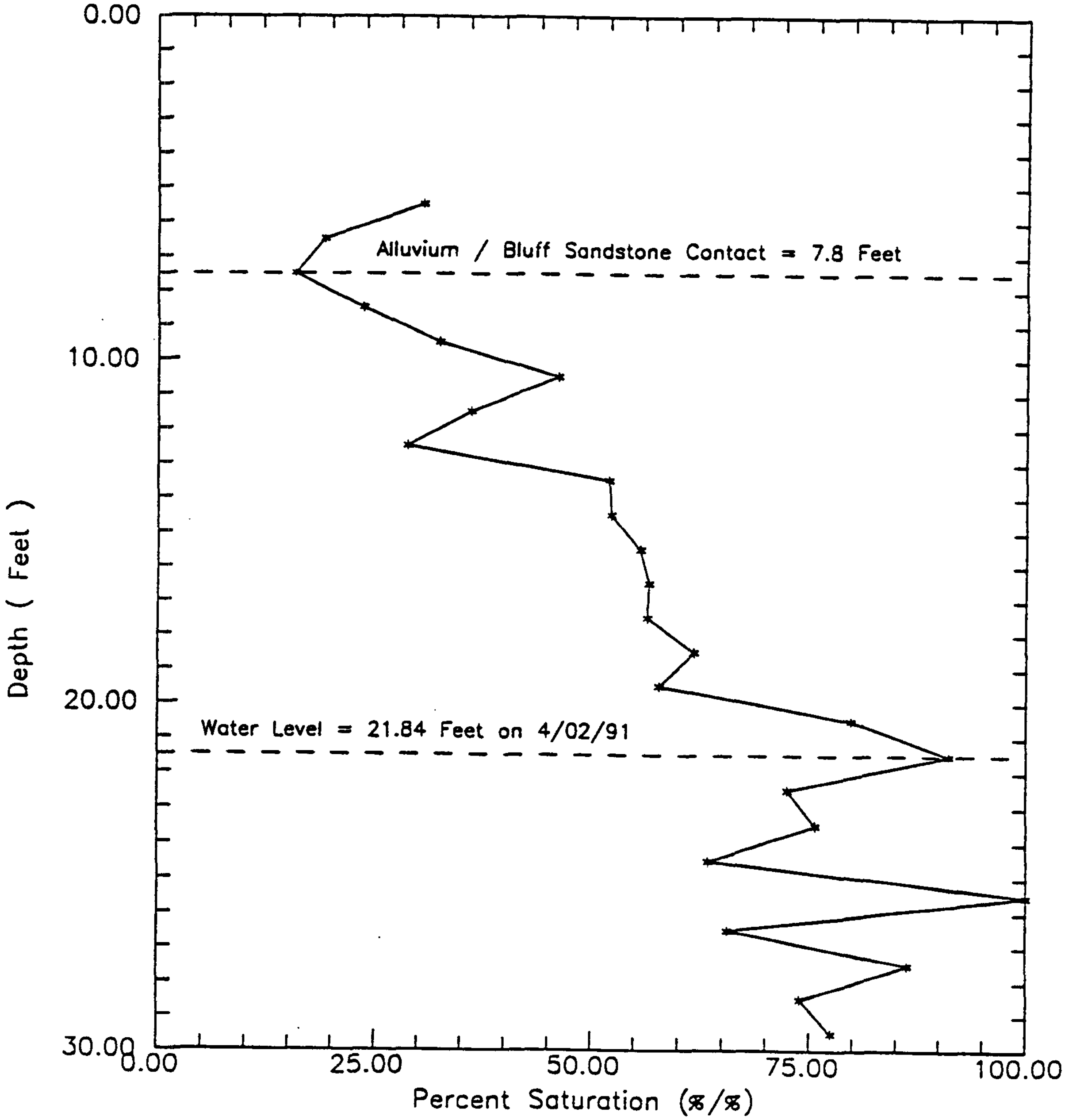
Saturation Vs Depth for 6-PW-6

SUMMARY OF INITIAL MOISTURE CONTENT, DRY BULK DENSITY, AND POROSITY

Well #6-Pw-7

SAMPLE NUMBER	INITIAL MOISTURE CONTENT GRAVIMETRIC (%, g/g)	INITIAL MOISTURE CONTENT VOLUMETRIC (%, cm^3/cm^3)	DRY BULK DENSITY (g/cm^3)	CALCULATED POROSITY (%)	DEGREE OF SATURATION (%)
5.5-6.0	8.68	13.11	1.51	43.0	30.5
6.5-7.0	5.23	8.03	1. 53	42.0	19.1
7.5-8.0	3.89	6.22	1.60	39.6	15.7
8.5-9.0	2.32	4.87	2.10	20.6	23.6
9.5-10.0	2.63	5.74	2.18	17.7	32.4
10.5-11.0	2.39	5.56	2.33	12.1	46.0
11.5-12.0	4.03	8.24	2.05	22.8	36.1
12.5-13.0	5.44	9.60	1.77	33.4	28.7
13.5-14.0	5.49	11.37	2.07	21.8	52.0
14.5-15.0	5.81	11.89	2.05	22.8	52.2
15.5-16.0	5.83	12.09	2.07	21.8	55.6
16.5-17.0	5.51	11.60	2.10	20.6	56.6
17.5-18.0	5.58	11.73	2.10	20.8	56.4
18.5-19.0	5.89	12.46	2.11	20.2	61.7
19.5-20.0	6.09	12.61	2.07	21.8	57.8
20.5-21.0	6.16	13.55	2.20	17.0	79.8
21.5-22.0*	5.31	12.21	2.30	13.4	91.1
22.5-23.0	4.24	9.74	2.30	13.4	72.5
23.5-24.0	3.97	9.24	2.33	12.2	75.7
24.5-25.0	4.43	9.91	2.24	15.6	63.4
25.5-26.0	5.62	12.92	2.32	12.5	103.7
26.5-27.0	5.12	11.25	2.20	17.1	65.6
27.5-28.0	5.11	11.71	2.29	13.6	86.4
28.5-29.0	5.40	11.98	2.22	16.2	73.9
29.5-30.0	5.95	13.11	2.20	16.9	77.5

* Bulk density from similar interval; unable to measure volume.



Saturation Vs Depth for 6-PW-7

SUMMARY OF INITIAL MOISTURE CONTENT, DRY BULK DENSITY, AND POROSITY

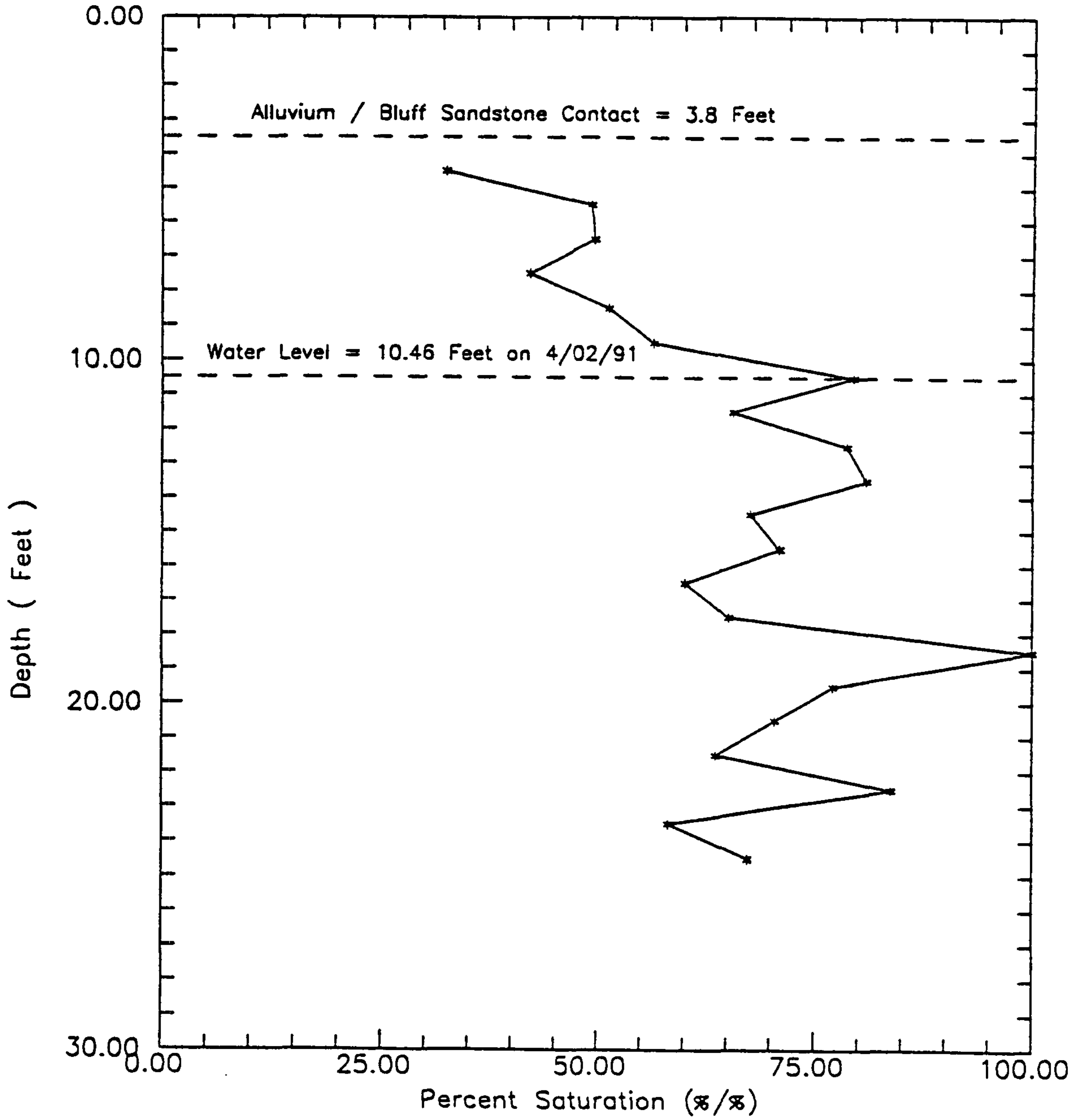
Well #6-Pw-8

SAMPLE NUMBER	INITIAL MOISTURE CONTENT GRAVIMETRIC (%, g/g)	INITIAL MOISTURE CONTENT VOLUMETRIC (%, cm^3/cm^3)	DRY BULK DENSITY (g/cm^3)	CALCULATED POROSITY (%)	DEGREE OF SATURATION (%)
4.5-5.0	4.3	8.4	1.95	25.8	32.4
5.5-6.0	5.8	11.7	2.02	23.8	49.3
6.5-7.0*	5.9	11.8	2.02	23.8	49.6
7.5-8.0	6.5	12.2	1.88	29.1	42.1
8.5-9.0	6.3	12.5	1.98	24.4	51.3
9.5-10.0	6.9	13.4	1.94	24.3	56.5
10.5-11.0	6.7	14.4	2.15	18.2	79.4
11.5-12.0	6.6	13.9	2.11	21.1	65.7
12.5-13.0	7.5	15.9	2.12	20.2	78.7
13.5-14.0	5.8	12.9	2.22	15.9	80.9
14.5-15.0	5.8	12.5	2.16	18.4	67.7
15.5-16.0	5.2	11.5	2.21	16.2	71.0
16.5-17.0	5.6	12.0	2.14	19.9	60.2
17.5-18.0	4.7	10.5	2.23	16.1	65.2
18.5-19.0	6.0	13.7	2.28	13.6	100
19.5-20.0	6.2	13.6	2.20	17.6	77.1
20.5-21.0	5.9	12.7	2.15	18.1	70.5
21.5-22.0	5.3	11.5	2.17	18.0	63.7
22.5-23.0	5.7	12.8	2.25	15.3	83.8
23.5-24.0	5.5	11.6	2.11	19.9	58.2
24.5-25.0	4.9	10.9	2.22	16.2	67.4

* Bulk density from similar interval; unable to measure volume.

DANIEL B. STEPHENS & ASSOCIATES, INC.

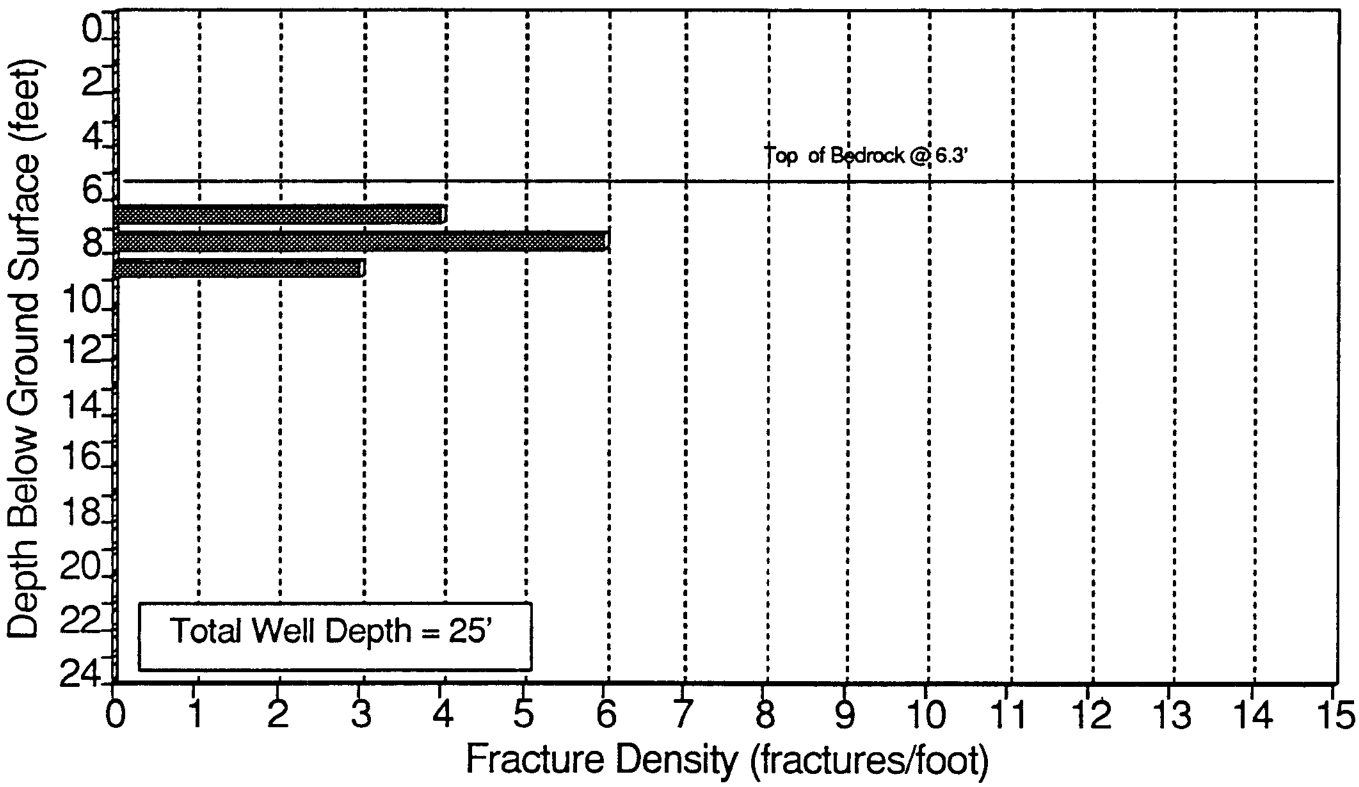
ENVIRONMENTAL SCIENTISTS AND ENGINEERS



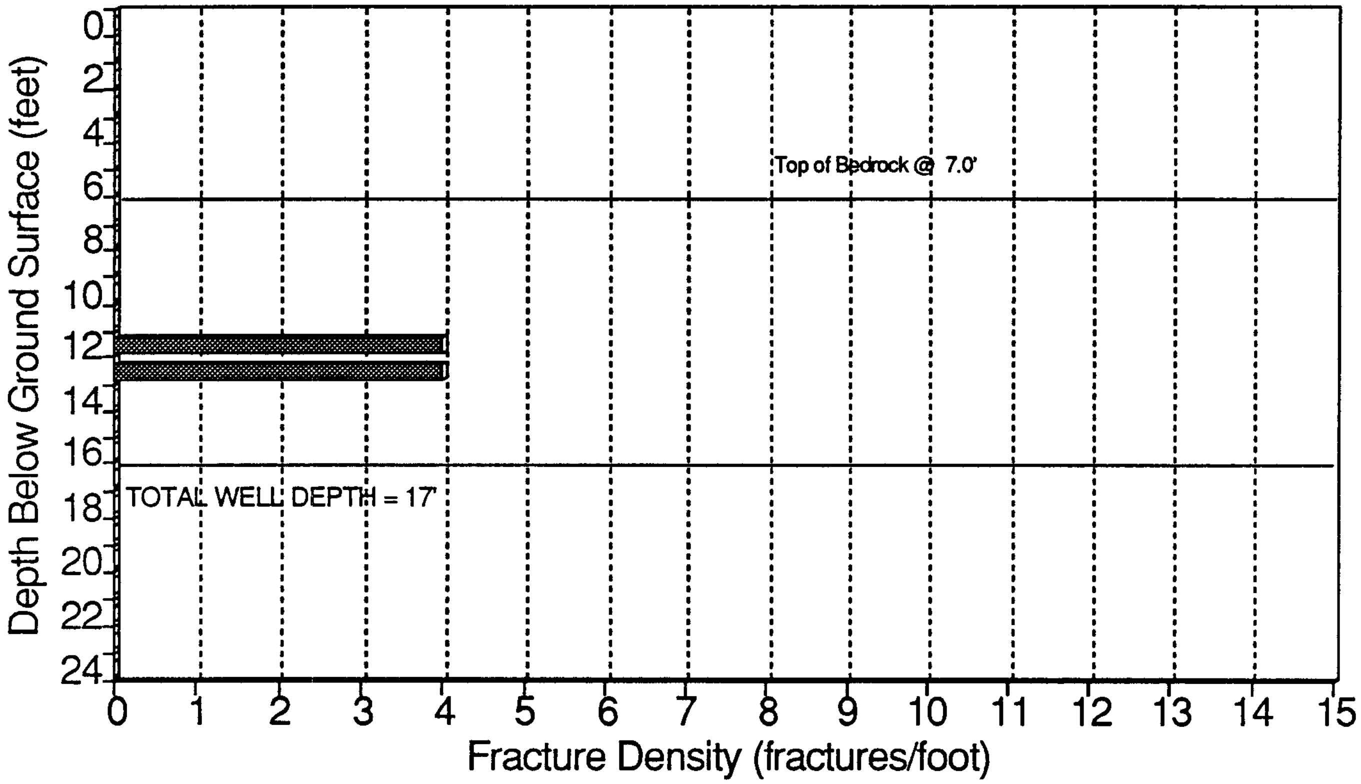
Saturation Vs Depth for 6-PW-8

FRACTURE DENSITY PLOTS

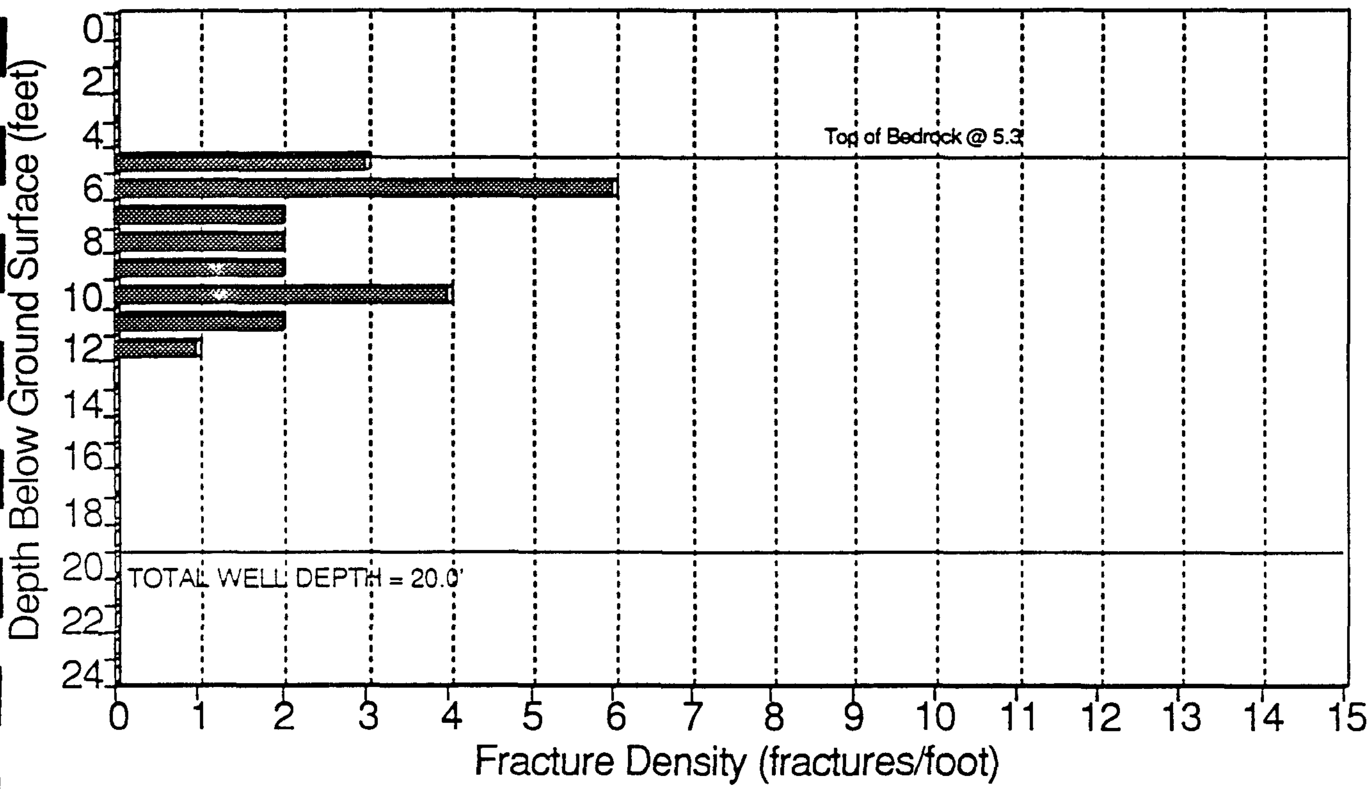
6-PW1 Fracture Density
(fractures/foot)



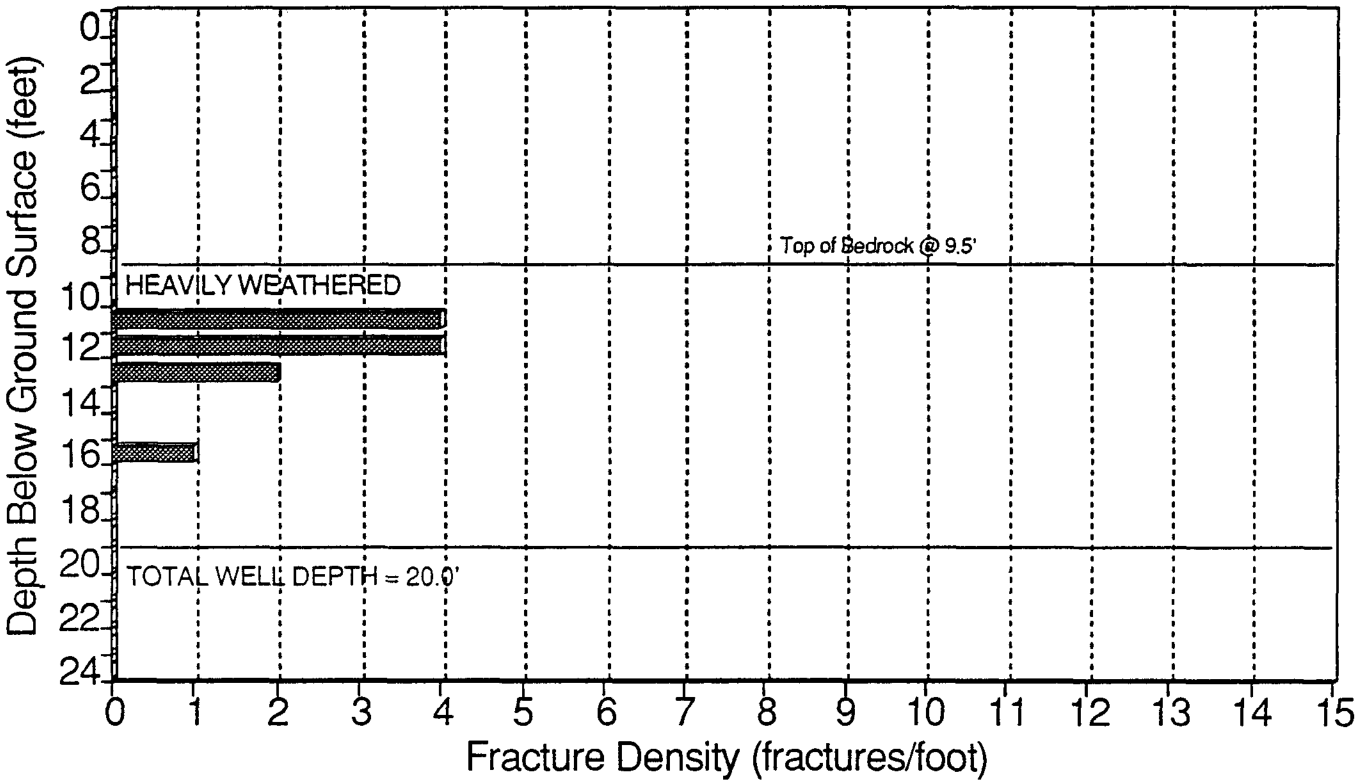
6-PW2 Fracture Density
(fractures/foot)



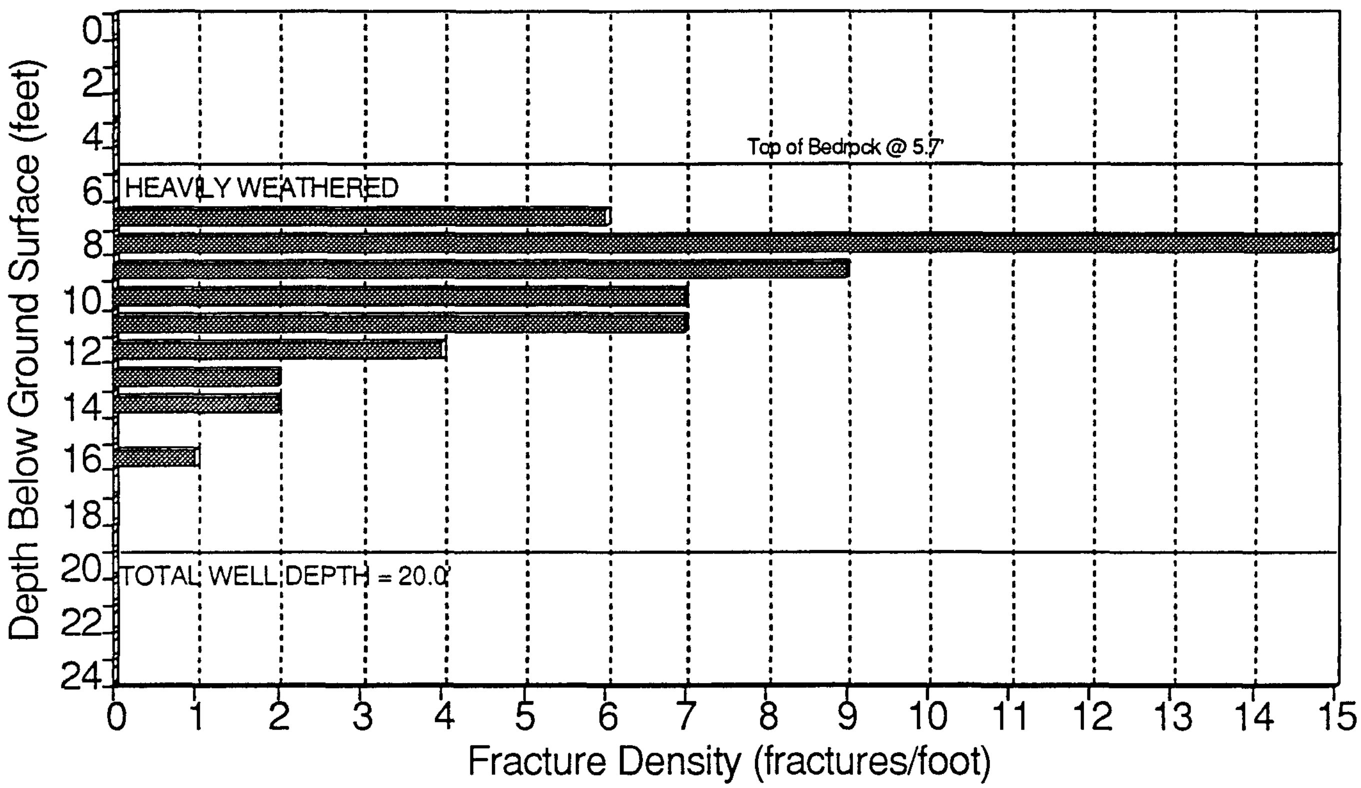
6-PW3 Fracture Density
(fractures/foot)



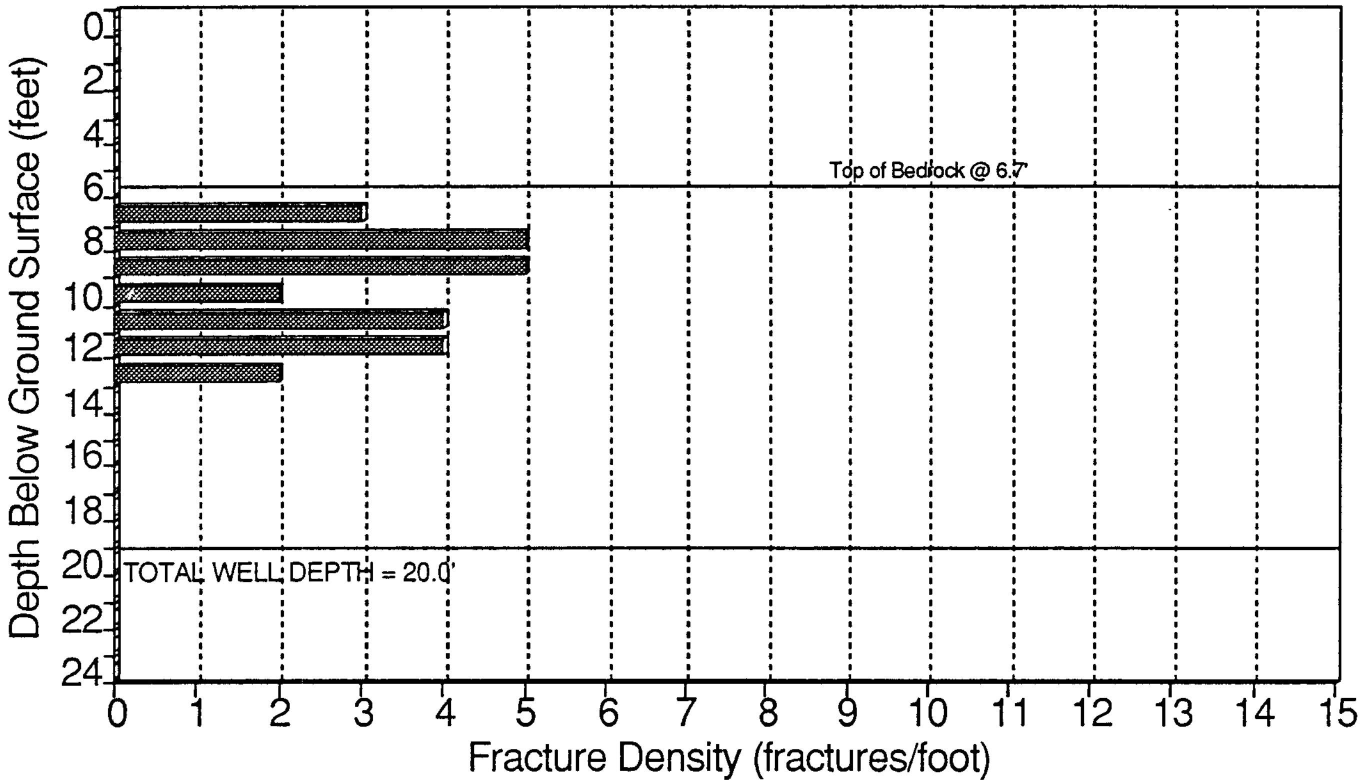
6-PW4 Fracture Density
(fractures/foot)



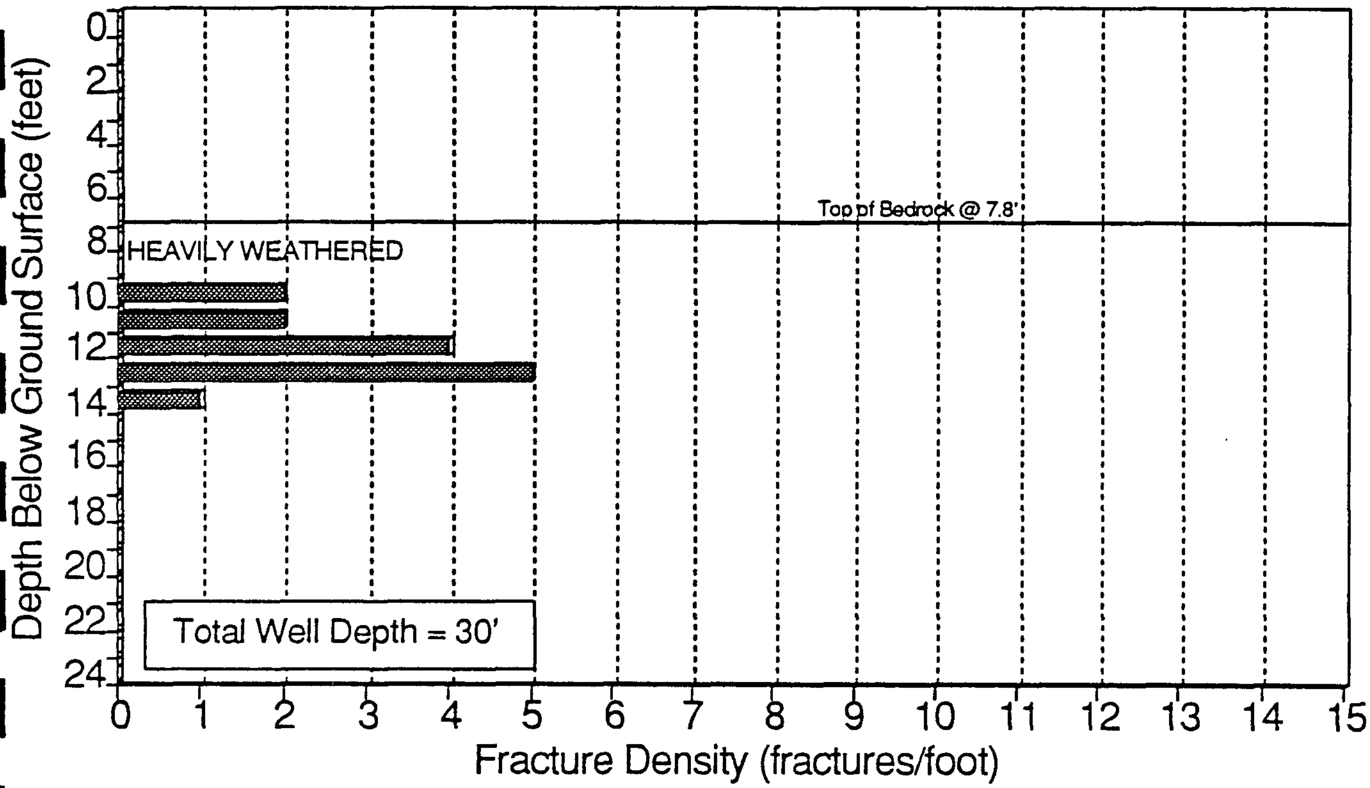
6-PW5 Fracture Density
(fractures/foot)



6-PW6 Fracture Density
(fractures/foot)

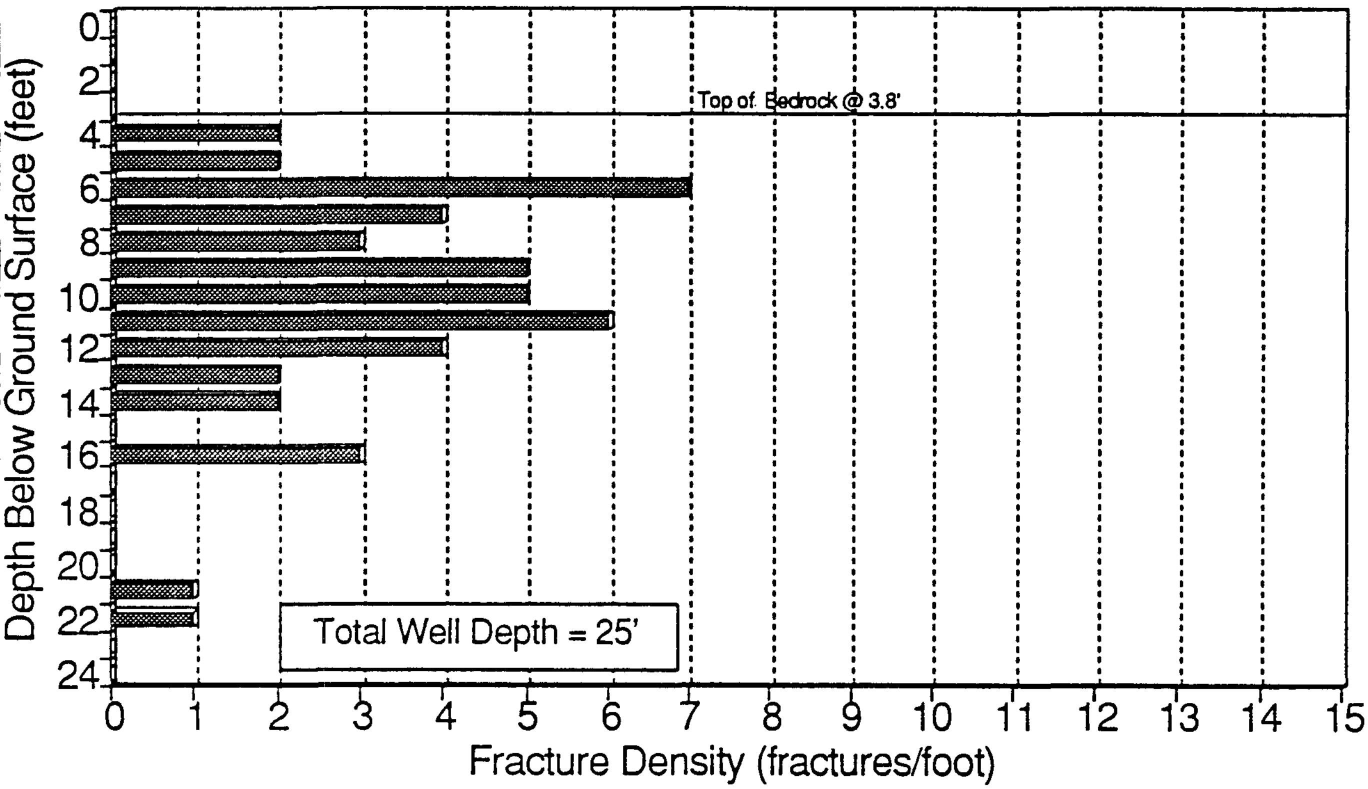


6-PW7 Fracture Density
(fractures/foot)



6-PW8 Fracture Density

(fractures/foot)

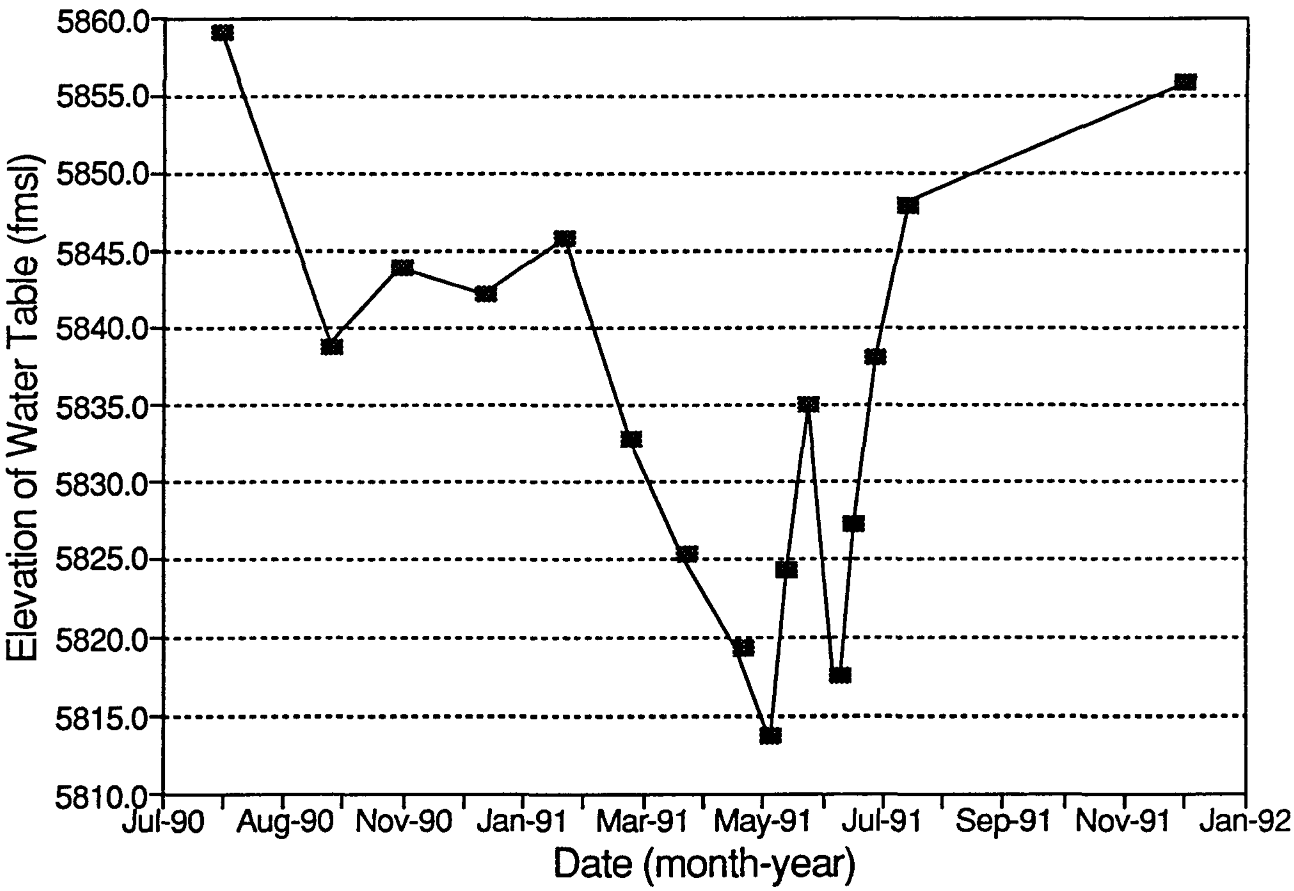


APPENDIX D

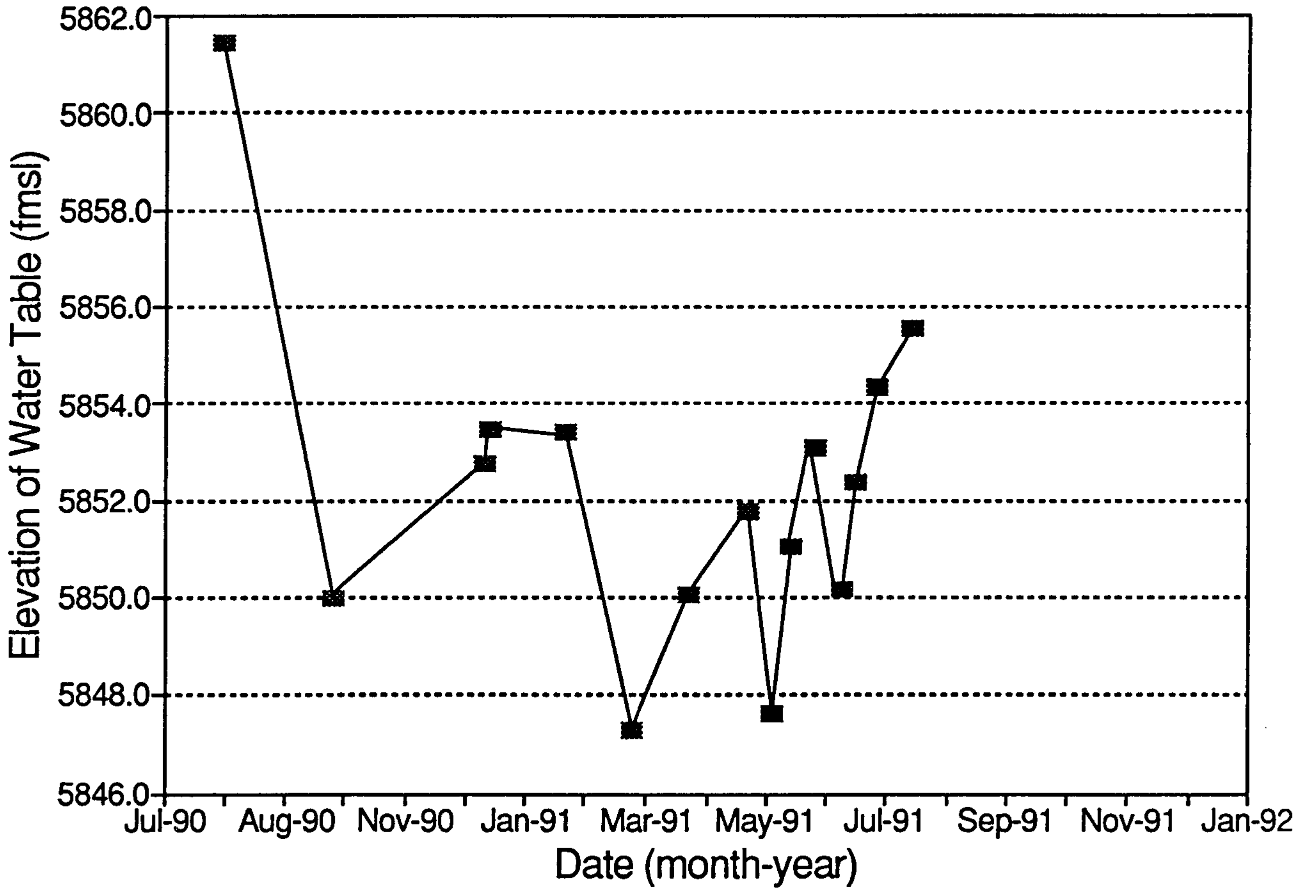
HYDROGRAPHS

REGIONAL WELLS 6-1S TO 6-5S

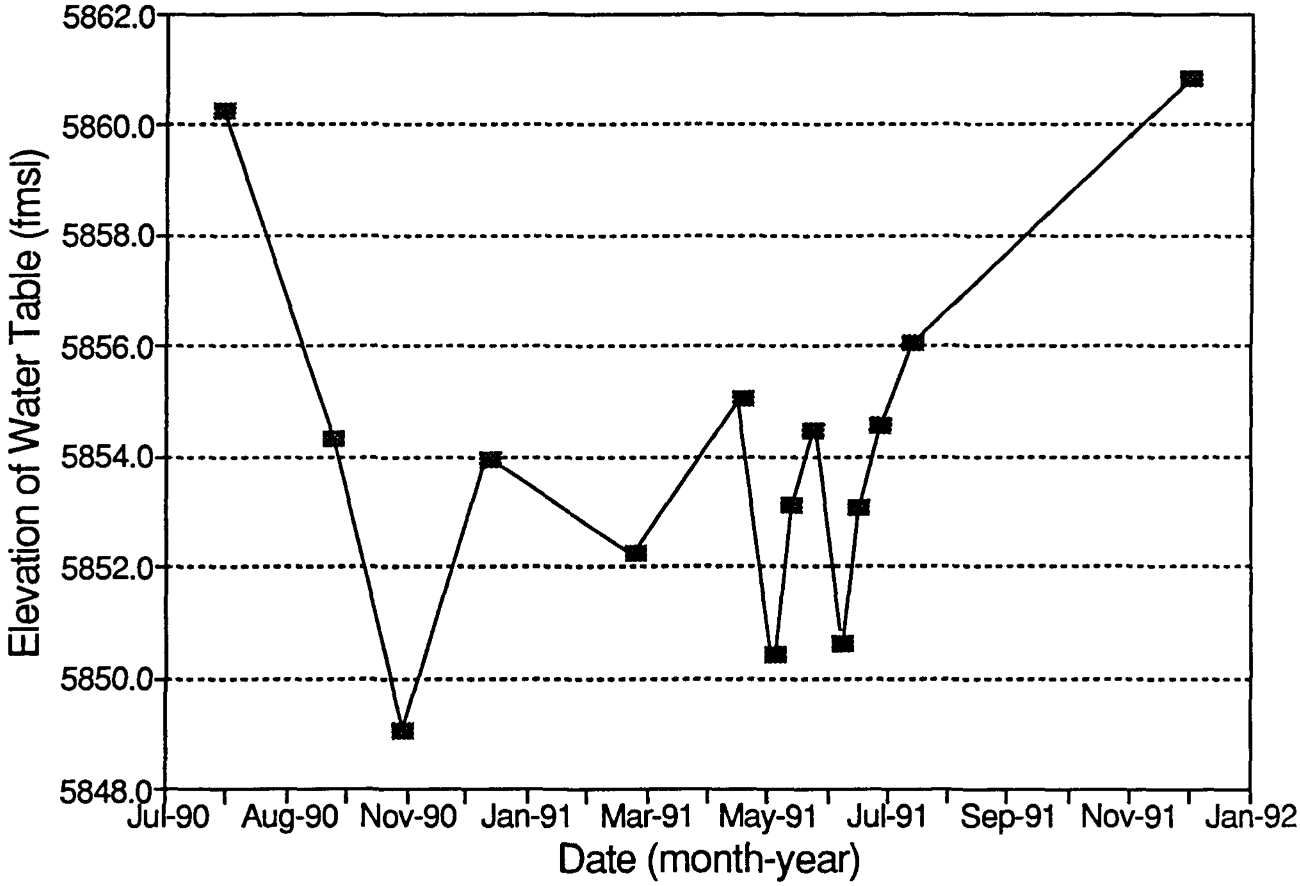
6-1S Hydrograph



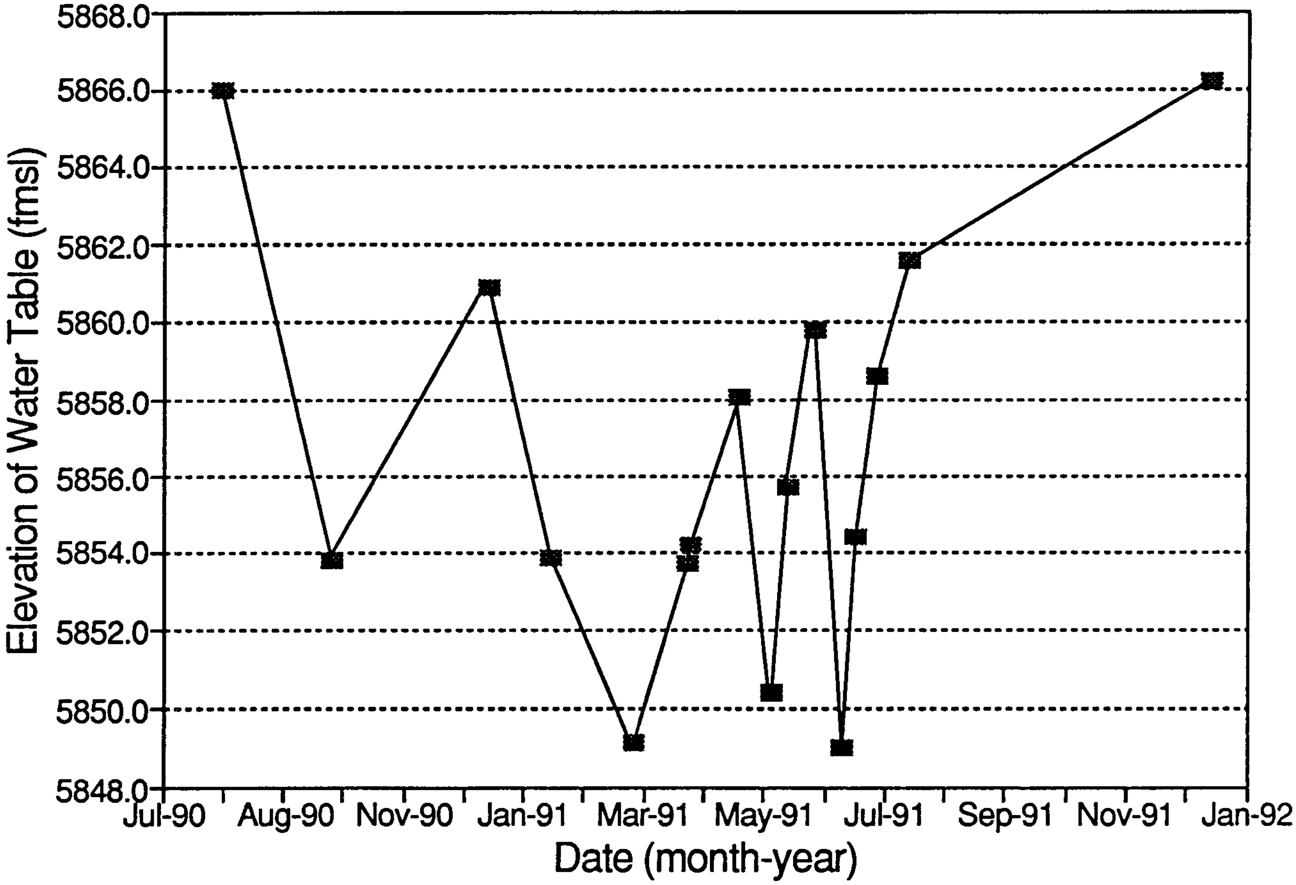
6-2S Hydrograph



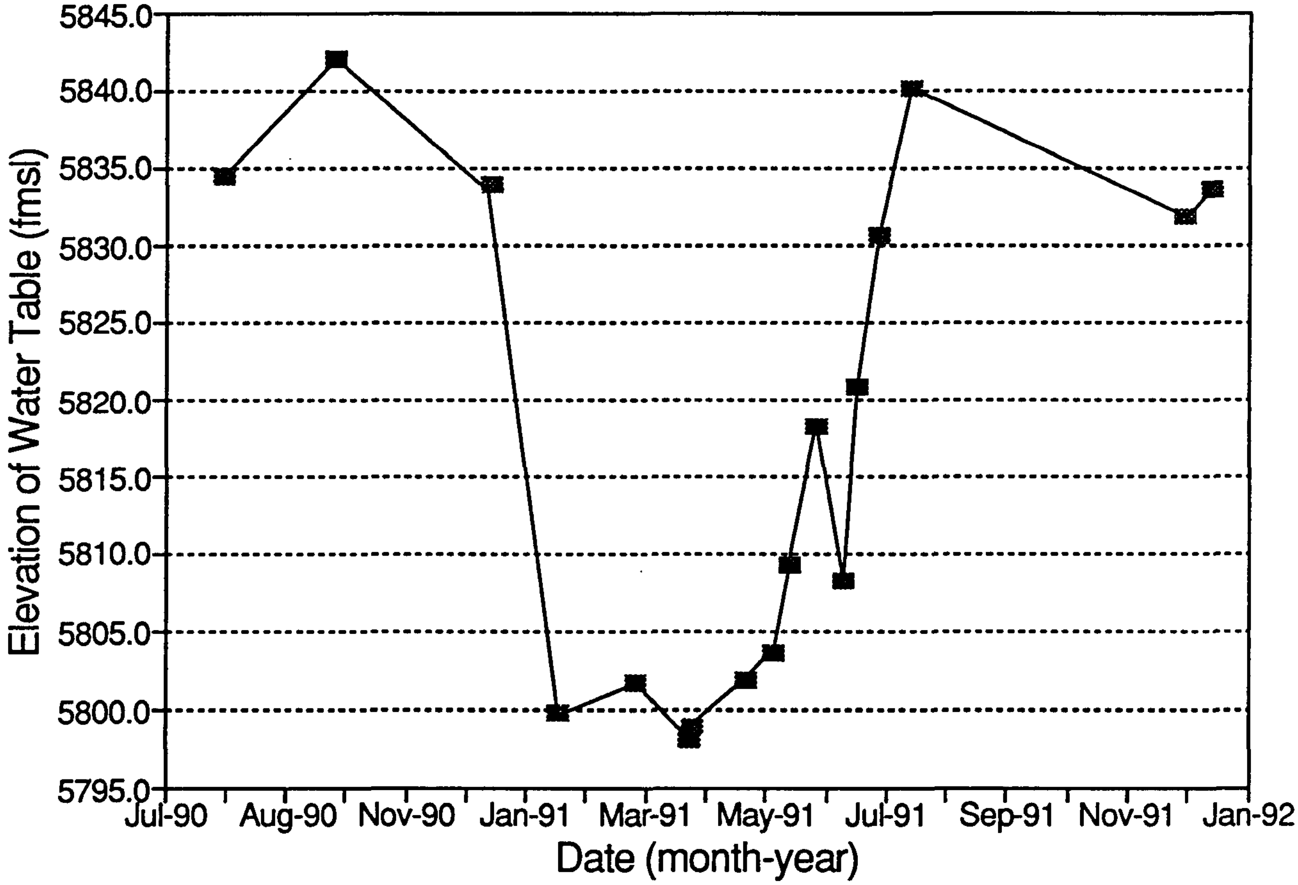
6-3S Hydrograph



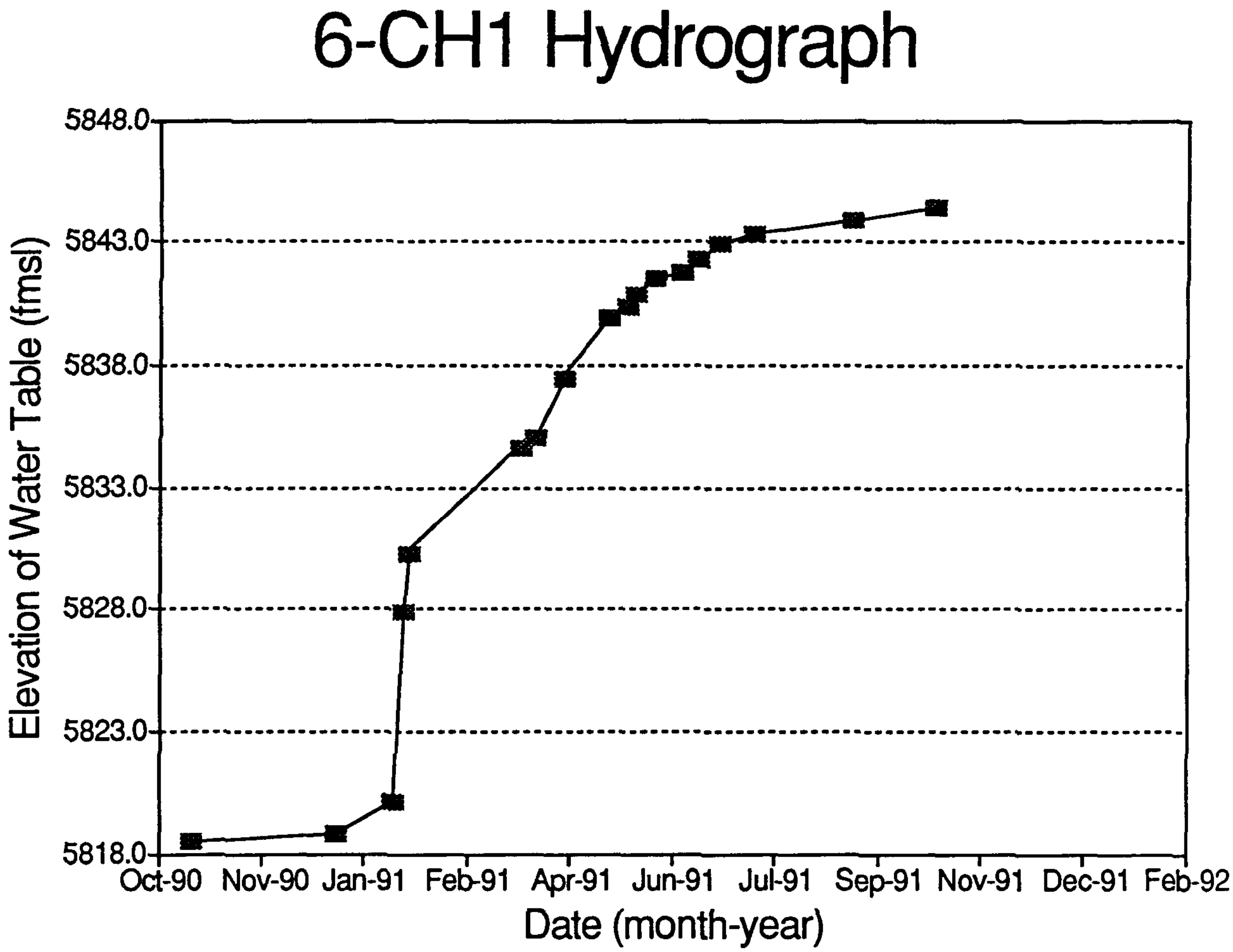
6-4S Hydrograph



6-5S Hydrograph

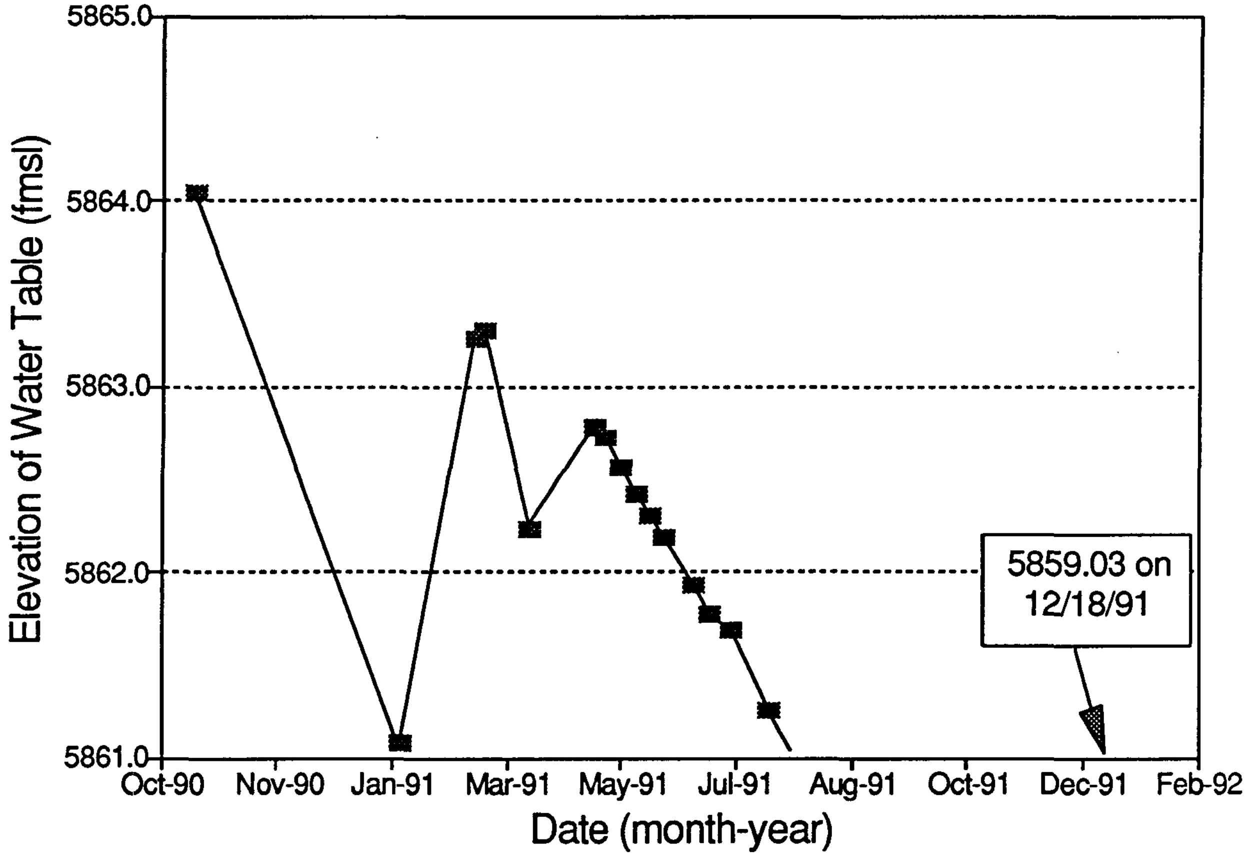


COREHOLES 6-CH1 TO 6-CH5

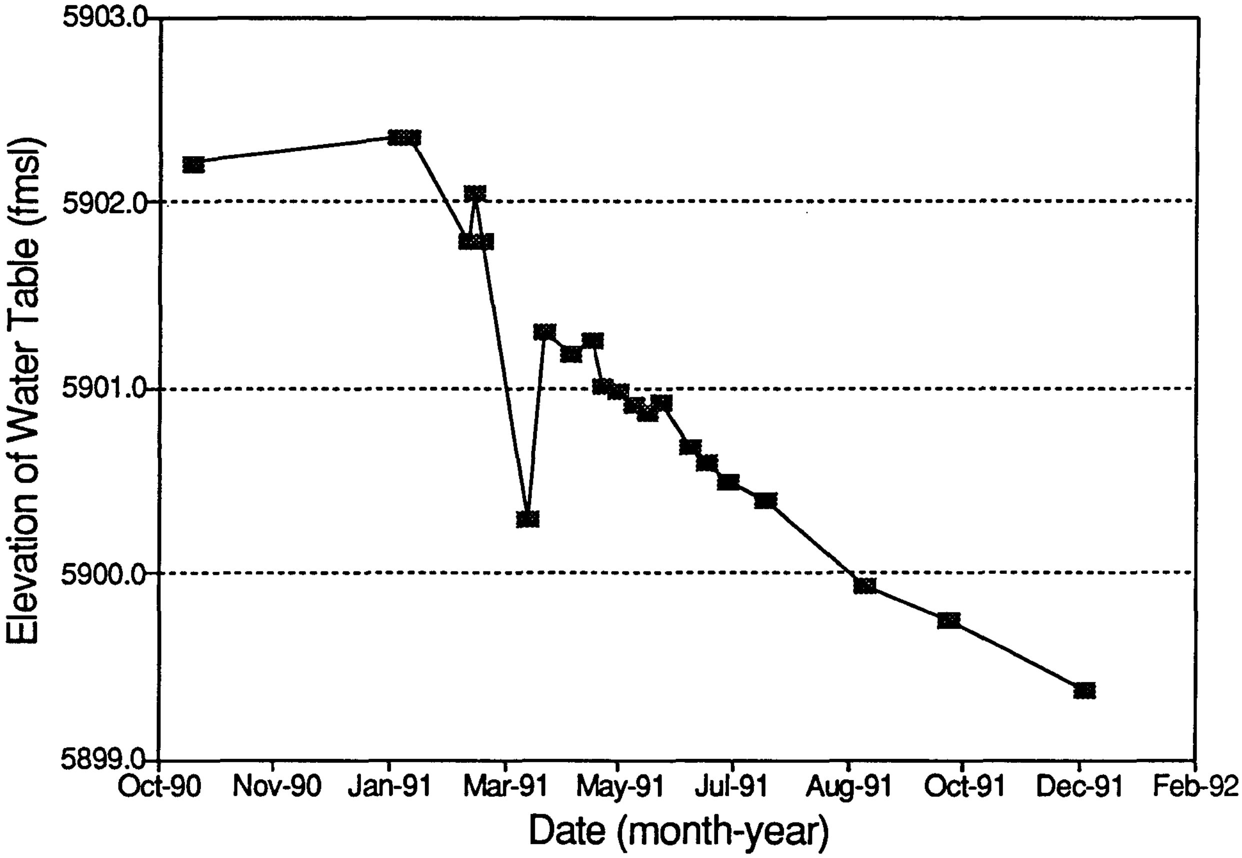


6-CH1 Hydrograph
Elevation of Water Table (fmsl)
5848.0
5843.0
5838.0
5833.0
5828.0
5823.0
5818.0
Oct-90
Nov-90
Jan-91
Feb-91
Apr-91
Jun-91
Jul-91
Sep-91
Nov-91
Dec-91
Feb-92
Date (month-year)

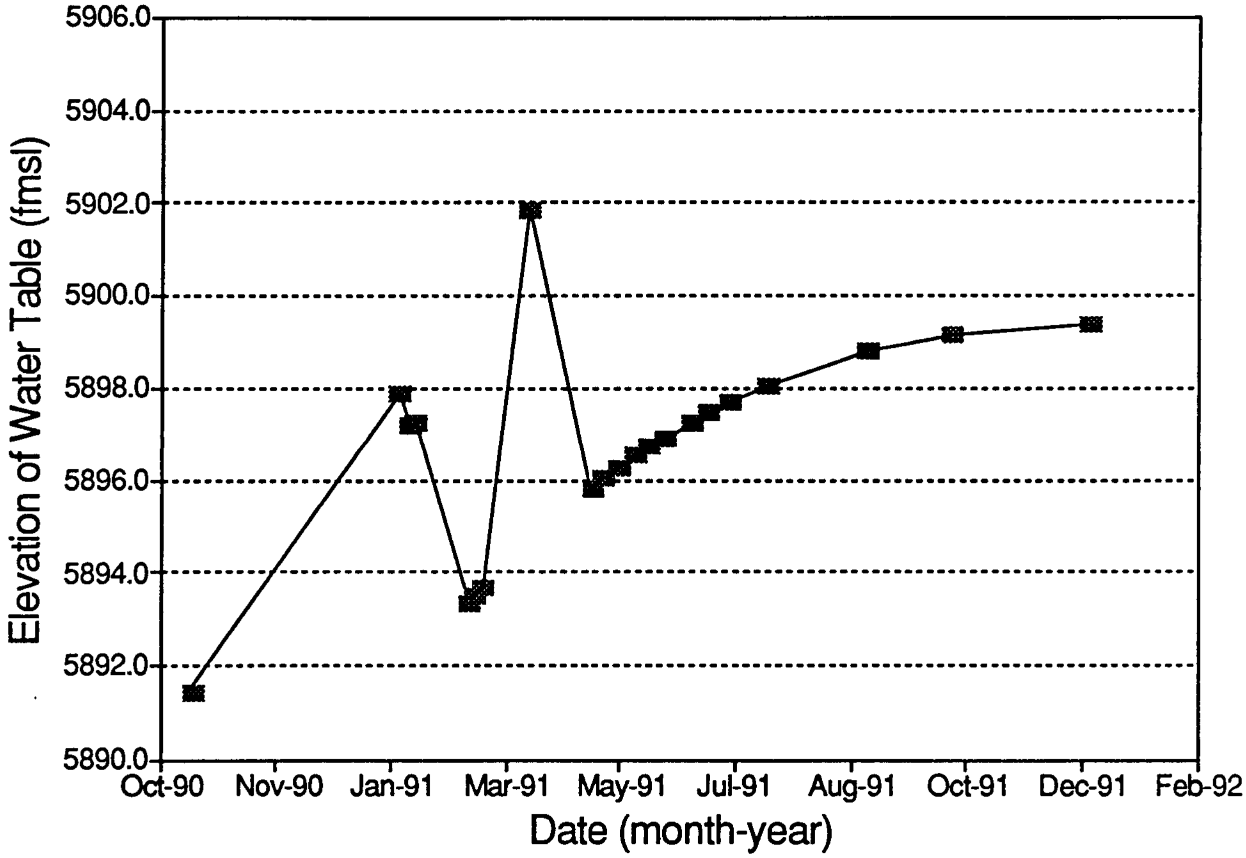
6-CH2 Hydrograph



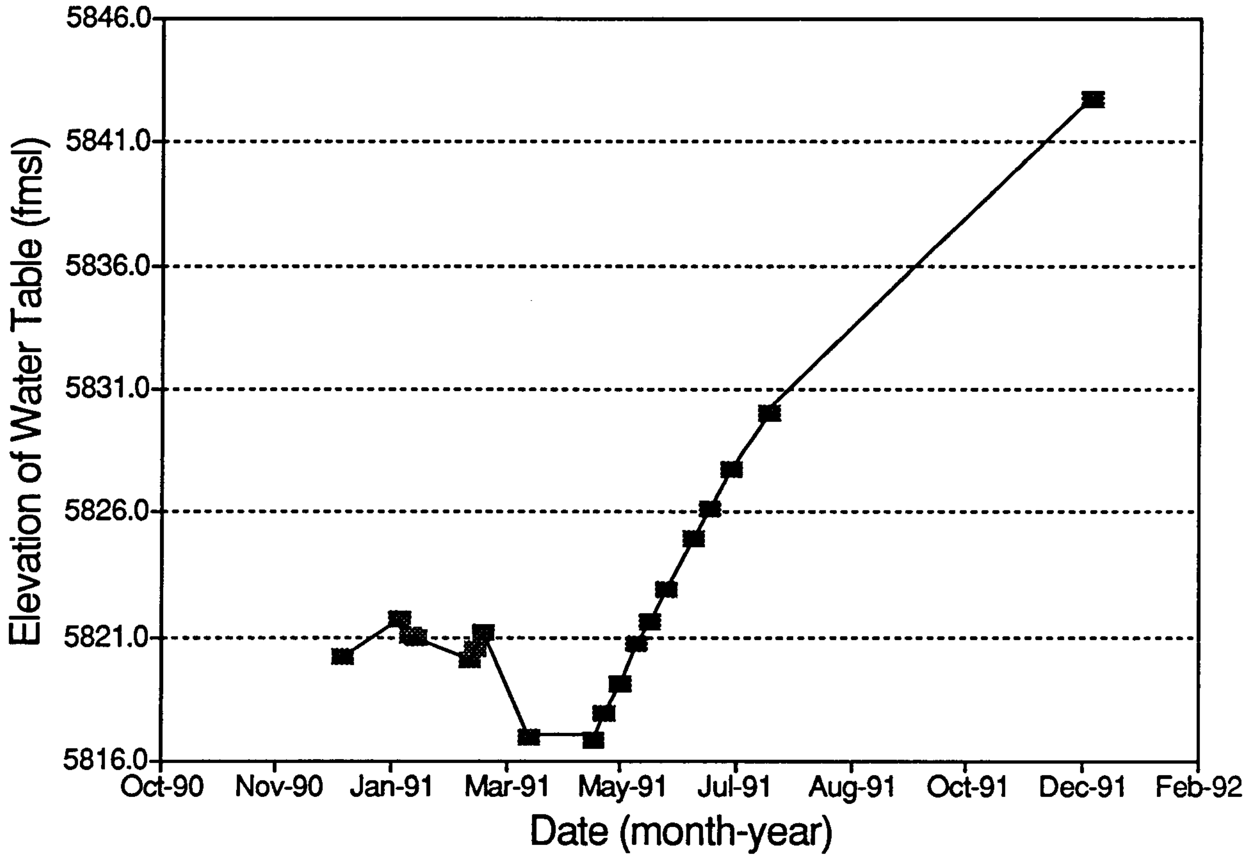
6-CH3 Hydrograph



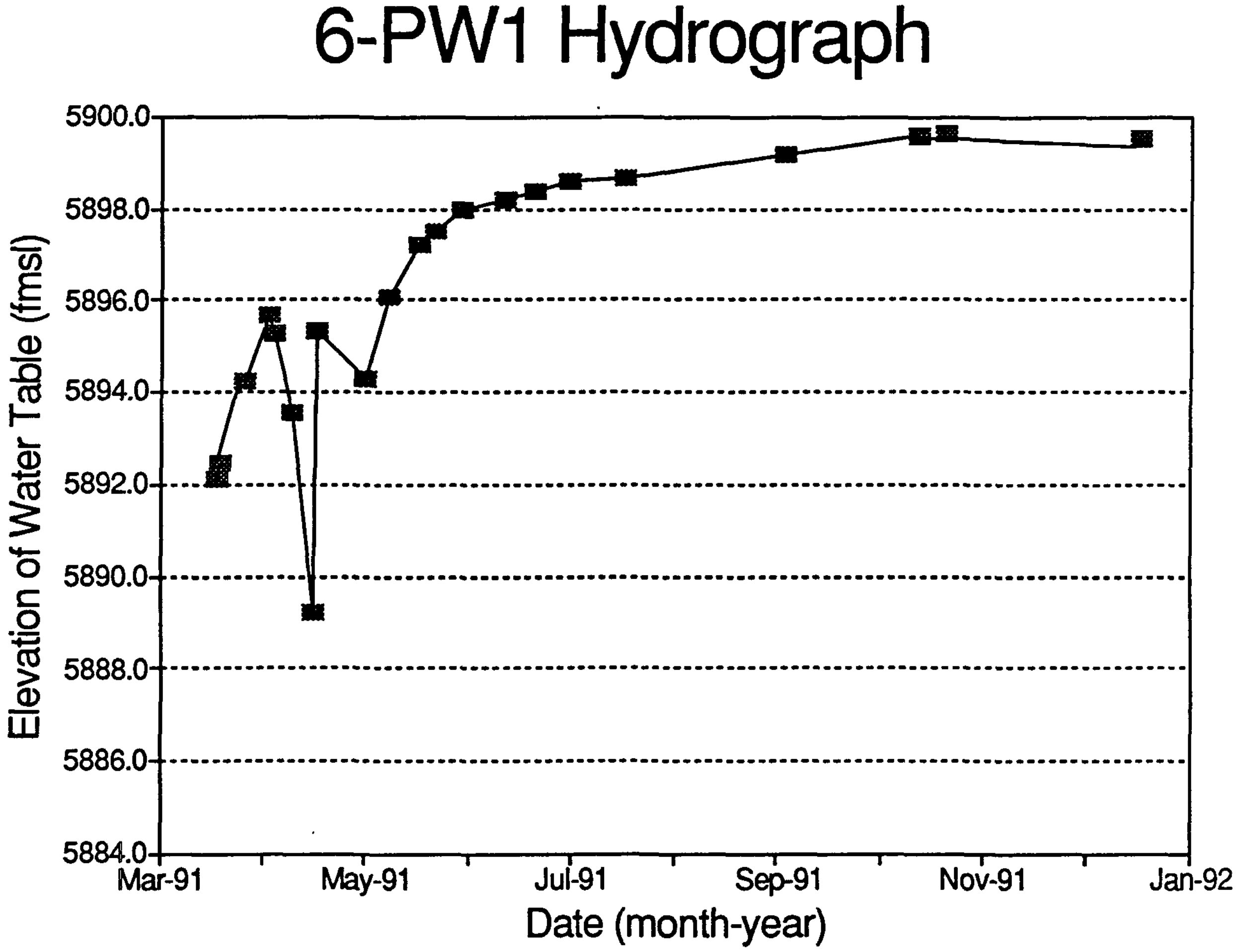
6-CH4 Hydrograph



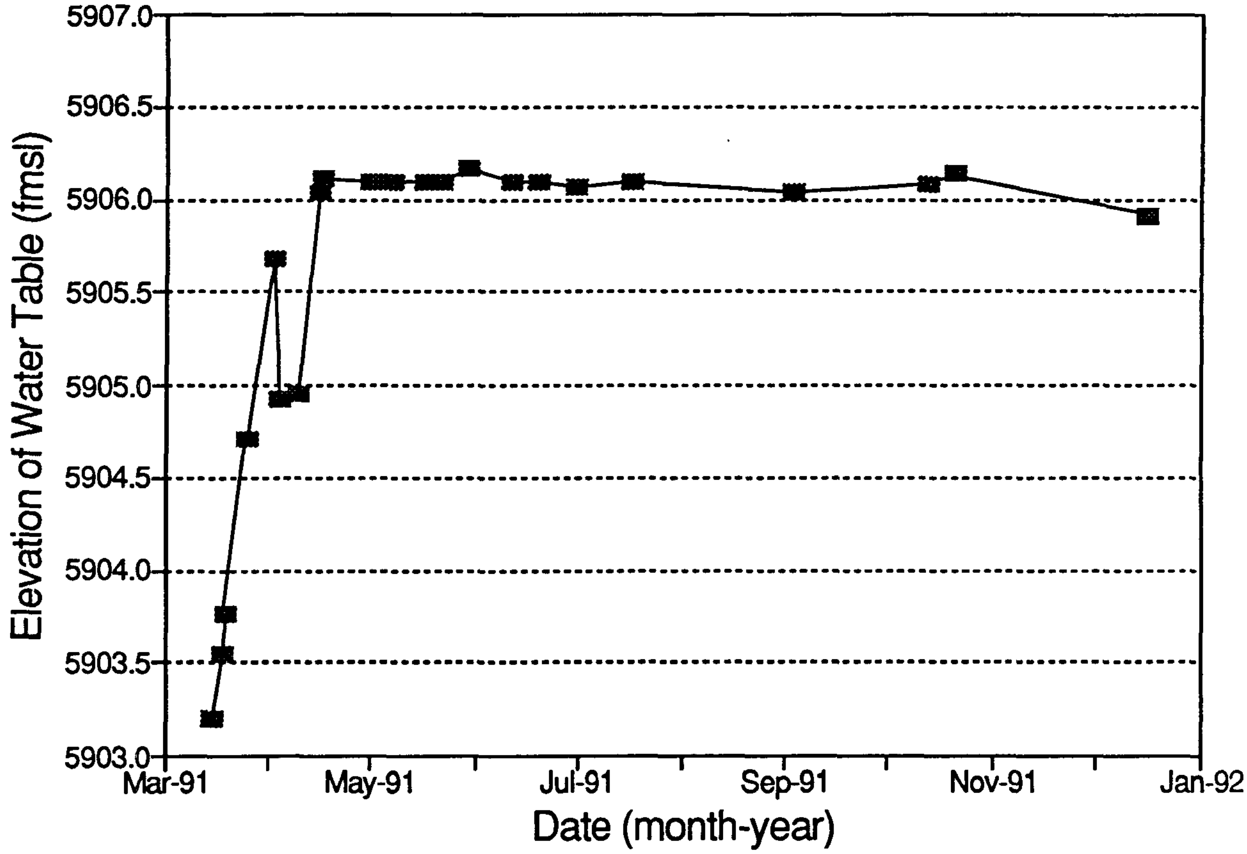
6-CH5 Hydrograph



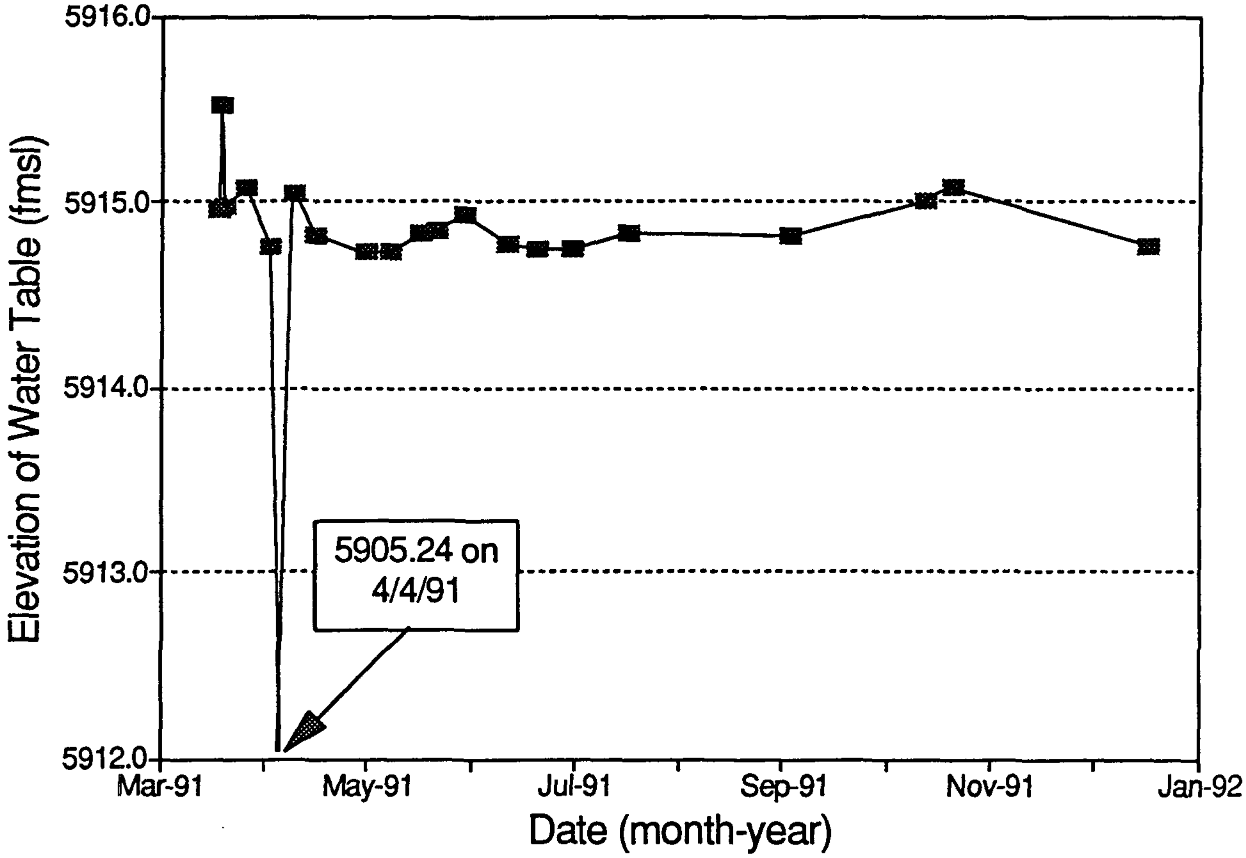
PERCHED WATER SERIES
6-PW1 TO 6-PW8


6-PW1 Hydrograph
5900.0
5898.0
5896.0
5894.0
5892.0
5890.0
5888.0
5886.0
5884.0
Elevation of Water Table (fmsl)
Mar-91
May-91
Jul-91
Sep-91
Nov-91
Jan-92
Date (month-year)

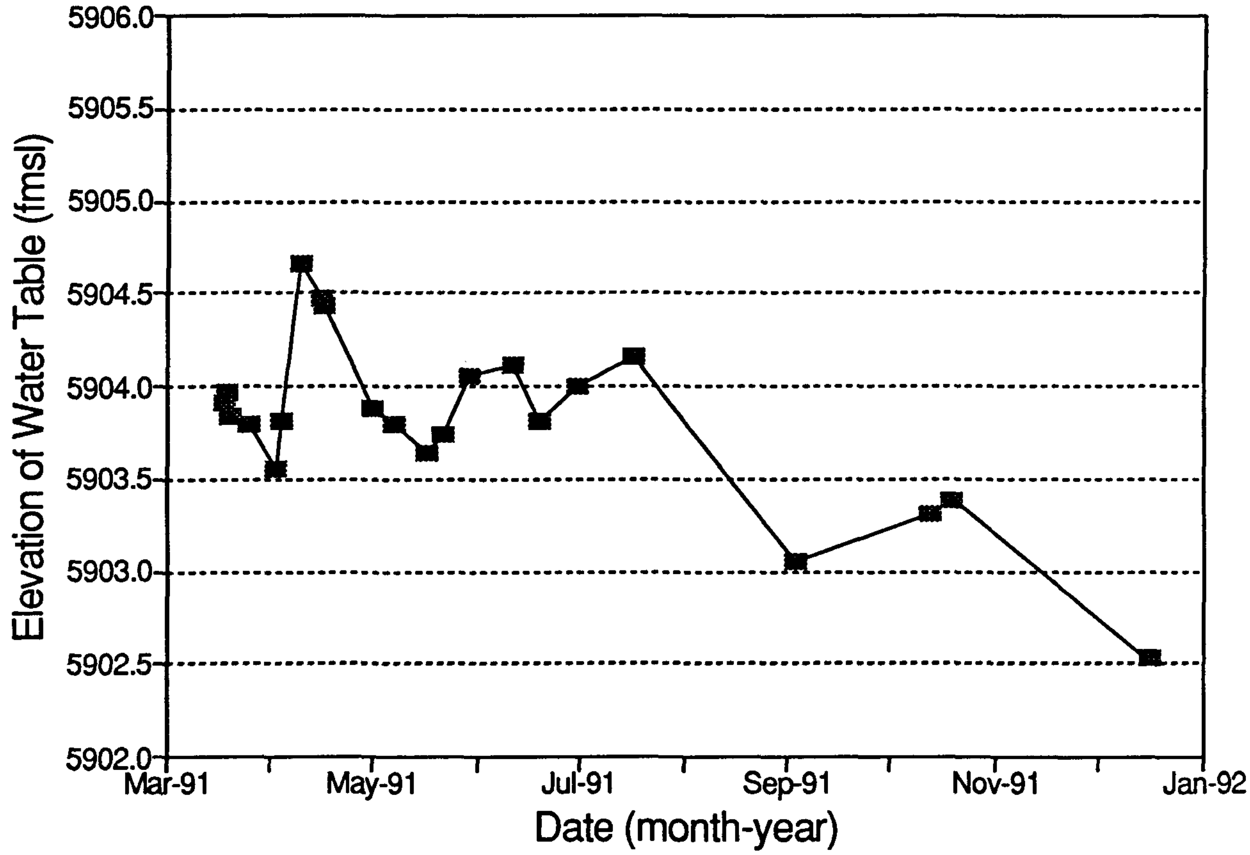
6-PW2 Hydrograph

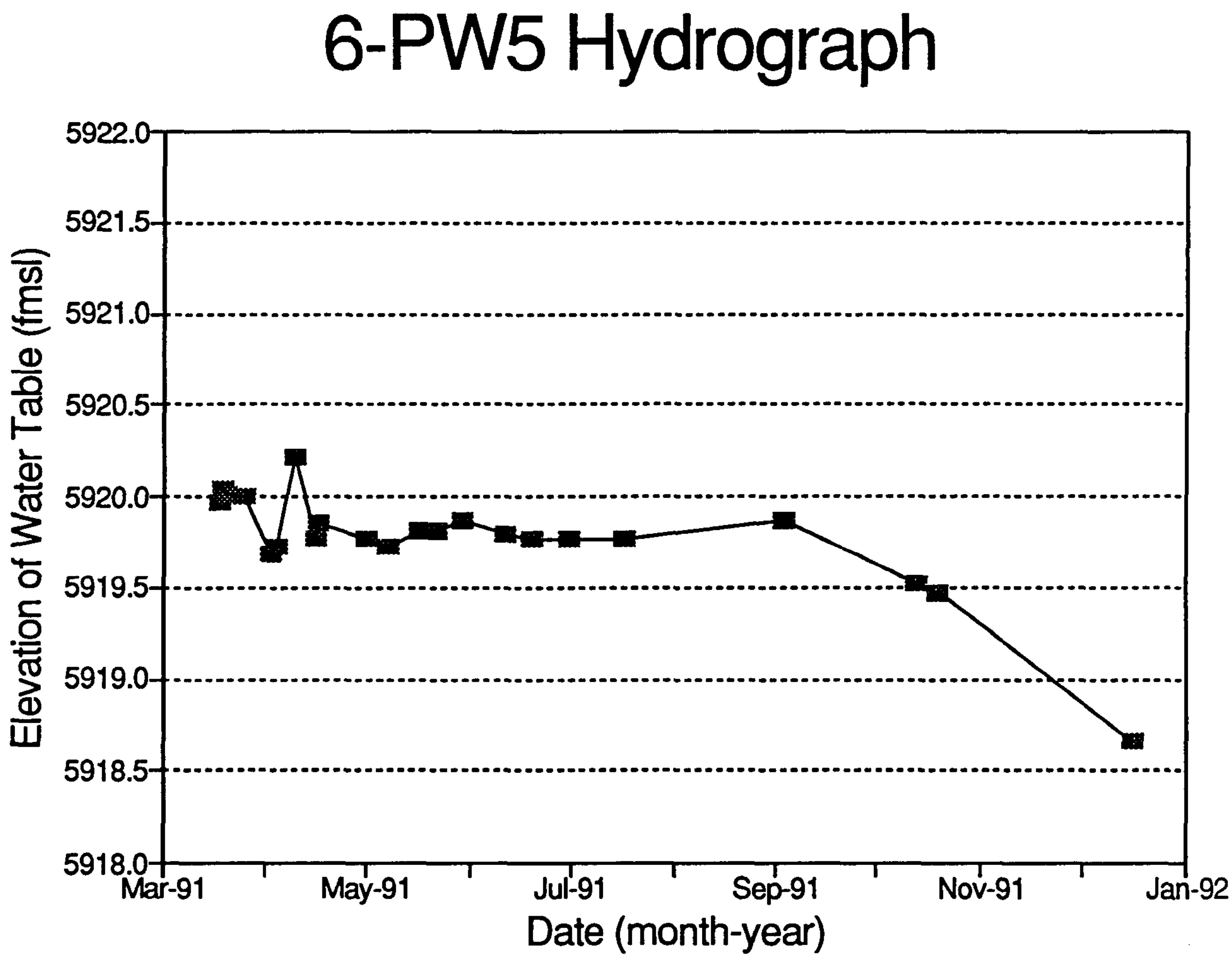


6-PW3 Hydrograph

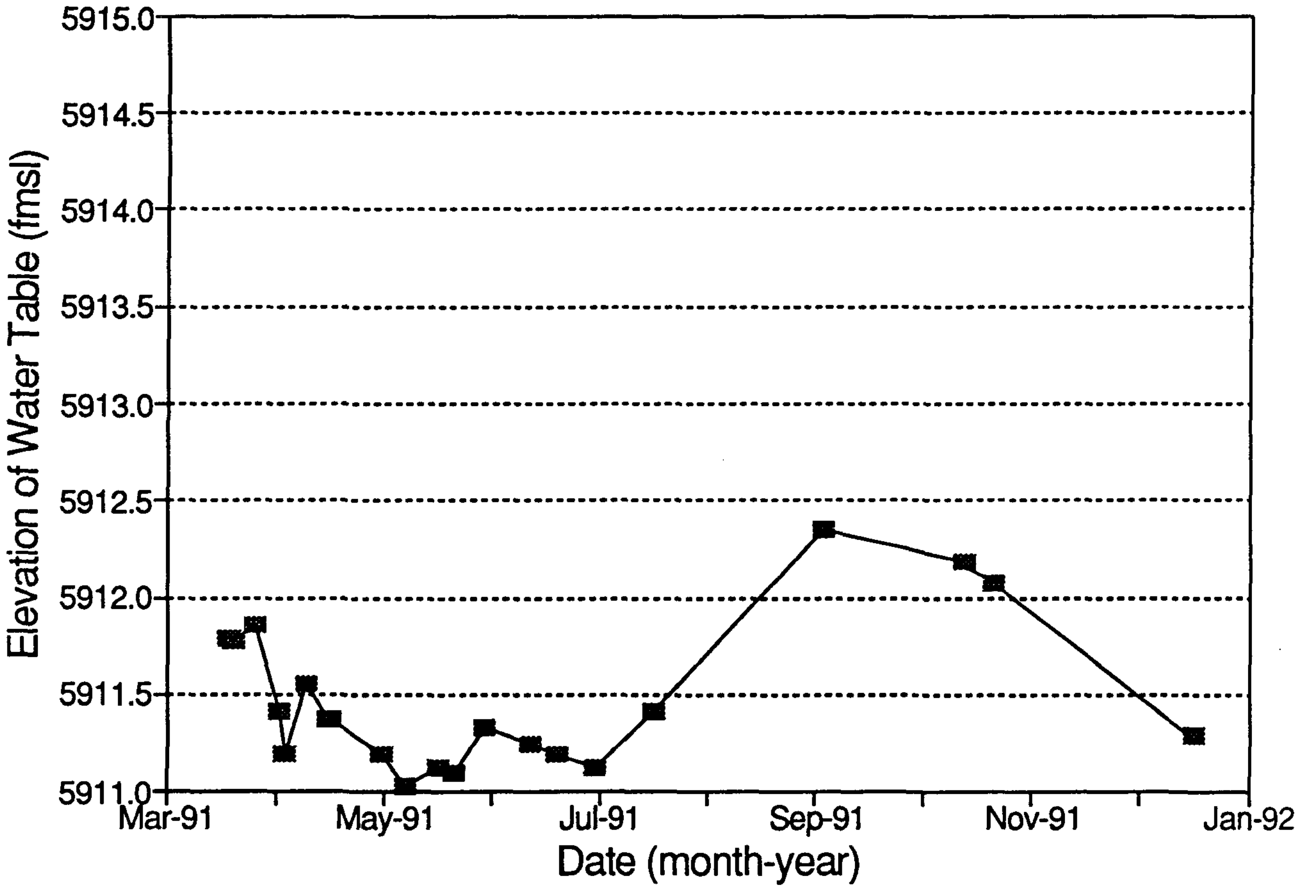


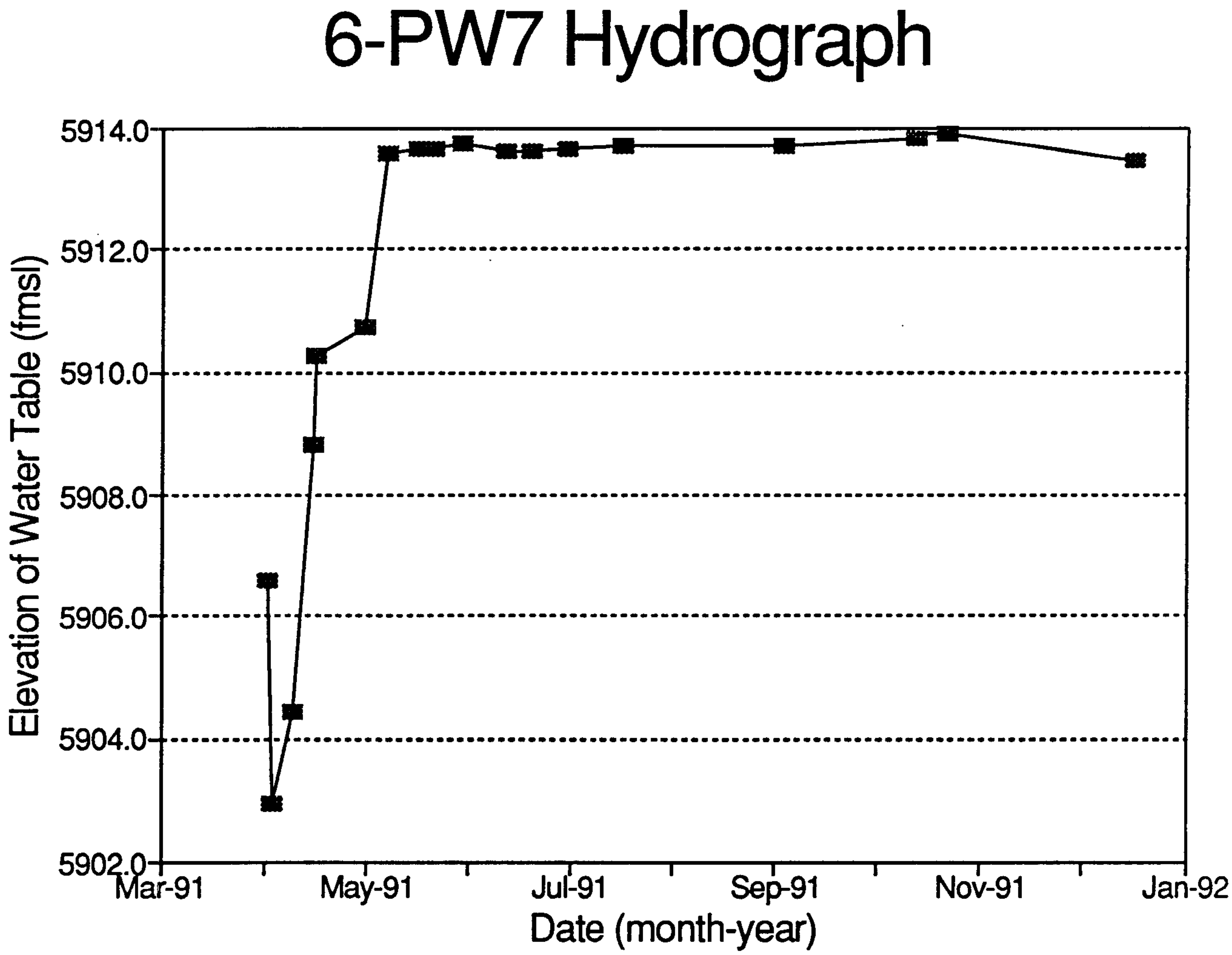
6-PW4 Hydrograph



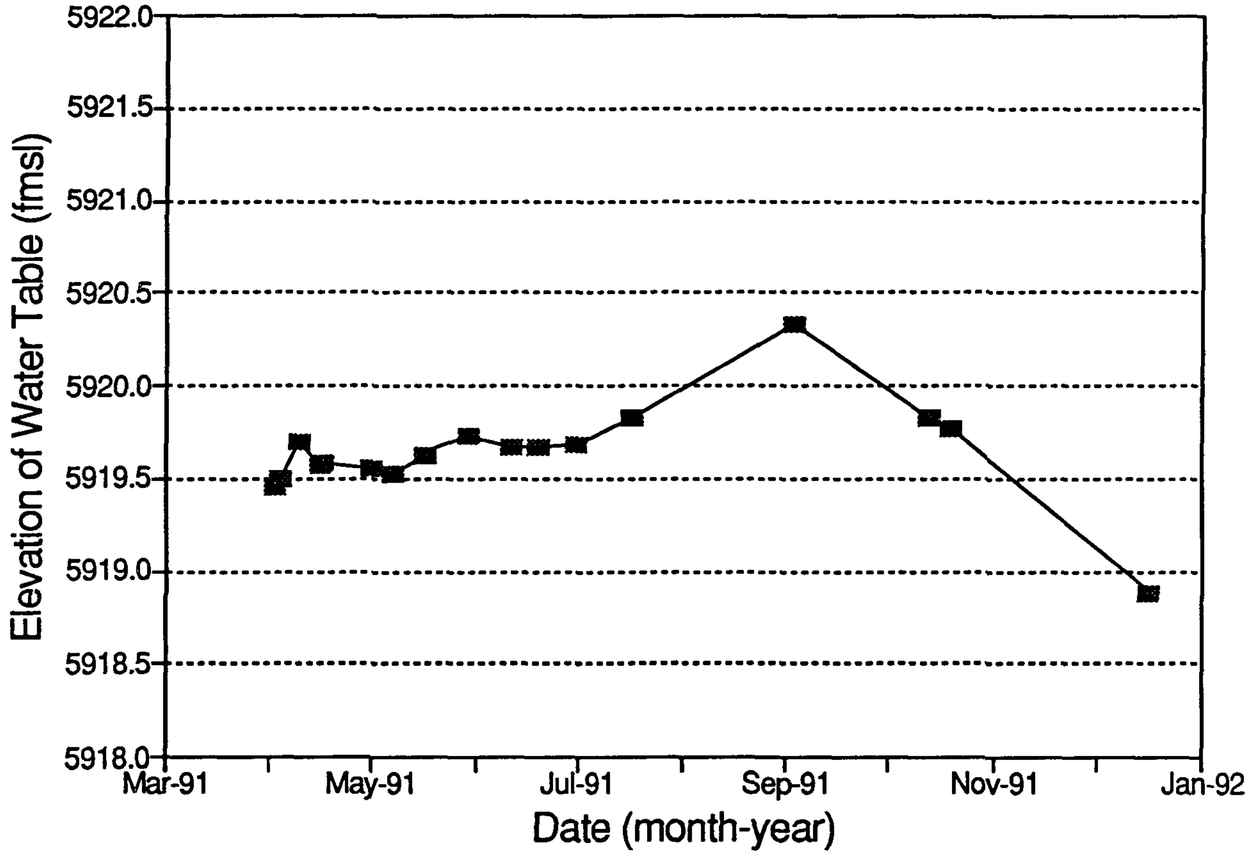

6-PW5 Hydrograph
Elevation of Water Table (fmsl)
5922.0
5921.5
5921.0
5920.5
5920.0
5919.5
5919.0
5918.5
5918.0
Mar-91
May-91
Jul-91
Sep-91
Nov-91
Jan-92
Date (month-year)

6-PW6 Hydrograph



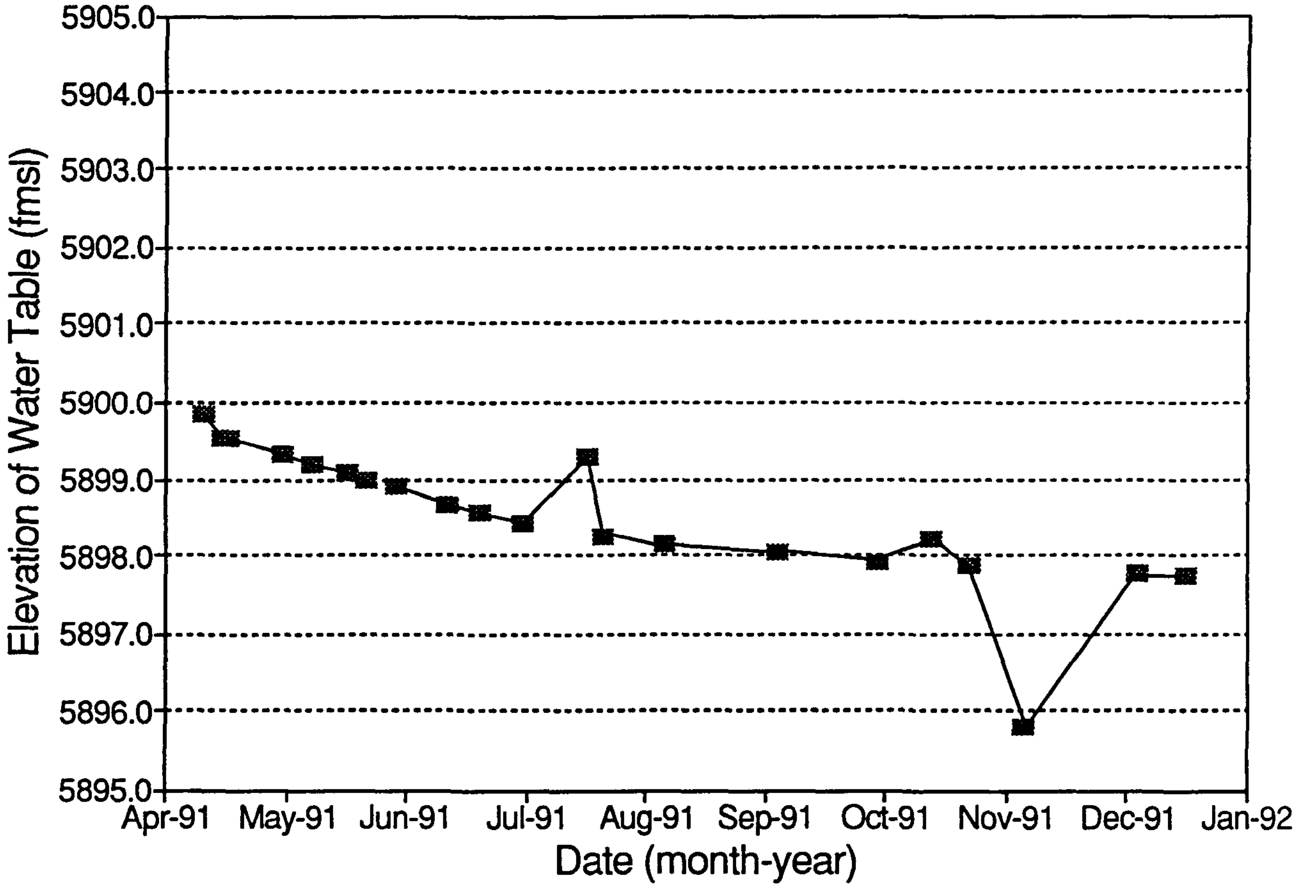

6-PW7 Hydrograph
5914.0
5912.0
5910.0
5908.0
5906.0
5904.0
5902.0
Elevation of Water Table (fmsl)
Mar-91
May-91
Jul-91
Sep-91
Nov-91
Jan-92
Date (month-year)

6-PW8 Hydrograph

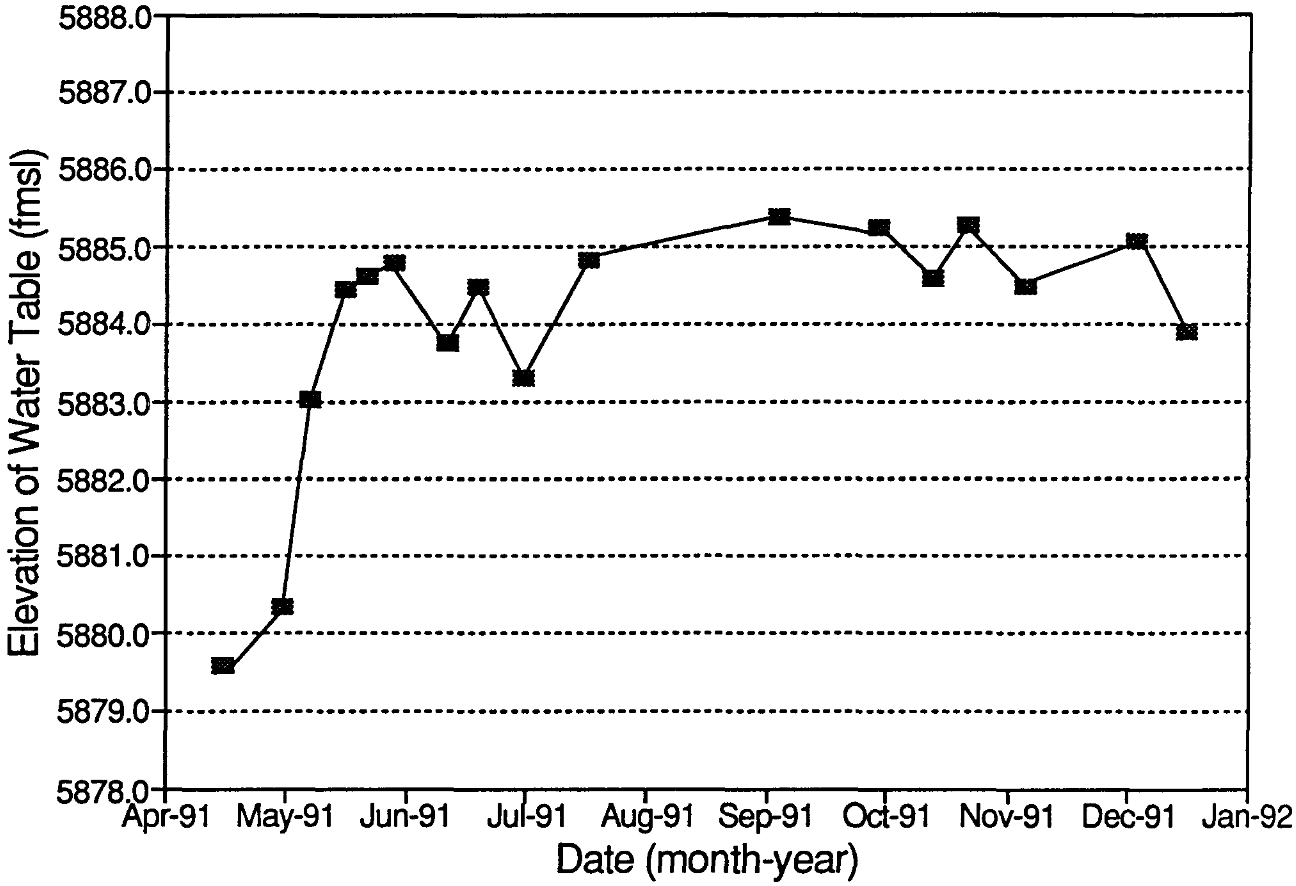


MONITOR WELLS 6-6 TO 6-12

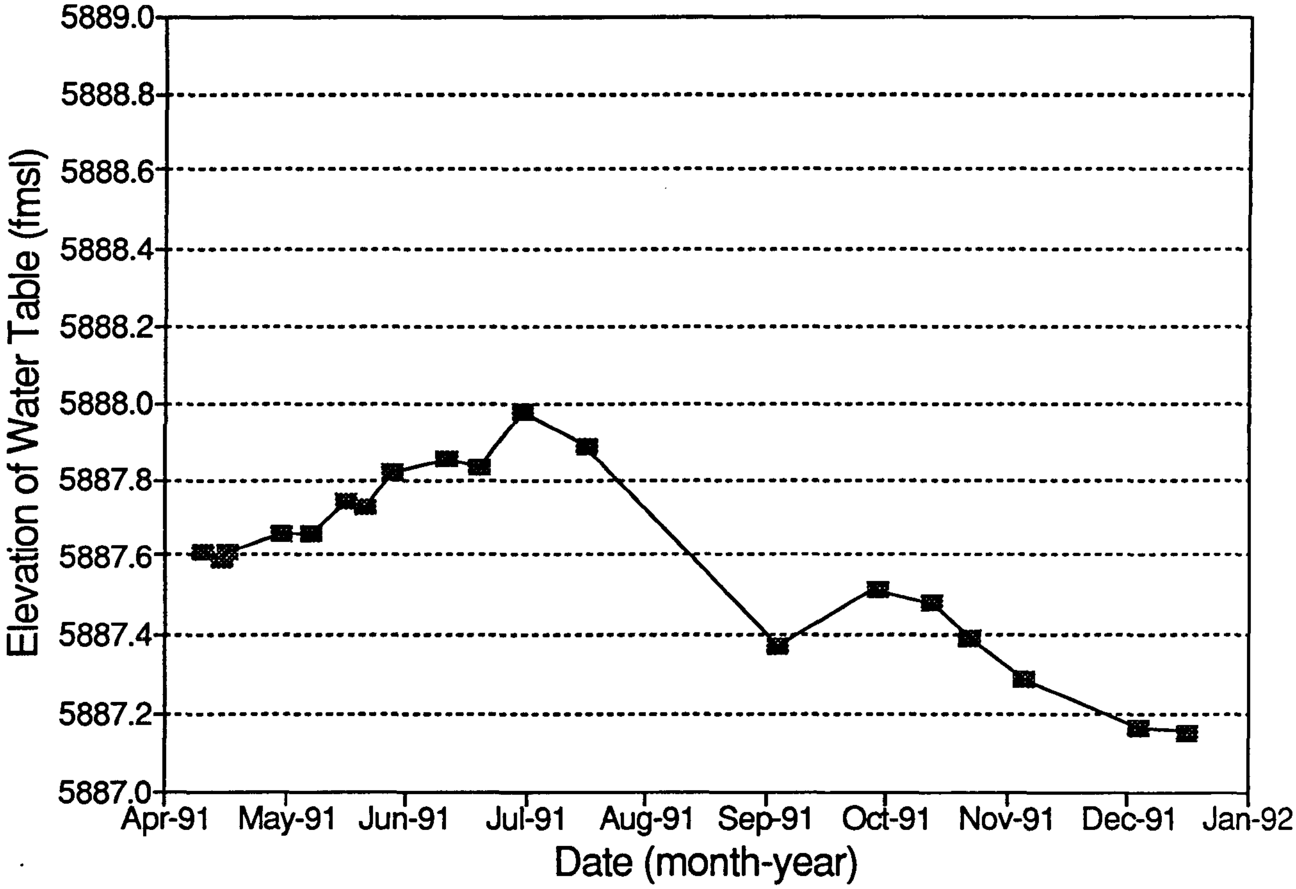
6-6 Hydrograph



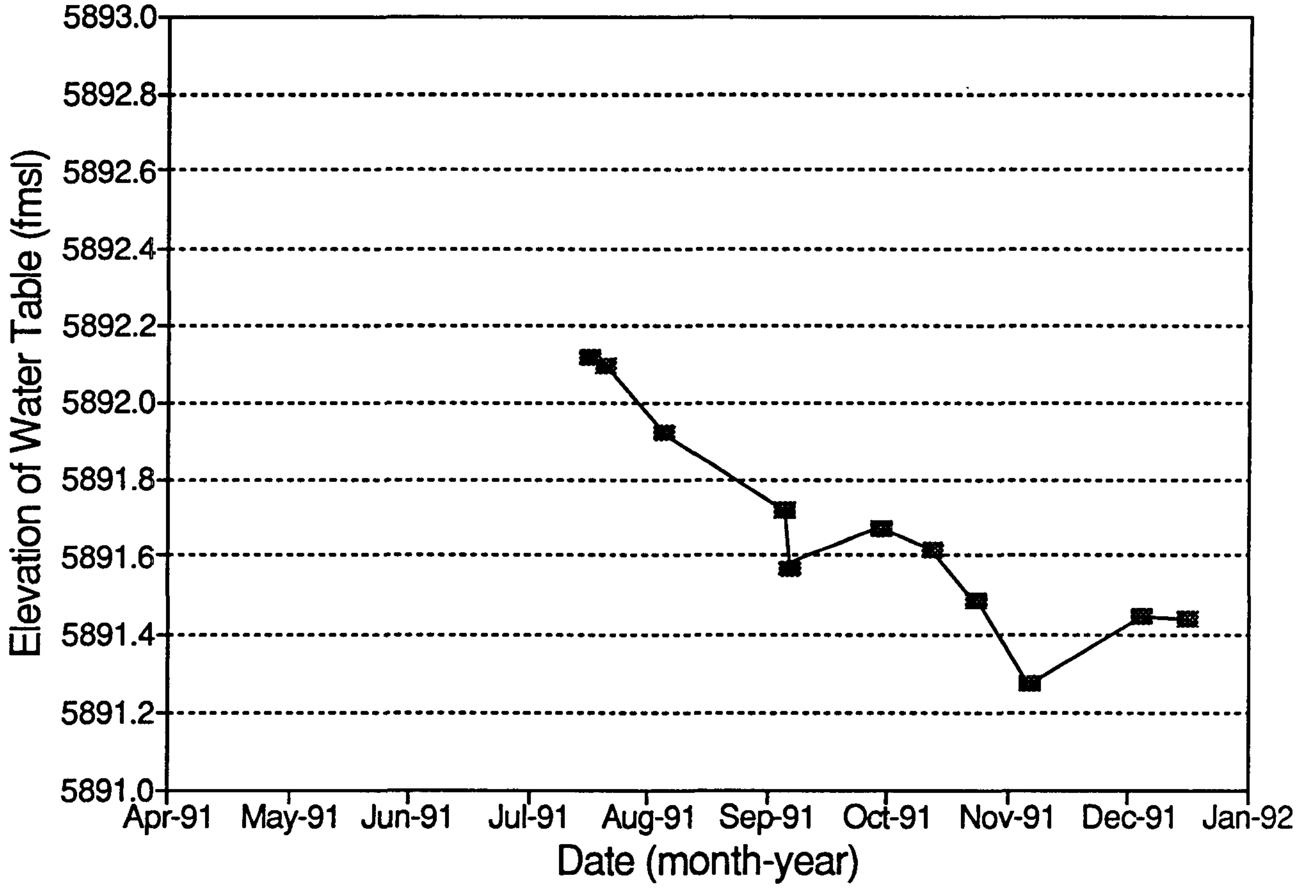
6-7 Hydrograph



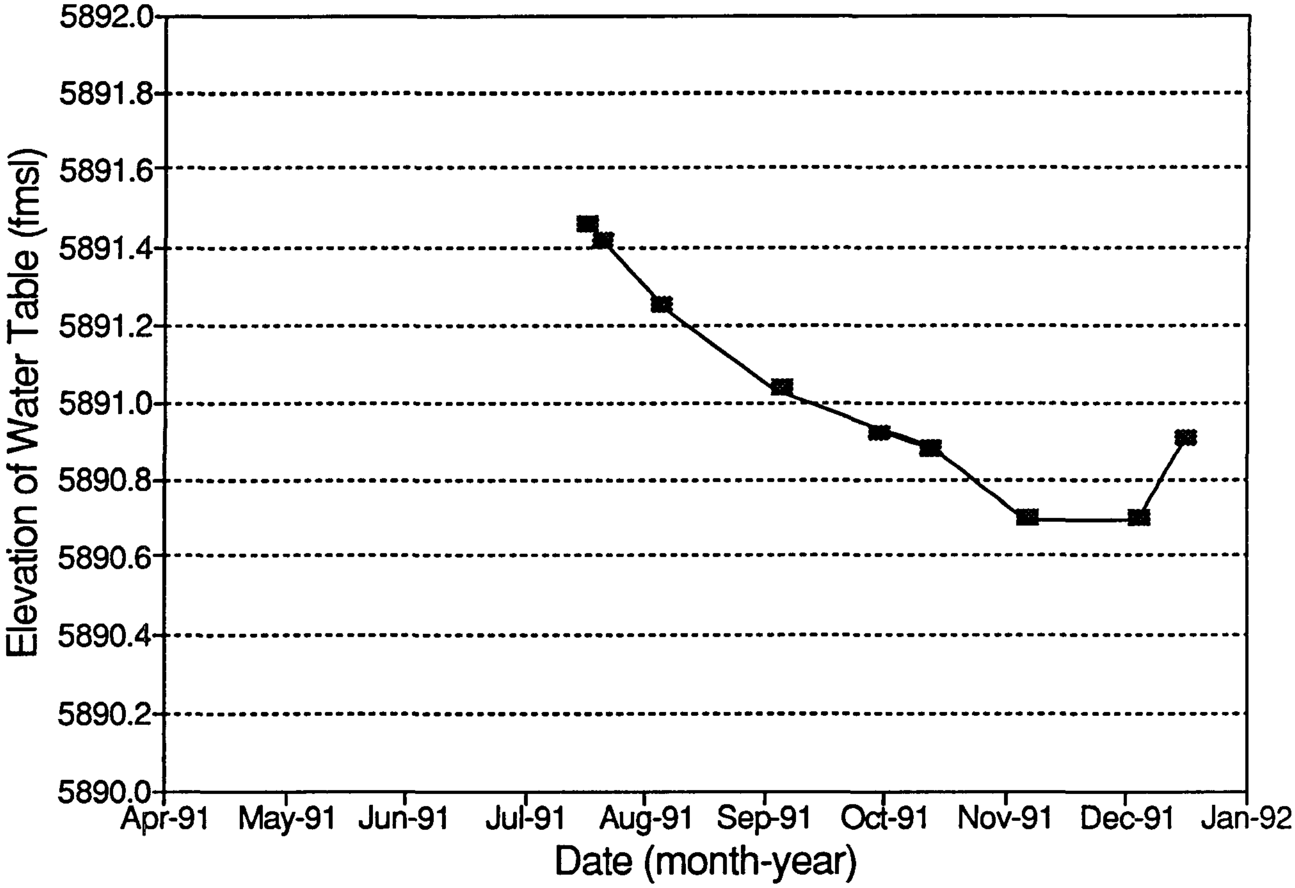
6-8 Hydrograph



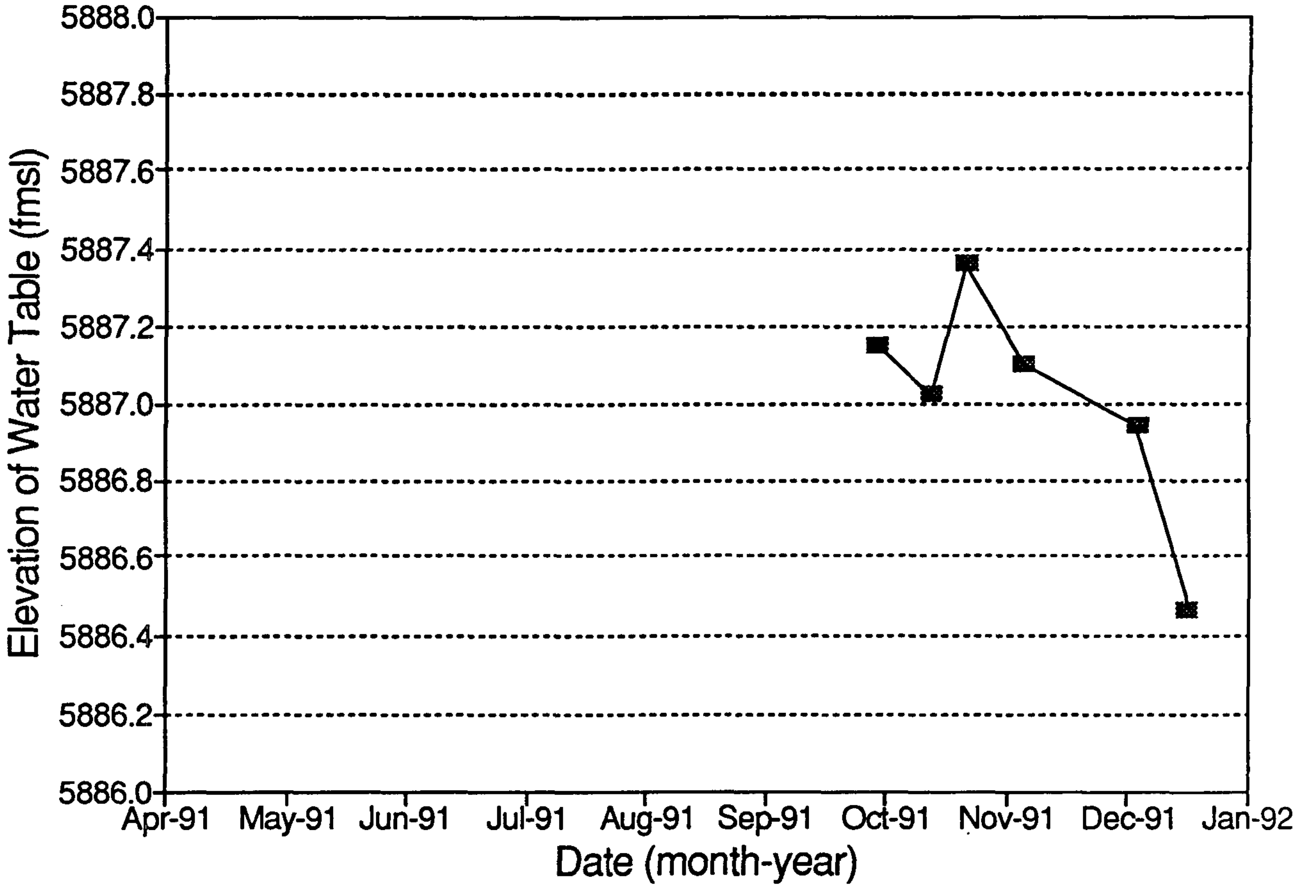
6-9 Hydrograph



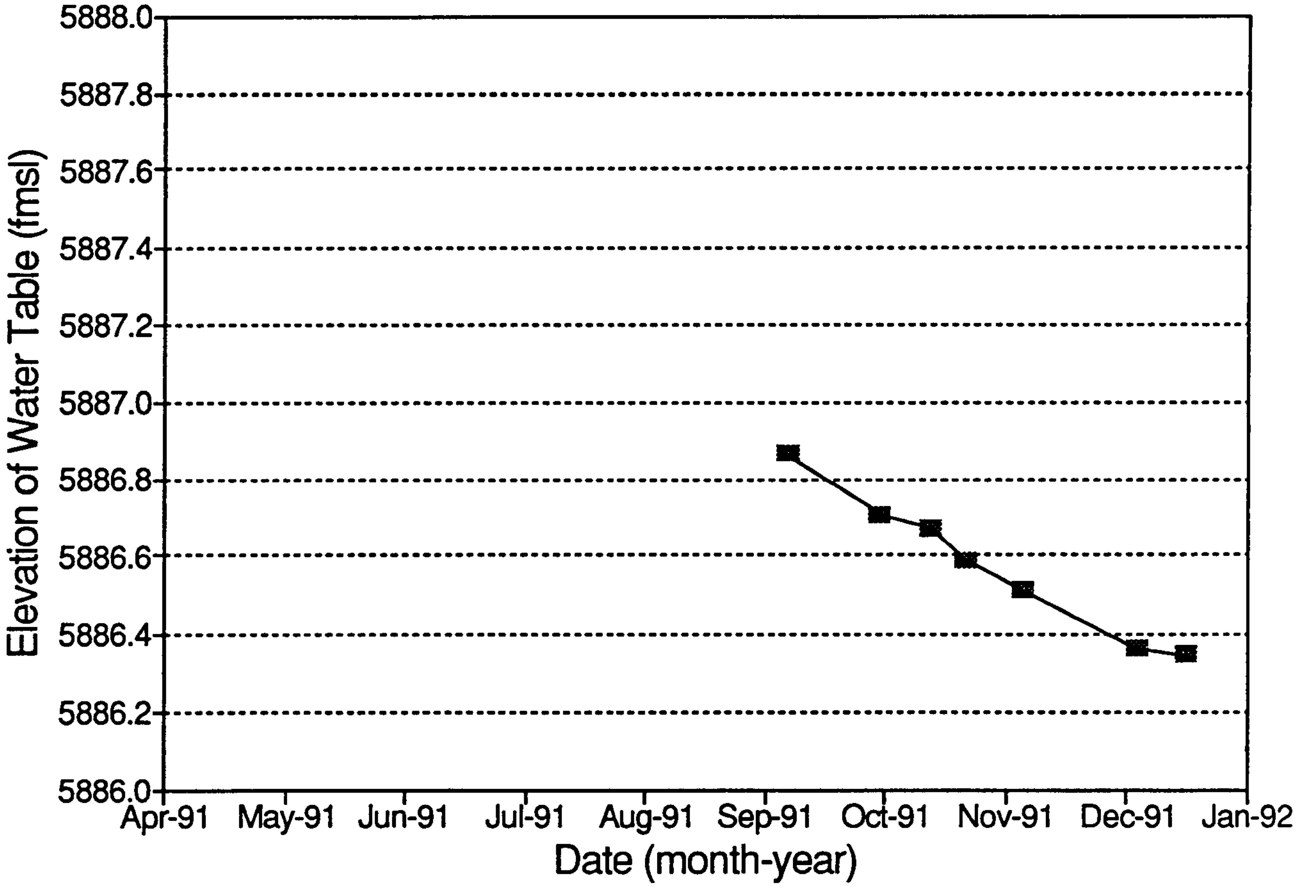
6-10 Hydrograph



6-11 Hydrograph



6-12 Hydrograph



APPENDIX E

RESULTS OF AQUIFER HYDRAULIC TESTING

RECOVERY TEST DATA

Monitor Well 6-PW1: Recovery Test

Date:	10/22/91
Static Water Level:	18.33 ft
Begin Bailing:	12:18:00
Stop Bailing:	12:38:00
Total Bailing Time:	00:20:00
Volume of Water Bailed:	3.4 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/22/91	00:00:24	7.29
10/22/91	00:01:09	7.23
10/22/91	00:01:30	7.21
10/22/91	00:02:20	7.19
10/22/91	00:03:09	7.17
10/22/91	00:04:09	7.15
10/22/91	00:05:08	7.13
10/22/91	00:06:15	7.11
10/22/91	00:07:52	7.09
10/22/91	00:09:24	7.07
10/22/91	00:10:58	7.05
10/22/91	00:12:38	7.03
10/22/91	00:14:34	7.01
10/22/91	00:16:47	6.99
10/22/91	00:18:34	6.97
10/22/91	00:21:47	6.95
10/22/91	00:27:56	6.91
10/22/91	00:36:36	6.87
10/22/91	01:00:30	6.79
10/22/91	01:10:35	6.77
10/22/91	01:35:15	6.75
10/22/91	02:04:30	6.70
10/22/91	02:31:55	6.68
10/22/91	02:33:20	6.67
10/22/91	03:02:30	6.65
10/22/91	03:40:30	6.62
10/22/91	04:27:30	6.59
10/23/91	20:22:00	6.14
10/23/91	23:15:00	6.08
10/23/91	26:22:00	5.99
10/23/91	28:49:00	5.93
10/24/91	44:21:00	5.59
10/24/91	48:23:00	5.49
10/24/91	52:19:00	5.42
10/25/91	70:34:00	5.04
10/25/91	73:23:00	4.99

Monitor Well 6-PW2: Recovery Test

Date:	10/22/91
Static Water Level:	16.10 ft
Begin Bailing:	10:16:00
Stop Bailing:	10:20:30
Total Bailing Time:	00:04:30
Volume of Water Bailed:	0.63 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/22/91	00:00:44	2.07
10/22/91	00:00:54	2.06
10/22/91	00:01:14	2.04
10/22/91	00:01:23	2.02
10/22/91	00:01:46	2.00
10/22/91	00:03:47	1.98
10/22/91	00:04:33	1.96
10/22/91	00:06:08	1.94
10/22/91	00:07:24	1.92
10/22/91	00:09:33	1.90
10/22/91	00:11:58	1.88
10/22/91	00:15:28	1.89
10/22/91	00:18:20	1.84
10/22/91	00:23:45	1.82
10/22/91	00:32:00	1.80
10/22/91	00:42:34	1.78
10/22/91	00:56:46	1.76
10/22/91	01:18:15	1.74
10/22/91	01:42:19	1.72
10/22/91	02:51:00	1.72
10/22/91	03:31:50	1.69
10/22/91	04:18:00	1.68
10/22/91	04:46:15	1.67
10/22/91	05:17:30	1.66
10/22/91	05:55:15	1.65
10/22/91	06:41:30	1.64
10/23/91	22:42:30	1.43
10/23/91	25:36:30	1.40
10/23/91	28:34:30	1.36
10/23/91	31:03:30	1.35
10/24/91	46:43:30	1.21
10/24/91	50:37:30	1.16
10/24/91	54:34:30	1.12
10/25/91	72:48:30	0.96
10/25/91	75:35:30	0.95

Monitor Well 6-PW3: Recovery Test

Date:	10/22/91
Static Water Level:	10.96 ft
Begin Bailing:	14:05:00
Stop Bailing:	14:30:00
Total Bailing Time:	00:25:00
Volume of Water Bailed:	4.8 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/22/91	00:00:30	10.00
10/22/91	00:01:02	9.88
10/22/91	00:01:28	9.82
10/22/91	00:01:55	9.76
10/22/91	00:02:17	9.71
10/22/91	00:02:37	9.67
10/22/91	00:02:55	9.63
10/22/91	00:03:18	9.57
10/22/91	00:03:41	9.53
10/22/91	00:04:00	9.50
10/22/91	00:04:25	9.44
10/22/91	00:04:47	9.40
10/22/91	00:05:19	9.35
10/22/91	00:06:00	9.28
10/22/91	00:06:29	9.22
10/22/91	00:06:58	9.16
10/22/91	00:07:16	9.14
10/22/91	00:07:38	9.10
10/22/91	00:08:02	9.06
10/22/91	00:08:37	9.00
10/22/91	00:09:16	8.94
10/22/91	00:09:43	8.89
10/22/91	00:10:14	8.84
10/22/91	00:10:44	8.79
10/22/91	00:11:16	8.74
10/22/91	00:11:48	8.69
10/22/91	00:12:18	8.64
10/22/91	00:12:53	8.59
10/22/91	00:13:29	8.54
10/22/91	00:13:57	8.49
10/22/91	00:14:26	8.44
10/22/91	00:14:54	8.39
10/22/91	00:15:37	8.34
10/22/91	00:16:06	8.29
10/22/91	00:17:10	8.19

Monitor Well 6-PW3: Recovery Test

Date:	10/22/91
Static Water Level:	10.96 ft
Begin Bailing:	14:05:00
Stop Bailing:	14:30:00
Total Bailing Time:	00:25:00
Volume of Water Bailed:	4.8 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/22/91	00:17:50	8.14
10/22/91	00:18:17	8.09
10/22/91	00:19:00	8.04
10/22/91	00:19:58	7.94
10/22/91	00:21:06	7.84
10/22/91	00:22:10	7.74
10/22/91	00:23:16	7.64
10/22/91	00:24:29	7.54
10/22/91	00:25:42	7.44
10/22/91	00:26:53	7.34
10/22/91	00:28:03	7.24
10/22/91	00:29:22	7.14
10/22/91	00:30:00	7.04
10/22/91	00:31:52	6.94
10/22/91	00:33:10	6.84
10/22/91	00:34:28	6.74
10/22/91	00:35:50	6.64
10/22/91	00:37:07	6.54
10/22/91	00:38:21	6.44
10/22/91	00:39:50	6.34
10/22/91	00:41:11	6.24
10/22/91	00:43:56	6.04
10/22/91	00:46:44	5.94
10/22/91	00:48:19	5.84
10/22/91	00:49:38	5.74
10/22/91	00:51:06	5.64
10/22/91	00:52:35	5.54
10/22/91	00:54:06	5.44
10/22/91	00:55:41	5.34
10/22/91	00:57:11	5.24
10/22/91	00:57:11	5.14
10/22/91	00:58:43	5.04
10/22/91	01:00:12	4.94
10/22/91	01:01:51	4.84
10/22/91	01:03:18	4.74

Monitor Well 6-PW3: Recovery Test

Date:	10/22/91
Static Water Level:	10.96 ft
Begin Bailing:	14:05:00
Stop Bailing:	14:30:00
Total Bailing Time:	00:25:00
Volume of Water Bailed:	4.8 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/22/91	01:04:53	4.64
10/22/91	01:06:20	4.54
10/22/91	01:07:55	4.44
10/22/91	01:09:43	4.34
10/22/91	01:14:48	4.04
10/22/91	01:16:37	3.94
10/22/91	01:18:31	3.84
10/22/91	01:20:16	3.74
10/22/91	01:22:10	3.64
10/22/91	01:24:08	3.54
10/22/91	01:26:02	3.44
10/22/91	01:28:10	3.34
10/22/91	01:30:30	3.24
10/22/91	01:32:40	3.14
10/22/91	01:34:54	3.04
10/22/91	01:37:25	2.94
10/22/91	01:40:06	2.84
10/22/91	01:42:59	2.74
10/22/91	01:45:51	2.64
10/22/91	01:49:00	2.54
10/22/91	01:52:05	2.44
10/22/91	01:55:25	2.34
10/22/91	01:58:56	2.24
10/22/91	02:02:58	2.14
10/22/91	02:06:38	2.04
10/22/91	02:10:54	1.94
10/22/91	02:15:20	1.84
10/22/91	02:20:23	1.74
10/22/91	02:25:56	1.64
10/22/91	02:32:05	1.54
10/22/91	02:38:36	1.44
10/22/91	02:45:24	1.34
10/22/91	02:49:44	1.29
10/23/91	18:28:00	0.25
10/23/91	21:19:00	0.21

Monitor Well 6-PW4: Recovery Test

Date:	10/21/91
Static Water Level:	15.71 ft
Begin Bailing:	15:46:00
Stop Bailing:	15:53:54
Total Bailing Time:	00:07:54
Volume of Water Bailed:	2.25 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/21/91	00:00:30	5.09
10/21/91	00:00:50	4.99
10/21/91	00:01:10	4.95
10/21/91	00:01:19	4.89
10/21/91	00:01:46	4.79
10/21/91	00:02:01	4.74
10/21/91	00:02:18	4.69
10/21/91	00:02:28	4.64
10/21/91	00:02:40	4.59
10/21/91	00:02:56	4.54
10/21/91	00:03:12	4.49
10/21/91	00:03:26	4.44
10/21/91	00:03:42	4.39
10/21/91	00:04:12	4.29
10/21/91	00:04:43	4.19
10/21/91	00:05:13	4.09
10/21/91	00:05:42	3.99
10/21/91	00:06:12	3.89
10/21/91	00:06:38	3.79
10/21/91	00:07:14	3.69
10/21/91	00:07:43	3.59
10/21/91	00:08:11	3.49
10/21/91	00:08:45	3.39
10/21/91	00:09:18	3.29
10/21/91	00:09:50	3.19
10/21/91	00:10:24	3.09
10/21/91	00:10:56	2.99
10/21/91	00:11:31	2.89
10/21/91	00:12:05	2.79
10/21/91	00:12:40	2.69
10/21/91	00:13:15	2.59
10/21/91	00:13:46	2.49
10/21/91	00:14:16	2.39
10/21/91	00:14:46	2.29
10/21/91	00:15:08	2.19
10/21/91	00:15:25	2.09
10/21/91	00:15:44	1.99

Monitor Well 6-PW4: Recovery Test

Date:	10/21/91
Static Water Level:	15.71 ft
Begin Bailing:	15:46:00
Stop Bailing:	15:53:54
Total Bailing Time:	00:07:54
Volume of Water Bailed:	2.25 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/21/91	00:16:05	1.89
10/21/91	00:16:37	1.79
10/21/91	00:17:11	1.69
10/21/91	00:17:45	1.59
10/21/91	00:18:21	1.49
10/21/91	00:18:59	1.39
10/21/91	00:19:48	1.29
10/21/91	00:20:16	1.19
10/21/91	00:20:54	1.09
10/21/91	00:21:33	0.99
10/21/91	00:22:13	0.89
10/21/91	00:22:54	0.79
10/21/91	00:23:38	0.69
10/21/91	00:24:25	0.59
10/21/91	00:24:24	0.49
10/21/91	00:27:12	0.39
10/21/91	00:30:45	0.29
10/21/91	00:36:08	0.19

Monitor Well 6-PW5: Recovery Test

Date:	10/21/91
Static Water Level:	14.37 ft
Begin Bailing:	13:05:00
Stop Bailing:	13:14:50
Total Bailing Time:	00:09:50
Volume of Water Bailed:	3.0 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/21/91	00:00:16	7.19
10/21/91	00:00:28	7.13
10/21/91	00:00:52	7.08
10/21/91	00:01:16	7.03
10/21/91	00:01:41	6.98
10/21/91	00:02:00	6.93
10/21/91	00:02:24	6.88
10/21/91	00:02:49	6.83
10/21/91	00:03:16	6.78
10/21/91	00:03:41	6.73
10/21/91	00:04:03	6.68
10/21/91	00:04:34	6.63
10/21/91	00:05:31	6.53
10/21/91	00:06:23	6.43
10/21/91	00:07:20	6.33
10/21/91	00:08:20	6.23
10/21/91	00:09:16	6.13
10/21/91	00:10:26	6.03
10/21/91	00:11:29	5.93
10/21/91	00:12:32	5.83
10/21/91	00:13:42	5.73
10/21/91	00:14:49	5.63
10/21/91	00:16:00	5.53
10/21/91	00:17:10	5.43
10/21/91	00:18:20	5.33
10/21/91	00:19:35	5.23
10/21/91	00:20:48	5.13
10/21/91	00:22:04	5.03
10/21/91	00:23:24	4.93
10/21/91	00:24:36	4.83
10/21/91	00:25:57	4.73
10/21/91	00:27:12	4.63
10/21/91	00:28:36	4.53
10/21/91	00:29:29	4.43
10/21/91	00:31:18	4.33
10/21/91	00:32:36	4.23
10/21/91	00:34:23	4.13

Monitor Well 6-PW5: Recovery Test

Date:	10/21/91
Static Water Level:	14.37 ft
Begin Bailing:	13:05:00
Stop Bailing:	13:14:50
Total Bailing Time:	00:09:50
Volume of Water Bailed:	3.0 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/21/91	00:35:49	4.03
10/21/91	00:37:19	3.93
10/21/91	00:38:58	3.83
10/21/91	00:40:38	3.73
10/21/91	00:42:24	3.63
10/21/91	00:43:57	3.53
10/21/91	00:45:19	3.43
10/21/91	00:47:10	3.33
10/21/91	00:49:04	3.23
10/21/91	00:50:35	3.13
10/21/91	00:52:36	3.03
10/21/91	00:54:06	2.93
10/21/91	00:56:20	2.83
10/21/91	00:58:09	2.73
10/21/91	00:59:59	2.63
10/21/91	01:01:49	2.53
10/21/91	01:04:04	2.43
10/21/91	01:06:17	2.33
10/21/91	01:08:20	2.23
10/21/91	01:10:36	2.13
10/21/91	01:12:47	2.03
10/21/91	01:14:57	1.93
10/21/91	01:17:24	1.83
10/21/91	01:20:02	1.73
10/21/91	01:22:21	1.63
10/21/91	01:24:36	1.53
10/21/91	01:27:13	1.43
10/21/91	01:30:21	1.33
10/21/91	01:33:54	1.23
10/21/91	01:37:16	1.13
10/21/91	01:42:52	1.03
10/21/91	01:49:19	0.93
10/21/91	01:56:35	0.83
10/21/91	02:06:19	0.73
10/21/91	02:20:56	0.63

Monitor Well 6-PW6: Recovery Test

Date:	10/22/91
Static Water Level:	13.33 ft
Begin Bailing:	10:47:00
Stop Bailing:	10:58:00
Total Bailing Time:	00:11:00
Volume of Water Bailed:	3.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/22/91	00:00:22	7.45
10/22/91	00:00:46	7.41
10/22/91	00:01:08	7.39
10/22/91	00:01:31	7.35
10/22/91	00:01:52	7.33
10/22/91	00:02:34	7.29
10/22/91	00:02:52	7.27
10/22/91	00:03:30	7.23
10/22/91	00:04:15	7.19
10/22/91	00:05:07	7.15
10/22/91	00:05:55	7.11
10/22/91	00:06:54	7.07
10/22/91	00:08:06	7.02
10/22/91	00:09:21	6.97
10/22/91	00:10:43	6.92
10/22/91	00:12:04	6.87
10/22/91	00:13:41	6.82
10/22/91	00:15:09	6.77
10/22/91	00:16:51	6.72
10/22/91	00:18:31	6.67
10/22/91	00:20:10	6.62
10/22/91	00:22:01	6.57
10/22/91	00:23:53	6.52
10/22/91	00:25:43	6.47
10/22/91	00:27:37	6.42
10/22/91	00:29:08	6.37
10/22/91	00:31:25	6.32
10/22/91	00:33:24	6.27
10/22/91	00:35:23	6.22
10/22/91	00:37:18	6.17
10/22/91	00:39:15	6.12
10/22/91	00:41:22	6.07
10/22/91	00:43:29	6.02
10/22/91	00:45:30	5.97
10/22/91	00:47:43	5.92
10/22/91	00:49:48	5.87
10/22/91	00:51:56	5.82

Monitor Well 6-PW6: Recovery Test

Date:	10/22/91
Static Water Level:	13.33 ft
Begin Bailing:	10:47:00
Stop Bailing:	10:58:00
Total Bailing Time:	00:11:00
Volume of Water Bailed:	3.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/22/91	00:54:08	5.77
10/22/91	00:56:22	5.72
10/22/91	00:58:06	5.67
10/22/91	01:02:59	5.57
10/22/91	01:06:03	5.47
10/22/91	01:11:30	5.37
10/22/91	01:16:13	5.27
10/22/91	01:21:10	5.17
10/22/91	01:25:45	5.07
10/22/91	01:30:07	4.97
10/22/91	01:35:10	4.87
10/22/91	01:39:51	4.77
10/22/91	01:44:20	4.67
10/22/91	01:48:51	4.57
10/22/91	01:53:47	4.47
10/22/91	01:58:54	4.37
10/22/91	02:03:25	4.27
10/22/91	02:09:30	4.12
10/22/91	02:22:45	3.87
10/22/91	02:27:10	3.77
10/22/91	02:31:52	3.67
10/22/91	02:37:20	3.57
10/22/91	02:47:30	3.37
10/22/91	02:59:30	3.16
10/22/91	03:05:00	3.07
10/22/91	03:11:00	2.97
10/22/91	03:21:30	2.79
10/22/91	03:30:00	2.67
10/22/91	03:36:30	2.57
10/22/91	03:55:30	2.28
10/22/91	04:04:10	2.17
10/22/91	04:20:15	1.97
10/22/91	04:27:30	1.87
10/22/91	04:36:03	1.77
10/22/91	04:57:50	1.54
10/22/91	05:04:30	1.47
10/22/91	05:14:15	1.37

Monitor Well 6-PW6: Recovery Test

Date:	10/22/91
Static Water Level:	13.33 ft
Begin Bailing:	10:47:00
Stop Bailing:	10:58:00
Total Bailing Time:	00:11:00
Volume of Water Bailed:	3.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/22/91	05:39:30	1.15
10/22/91	05:48:00	1.07
10/22/91	06:01:35	0.97
10/22/91	06:19:05	0.87
10/22/91	13:11:07	0.03

Monitor Well 6-PW7: Recovery Test

Date:	10/23/91
Static Water Level:	17.04 ft
Begin Bailing:	09:19:00
Stop Bailing:	09:38:00
Total Bailing Time:	00:19:00
Volume of Water Bailed:	5.8 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/23/91	00:00:27	14.65
10/23/91	00:00:55	14.57
10/23/91	00:01:02	14.56
10/23/91	00:01:12	14.55
10/23/91	00:01:17	14.54
10/23/91	00:01:28	14.52
10/23/91	00:01:44	14.50
10/23/91	00:01:59	14.48
10/23/91	00:02:22	14.46
10/23/91	00:02:40	14.44
10/23/91	00:02:56	14.42
10/23/91	00:03:15	14.40
10/23/91	00:03:32	14.38
10/23/91	00:03:50	14.36
10/23/91	00:04:09	14.34
10/23/91	00:04:31	14.32
10/23/91	00:04:52	14.30
10/23/91	00:05:11	14.28
10/23/91	00:05:32	14.26
10/23/91	00:05:59	14.24
10/23/91	00:06:20	14.22
10/23/91	00:06:46	14.20
10/23/91	00:07:09	14.18
10/23/91	00:07:34	14.16
10/23/91	00:08:04	14.14
10/23/91	00:08:29	14.12
10/23/91	00:09:01	14.10
10/23/91	00:09:25	14.08
10/23/91	00:09:56	14.06
10/23/91	00:10:31	14.04
10/23/91	00:11:09	14.02
10/23/91	00:11:41	14.00
10/23/91	00:12:08	13.98
10/23/91	00:12:52	13.96
10/23/91	00:13:29	13.94
10/23/91	00:14:11	13.92
10/23/91	00:14:52	13.90

Monitor Well 6-PW7: Recovery Test

Date:	10/23/91
Static Water Level:	17.04 ft
Begin Bailing:	09:19:00
Stop Bailing:	09:38:00
Total Bailing Time:	00:19:00
Volume of Water Bailed:	5.8 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/23/91	00:15:22	13.88
10/23/91	00:16:08	13.86
10/23/91	00:16:45	13.84
10/23/91	00:17:39	13.82
10/23/91	00:18:24	13.80
10/23/91	00:19:01	13.78
10/23/91	00:20:01	13.76
10/23/91	00:20:45	13.74
10/23/91	00:21:51	13.72
10/23/91	00:23:11	13.70
10/23/91	00:25:04	13.66
10/23/91	00:26:12	13.64
10/23/91	00:27:09	13.62
10/23/91	00:28:15	13.60
10/23/91	00:30:47	13.56
10/23/91	00:33:30	13.51
10/23/91	00:37:25	13.46
10/23/91	00:41:33	13.41
10/23/91	00:45:45	13.36
10/23/91	00:51:25	13.31
10/23/91	00:57:17	13.26
10/23/91	01:03:20	13.21
10/23/91	01:10:30	13.16
10/23/91	01:18:48	13.11
10/23/91	01:28:30	13.06
10/23/91	01:38:37	13.46
10/23/91	01:50:05	12.96
10/23/91	02:04:00	12.91
10/23/91	03:25:00	12.71
10/23/91	05:29:00	12.50
10/23/91	07:44:00	12.33
10/24/91	23:30:00	11.35
10/24/91	27:29:00	11.12
10/24/91	31:14:00	10.91
10/25/91	49:25:00	9.95
10/25/91	52:18:00	9.80

Monitor Well 6-PW8: Recovery Test

Date:	10/21/91
Static Water Level:	12.64 ft
Begin Bailing:	11:22:00
Stop Bailing:	11:39:00
Total Bailing Time:	00:17:00
Volume of Water Bailed:	6.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/21/91	00:00:17	13.76
10/21/91	00:00:50	13.16
10/21/91	00:01:02	13.00
10/21/91	00:01:15	12.94
10/21/91	00:01:22	12.86
10/21/91	00:01:34	12.76
10/21/91	00:01:50	12.66
10/21/91	00:02:04	12.56
10/21/91	00:02:20	12.46
10/21/91	00:02:35	12.36
10/21/91	00:02:51	12.26
10/21/91	00:03:09	12.16
10/21/91	00:03:25	12.06
10/21/91	00:03:38	11.96
10/21/91	00:03:58	11.86
10/21/91	00:04:15	11.76
10/21/91	00:04:32	11.66
10/21/91	00:04:50	11.56
10/21/91	00:05:08	11.46
10/21/91	00:05:25	11.36
10/21/91	00:05:44	11.26
10/21/91	00:06:02	11.16
10/21/91	00:06:19	11.06
10/21/91	00:06:36	10.96
10/21/91	00:06:53	10.86
10/21/91	00:07:12	10.76
10/21/91	00:07:29	10.66
10/21/91	00:07:46	10.56
10/21/91	00:08:04	10.46
10/21/91	00:08:24	10.36
10/21/91	00:08:38	10.26
10/21/91	00:08:55	10.16
10/21/91	00:09:10	10.06
10/21/91	00:09:27	9.96
10/21/91	00:09:43	9.86
10/21/91	00:10:01	9.76
10/21/91	00:10:15	9.66

Monitor Well 6-PW8: Recovery Test

Date:	10/21/91
Static Water Level:	12.64 ft
Begin Bailing:	11:22:00
Stop Bailing:	11:39:00
Total Bailing Time:	00:17:00
Volume of Water Bailed:	6.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/21/91	00:10:34	9.56
10/21/91	00:10:50	9.46
10/21/91	00:11:07	9.36
10/21/91	00:11:24	9.26
10/21/91	00:11:41	9.16
10/21/91	00:11:56	9.06
10/21/91	00:12:13	8.96
10/21/91	00:12:30	8.86
10/21/91	00:12:45	8.76
10/21/91	00:13:03	8.66
10/21/91	00:13:20	8.56
10/21/91	00:13:37	8.46
10/21/91	00:13:56	8.36
10/21/91	00:14:12	8.26
10/21/91	00:14:30	8.16
10/21/91	00:14:48	8.06
10/21/91	00:15:06	7.96
10/21/91	00:15:22	7.86
10/21/91	00:15:41	7.76
10/21/91	00:15:59	7.66
10/21/91	00:16:18	7.56
10/21/91	00:16:36	7.46
10/21/91	00:16:55	7.36
10/21/91	00:17:14	7.26
10/21/91	00:17:31	7.16
10/21/91	00:17:50	7.06
10/21/91	00:18:10	6.96
10/21/91	00:18:25	6.86
10/21/91	00:18:46	6.76
10/21/91	00:19:06	6.66
10/21/91	00:19:22	6.56
10/21/91	00:19:42	6.46
10/21/91	00:19:59	6.36
10/21/91	00:20:19	6.26
10/21/91	00:20:37	6.16
10/21/91	00:20:56	6.06
10/21/91	00:21:14	5.96

Monitor Well 6-PW8: Recovery Test

Date:	10/21/91
Static Water Level:	12.64 ft
Begin Bailing:	11:22:00
Stop Bailing:	11:39:00
Total Bailing Time:	00:17:00
Volume of Water Bailed:	6.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/21/91	00:21:32	5.86
10/21/91	00:21:50	5.76
10/21/91	00:22:11	5.66
10/21/91	00:22:31	5.56
10/21/91	00:22:47	5.46
10/21/91	00:23:07	5.36
10/21/91	00:23:26	5.26
10/21/91	00:23:45	5.16
10/21/91	00:24:02	5.06
10/21/91	00:24:23	4.96
10/21/91	00:24:43	4.86
10/21/91	00:25:02	4.76
10/21/91	00:25:24	4.66
10/21/91	00:25:43	4.56
10/21/91	00:26:03	4.46
10/21/91	00:26:24	4.36
10/21/91	00:26:46	4.26
10/21/91	00:27:06	4.16
10/21/91	00:27:30	4.06
10/21/91	00:27:50	3.96
10/21/91	00:28:10	3.86
10/21/91	00:28:34	3.76
10/21/91	00:29:02	3.66
10/21/91	00:29:25	3.56
10/21/91	00:29:46	3.46
10/21/91	00:30:15	3.36
10/21/91	00:30:40	3.26
10/21/91	00:31:11	3.16
10/21/91	00:31:42	3.06
10/21/91	00:32:13	2.96
10/21/91	00:32:46	2.86
10/21/91	00:33:20	2.76
10/21/91	00:33:52	2.66
10/21/91	00:34:32	2.56
10/21/91	00:35:09	2.46
10/21/91	00:35:49	2.36
10/21/91	00:36:30	2.26

Monitor Well 6-PW8: Recovery Test

Date:	10/21/91
Static Water Level:	12.64 ft
Begin Bailing:	11:22:00
Stop Bailing:	11:39:00
Total Bailing Time:	00:17:00
Volume of Water Bailed:	6.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/21/91	00:37:15	2.16
10/21/91	00:38:02	2.06
10/21/91	00:38:48	1.96
10/21/91	00:39:41	1.86
10/21/91	00:40:32	1.76
10/21/91	00:41:34	1.66
10/21/91	00:42:34	1.56
10/21/91	00:43:44	1.46
10/21/91	00:44:49	1.36
10/21/91	00:46:05	1.26
10/21/91	00:47:15	1.16
10/21/91	00:49:17	1.06
10/21/91	00:51:04	0.96
10/21/91	00:53:31	0.86
10/21/91	00:56:06	0.76
10/21/91	00:59:12	0.66
10/21/91	01:03:44	0.56
10/21/91	01:08:44	0.46
10/21/91	01:16:59	0.36

Monitor Well 6-6: Recovery Test

Date:	10/24/91
Static Water Level:	13.91 ft
Begin Bailing:	10:03:00
Stop Bailing:	10:20:00
Total Bailing Time:	00:17:00
Volume of Water Bailed:	4.1 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:00:20	10.39
10/24/91	00:00:26	10.37
10/24/91	00:00:33	10.33
10/24/91	00:00:38	10.31
10/24/91	00:00:42	10.29
10/24/91	00:00:49	10.27
10/24/91	00:00:53	10.25
10/24/91	00:01:00	10.23
10/24/91	00:01:07	10.21
10/24/91	00:01:13	10.19
10/24/91	00:01:21	10.17
10/24/91	00:01:26	10.15
10/24/91	00:01:33	10.13
10/24/91	00:01:40	10.11
10/24/91	00:01:48	10.09
10/24/91	00:01:56	10.07
10/24/91	00:02:04	10.05
10/24/91	00:02:12	10.03
10/24/91	00:02:19	10.01
10/24/91	00:02:27	9.99
10/24/91	00:02:33	9.97
10/24/91	00:02:40	9.95
10/24/91	00:02:50	9.93
10/24/91	00:02:59	9.91
10/24/91	00:03:08	9.89
10/24/91	00:03:16	9.87
10/24/91	00:03:23	9.85
10/24/91	00:03:34	9.83
10/24/91	00:03:39	9.81
10/24/91	00:03:50	9.79
10/24/91	00:03:58	9.77
10/24/91	00:04:10	9.75
10/24/91	00:04:18	9.73
10/24/91	00:04:26	9.71
10/24/91	00:04:35	9.69
10/24/91	00:04:44	9.67
10/24/91	00:04:52	9.65

Monitor Well 6-6: Recovery Test

Date:	10/24/91
Static Water Level:	13.91 ft
Begin Bailing:	10:03:00
Stop Bailing:	10:20:00
Total Bailing Time:	00:17:00
Volume of Water Bailed:	4.1 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:05:03	9.63
10/24/91	00:05:11	9.61
10/24/91	00:05:21	9.59
10/24/91	00:05:28	9.57
10/24/91	00:05:39	9.55
10/24/91	00:05:49	9.53
10/24/91	00:05:58	9.51
10/24/91	00:06:07	9.49
10/24/91	00:06:18	9.47
10/24/91	00:06:27	9.45
10/24/91	00:06:36	9.43
10/24/91	00:06:46	9.41
10/24/91	00:06:54	9.39
10/24/91	00:07:05	9.37
10/24/91	00:07:14	9.35
10/24/91	00:07:22	9.33
10/24/91	00:07:32	9.31
10/24/91	00:07:40	9.29
10/24/91	00:07:52	9.27
10/24/91	00:08:02	9.25
10/24/91	00:08:12	9.23
10/24/91	00:08:22	9.21
10/24/91	00:08:31	9.19
10/24/91	00:08:40	9.17
10/24/91	00:08:50	9.15
10/24/91	00:08:59	9.13
10/24/91	00:09:08	9.11
10/24/91	00:09:22	9.09
10/24/91	00:09:39	9.07
10/24/91	00:09:49	9.03
10/24/91	00:09:57	9.01
10/24/91	00:10:06	8.99
10/24/91	00:10:15	8.97
10/24/91	00:10:25	8.95
10/24/91	00:10:37	8.93
10/24/91	00:10:44	8.91
10/24/91	00:10:54	8.89

Monitor Well 6-6: Recovery Test

Date:	10/24/91
Static Water Level:	13.91 ft
Begin Bailing:	10:03:00
Stop Bailing:	10:20:00
Total Bailing Time:	00:17:00
Volume of Water Bailed:	4.1 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:11:03	8.87
10/24/91	00:11:14	8.85
10/24/91	00:11:23	8.83
10/24/91	00:11:31	8.81
10/24/91	00:11:42	8.79
10/24/91	00:11:51	8.77
10/24/91	00:12:00	8.75
10/24/91	00:12:09	8.73
10/24/91	00:12:18	8.71
10/24/91	00:12:30	8.69
10/24/91	00:12:49	8.65
10/24/91	00:13:07	8.61
10/24/91	00:13:28	8.57
10/24/91	00:13:47	8.53
10/24/91	00:14:08	8.49
10/24/91	00:14:28	8.45
10/24/91	00:14:46	8.41
10/24/91	00:15:05	8.37
10/24/91	00:15:25	8.33
10/24/91	00:15:44	8.29
10/24/91	00:16:00	8.25
10/24/91	00:16:17	8.21
10/24/91	00:16:37	8.17
10/24/91	00:16:52	8.13
10/24/91	00:17:12	8.09
10/24/91	00:17:32	8.05
10/24/91	00:17:50	8.01
10/24/91	00:18:06	7.97
10/24/91	00:18:26	7.93
10/24/91	00:18:45	7.89
10/24/91	00:19:05	7.85
10/24/91	00:19:20	7.81
10/24/91	00:19:39	7.77
10/24/91	00:19:57	7.73
10/24/91	00:20:15	7.69
10/24/91	00:20:37	7.65
10/24/91	00:20:58	7.61

Monitor Well 6-6: Recovery Test

Date:	10/24/91
Static Water Level:	13.91 ft
Begin Bailing:	10:03:00
Stop Bailing:	10:20:00
Total Bailing Time:	00:17:00
Volume of Water Bailed:	4.1 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:21:09	7.57
10/24/91	00:21:29	7.53
10/24/91	00:21:44	7.49
10/24/91	00:22:02	7.45
10/24/91	00:22:21	7.41
10/24/91	00:22:40	7.37
10/24/91	00:22:58	7.33
10/24/91	00:23:15	7.29
10/24/91	00:23:33	7.25
10/24/91	00:23:53	7.21
10/24/91	00:24:12	7.17
10/24/91	00:24:28	7.13
10/24/91	00:24:45	7.09
10/24/91	00:25:09	7.05
10/24/91	00:25:24	7.01
10/24/91	00:25:43	6.97
10/24/91	00:26:02	6.93
10/24/91	00:26:19	6.89
10/24/91	00:26:44	6.84
10/24/91	00:27:08	6.79
10/24/91	00:27:30	6.74
10/24/91	00:27:54	6.69
10/24/91	00:28:21	6.64
10/24/91	00:28:47	6.59
10/24/91	00:29:09	6.54
10/24/91	00:29:30	6.49
10/24/91	00:29:58	6.44
10/24/91	00:30:52	6.39
10/24/91	00:30:46	6.34
10/24/91	00:31:07	6.29
10/24/91	00:31:35	6.24
10/24/91	00:32:00	6.14
10/24/91	00:32:45	6.09
10/24/91	00:33:12	6.04
10/24/91	00:33:37	5.99
10/24/91	00:34:00	5.94
10/24/91	00:34:22	5.89

Monitor Well 6-6: Recovery Test

Date:	10/24/91
Static Water Level:	13.91 ft
Begin Bailing:	10:03:00
Stop Bailing:	10:20:00
Total Bailing Time:	00:17:00
Volume of Water Bailed:	4.1 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:34:46	5.84
10/24/91	00:35:05	5.79
10/24/91	00:35:33	5.74
10/24/91	00:36:00	5.69
10/24/91	00:36:24	5.64
10/24/91	00:36:50	5.59
10/24/91	00:37:14	5.54
10/24/91	00:37:44	5.49
10/24/91	00:38:07	5.44
10/24/91	00:38:36	5.39
10/24/91	00:39:00	5.34
10/24/91	00:39:25	5.29
10/24/91	00:39:52	5.24
10/24/91	00:40:24	5.19
10/24/91	23:40:50	5.14
10/24/91	00:41:24	5.09
10/24/91	00:42:14	4.99
10/24/91	00:43:10	4.89
10/24/91	00:44:01	4.79
10/24/91	00:44:57	4.69
10/24/91	00:45:54	4.59
10/24/91	00:46:46	4.49
10/24/91	00:47:43	4.39
10/24/91	00:48:36	4.29
10/24/91	00:49:42	4.19
10/24/91	00:50:47	4.09
10/24/91	00:51:38	3.99
10/24/91	00:52:39	3.89
10/24/91	00:54:34	3.79
10/24/91	00:55:30	3.69
10/24/91	00:56:30	3.49
10/24/91	00:57:24	3.39
10/24/91	00:58:19	3.29
10/24/91	00:59:11	3.19
10/24/91	01:00:10	3.09
10/24/91	01:01:24	2.99
10/24/91	01:02:52	2.89

Monitor Well 6-6: Recovery Test

Date:	10/24/91
Static Water Level:	13.91 ft
Begin Bailing:	10:03:00
Stop Bailing:	10:20:00
Total Bailing Time:	00:17:00
Volume of Water Bailed:	4.1 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	01:04:31	2.79
10/24/91	01:06:08	2.69
10/24/91	01:07:54	2.59
10/24/91	01:09:39	2.49
10/24/91	01:11:21	2.39
10/24/91	01:12:56	2.29
10/24/91	01:14:19	2.19
10/24/91	01:15:42	2.09
10/24/91	01:17:01	1.99
10/24/91	01:18:39	1.89
10/24/91	01:20:25	1.79
10/24/91	01:22:24	1.69
10/24/91	01:24:40	1.59
10/24/91	01:26:59	1.49
10/24/91	01:29:21	1.39
10/24/91	01:31:58	1.29
10/24/91	01:34:37	1.19
10/24/91	01:37:25	1.09
10/24/91	01:40:10	0.99
10/24/91	01:56:05	0.57
10/24/91	02:00:40	0.49
10/24/91	02:07:46	0.39
10/24/91	02:18:48	0.29
10/24/91	02:30:12	0.38

Monitor Well 6-7: Recovery Test

Date:	10/23/91
Static Water Level:	16.67 ft
Begin Bailing:	10:43:00
Stop Bailing:	10:59:00
Total Bailing Time:	00:16:00
Volume of Water Bailed:	2.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/23/91	00:00:54	6.68
10/23/91	00:02:28	6.66
10/23/91	00:02:52	6.65
10/23/91	00:03:13	6.64
10/23/91	00:03:42	6.63
10/23/91	00:04:11	6.62
10/23/91	00:04:50	6.61
10/23/91	00:05:34	6.60
10/23/91	00:06:07	6.59
10/23/91	00:06:34	6.58
10/23/91	00:07:33	6.57
10/23/91	00:08:09	6.56
10/23/91	00:08:59	6.55
10/23/91	00:09:43	6.54
10/23/91	00:10:32	6.53
10/23/91	00:12:33	6.51
10/23/91	00:14:28	6.49
10/23/91	00:16:42	6.47
10/23/91	00:19:09	6.43
10/23/91	00:21:49	6.43
10/23/91	00:24:54	6.41
10/23/91	00:28:59	6.39
10/23/91	00:32:23	6.37
10/23/91	00:37:51	6.35
10/23/91	00:42:12	6.33
10/23/91	00:47:34	6.31
10/23/91	00:54:41	6.29
10/23/91	01:01:00	6.25
10/23/91	01:55:30	6.19
10/23/91	02:26:10	6.15
10/23/91	02:50:40	6.11
10/23/91	03:31:00	6.07
10/23/91	04:23:00	6.03
10/23/91	05:00:00	6.00
10/23/91	05:31:30	5.97
10/24/91	22:17:00	5.32
10/24/91	26:23:00	5.18

Monitor Well 6-7: Recovery Test

Date:	10/23/91
Static Water Level:	16.67 ft
Begin Bailing:	10:43:00
Stop Bailing:	10:59:00
Total Bailing Time:	00:16:00
Volume of Water Bailed:	2.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	27:22:00	5.06
10/25/91	47:25:00	4.51
10/25/91	49:38:00	4.42

Monitor Well 6-8: Recovery Test

Date:	10/24/91
Static Water Level:	10.92 ft
Begin Bailing:	11:41:00
Stop Bailing:	12:02:45
Total Bailing Time:	00:21:45
Volume of Water Bailed:	7.2 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:00:53	13.69
10/24/91	00:00:59	13.68
10/24/91	00:01:12	13.66
10/24/91	00:01:15	13.64
10/24/91	00:01:18	13.62
10/24/91	00:01:22	13.60
10/24/91	00:01:27	13.58
10/24/91	00:01:32	13.56
10/24/91	00:01:37	13.54
10/24/91	00:01:48	13.52
10/24/91	00:02:02	13.46
10/24/91	00:02:07	13.44
10/24/91	00:02:13	13.42
10/24/91	00:02:18	13.40
10/24/91	00:02:23	13.38
10/24/91	00:02:29	13.36
10/24/91	00:02:33	13.34
10/24/91	00:02:38	13.32
10/24/91	00:02:45	13.30
10/24/91	00:02:50	13.28
10/24/91	00:02:58	13.26
10/24/91	00:03:04	13.24
10/24/91	00:03:12	13.22
10/24/91	00:03:17	13.20
10/24/91	00:03:22	13.18
10/24/91	00:03:27	13.16
10/24/91	00:03:34	13.14
10/24/91	00:03:39	13.12
10/24/91	00:03:45	13.10
10/24/91	00:03:53	13.08
10/24/91	00:04:00	13.06
10/24/91	00:04:07	13.04
10/24/91	00:04:13	13.02
10/24/91	00:04:17	13.00
10/24/91	00:04:22	12.98
10/24/91	00:04:29	12.96
10/24/91	00:04:37	12.94

Monitor Well 6-8: Recovery Test

Date:	10/24/91
Static Water Level:	10.92 ft
Begin Bailing:	11:41:00
Stop Bailing:	12:02:45
Total Bailing Time:	00:21:45
Volume of Water Bailed:	7.2 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:04:47	12.92
10/24/91	00:04:52	12.90
10/24/91	00:04:55	12.88
10/24/91	00:05:02	12.86
10/24/91	00:05:08	12.84
10/24/91	00:05:15	12.82
10/24/91	00:05:21	12.80
10/24/91	00:05:29	12.78
10/24/91	00:05:36	12.76
10/24/91	00:05:41	12.74
10/24/91	00:05:50	12.72
10/24/91	00:05:59	12.70
10/24/91	00:06:06	12.68
10/24/91	00:06:11	12.66
10/24/91	00:06:16	12.64
10/24/91	00:06:21	12.62
10/24/91	00:06:35	12.58
10/24/91	00:06:50	12.54
10/24/91	00:07:01	12.50
10/24/91	00:07:15	12.46
10/24/91	00:07:30	12.42
10/24/91	00:07:43	12.38
10/24/91	00:07:56	12.34
10/24/91	00:08:09	12.30
10/24/91	00:08:25	12.26
10/24/91	00:08:40	12.22
10/24/91	00:08:53	12.18
10/24/91	00:09:04	12.14
10/24/91	00:09:17	12.10
10/24/91	00:09:31	12.06
10/24/91	00:09:44	12.02
10/24/91	00:09:56	11.98
10/24/91	00:10:16	11.93
10/24/91	00:10:31	11.88
10/24/91	00:10:48	11.83
10/24/91	00:11:08	11.78
10/24/91	00:11:31	11.73

Monitor Well 6-8: Recovery Test

Date:	10/24/91
Static Water Level:	10.92 ft
Begin Bailing:	11:41:00
Stop Bailing:	12:02:45
Total Bailing Time:	00:21:45
Volume of Water Bailed:	7.2 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:11:43	11.68
10/24/91	00:11:59	11.63
10/24/91	00:12:16	11.58
10/24/91	00:12:34	11.53
10/24/91	00:12:48	11.48
10/24/91	00:13:01	11.43
10/24/91	00:13:21	11.38
10/24/91	00:13:38	11.33
10/24/91	00:13:57	11.28
10/24/91	00:14:10	11.23
10/24/91	00:14:30	11.18
10/24/91	00:14:51	11.13
10/24/91	00:15:11	11.08
10/24/91	00:15:49	10.98
10/24/91	00:16:25	10.88
10/24/91	00:17:04	10.78
10/24/91	00:17:37	10.68
10/24/91	00:18:14	10.58
10/24/91	00:18:49	10.48
10/24/91	00:19:26	10.38
10/24/91	00:20:02	10.28
10/24/91	00:20:38	10.18
10/24/91	00:21:11	10.08
10/24/91	00:21:50	9.98
10/24/91	00:22:26	9.88
10/24/91	00:23:05	9.78
10/24/91	00:23:38	9.68
10/24/91	00:24:06	9.58
10/24/91	00:24:29	9.48
10/24/91	00:25:06	9.38
10/24/91	00:25:47	9.28
10/24/91	00:26:30	9.18
10/24/91	00:27:10	9.08
10/24/91	00:27:54	8.98
10/24/91	00:28:37	8.88
10/24/91	00:29:18	8.78
10/24/91	00:29:59	8.68

Monitor Well 6-8: Recovery Test

Date:	10/24/91
Static Water Level:	10.92 ft
Begin Bailing:	11:41:00
Stop Bailing:	12:02:45
Total Bailing Time:	00:21:45
Volume of Water Bailed:	7.2 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:30:39	8.58
10/24/91	00:31:20	8.48
10/24/91	00:32:00	8.38
10/24/91	00:32:41	8.28
10/24/91	00:33:24	8.18
10/24/91	00:34:02	8.08
10/24/91	00:34:44	7.98
10/24/91	00:35:24	7.88
10/24/91	00:36:03	7.78
10/24/91	00:36:41	7.68
10/24/91	00:37:15	7.58
10/24/91	00:38:02	7.48
10/24/91	00:38:42	7.38
10/24/91	00:39:21	7.28
10/24/91	00:40:10	7.18
10/24/91	00:40:41	7.08
10/24/91	00:41:17	6.98
10/24/91	00:42:03	6.88
10/24/91	00:42:44	6.78
10/24/91	00:43:22	6.68
10/24/91	00:44:01	6.58
10/24/91	00:44:41	6.48
10/24/91	00:45:20	6.38
10/24/91	00:46:00	6.28
10/24/91	00:46:43	6.18
10/24/91	00:47:25	6.08
10/24/91	00:48:05	5.98
10/24/91	00:48:45	5.88
10/24/91	00:49:25	5.78
10/24/91	00:50:13	5.68
10/24/91	00:51:05	5.58
10/24/91	00:52:05	5.48
10/24/91	00:52:57	5.38
10/24/91	00:53:45	5.28
10/24/91	00:54:32	5.18
10/24/91	00:55:17	5.08
10/24/91	00:56:04	4.98

Monitor Well 6-8: Recovery Test

Date:	10/24/91
Static Water Level:	10.92 ft
Begin Bailing:	11:41:00
Stop Bailing:	12:02:45
Total Bailing Time:	00:21:45
Volume of Water Bailed:	7.2 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:56:59	4.88
10/24/91	00:58:02	4.78
10/24/91	00:59:08	4.68
10/24/91	01:00:16	4.58
10/24/91	01:01:26	4.48
10/24/91	01:02:34	4.38
10/24/91	01:03:41	4.28
10/24/91	01:04:49	4.18
10/24/91	01:06:01	4.08
10/24/91	01:07:09	3.98
10/24/91	01:08:22	3.88
10/24/91	01:09:34	3.78
10/24/91	01:10:46	3.68
10/24/91	01:11:59	3.58
10/24/91	01:13:11	3.48
10/24/91	01:14:23	3.38
10/24/91	01:15:32	3.28
10/24/91	01:16:46	3.18
10/24/91	01:17:56	3.08
10/24/91	01:19:13	2.98
10/24/91	01:20:20	2.88
10/24/91	01:21:33	2.78
10/24/91	01:22:50	2.68
10/24/91	01:24:02	2.58
10/24/91	01:25:19	2.48
10/24/91	01:26:37	2.38
10/24/91	01:27:54	2.28
10/24/91	01:29:17	2.18
10/24/91	01:30:29	2.08
10/24/91	01:31:53	1.98
10/24/91	01:33:07	1.88
10/24/91	01:35:48	1.68
10/24/91	01:38:19	1.48
10/24/91	01:40:49	1.28
10/24/91	01:43:20	1.08
10/24/91	01:46:12	0.88
10/24/91	01:50:24	0.68

Monitor Well 6-8: Recovery Test

Date:	10/24/91
Static Water Level:	10.92 ft
Begin Bailing:	11:41:00
Stop Bailing:	12:02:45
Total Bailing Time:	00:21:45
Volume of Water Bailed:	7.2 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	01:57:46	0.48
10/24/91	02:18:44	0.22

Monitor Well 6-9: Recovery Test

Date:	10/25/91
Static Water Level:	11.56 ft
Begin Bailing:	10:09:00
Stop Bailing:	10:39:00
Total Bailing Time:	00:30:00
Volume of Water Bailed:	9.0 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/25/91	00:00:10	15.54
10/25/91	00:00:16	15.52
10/25/91	00:00:20	15.50
10/25/91	00:00:30	15.48
10/25/91	00:00:37	15.46
10/25/91	00:00:43	15.44
10/25/91	00:01:15	15.39
10/25/91	00:01:43	15.34
10/25/91	00:02:10	15.29
10/25/91	00:02:31	15.24
10/25/91	00:03:01	15.19
10/25/91	00:03:30	15.14
10/25/91	00:04:00	15.09
10/25/91	00:04:25	15.04
10/25/91	00:04:53	14.99
10/25/91	00:05:25	14.94
10/25/91	00:05:55	14.89
10/25/91	00:06:45	14.79
10/25/91	00:07:15	14.74
10/25/91	00:07:41	14.69
10/25/91	00:08:13	14.64
10/25/91	00:08:36	14.59
10/25/91	00:09:11	14.54
10/25/91	00:09:38	14.49
10/25/91	00:10:07	14.44
10/25/91	00:10:38	14.39
10/25/91	00:11:15	14.34
10/25/91	00:11:53	14.29
10/25/91	00:12:19	14.24
10/25/91	00:13:30	14.14
10/25/91	00:14:33	14.04
10/25/91	00:15:39	13.94
10/25/91	00:16:49	13.84
10/25/91	00:17:54	13.74
10/25/91	00:19:06	13.64
10/25/91	00:20:17	13.54
10/25/91	00:21:30	13.44

Monitor Well 6-9: Recovery Test

Date:	10/25/91
Static Water Level:	11.56 ft
Begin Bailing:	10:09:00
Stop Bailing:	10:39:00
Total Bailing Time:	00:30:00
Volume of Water Bailed:	9.0 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/25/91	00:22:45	13.34
10/25/91	00:23:59	13.24
10/25/91	00:25:16	13.14
10/25/91	00:26:32	13.04
10/25/91	00:27:53	12.94
10/25/91	00:29:13	12.84
10/25/91	00:30:35	12.74
10/25/91	00:31:56	12.64
10/25/91	00:33:21	12.54
10/25/91	00:34:44	12.44
10/25/91	00:36:13	12.34
10/25/91	00:37:40	12.24
10/25/91	00:39:08	12.14
10/25/91	00:40:42	12.04
10/25/91	00:42:15	11.94
10/25/91	00:43:56	11.84
10/25/91	00:45:32	11.74
10/25/91	00:47:06	11.64
10/25/91	00:48:42	11.54
10/25/91	00:50:14	11.44
10/25/91	00:51:57	11.34
10/25/91	00:53:26	11.24
10/25/91	00:55:13	11.14
10/25/91	00:56:45	11.04
10/25/91	00:58:20	10.94
10/25/91	01:00:01	10.84
10/25/91	01:01:37	10.74
10/25/91	01:03:11	10.64
10/25/91	01:04:39	10.54
10/25/91	01:06:31	10.44
10/25/91	01:08:00	10.34
10/25/91	01:09:37	10.24
10/25/91	01:11:11	10.14
10/25/91	01:12:47	10.04
10/25/91	01:14:27	9.94
10/25/91	01:16:09	9.84
10/25/91	01:17:50	9.74

Monitor Well 6-9: Recovery Test

Date:	10/25/91
Static Water Level:	11.56 ft
Begin Bailing:	10:09:00
Stop Bailing:	10:39:00
Total Bailing Time:	00:30:00
Volume of Water Bailed:	9.0 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/25/91	01:19:32	9.64
10/25/91	01:21:21	9.54
10/25/91	01:23:09	9.44
10/25/91	01:25:03	9.34
10/25/91	01:26:58	9.24
10/25/91	01:28:51	9.14
10/25/91	01:30:39	9.04
10/25/91	01:32:22	8.94
10/25/91	01:34:08	8.84
10/25/91	01:35:56	8.74
10/25/91	01:37:34	8.64
10/25/91	01:39:12	8.54
10/25/91	01:40:52	8.44
10/25/91	01:42:33	8.34
10/25/91	01:44:18	8.24
10/25/91	01:46:04	8.14
10/25/91	01:47:53	8.04
10/25/91	01:49:31	7.94
10/25/91	01:51:18	7.84
10/25/91	01:52:58	7.74
10/25/91	01:54:41	7.64
10/25/91	01:56:19	7.54
10/25/91	01:59:58	7.34
10/25/91	02:03:35	7.14
10/25/91	02:07:17	6.94
10/25/91	02:11:17	6.74
10/25/91	02:14:45	6.54
10/25/91	02:18:51	6.34
10/25/91	02:22:33	6.14
10/25/91	02:26:08	5.94
10/25/91	02:29:45	5.74
10/25/91	02:33:08	5.54
10/25/91	02:36:55	5.34
10/25/91	02:40:27	5.14
10/25/91	02:44:02	4.94
10/25/91	02:47:52	4.74
10/25/91	02:51:22	4.54

Monitor Well 6-9: Recovery Test

Date:	10/25/91
Static Water Level:	11.56 ft
Begin Bailing:	10:09:00
Stop Bailing:	10:39:00
Total Bailing Time:	00:30:00
Volume of Water Bailed:	9.0 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/25/91	02:54:52	4.34
10/25/91	02:58:30	4.14
10/25/91	03:02:05	3.94
10/25/91	03:05:51	3.74
10/25/91	03:09:48	3.54
10/25/91	03:12:01	3.44

Monitor Well 6-10: Recovery Test

Date:	10/24/91
Static Water Level:	11.27 ft
Begin Bailing:	14:05:00
Stop Bailing:	15:02:00
Total Bailing Time:	00:57:00
Volume of Water Bailed:	8.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:00:38	14.43
10/24/91	00:00:48	14.41
10/24/91	00:00:53	14.39
10/24/91	00:00:59	14.37
10/24/91	00:01:04	14.35
10/24/91	00:01:11	14.33
10/24/91	00:01:15	14.31
10/24/91	00:01:19	14.29
10/24/91	00:01:25	14.27
10/24/91	00:01:31	14.25
10/24/91	00:01:37	14.23
10/24/91	00:01:44	14.21
10/24/91	00:01:48	14.19
10/24/91	00:01:54	14.17
10/24/91	00:02:01	14.15
10/24/91	00:02:07	14.13
10/24/91	00:02:12	14.11
10/24/91	00:02:18	14.09
10/24/91	00:02:25	14.07
10/24/91	00:02:23	14.05
10/24/91	00:02:40	14.03
10/24/91	00:02:44	14.01
10/24/91	00:02:51	13.99
10/24/91	00:02:58	13.97
10/24/91	00:03:07	13.95
10/24/91	00:03:11	13.93
10/24/91	00:03:16	13.91
10/24/91	00:03:21	13.89
10/24/91	00:03:26	13.87
10/24/91	00:03:31	13.85
10/24/91	00:03:40	13.83
10/24/91	00:03:46	13.81
10/24/91	00:03:52	13.79
10/24/91	00:03:59	13.77
10/24/91	00:04:05	13.75
10/24/91	00:04:10	13.73
10/24/91	00:04:16	13.71

Monitor Well 6-10: Recovery Test

Date:	10/24/91
Static Water Level:	11.27 ft
Begin Bailing:	14:05:00
Stop Bailing:	15:02:00
Total Bailing Time:	00:57:00
Volume of Water Bailed:	8.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:04:21	13.69
10/24/91	00:04:28	13.67
10/24/91	00:04:36	13.65
10/24/91	00:04:44	13.63
10/24/91	00:04:48	13.61
10/24/91	00:04:56	13.59
10/24/91	00:05:00	13.57
10/24/91	00:05:06	13.55
10/24/91	00:05:13	13.53
10/24/91	00:05:21	13.51
10/24/91	00:05:33	13.47
10/24/91	00:05:39	13.45
10/24/91	00:05:45	13.43
10/24/91	00:05:52	13.41
10/24/91	00:06:04	13.37
10/24/91	00:06:09	13.35
10/24/91	00:06:15	13.33
10/24/91	00:06:23	13.31
10/24/91	00:06:28	13.29
10/24/91	00:06:34	13.27
10/24/91	00:06:40	13.25
10/24/91	00:06:46	13.23
10/24/91	00:06:54	13.21
10/24/91	00:07:07	13.17
10/24/91	00:07:15	13.15
10/24/91	00:07:15	13.15
10/24/91	00:07:20	13.13
10/24/91	00:07:20	13.13
10/24/91	00:07:26	13.11
10/24/91	00:07:33	13.09
10/24/91	00:07:38	13.07
10/24/91	00:07:44	13.05
10/24/91	00:07:49	13.03
10/24/91	00:07:56	13.01
10/24/91	00:08:02	12.99
10/24/91	00:08:08	12.97
10/24/91	00:08:14	12.95

Monitor Well 6-10: Recovery Test

Date:	10/24/91
Static Water Level:	11.27 ft
Begin Bailing:	14:05:00
Stop Bailing:	15:02:00
Total Bailing Time:	00:57:00
Volume of Water Bailed:	8.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:08:20	12.93
10/24/91	00:08:33	12.89
10/24/91	00:08:38	12.87
10/24/91	00:08:44	12.85
10/24/91	00:08:50	12.83
10/24/91	00:08:56	12.81
10/24/91	00:09:04	12.79
10/24/91	00:09:09	12.77
10/24/91	00:09:15	12.75
10/24/91	00:09:23	12.73
10/24/91	00:09:34	12.69
10/24/91	00:09:58	12.61
10/24/91	00:10:11	12.57
10/24/91	00:10:22	12.53
10/24/91	00:10:35	12.49
10/24/91	00:10:47	12.45
10/24/91	00:11:00	12.41
10/24/91	00:11:13	12.37
10/24/91	00:11:25	12.33
10/24/91	00:11:38	12.29
10/24/91	00:11:50	12.25
10/24/91	00:12:06	12.21
10/24/91	00:12:20	12.17
10/24/91	00:12:35	12.13
10/24/91	00:12:48	12.09
10/24/91	00:13:04	12.05
10/24/91	00:13:18	12.01
10/24/91	00:13:33	11.97
10/24/91	00:13:47	11.93
10/24/91	00:14:04	11.89
10/24/91	00:14:16	11.85
10/24/91	00:14:30	11.81
10/24/91	00:14:44	11.77
10/24/91	00:14:58	11.73
10/24/91	00:15:13	11.69
10/24/91	00:15:26	11.65
10/24/91	00:15:44	11.61

Monitor Well 6-10: Recovery Test

Date:	10/24/91
Static Water Level:	*11.27 ft*
Begin Bailing:	14:05:00
Stop Bailing:	15:02:00
Total Bailing Time:	00:57:00
Volume of Water Bailed:	8.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:15:58	11.57
10/24/91	00:16:11	11.53
10/24/91	00:16:27	11.49
10/24/91	00:16:41	11.45
10/24/91	00:16:56	11.41
10/24/91	00:17:12	11.37
10/24/91	00:17:26	11.33
10/24/91	00:17:40	11.29
10/24/91	00:17:55	11.25
10/24/91	00:18:11	11.21
10/24/91	00:18:25	11.17
10/24/91	00:18:43	11.13
10/24/91	00:18:57	11.09
10/24/91	00:19:11	11.05
10/24/91	00:19:27	11.01
10/24/91	00:19:44	10.97
10/24/91	00:19:57	10.93
10/24/91	00:20:20	10.88
10/24/91	00:20:35	10.83
10/24/91	00:20:56	10.78
10/24/91	00:21:13	10.73
10/24/91	00:21:30	10.68
10/24/91	00:21:48	10.63
10/24/91	00:22:06	10.58
10/24/91	00:22:27	10.53
10/24/91	00:22:44	10.48
10/24/91	00:23:07	10.43
10/24/91	00:23:21	10.38
10/24/91	00:23:40	10.33
10/24/91	00:23:59	10.28
10/24/91	00:24:20	10.23
10/24/91	00:24:38	10.18
10/24/91	00:24:56	10.13
10/24/91	00:25:15	10.08
10/24/91	00:25:34	10.03
10/24/91	00:25:54	9.98
10/24/91	00:26:11	9.93

Monitor Well 6-10: Recovery Test

Date:	10/24/91
Static Water Level:	11.27 ft
Begin Bailing:	14:05:00
Stop Bailing:	15:02:00
Total Bailing Time:	00:57:00
Volume of Water Bailed:	8.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:26:29	9.88
10/24/91	00:26:50	9.83
10/24/91	00:27:11	9.78
10/24/91	00:27:28	9.73
10/24/91	00:27:44	9.68
10/24/91	00:28:08	9.63
10/24/91	00:28:29	9.58
10/24/91	00:28:51	9.53
10/24/91	00:29:09	9.48
10/24/91	00:29:28	9.43
10/24/91	00:29:47	9.38
10/24/91	00:30:07	9.33
10/24/91	00:30:25	9.28
10/24/91	00:30:48	9.23
10/24/91	00:31:20	9.13
10/24/91	00:32:07	9.03
10/24/91	00:32:46	8.93
10/24/91	00:33:30	8.83
10/24/91	00:34:06	8.73
10/24/91	00:34:44	8.63
10/24/91	00:35:24	8.53
10/24/91	00:36:06	8.43
10/24/91	00:36:46	8.33
10/24/91	00:37:25	8.23
10/24/91	00:38:05	8.13
10/24/91	00:38:37	8.03
10/24/91	00:39:24	7.93
10/24/91	00:40:05	7.83
10/24/91	00:40:42	7.73
10/24/91	00:41:24	7.63
10/24/91	00:42:05	7.53
10/24/91	00:42:42	7.43
10/24/91	00:43:18	7.33
10/24/91	00:43:58	7.23
10/24/91	00:43:39	7.13
10/24/91	00:45:22	7.03
10/24/91	00:46:04	6.93

Monitor Well 6-10: Recovery Test

Date:	10/24/91
Static Water Level:	11.27 ft
Begin Bailing:	14:05:00
Stop Bailing:	15:02:00
Total Bailing Time:	00:57:00
Volume of Water Bailed:	8.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	00:46:40	6.83
10/24/91	00:47:15	6.73
10/24/91	00:47:52	6.63
10/24/91	00:48:40	6.53
10/24/91	00:49:40	6.43
10/24/91	00:50:05	6.33
10/24/91	00:50:44	6.23
10/24/91	00:51:28	6.13
10/24/91	00:52:07	6.03
10/24/91	00:52:50	5.93
10/24/91	00:53:32	5.83
10/24/91	00:54:12	5.73
10/24/91	00:54:51	5.63
10/24/91	00:55:38	5.53
10/24/91	00:56:18	5.43
10/24/91	00:56:59	5.33
10/24/91	00:57:37	5.23
10/24/91	00:58:19	5.13
10/24/91	00:59:07	5.03
10/24/91	00:59:51	4.93
10/24/91	01:00:31	4.83
10/24/91	01:01:10	4.73
10/24/91	01:01:56	4.63
10/24/91	01:02:35	4.53
10/24/91	01:03:20	4.43
10/24/91	01:04:07	4.33
10/24/91	01:04:45	4.23
10/24/91	01:05:29	4.13
10/24/91	01:06:14	4.03
10/24/91	01:06:54	3.93
10/24/91	01:07:43	3.83
10/24/91	01:08:27	3.73
10/24/91	01:09:01	3.63
10/24/91	01:09:53	3.53
10/24/91	01:10:42	3.43
10/24/91	01:11:25	3.33
10/24/91	01:12:07	3.23

Monitor Well 6-10: Recovery Test

Date:	10/24/91
Static Water Level:	11.27 ft
Begin Bailing:	14:05:00
Stop Bailing:	15:02:00
Total Bailing Time:	00:57:00
Volume of Water Bailed:	8.5 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/24/91	01:12:55	3.13
10/24/91	01:13:04	3.03
10/24/91	01:14:25	2.93
10/24/91	01:15:09	2.83
10/24/91	01:15:58	2.73
10/24/91	01:16:43	2.63
10/24/91	01:17:27	2.53
10/24/91	01:18:14	2.43
10/24/91	01:19:05	2.33
10/24/91	01:19:51	2.23
10/24/91	01:20:48	2.13
10/24/91	01:21:38	2.03
10/24/91	01:22:42	1.93
10/24/91	01:23:40	1.83
10/24/91	01:24:54	1.73
10/24/91	01:26:09	1.63
10/24/91	01:27:28	1.53
10/24/91	01:29:01	1.43
10/24/91	01:30:42	1.33
10/24/91	01:31:52	1.23
10/24/91	01:33:19	1.13
10/24/91	01:35:35	1.03
10/24/91	01:38:12	0.93
10/24/91	01:41:17	0.83
10/24/91	01:45:13	0.73

Monitor Well 6-11: Recovery Test

Date:	10/23/91
Static Water Level:	14.26 ft
Begin Bailing:	12:10:00
Stop Bailing:	12:39:00
Total Bailing Time:	00:29:00
Volume of Water Bailed:	6.4 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/23/91	00:00:40	13.84
10/23/91	00:01:10	13.82
10/23/91	00:01:34	13.80
10/23/91	00:01:56	13.78
10/23/91	00:02:26	13.76
10/23/91	00:03:02	13.74
10/23/91	00:04:01	13.70
10/23/91	00:04:32	13.68
10/23/91	00:05:19	13.66
10/23/91	00:05:36	13.64
10/23/91	00:06:00	13.62
10/23/91	00:06:45	13.60
10/23/91	00:07:19	13.58
10/23/91	00:07:53	13.56
10/23/91	00:08:32	13.54
10/23/91	00:09:30	13.52
10/23/91	00:10:20	13.50
10/23/91	00:11:06	13.46
10/23/91	00:12:12	13.44
10/23/91	00:12:20	13.43
10/23/91	00:13:25	13.42
10/23/91	00:14:25	13.42
10/23/91	00:15:15	13.36
10/23/91	00:16:04	13.34
10/23/91	00:16:40	13.32
10/23/91	00:17:40	13.30
10/23/91	00:18:45	13.28
10/23/91	00:19:35	13.26
10/23/91	00:20:27	13.24
10/23/91	00:21:30	13.22
10/23/91	00:22:28	13.20
10/23/91	00:23:25	13.18
10/23/91	00:24:05	13.16
10/23/91	00:25:00	13.14
10/23/91	00:25:40	13.12
10/23/91	00:26:59	13.11
10/23/91	00:27:55	13.10

Monitor Well 6-11: Recovery Test

Date:	10/23/91
Static Water Level:	14.26 ft
Begin Bailing:	12:10:00
Stop Bailing:	12:39:00
Total Bailing Time:	00:29:00
Volume of Water Bailed:	6.4 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/23/91	00:29:25	13.06
10/23/91	00:30:40	13.04
10/23/91	00:32:00	13.02
10/23/91	00:33:43	13.00
10/23/91	00:34:58	12.98
10/23/91	00:36:30	12.96
10/23/91	00:37:58	12.94
10/23/91	00:42:03	12.89
10/23/91	00:46:08	12.84
10/23/91	00:51:23	12.79
10/23/91	00:55:51	12.74
10/23/91	01:00:30	12.69
10/23/91	01:06:35	12.64
10/23/91	01:15:00	12.56
10/23/91	01:24:45	12.49
10/23/91	01:48:05	12.34
10/23/91	01:57:30	12.28
10/23/91	02:46:00	12.00
10/23/91	03:17:00	11.86
10/23/91	03:55:00	11.70
10/23/91	04:30:00	11.55
10/24/91	20:41:00	8.55
10/24/91	24:50:00	7.89
10/24/91	27:35:00	7.44
10/25/91	45:50:00	5.07
10/25/91	49:04:00	4.77

Monitor Well 6-12: Recovery Test

Date:	10/23/91
Static Water Level:	12.36 ft
Begin Bailing:	13:56:00
Stop Bailing:	14:19:00
Total Bailing Time:	00:23:00
Volume of Water Bailed:	6.0 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/23/91	00:00:48	11.74
10/23/91	00:00:55	11.72
10/23/91	00:01:03	11.70
10/23/91	00:01:21	11.68
10/23/91	00:01:26	11.66
10/23/91	00:01:38	11.64
10/23/91	00:01:54	11.62
10/23/91	00:02:07	11.60
10/23/91	00:02:20	11.58
10/23/91	00:02:29	11.56
10/23/91	00:02:44	11.54
10/23/91	00:02:54	11.52
10/23/91	00:03:15	11.50
10/23/91	00:03:22	11.48
10/23/91	00:03:36	11.46
10/23/91	00:03:48	11.44
10/23/91	00:04:24	11.40
10/23/91	00:04:33	11.38
10/23/91	00:04:45	11.36
10/23/91	00:05:01	11.34
10/23/91	00:05:15	11.32
10/23/91	00:05:31	11.30
10/23/91	00:05:47	11.28
10/23/91	00:05:56	11.26
10/23/91	00:06:12	11.24
10/23/91	00:06:28	11.22
10/23/91	00:06:45	11.20
10/23/91	00:07:00	11.18
10/23/91	00:07:16	11.16
10/23/91	00:07:31	11.14
10/23/91	00:07:58	11.10
10/23/91	00:08:15	11.06
10/23/91	00:08:42	11.02
10/23/91	00:09:29	10.98
10/23/91	00:09:56	10.94
10/23/91	00:10:39	10.89
10/23/91	00:11:17	10.84

Monitor Well 6-12: Recovery Test

Date:	10/23/91
Static Water Level:	12.36 ft
Begin Bailing:	13:56:00
Stop Bailing:	14:19:00
Total Bailing Time:	00:23:00
Volume of Water Bailed:	6.0 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/23/91	00:11:52	10.79
10/23/91	00:12:27	10.74
10/23/91	00:13:14	10.69
10/23/91	00:13:44	10.64
10/23/91	00:14:23	10.59
10/23/91	00:15:03	10.54
10/23/91	00:15:45	10.49
10/23/91	00:16:29	10.44
10/23/91	00:17:07	10.39
10/23/91	00:17:55	10.34
10/23/91	00:18:35	10.29
10/23/91	00:19:16	10.24
10/23/91	00:20:00	10.19
10/23/91	00:20:42	10.14
10/23/91	00:21:28	10.09
10/23/91	00:22:09	10.04
10/23/91	00:22:53	9.99
10/23/91	00:23:38	9.94
10/23/91	00:24:24	9.89
10/23/91	00:25:06	9.84
10/23/91	00:25:50	9.79
10/23/91	00:26:34	9.74
10/23/91	00:28:01	9.64
10/23/91	00:29:31	9.54
10/23/91	00:31:05	9.44
10/23/91	00:32:35	9.34
10/23/91	00:34:02	9.24
10/23/91	00:35:32	9.14
10/23/91	00:37:04	9.04
10/23/91	00:38:38	8.94
10/23/91	00:40:10	8.84
10/23/91	00:41:50	8.74
10/23/91	00:43:17	8.64
10/23/91	00:44:48	8.54
10/23/91	00:46:25	8.44
10/23/91	00:48:04	8.34
10/23/91	00:49:40	8.24

Monitor Well 6-12: Recovery Test

Date:	10/23/91
Static Water Level:	12.36 ft
Begin Bailing:	13:56:00
Stop Bailing:	14:19:00
Total Bailing Time:	00:23:00
Volume of Water Bailed:	6.0 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/23/91	00:51:18	8.14
10/23/91	00:53:02	8.04
10/23/91	00:54:45	7.94
10/23/91	00:56:16	7.84
10/23/91	00:57:58	7.74
10/23/91	00:59:33	7.64
10/23/91	01:01:14	7.54
10/23/91	01:02:56	7.44
10/23/91	01:04:43	7.34
10/23/91	01:06:21	7.24
10/23/91	01:08:04	7.14
10/23/91	01:09:45	7.04
10/23/91	01:11:24	6.94
10/23/91	01:13:05	6.84
10/23/91	01:15:00	6.74
10/23/91	01:16:37	6.64
10/23/91	01:18:01	6.54
10/23/91	01:19:59	6.44
10/23/91	01:21:44	6.34
10/23/91	01:23:10	6.24
10/23/91	01:25:10	6.14
10/23/91	01:26:45	6.04
10/23/91	01:28:35	5.94
10/23/91	01:30:22	5.84
10/23/91	01:32:10	5.74
10/23/91	01:34:01	5.64
10/23/91	01:35:40	5.54
10/23/91	01:37:35	5.44
10/23/91	01:39:20	5.34
10/23/91	01:41:07	5.24
10/23/91	01:43:10	5.14
10/23/91	01:44:40	5.04
10/23/91	01:46:45	4.94
10/23/91	01:48:45	4.84
10/23/91	01:50:45	4.74
10/23/91	01:52:40	4.64
10/23/91	01:54:15	4.54

Monitor Well 6-12: Recovery Test

Date:	10/23/91
Static Water Level:	12.36 ft
Begin Bailing:	13:56:00
Stop Bailing:	14:19:00
Total Bailing Time:	00:23:00
Volume of Water Bailed:	6.0 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
10/23/91	01:56:15	4.44
10/23/91	01:58:15	4.34
10/23/91	02:00:08	4.24
10/23/91	02:02:08	4.14
10/23/91	02:04:03	4.04
10/23/91	02:05:55	3.94
10/23/91	02:07:51	3.84
10/23/91	02:10:07	3.74
10/23/91	02:11:48	3.64
10/23/91	02:13:59	3.54
10/23/91	02:15:59	3.44
10/23/91	02:18:04	3.34
10/23/91	02:20:18	3.24
10/23/91	02:22:24	3.14
10/23/91	02:24:16	3.04
10/23/91	02:26:26	2.94
10/23/91	02:28:27	2.84
10/23/91	02:30:47	2.74
10/23/91	02:32:55	2.64
10/23/91	02:35:00	2.54
10/23/91	02:37:20	2.44
10/23/91	02:39:16	2.34
10/23/91	02:41:28	2.24
10/23/91	02:43:46	2.14
10/23/91	02:45:58	2.04
10/23/91	02:48:04	1.94
10/23/91	02:50:17	1.84
10/23/91	02:52:32	1.74
10/23/91	02:54:49	1.64
10/23/91	02:57:20	1.54
10/24/91	19:05:00	0.04

Monitor Well 6-13: Recovery Test

Date:	11/26/91
Static Water Level:	17.80 ft
Begin Bailing:	09:01:00
Stop Bailing:	09:19:00
Total Bailing Time:	00:18:00
Volume of Water Bailed:	2.0 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
11/26/91	00:01:00	4.10
11/26/91	00:05:30	4.06
11/26/91	00:06:53	4.05
11/26/91	00:09:35	4.04
11/26/91	00:14:35	4.02
11/26/91	00:19:00	4.00
11/26/91	00:29:00	3.98
11/26/91	00:40:00	3.96
11/26/91	00:55:00	3.94
11/26/91	02:43:00	3.84
11/26/91	04:07:00	3.72
11/26/91	06:33:00	3.58

Monitor Well 6-14: Recovery Test

Date:	11/26/91
Static Water Level:	12.60 ft
Begin Bailing:	13:42:00
Stop Bailing:	14:11:00
Total Bailing Time:	00:29:00
Volume of Water Bailed:	6.0 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
11/26/91	00:01:49	10.84
11/26/91	00:02:54	10.80
11/26/91	00:03:21	10.78
11/26/91	00:03:52	10.76
11/26/91	00:04:29	10.74
11/26/91	00:05:03	10.72
11/26/91	00:05:33	10.70
11/26/91	00:06:05	10.68
11/26/91	00:06:47	10.66
11/26/91	00:07:16	10.64
11/26/91	00:07:58	10.62
11/26/91	00:08:31	10.60
11/26/91	00:09:04	10.58
11/26/91	00:09:48	10.56
11/26/91	00:10:27	10.54
11/26/91	00:11:05	10.52
11/26/91	00:11:40	10.50
11/26/91	00:12:22	10.48
11/26/91	00:12:57	10.46
11/26/91	00:13:37	10.44
11/26/91	00:14:56	10.40
11/26/91	00:16:45	10.35
11/26/91	00:18:30	10.30
11/26/91	00:20:20	10.25
11/26/91	00:22:17	10.20
11/26/91	00:24:01	10.15
11/26/91	00:26:01	10.10
11/26/91	00:27:54	10.05
11/26/91	00:29:57	10.00
11/26/91	00:31:57	9.95
11/26/91	00:33:59	9.90
11/26/91	00:35:59	9.85
11/26/91	00:37:57	9.80
11/26/91	00:39:56	9.75
11/26/91	00:42:02	9.70
11/26/91	00:44:12	9.65
11/26/91	00:46:12	9.60

Monitor Well 6-14: Recovery Test

Date:	11/26/91
Static Water Level:	12.60 ft
Begin Bailing:	13:42:00
Stop Bailing:	14:11:00
Total Bailing Time:	00:29:00
Volume of Water Bailed:	6.0 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
11/26/91	00:50:19	9.50
11/26/91	00:54:30	9.40
11/26/91	00:58:52	9.30
11/26/91	01:03:11	9.20
11/26/91	01:07:43	9.10
11/26/91	01:12:24	9.00
11/26/91	01:16:54	8.90
11/26/91	01:21:48	8.80
11/26/91	01:26:48	8.70
11/26/91	01:42:20	8.40
11/26/91	01:47:48	8.30
11/26/91	01:53:03	8.20
11/26/91	01:58:54	8.10
11/26/91	02:04:35	8.00
11/26/91	02:10:32	7.90
11/26/91	02:16:33	7.80
11/26/91	02:22:11	7.70
11/26/91	02:28:21	7.60

Monitor Well 6-15: Recovery Test

Date:	11/26/91
Static Water Level:	11.20 ft
Begin Bailing:	10:33:00
Stop Bailing:	10:57:00
Total Bailing Time:	00:24:00
Volume of Water Bailed:	5.0 Gallons

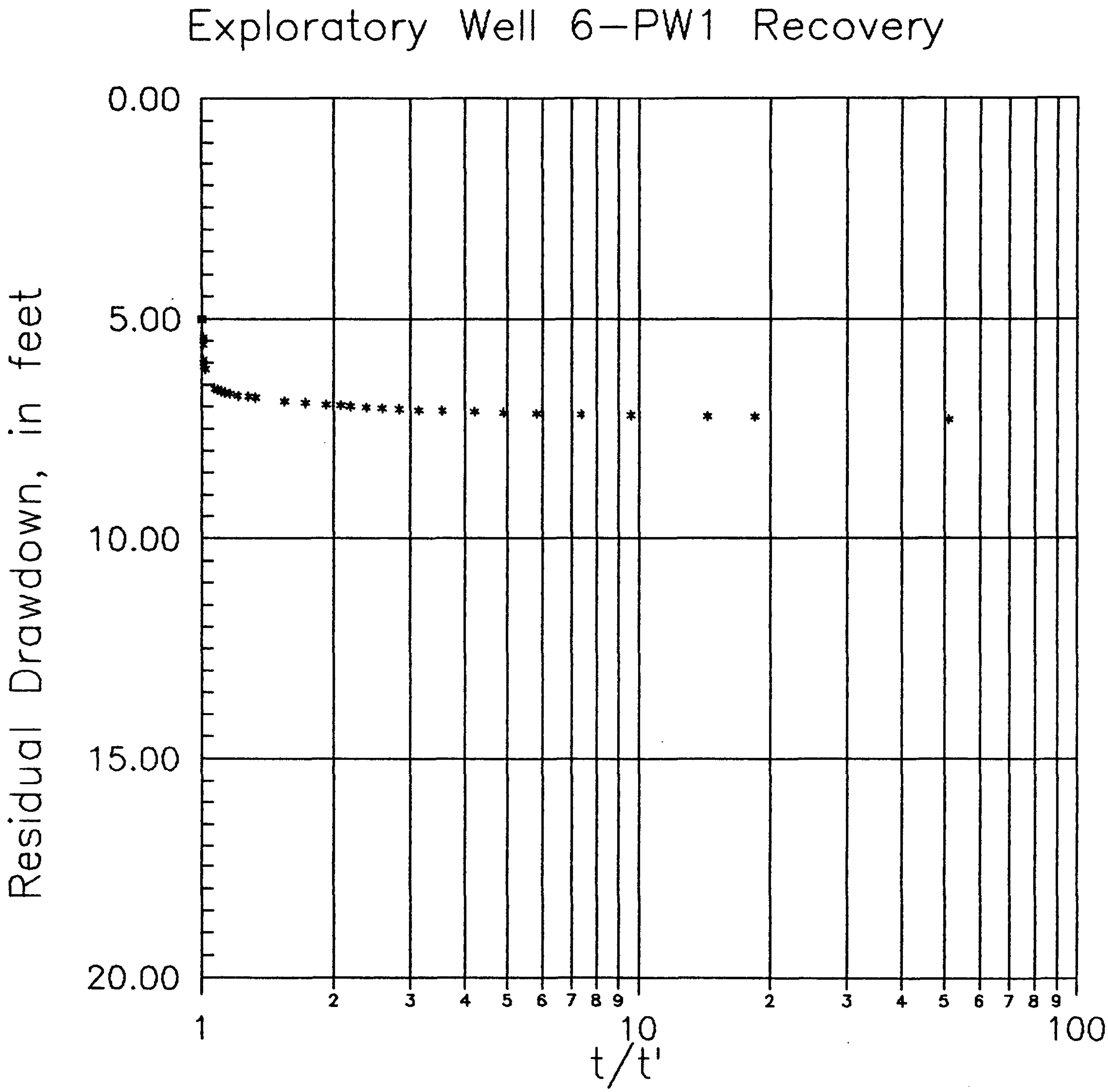
Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
11/26/91	00:01:00	10.04
11/26/91	00:01:35	10.02
11/26/91	00:02:05	10.00
11/26/91	00:02:40	9.98
11/26/91	00:03:11	9.96
11/26/91	00:03:41	9.94
11/26/91	00:04:12	9.92
11/26/91	00:04:45	9.90
11/26/91	00:05:18	9.88
11/26/91	00:05:48	9.86
11/26/91	00:06:25	9.84
11/26/91	00:07:03	9.82
11/26/91	00:07:34	9.80
11/26/91	00:08:17	9.78
11/26/91	00:08:54	9.76
11/26/91	00:09:32	9.74
11/26/91	00:10:09	9.72
11/26/91	00:10:48	9.70
11/26/91	00:11:25	9.68
11/26/91	00:12:09	9.66
11/26/91	00:12:53	9.64
11/26/91	00:13:29	9.62
11/26/91	00:14:13	9.60
11/26/91	00:16:00	9.55
11/26/91	00:17:50	9.50
11/26/91	00:19:47	9.45
11/26/91	00:21:38	9.40
11/26/91	00:23:39	9.35
11/26/91	00:25:38	9.30
11/26/91	00:27:29	9.25
11/26/91	00:29:35	9.20
11/26/91	00:31:47	9.15
11/26/91	00:33:52	9.10
11/26/91	00:35:52	9.05
11/26/91	00:37:38	9.00
11/26/91	00:40:01	8.95
11/26/91	00:42:01	8.90

Monitor Well 6-15: Recovery Test

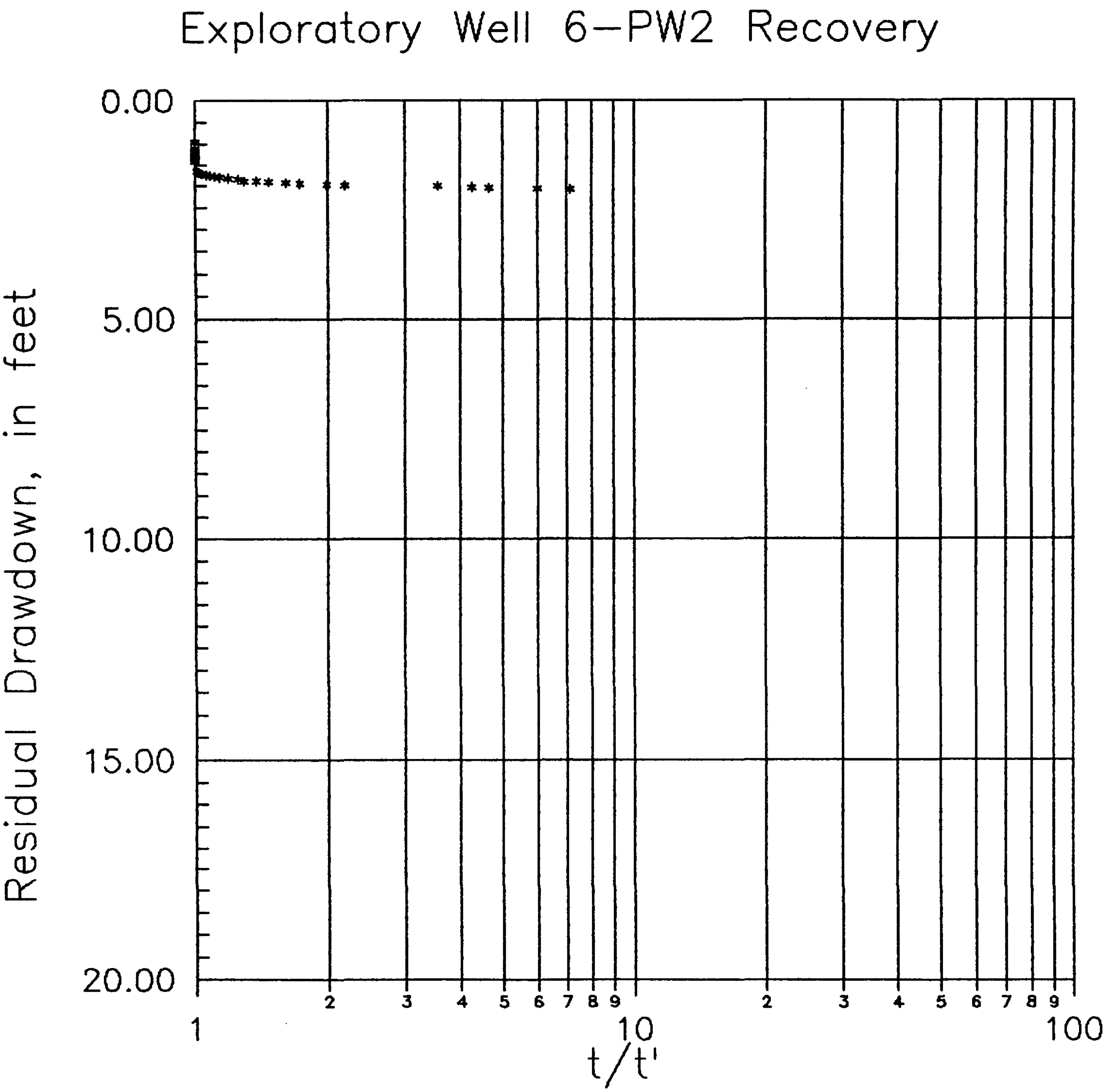
Date:	11/26/91
Static Water Level:	11.20 ft
Begin Bailing:	10:33:00
Stop Bailing:	10:57:00
Total Bailing Time:	00:24:00
Volume of Water Bailed:	5.0 Gallons

Date (mm/dd/yy)	Elapse Time Since Bailing Ended (hr:min:sec)	Depth Below Static Water Level (feet)
11/26/91	00:44:02	8.85
11/26/91	00:46:28	8.80
11/26/91	00:48:40	8.75
11/26/91	00:50:46	8.70
11/26/91	00:53:12	8.65
11/26/91	00:55:26	8.60
11/26/91	00:59:59	8.50
11/26/91	01:08:10	8.32
11/26/91	01:13:24	8.20
11/26/91	01:18:12	8.10
11/26/91	01:22:39	8.00
11/26/91	01:27:23	7.90
11/26/91	01:32:12	7.80
11/26/91	01:36:50	7.70
11/26/91	01:41:36	7.60
11/26/91	01:46:01	7.50
11/26/91	01:51:04	7.40
11/26/91	01:55:58	7.30
11/26/91	02:01:03	7.20
11/26/91	02:06:17	7.10
11/26/91	02:11:18	7.00
11/26/91	02:16:33	6.90
11/26/91	02:21:42	6.80
11/26/91	04:50:00	4.07
11/26/91	05:49:00	2.99

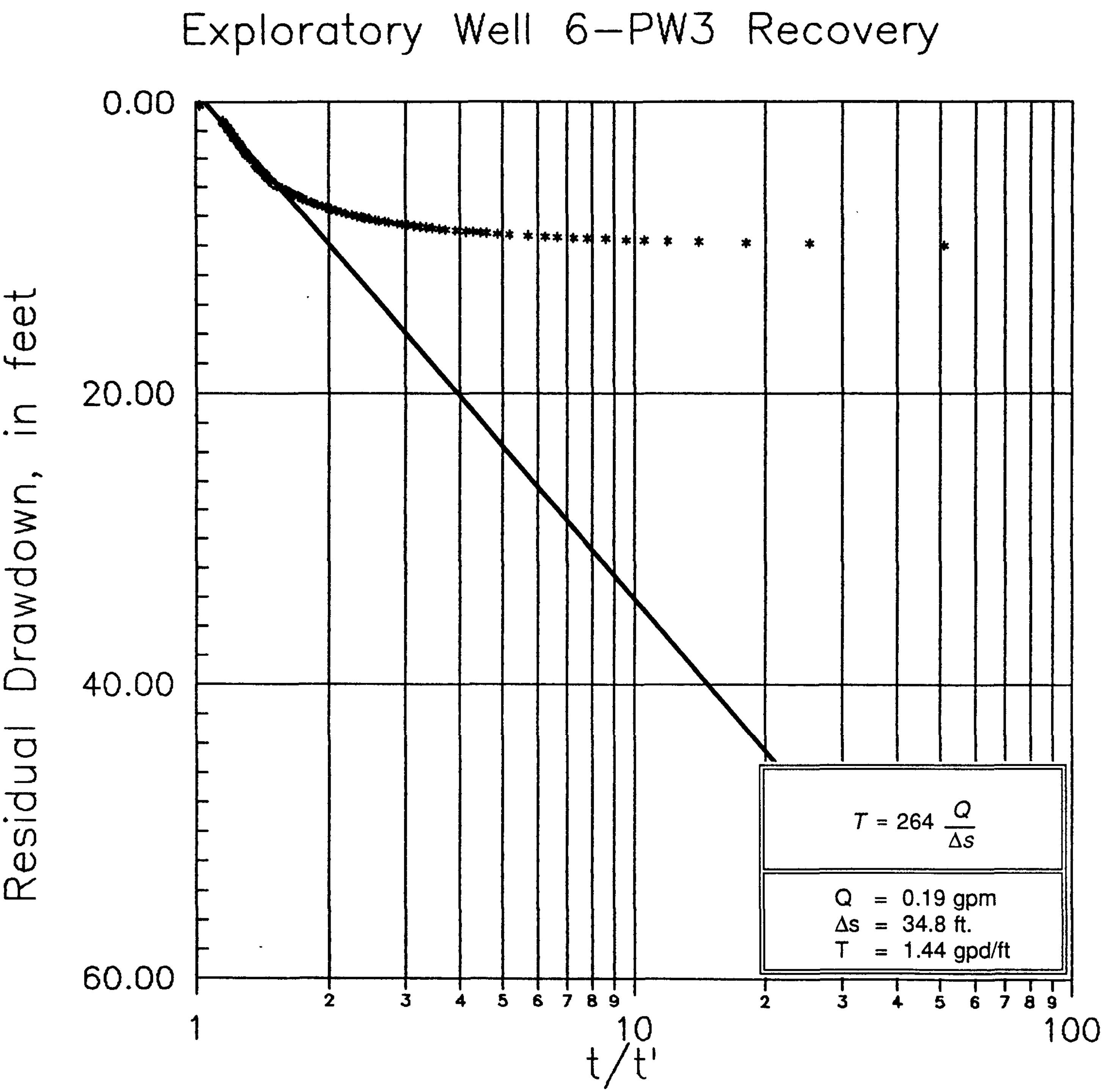
JACOB-COOPER PLOTS

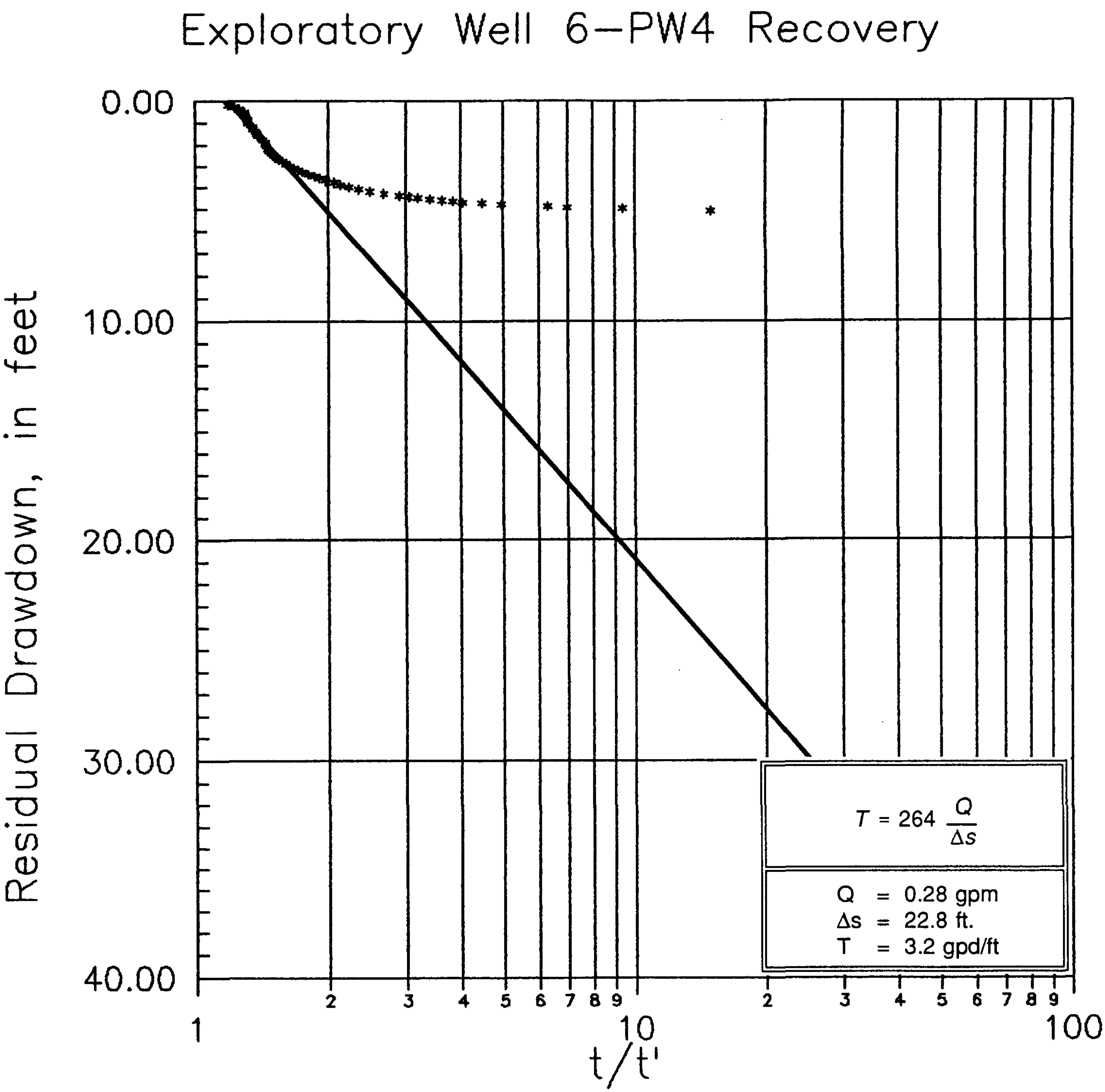


Exploratory Well 6-PW1 Recovery
Residual Drawdown, in feet
0.00
5.00
10.00
15.00
20.00
1
10
100
2
3
4
5
6
7
8
9
t/t'



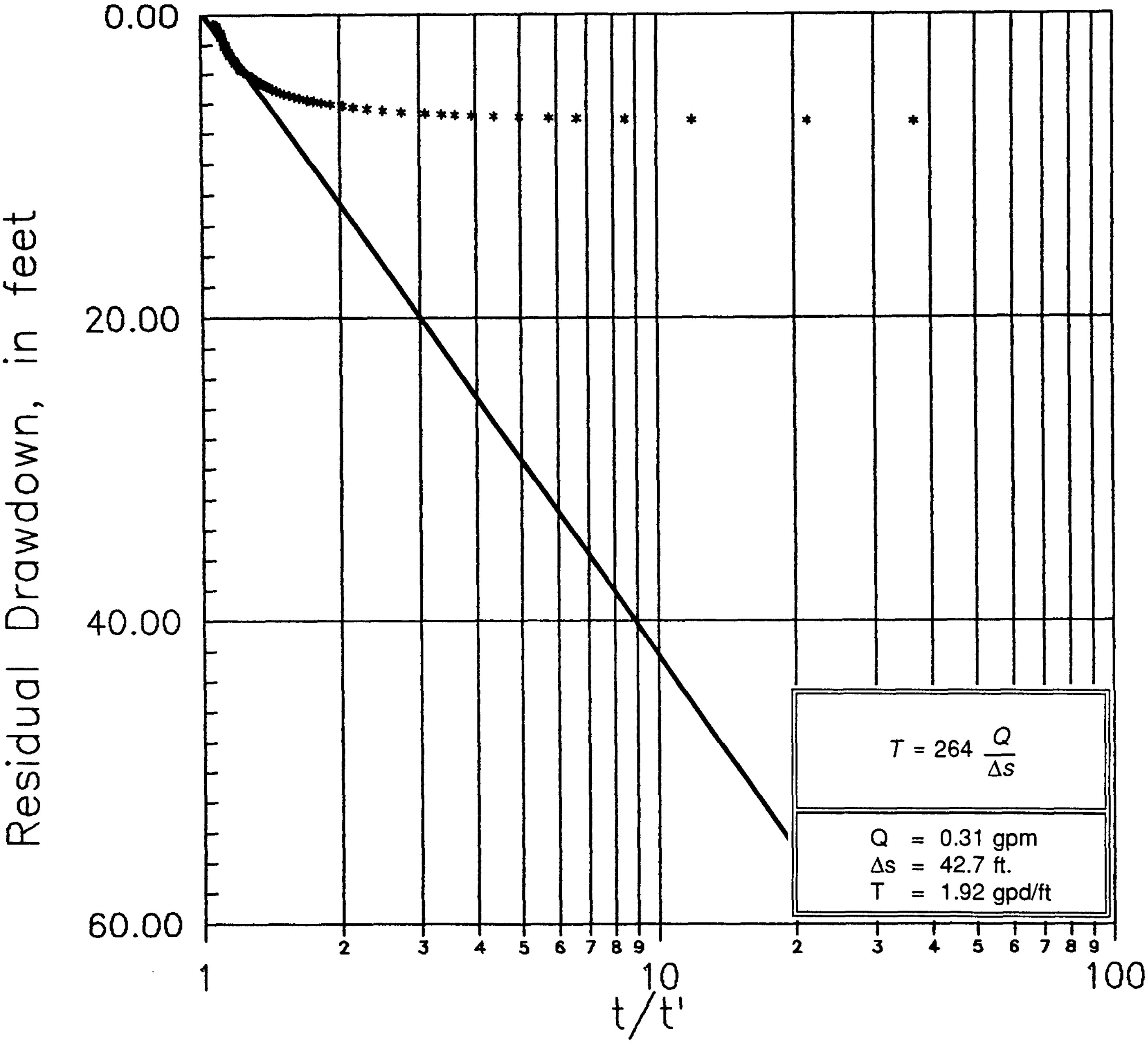
Exploratory Well 6-PW2 Recovery
Residual Drawdown, in feet
0.00
5.00
10.00
15.00
20.00
1
2 3 4 5 6 7 8 9
10
2 3 4 5 6 7 8 9
100
t/t'

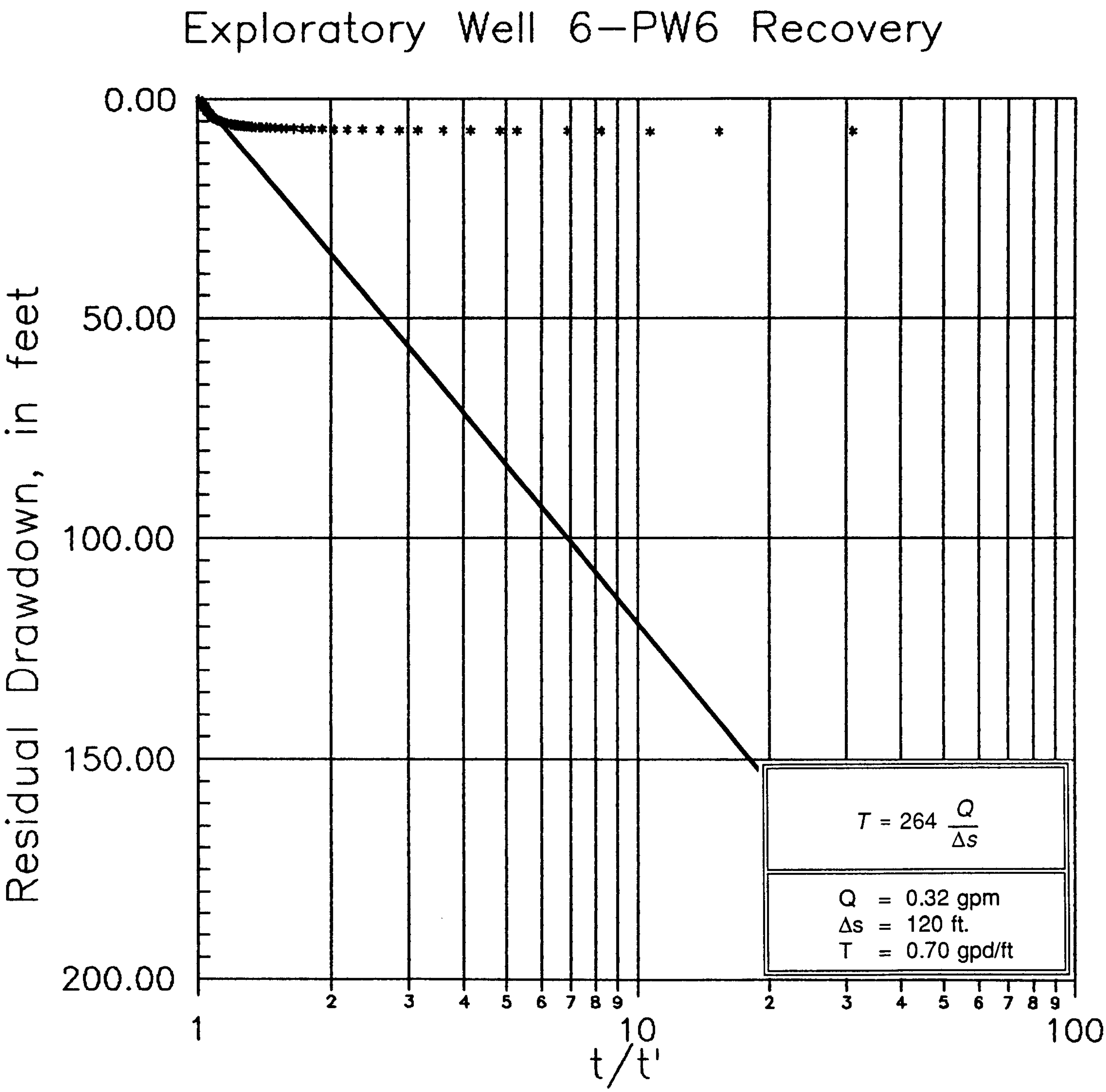

Exploratory Well 6-PW3 Recovery
Residual Drawdown, in feet
0.00
20.00
40.00
60.00
1
10
100
t/t'
$T = 264 \frac{Q}{\Delta s}$
Q = 0.19 gpm
Δs = 34.8 ft.
T = 1.44 gpd/ft



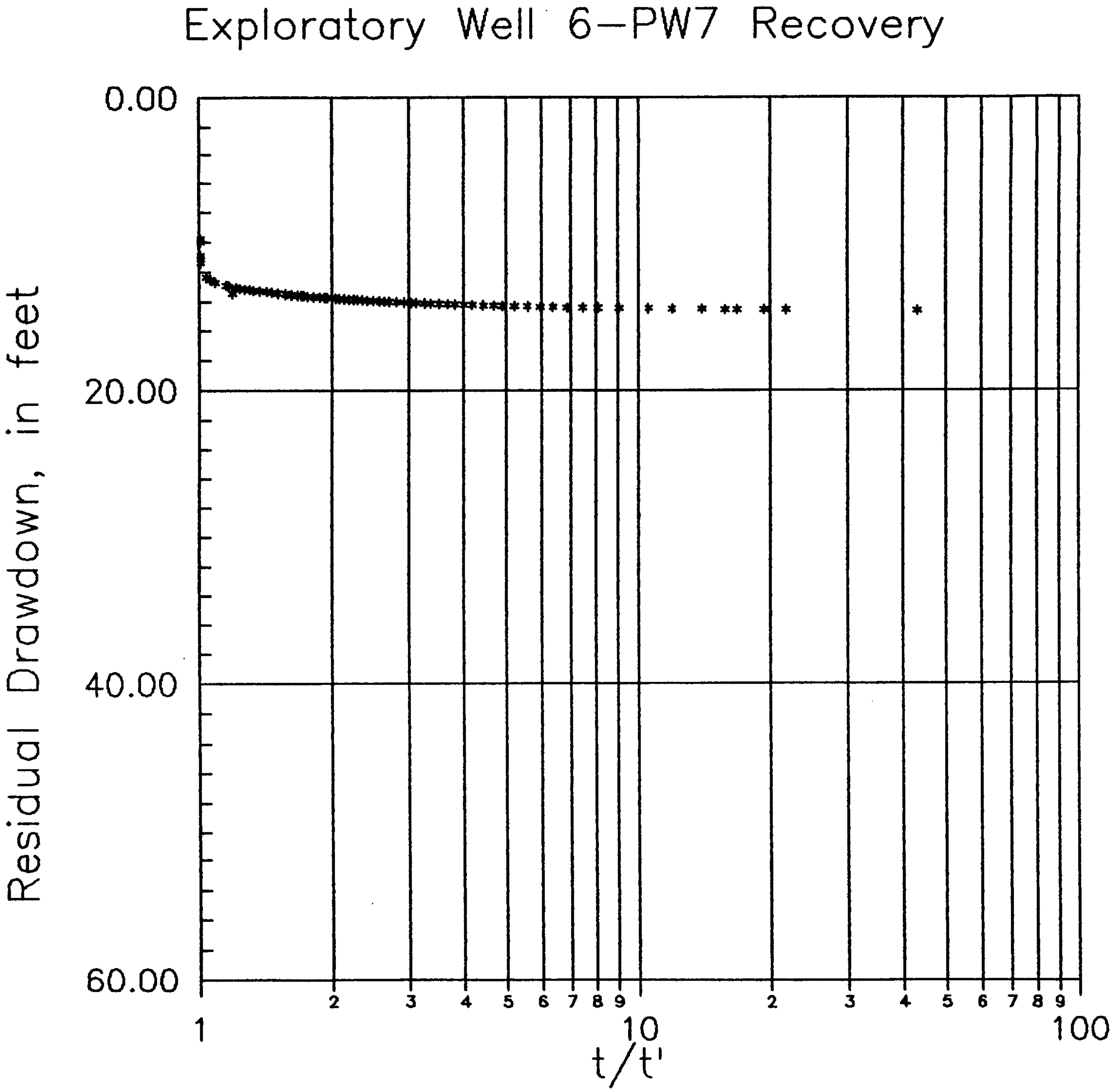
Exploratory Well 6—PW4 Recovery
Residual Drawdown, in feet
0.00
10.00
20.00
30.00
40.00
1
2
3
4
5
6
7
8
9
10
100
t/t'
T = 264 Q/Δs
Q = 0.28 gpm
Δs = 22.8 ft.
T = 3.2 gpd/ft

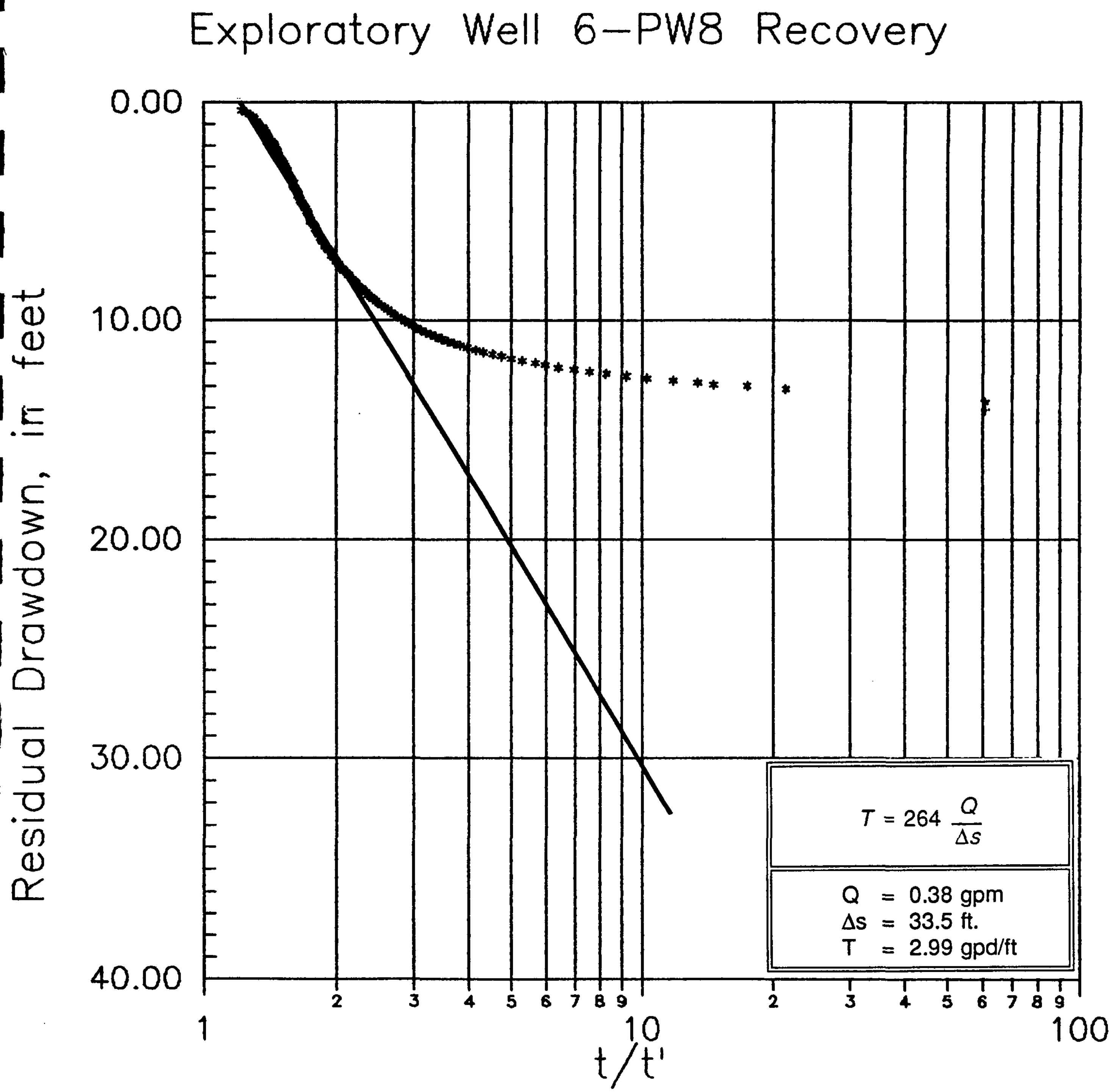
Exploratory Well 6-PW5 Recovery



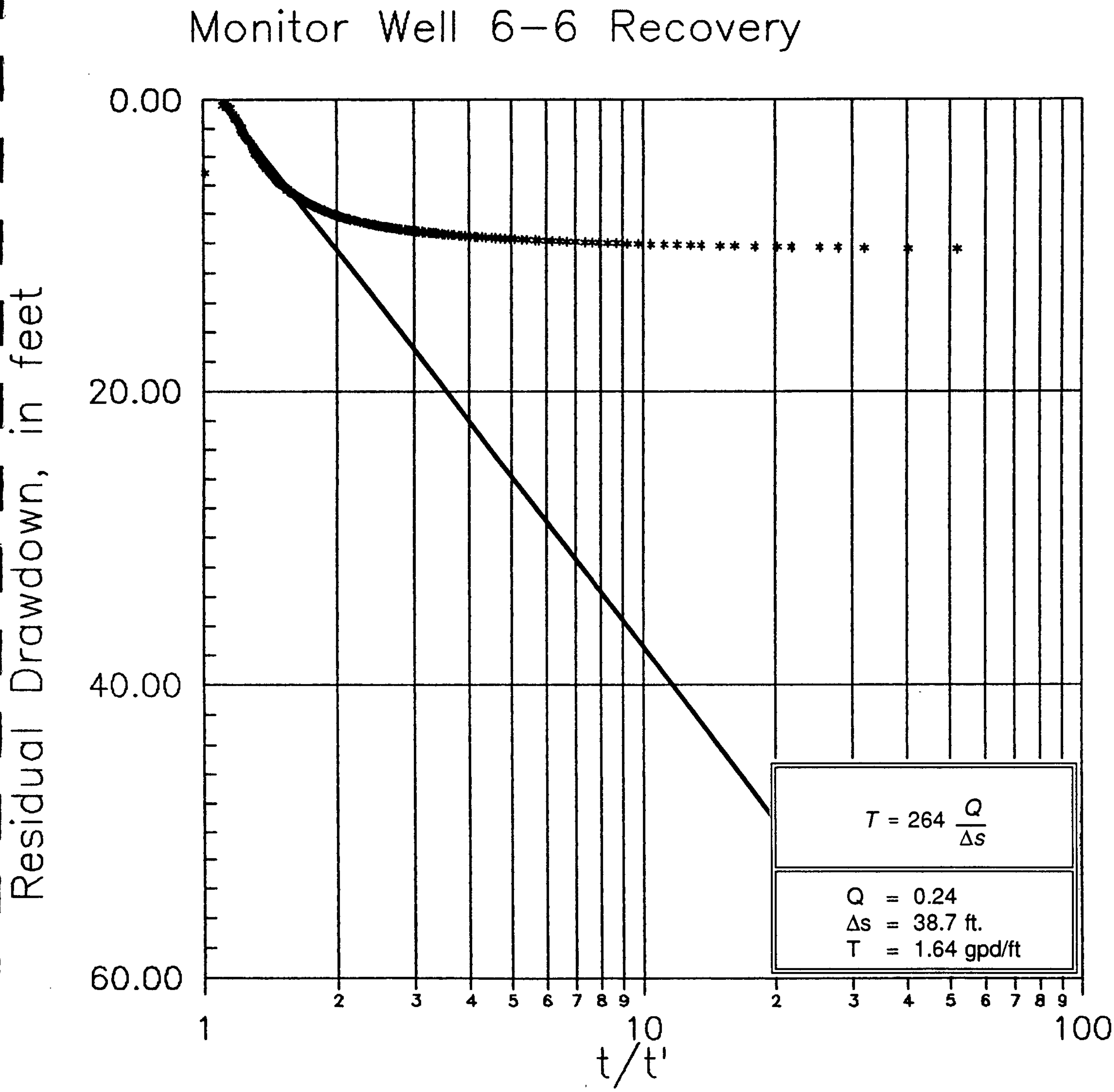


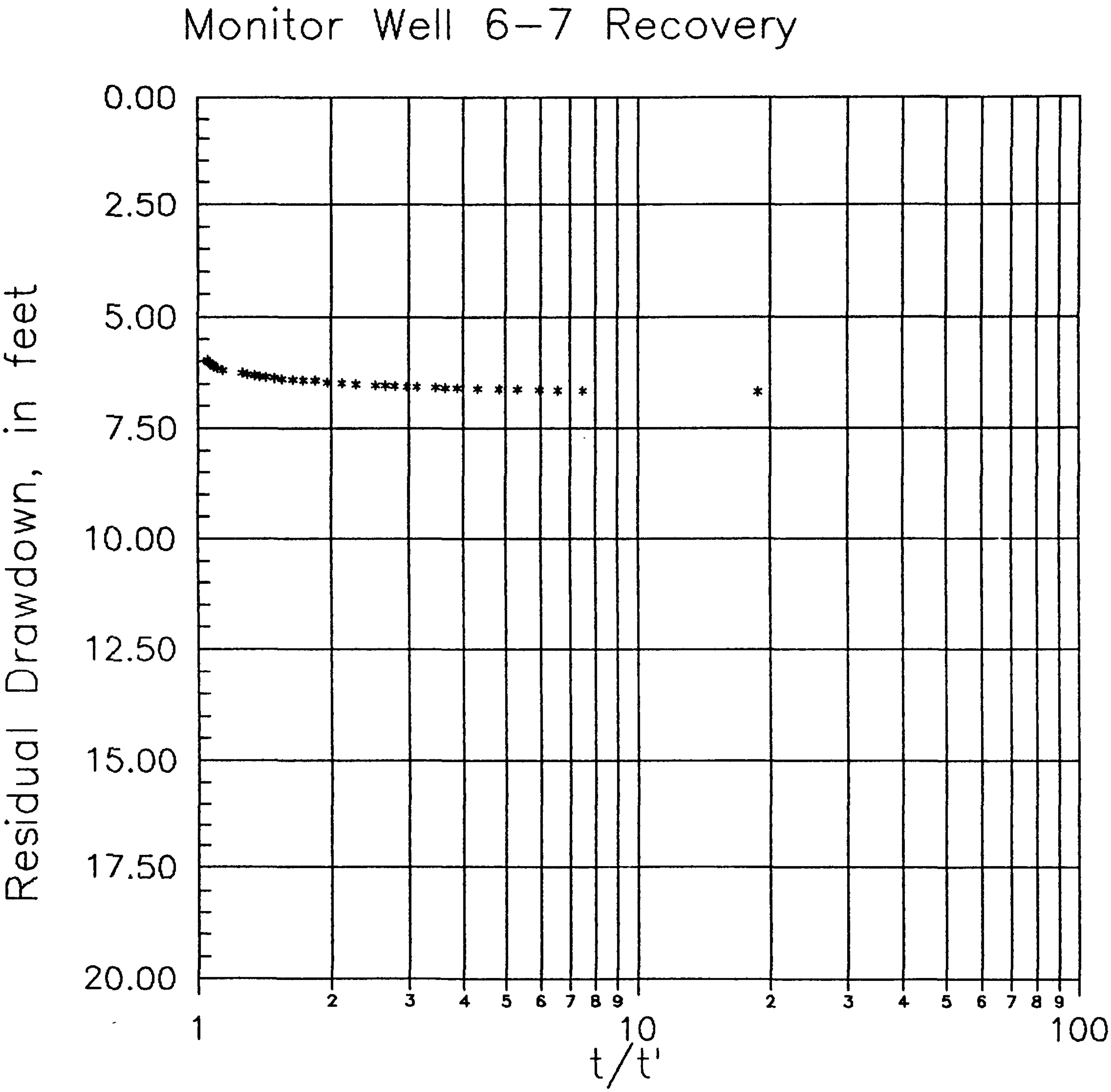
Exploratory Well 6-PW6 Recovery
Residual Drawdown, in feet
0.00
50.00
100.00
150.00
200.00
t/t'
1
10
100
2
3
4
5
6
7
8
9
$T = 264 \frac{Q}{\Delta s}$
Q = 0.32 gpm
Δs = 120 ft.
T = 0.70 gpd/ft


Exploratory Well 6—PW7 Recovery
Residual Drawdown, in feet
0.00
20.00
40.00
60.00
1
10
100
t/t'

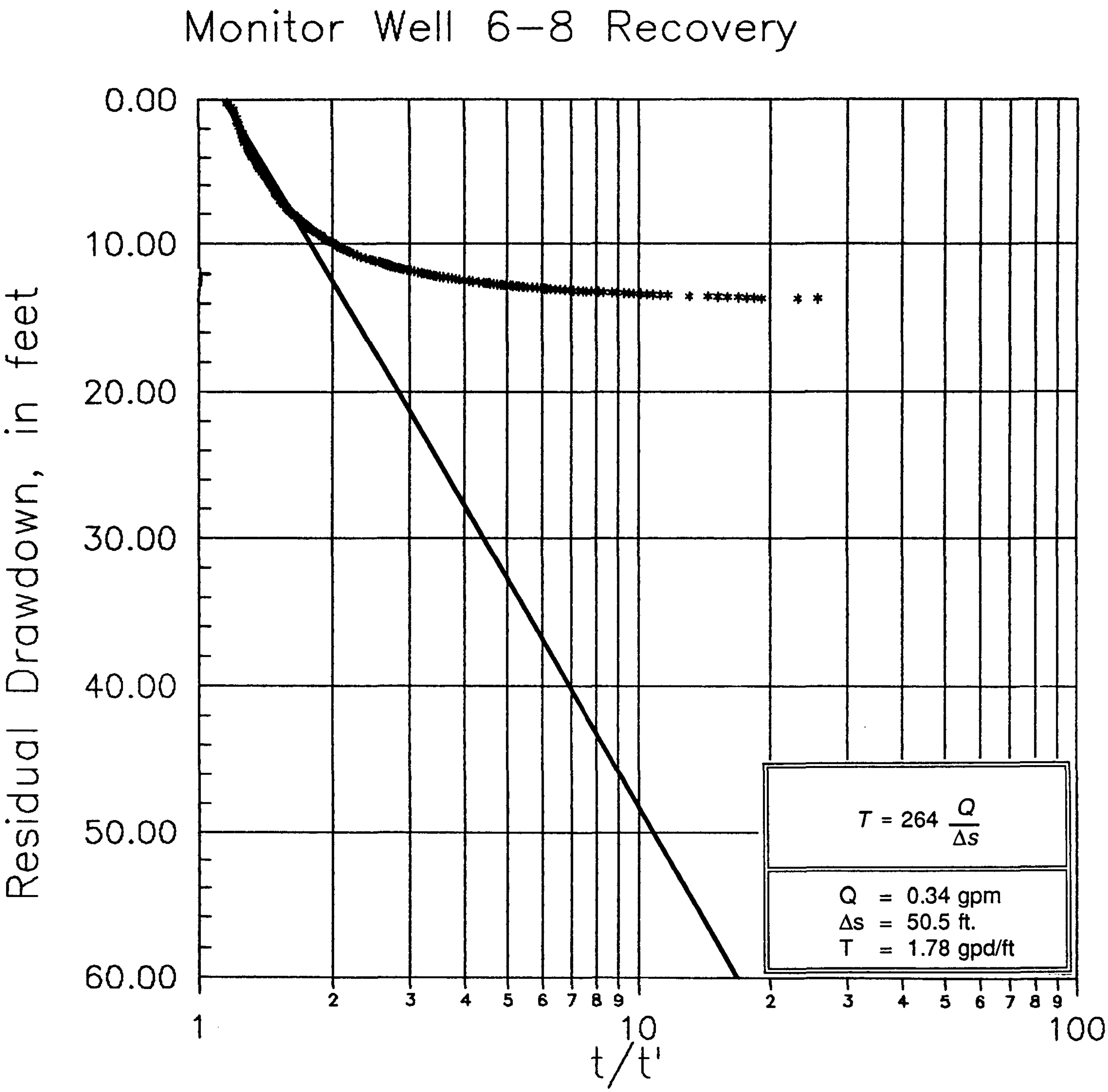


Exploratory Well 6-PW8 Recovery
Residual Drawdown, in feet
0.00
10.00
20.00
30.00
40.00
t/t'
1
10
100
2
3
4
5
6
7
8
9
T = 264 Q/Δs
Q = 0.38 gpm
Δs = 33.5 ft.
T = 2.99 gpd/ft

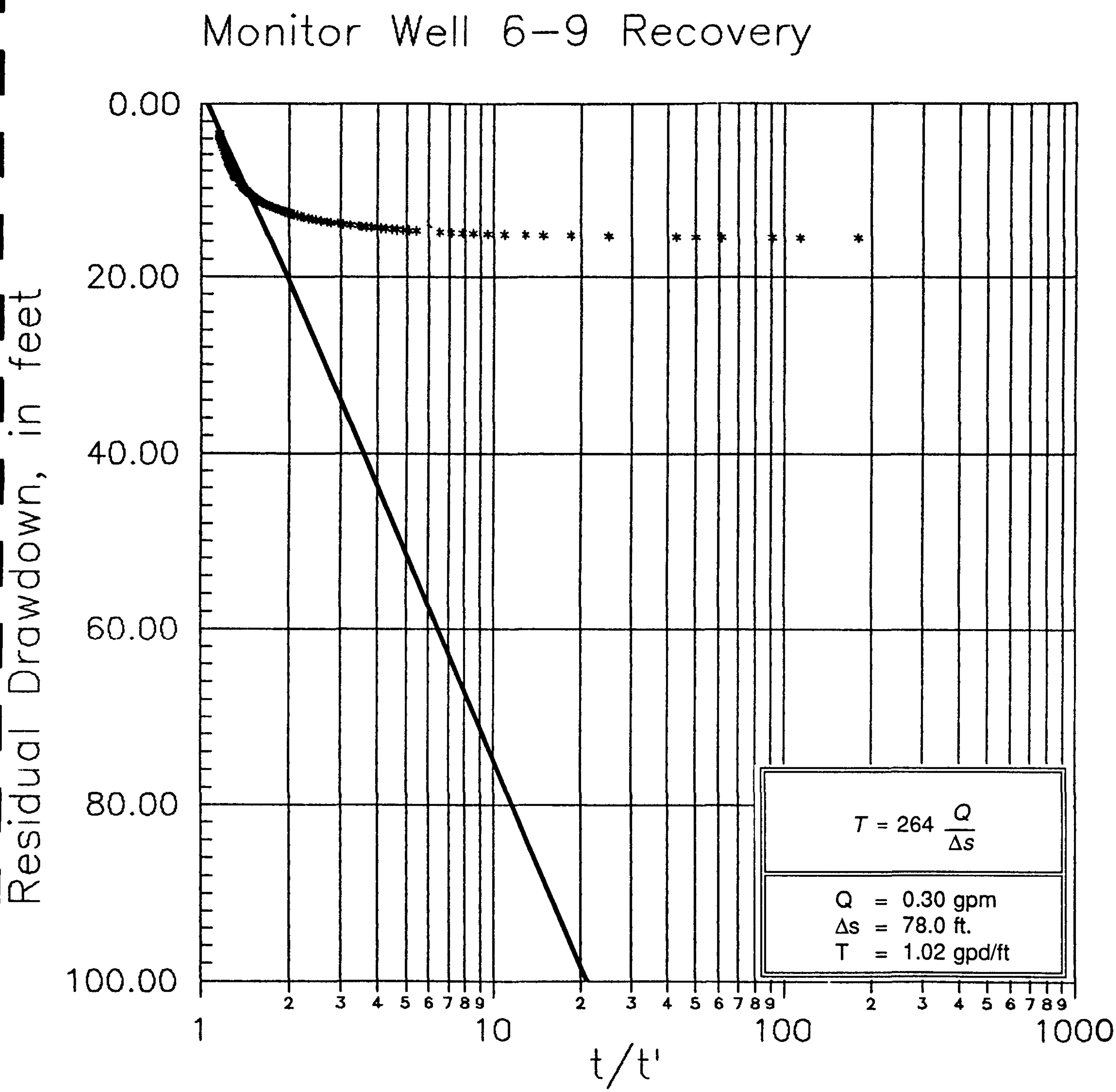

Monitor Well 6-6 Recovery
0.00
20.00
40.00
60.00
Residual Drawdown, in feet
1
2
3
4
5
6
7
8
9
10
100
t/t'
T = 264 Q/Δs
Q = 0.24
Δs = 38.7 ft.
T = 1.64 gpd/ft



Monitor Well 6-7 Recovery
Residual Drawdown, in feet
0.00
2.50
5.00
7.50
10.00
12.50
15.00
17.50
20.00
1
2
3
4
5
6
7
8
9
10
100
t/t'

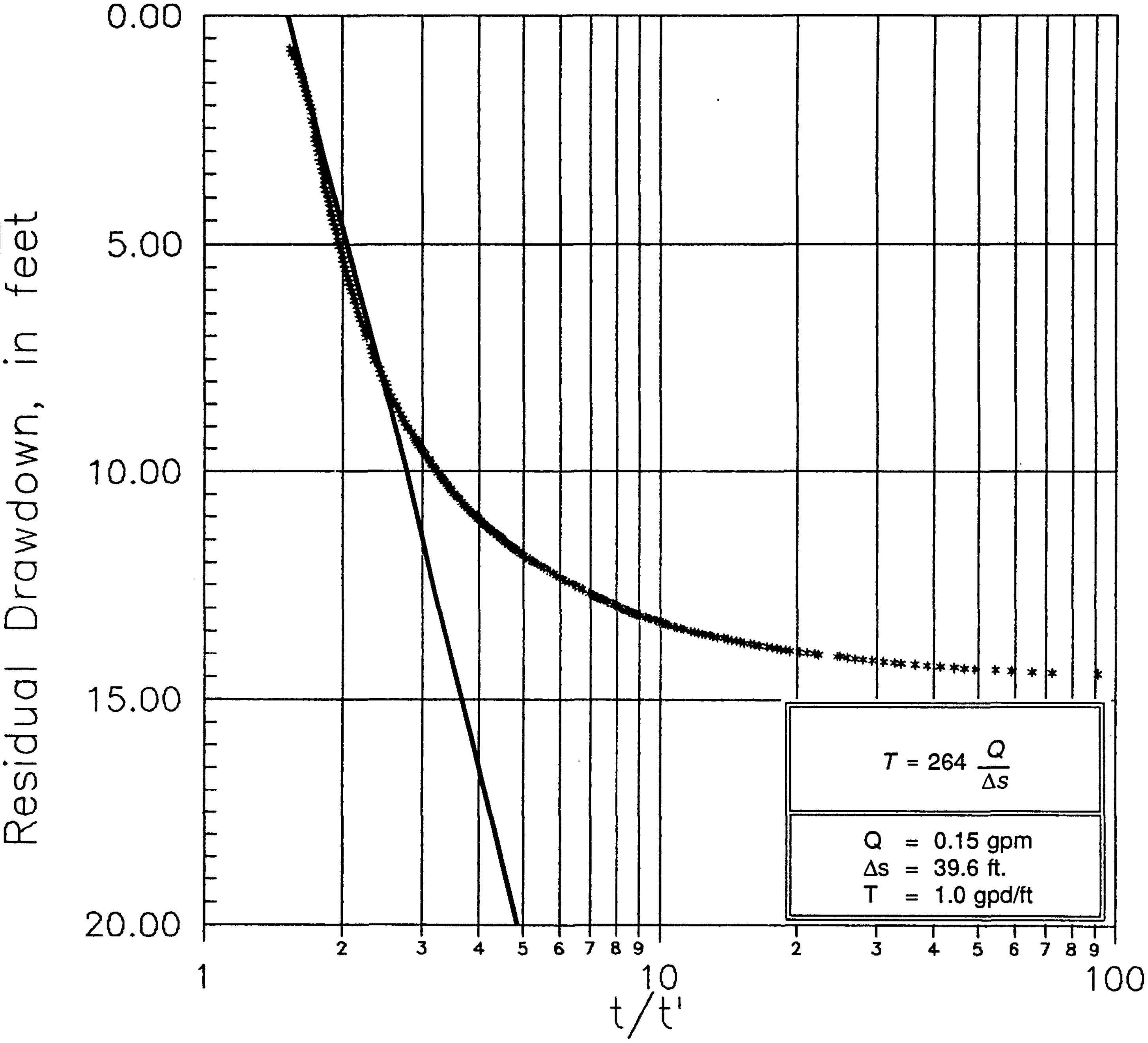


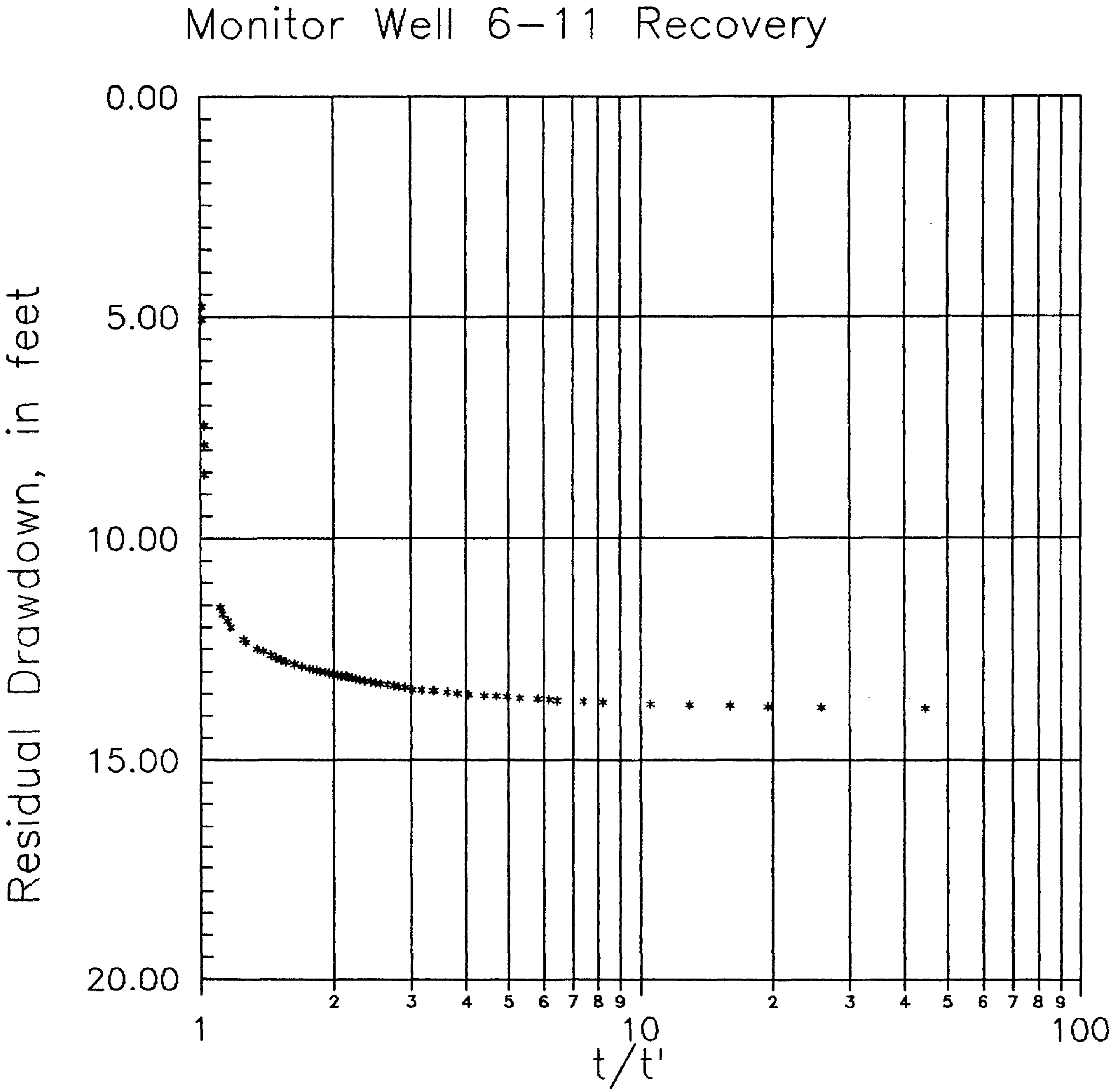
Monitor Well 6-8 Recovery
Residual Drawdown, in feet
0.00
10.00
20.00
30.00
40.00
50.00
60.00
t/t'
1
10
100
$T = 264 \frac{Q}{\Delta s}$
Q = 0.34 gpm
Δs = 50.5 ft.
T = 1.78 gpd/ft

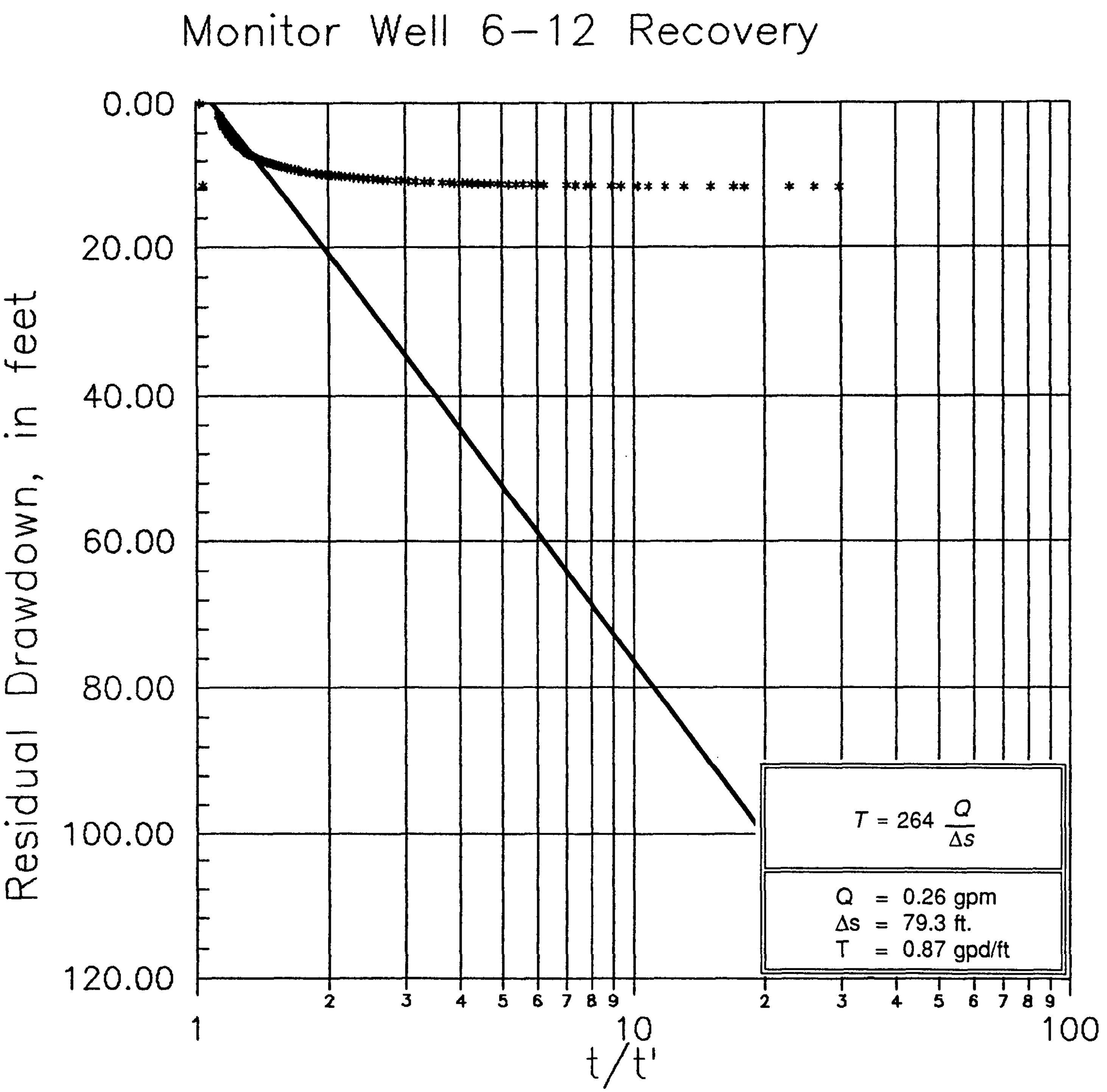


Monitor Well 6-9 Recovery
Residual Drawdown, in feet
0.00
20.00
40.00
60.00
80.00
100.00
1
10
100
1000
t/t'
T = 264 Q/Δs
Q = 0.30 gpm
Δs = 78.0 ft.
T = 1.02 gpd/ft

Monitor Well 6-10 Recovery

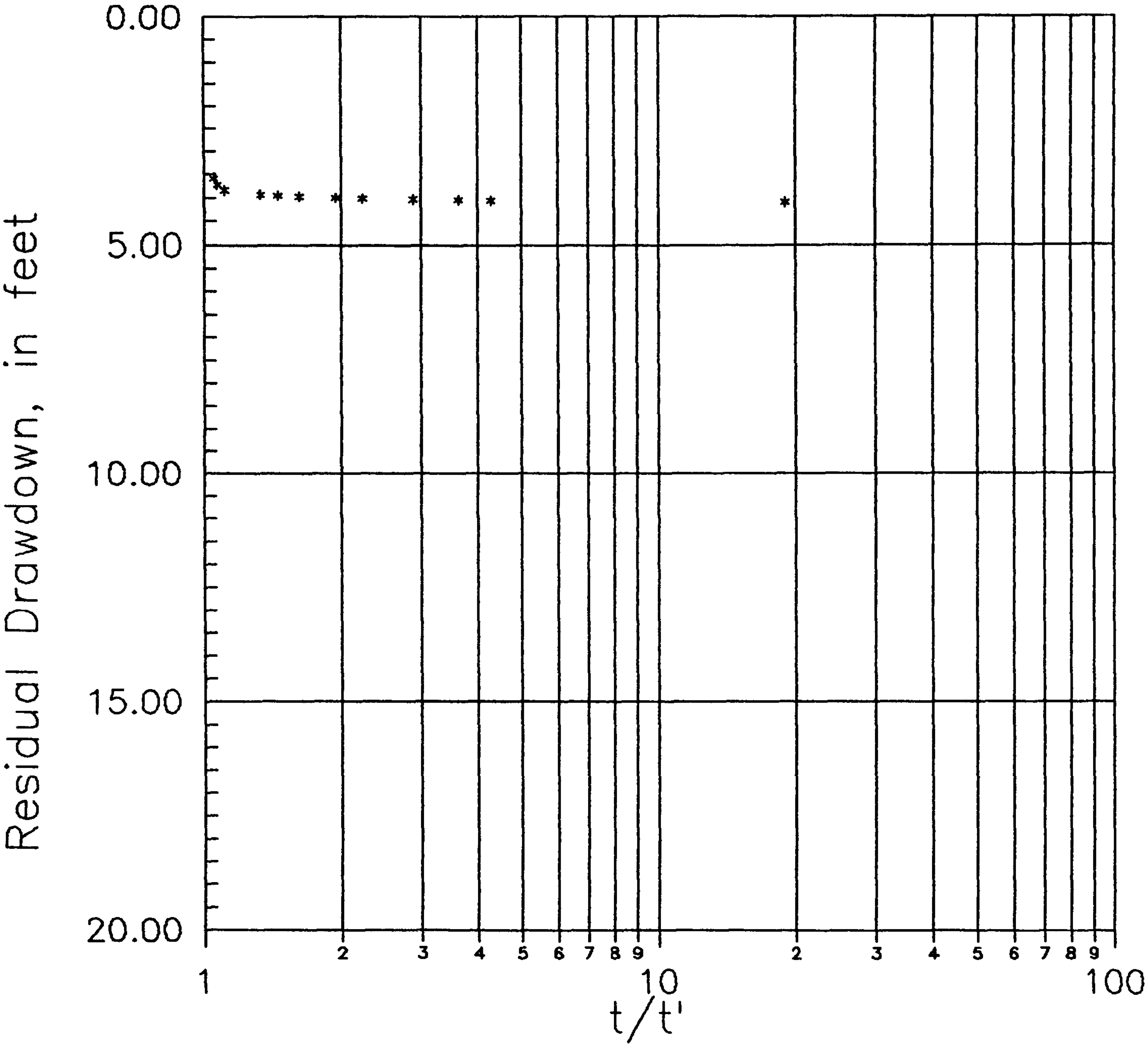


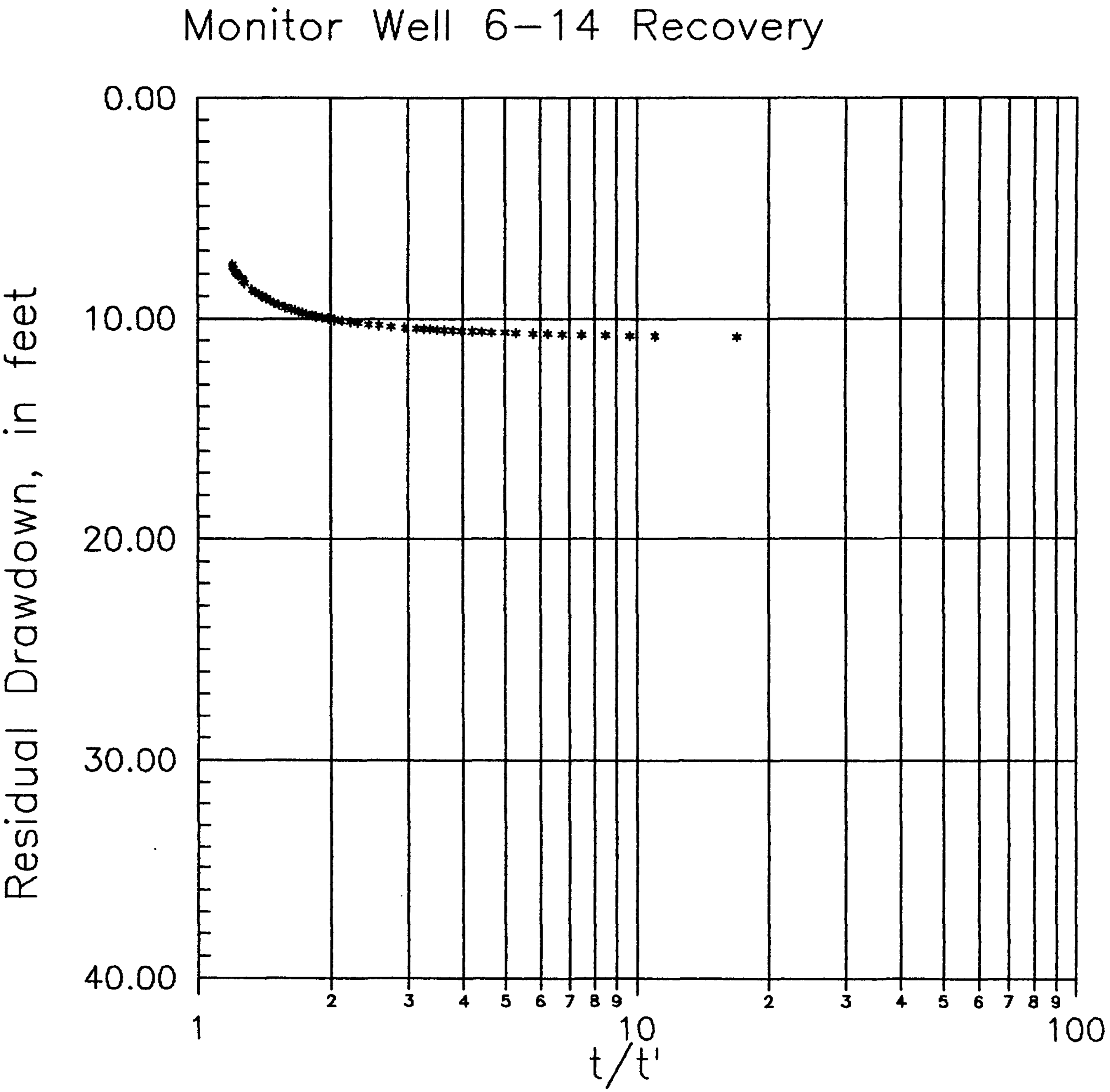

Monitor Well 6-11 Recovery
Residual Drawdown, in feet
0.00
5.00
10.00
15.00
20.00
1
10
100
t/t'

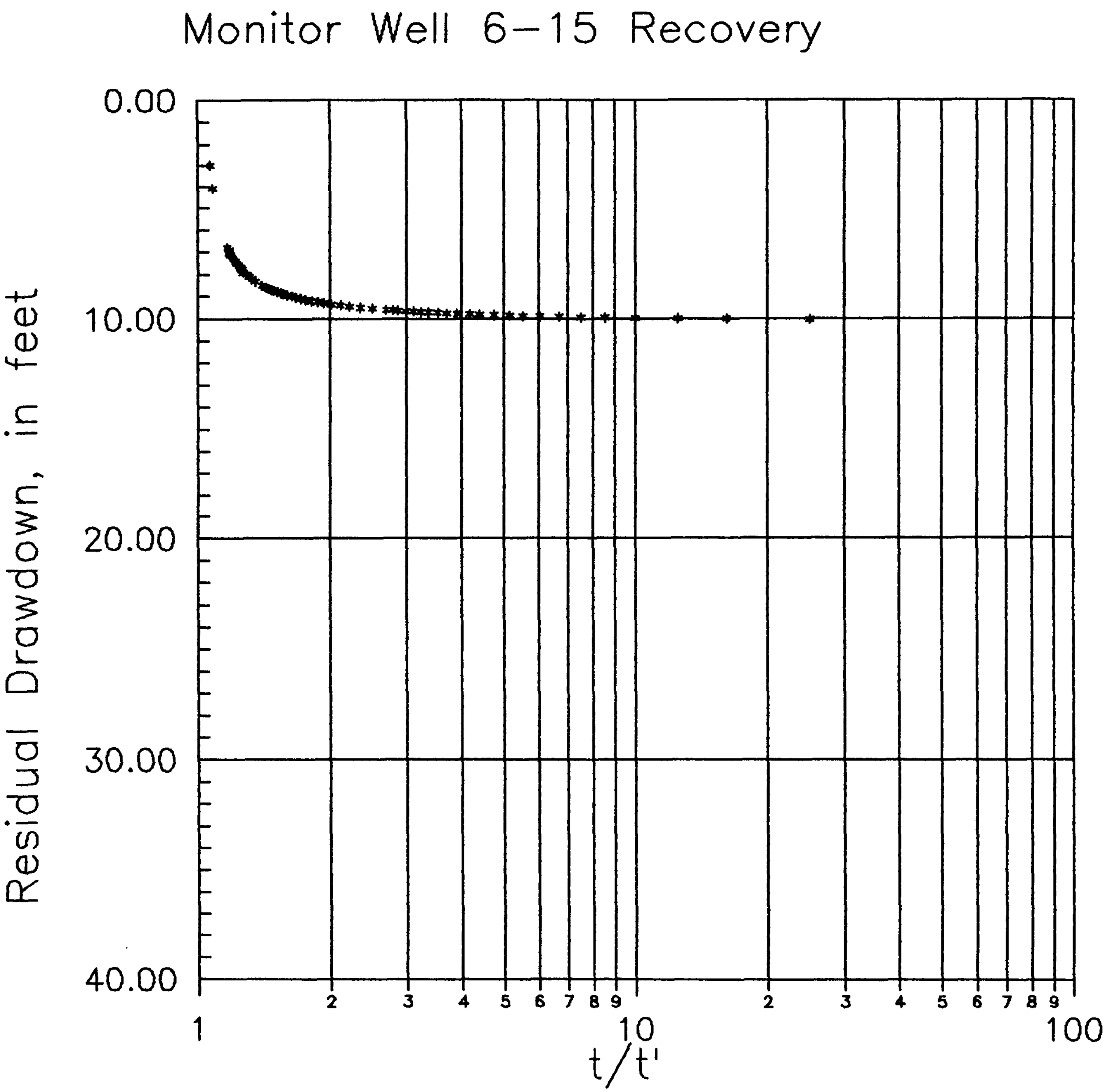


Monitor Well 6-12 Recovery
0.00
20.00
40.00
60.00
80.00
100.00
120.00
Residual Drawdown, in feet
1
2
3
4
5
6
7
8
9
10
100
t/t'
T = 264 Q/Δs
Q = 0.26 gpm
Δs = 79.3 ft.
T = 0.87 gpd/ft

Monitor Well 6-13 Recovery




Monitor Well 6-14 Recovery
0.00
10.00
20.00
30.00
40.00
Residual Drawdown, in feet
1
2
3
4
5
6
7
8
9
10
2
3
4
5
6
7
8
9
100
t/t'



Monitor Well 6-15 Recovery
Residual Drawdown, in feet
0.00
10.00
20.00
30.00
40.00
1
2
3
4
5
6
7
8
9
10
2
3
4
5
6
7
8
9
100
t/t'

BOUWER-RICE PLOTS AND PARAMETERS

SUMMARY OF BOUWER-RICE CALCULATIONS

The Bouwer-Rice method (Kruseman and de Ridder, 1990) estimates hydraulic conductivity based on the following equation:

$$K = \frac{r_c^2 \ln (R_e/r_w)}{2d} \frac{l}{t} \ln \frac{h_o}{h_t}$$

where

- K = hydraulic conductivity
- r_c = radius of the unscreened part of the well where the head is rising
- r_w = horizontal distance from well center to undisturbed aquifer
- R_e = radial distance over which the difference in head, h_o, is dissipated in the flow system of the aquifer
- d = length of the well screen or open section of the well
- h_o = head in the well at time $t_o = 0$
- h_t = head in the well at time $t > t_o$

$$\ln \frac{R_e}{r_w} = \left[\frac{1.1}{\ln (b/r_w)} + \frac{C}{d/r_w} \right]^{-1}$$

where C is a dimensionless parameter which is a function of d/r_w (C was determined from graphical plots of C vs d/r_w, pg. 245, Kruseman and de Ridder, 1990).

The value of r_c makes allowances for the gravel pack when:

$$r_c = [r_a^2 + n(r_w^2 - r_a^2)]^{0.5}$$

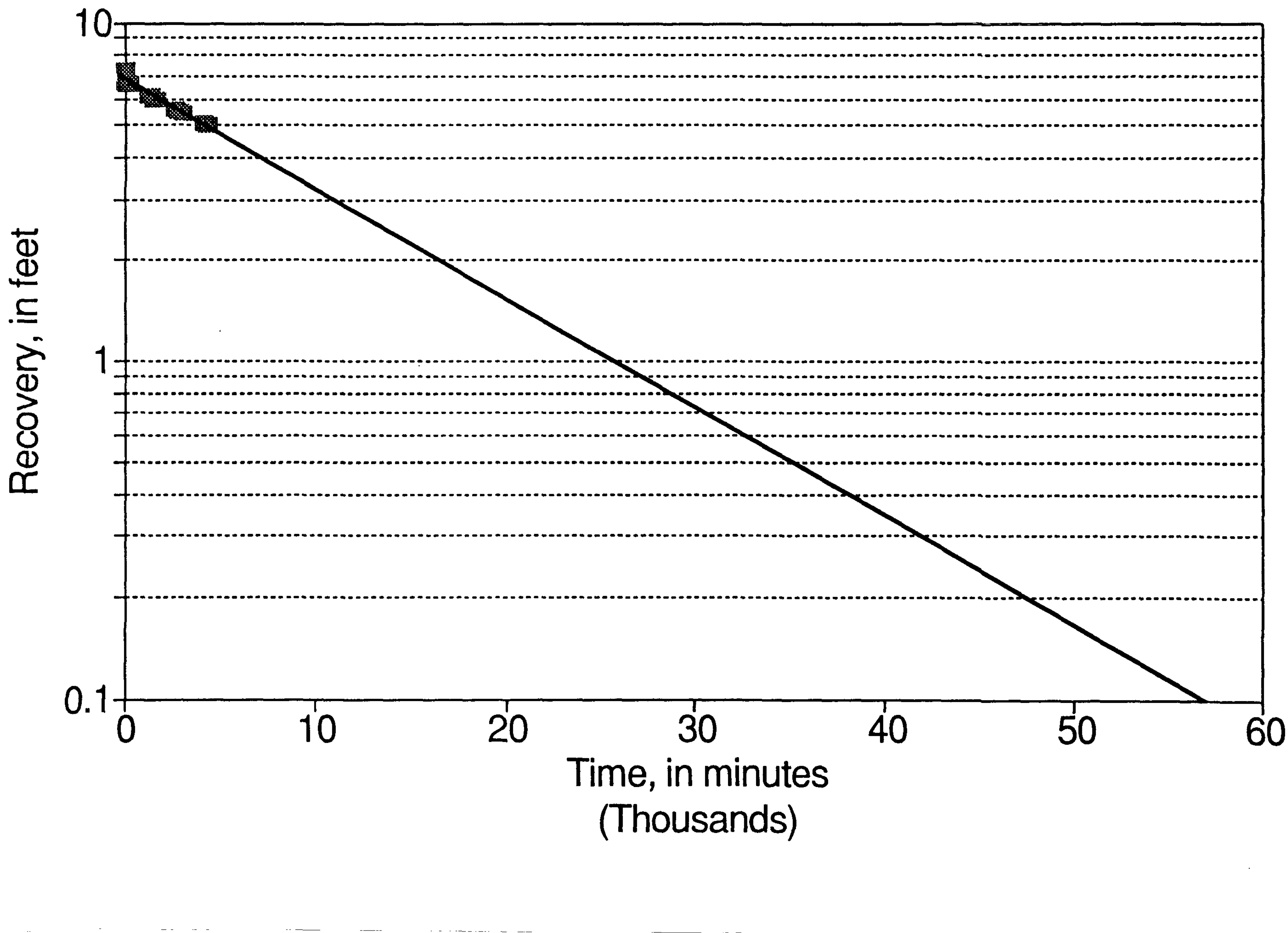
where

- r_a = actual well radius
- n = porosity of gravel pack (assumed to equal 0.35)

PARAMETERS USED FOR BOUWER-RICE METHOD CALCULATIONS

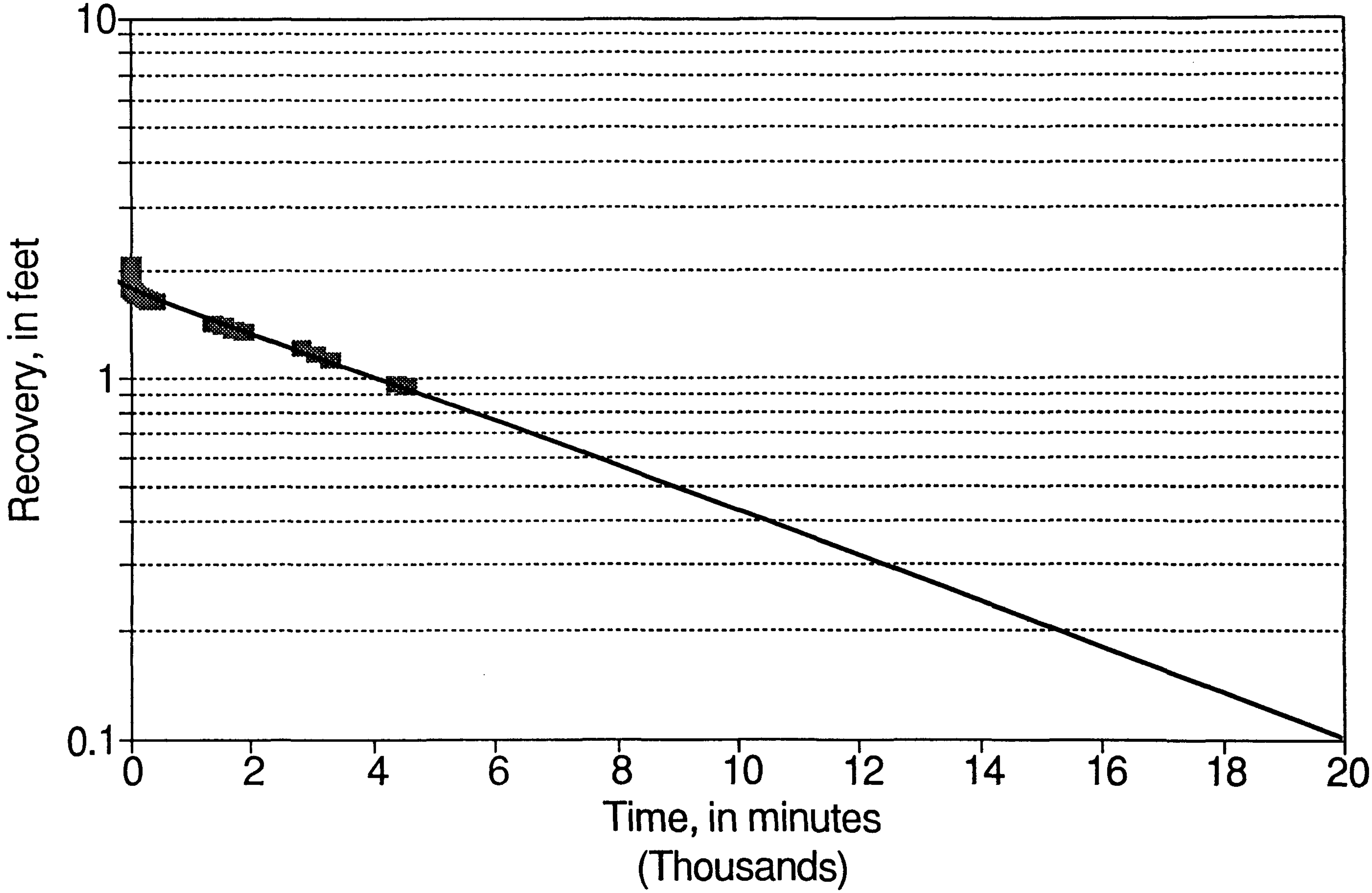
Well No.	b = d = D (Feet)	h_o (Feet)	r_c (Feet)	r_w (Feet)	C (Dimensionless)	h_t (Feet)	t (Minutes)
6-PW1	8.81	7.29	0.15	0.23	2.3	0.76	30
6-PW2	3.40	2.10	0.15	0.23	1.5	0.76	6000
6-PW3	11.48	10.00	0.15	0.23	2.8	0.86	200
6-PW4	6.39	5.09	0.15	0.23	1.8	0.94	30
6-PW5	8.36	7.19	0.15	0.23	2.2	3.08	50
6-PW6	9.06	7.39	0.15	0.23	2.4	4.80	100
6-PW7	15.86	14.65	0.15	0.23	3.2	8.90	4000
6-PW8	14.86	13.76	0.15	0.23	3.1	5.30	20
6-6	11.59	10.39	0.15	0.23	2.6	8.00	20
6-7	7.58	6.68	0.15	0.23	2.2	5.80	500
6-8	15.28	13.69	0.15	0.23	3.2	5.40	50
6-9	16.84	15.54	0.15	0.23	3.5	8.20	100
6-10	16.27	14.43	0.15	0.23	3.5	6.00	50
6-11	15.18	13.84	0.17	0.26	2.8	6.60	2000
6-12	17.82	11.74	0.17	0.26	3.2	5.00	100
6-13	5.00	4.10	0.15	0.23	1.5	4.00	50
6-14	11.84	10.84	0.15	0.23	2.5	9.80	50
6-15	11.55	10.04	0.15	0.23	3.0	8.90	50

Plot of Recovery versus Time
for Exploratory Well 6-PW1

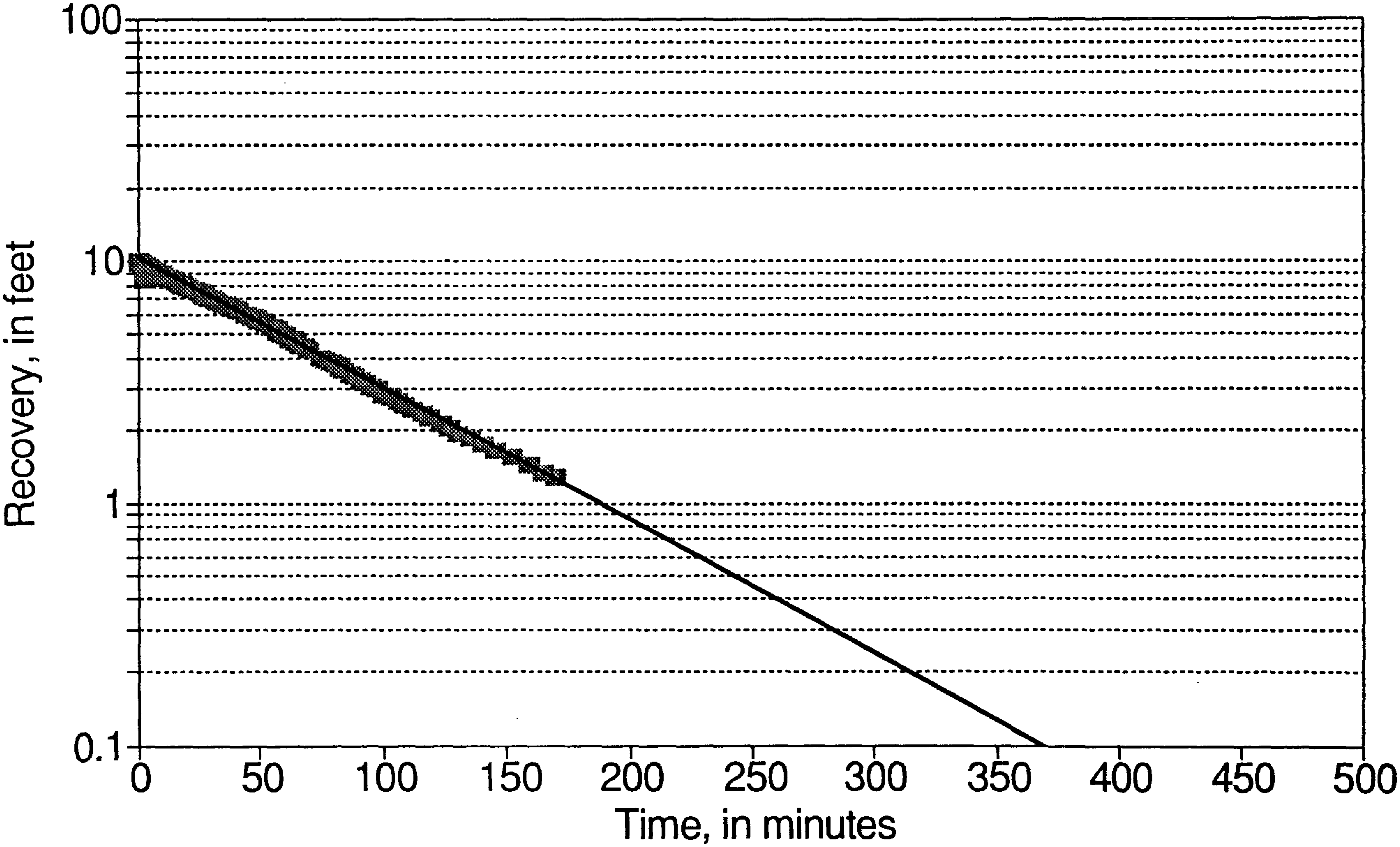


Plot of Recovery versus Time

for Exploratory Well 6-PW2

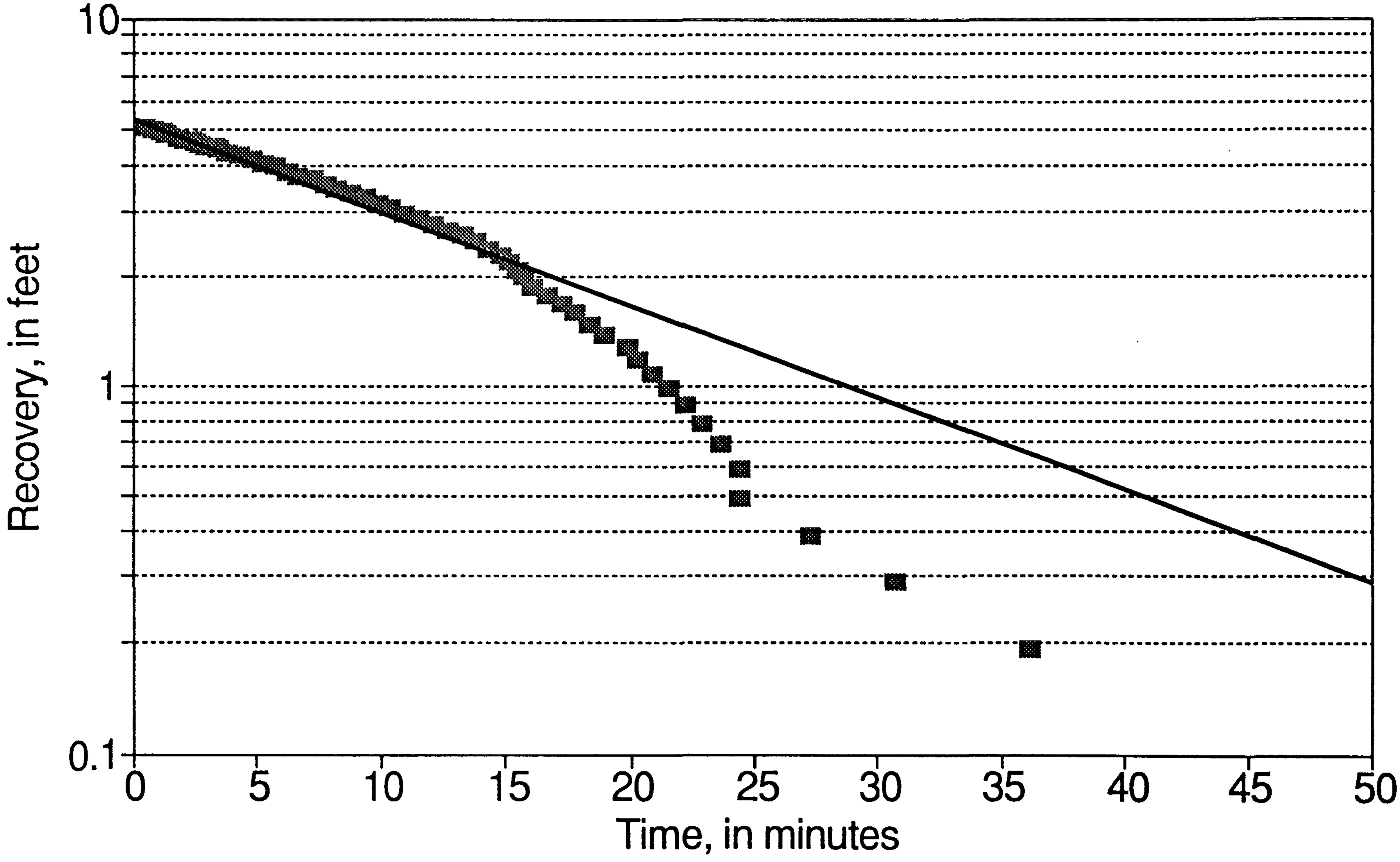


Plot of Recovery versus Time
for Exploratory Well 6-PW3



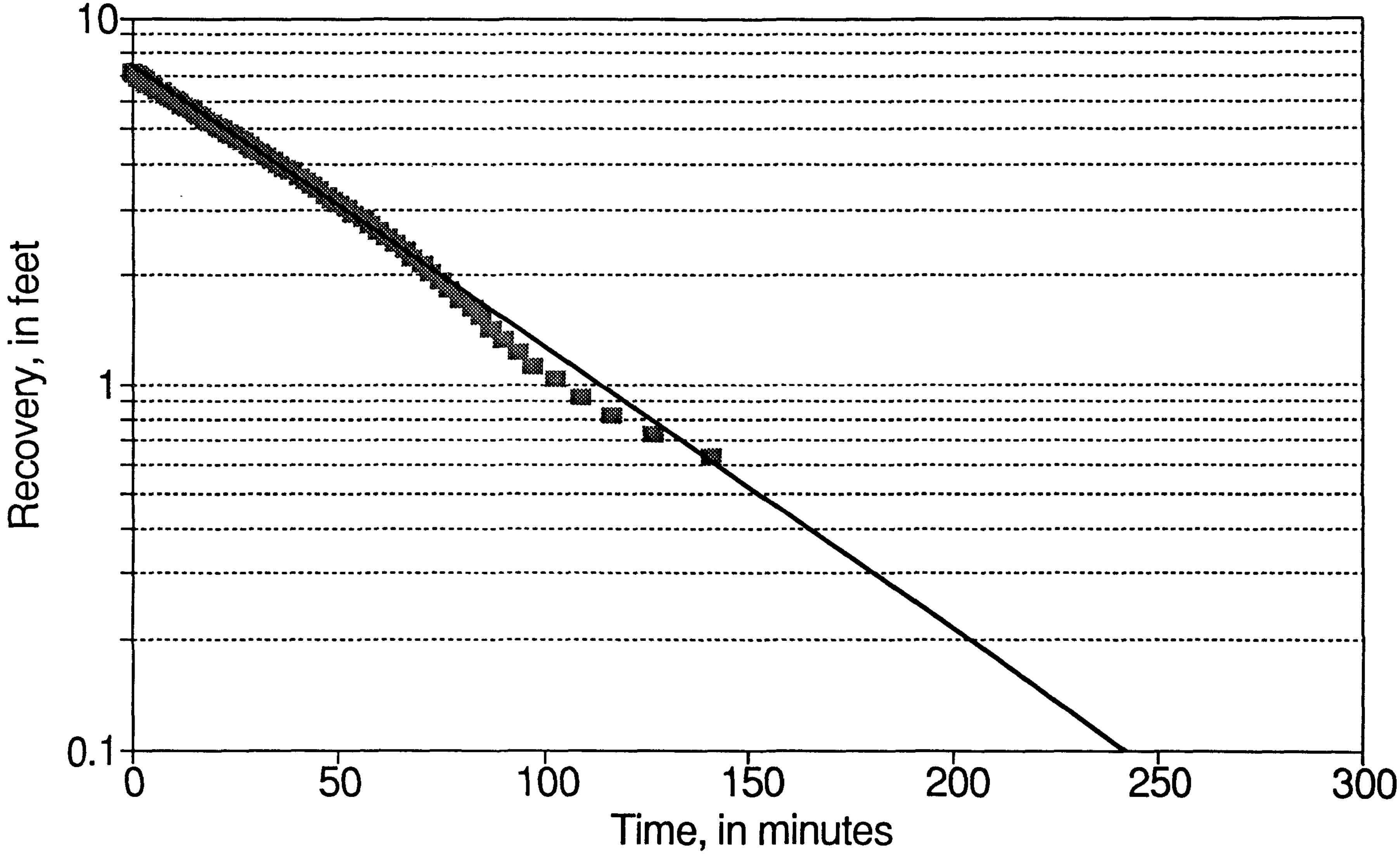
Plot of Recovery versus Time

for Exploratory Well 6-PW4

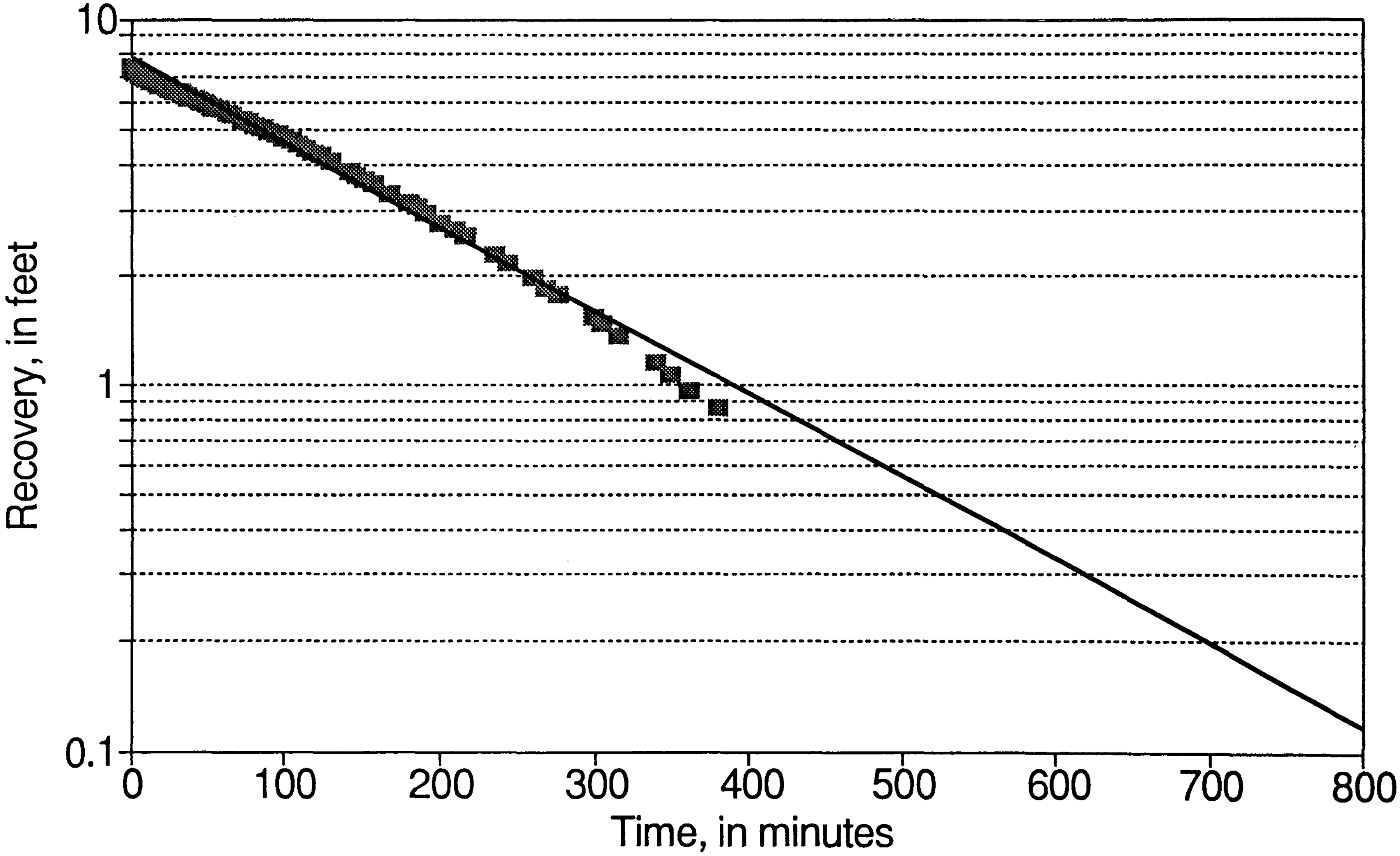


Plot of Recovery versus Time

for Exploratory Well 6-PW5

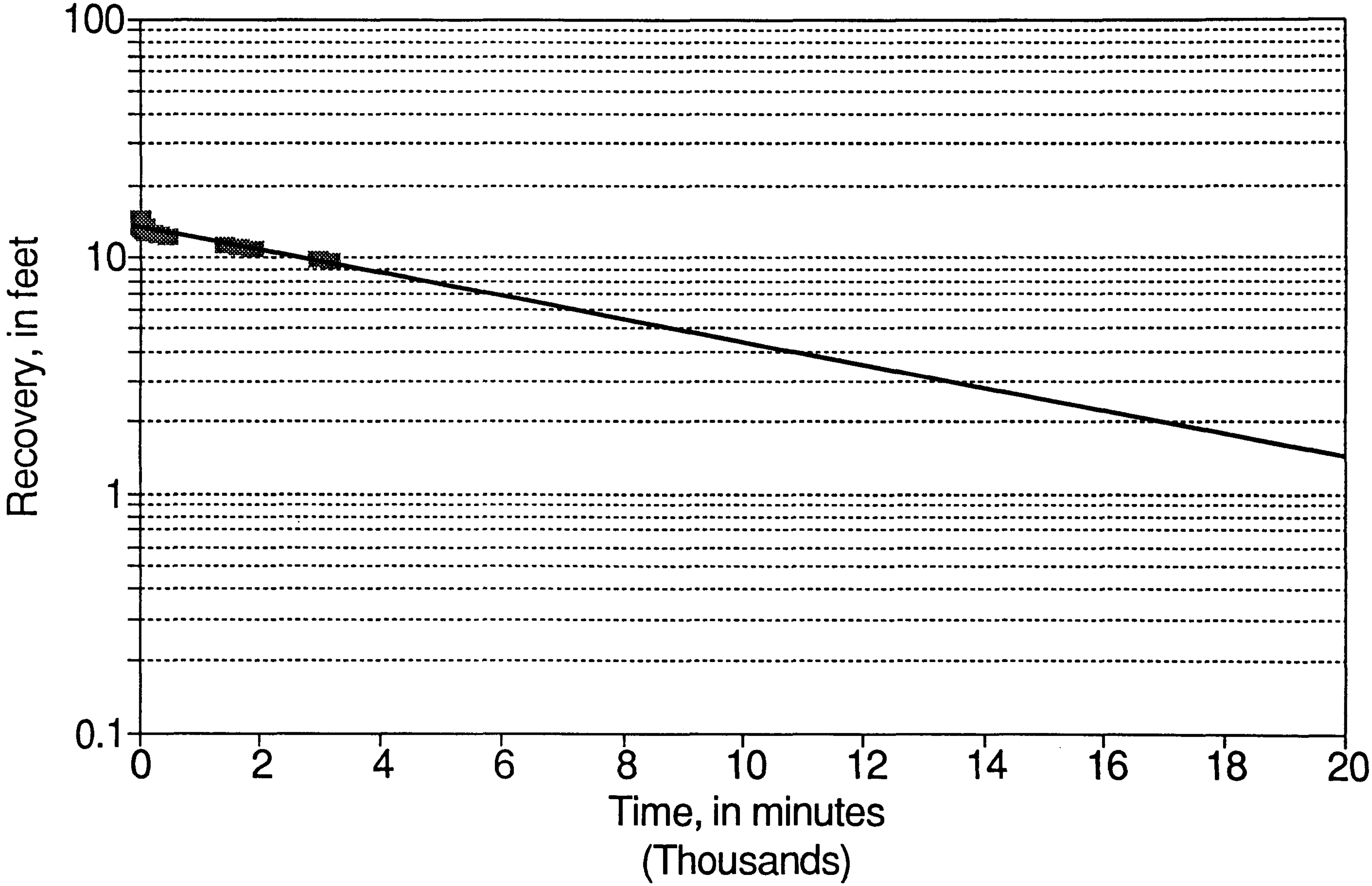


Plot of Recovery versus Time
for Exploratory Well 6-PW6



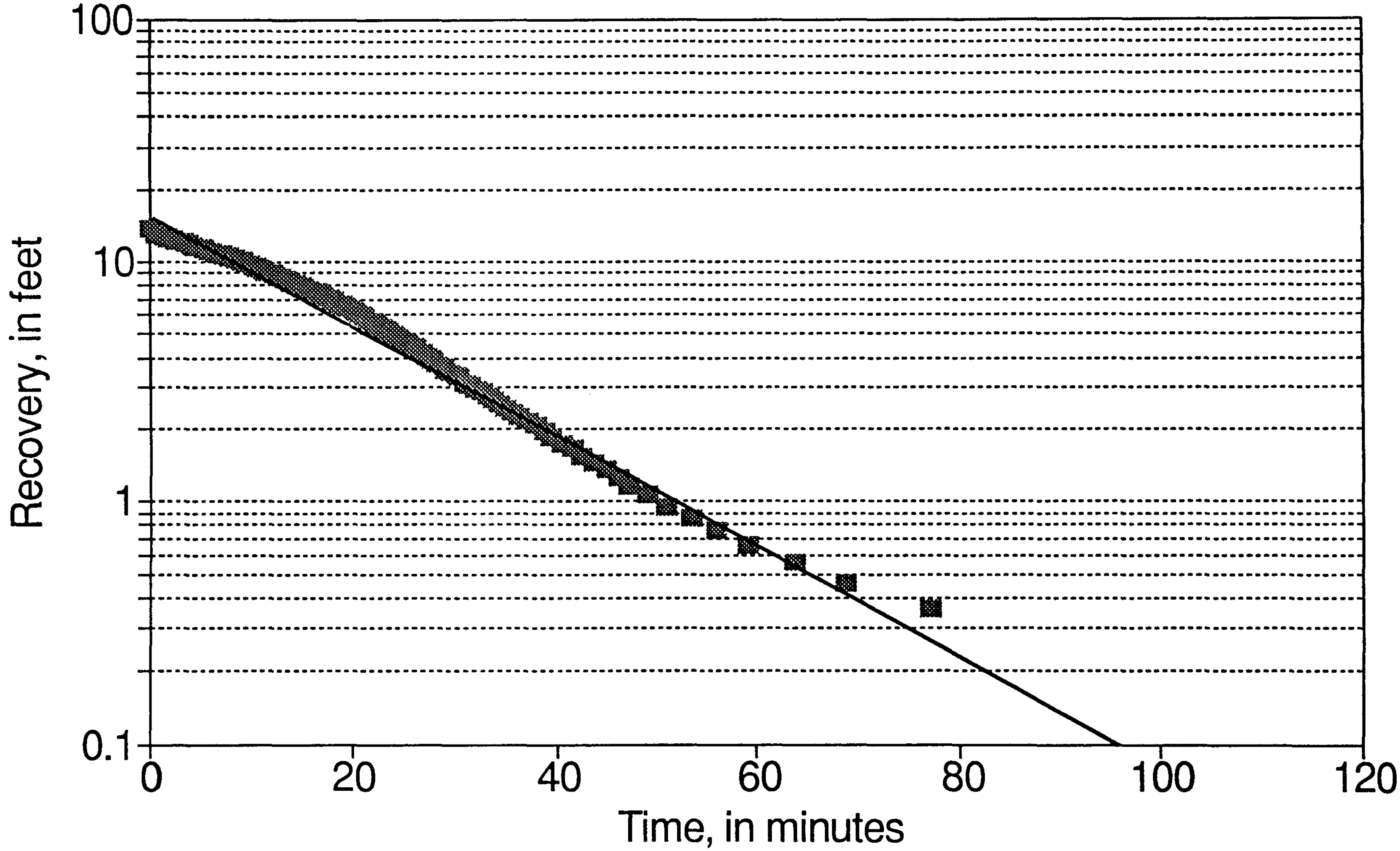
Plot of Recovery versus Time

for Exploratory Well 6-PW7



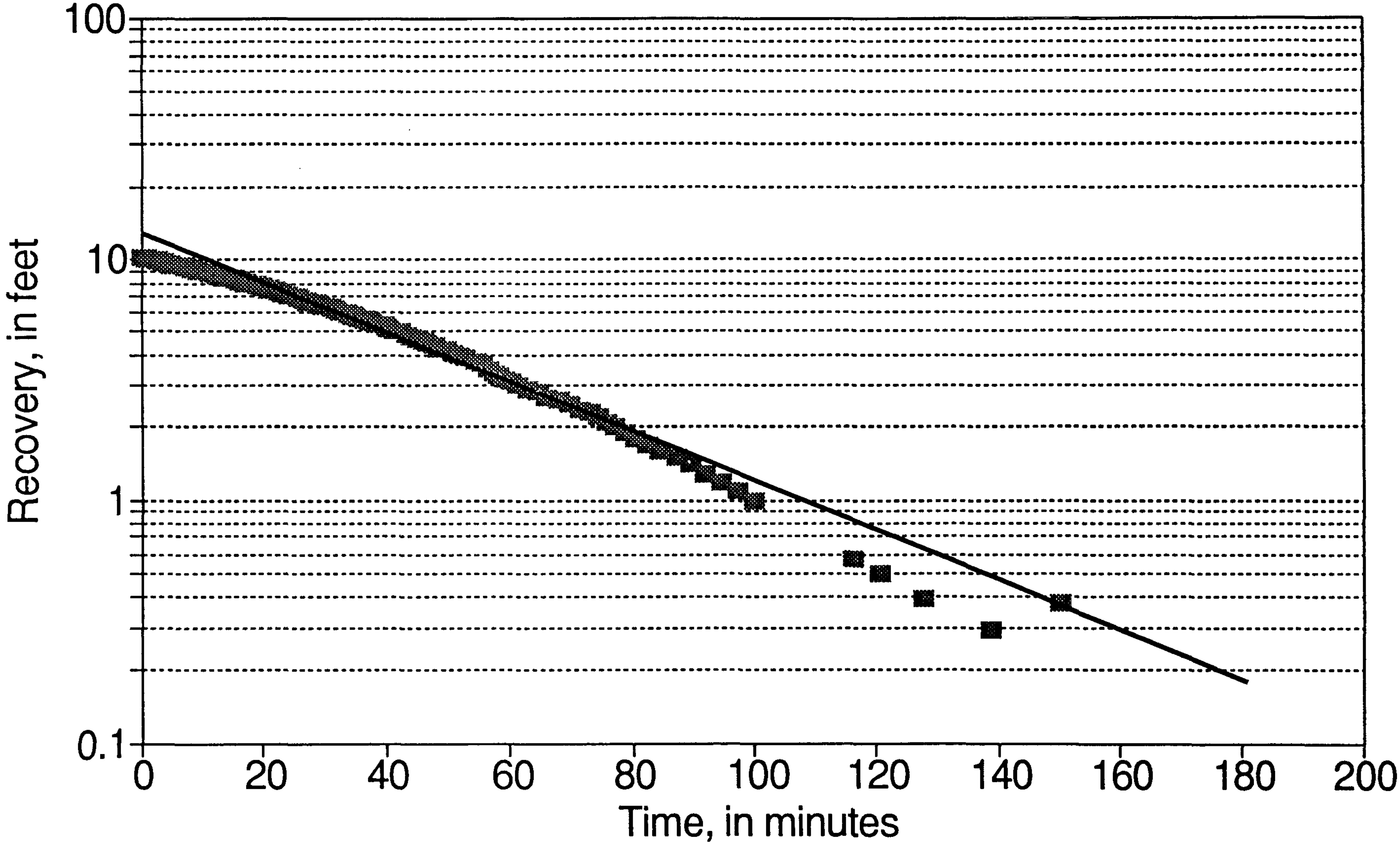
Plot of Recovery versus Time

for Exploratory Well 6-PW8



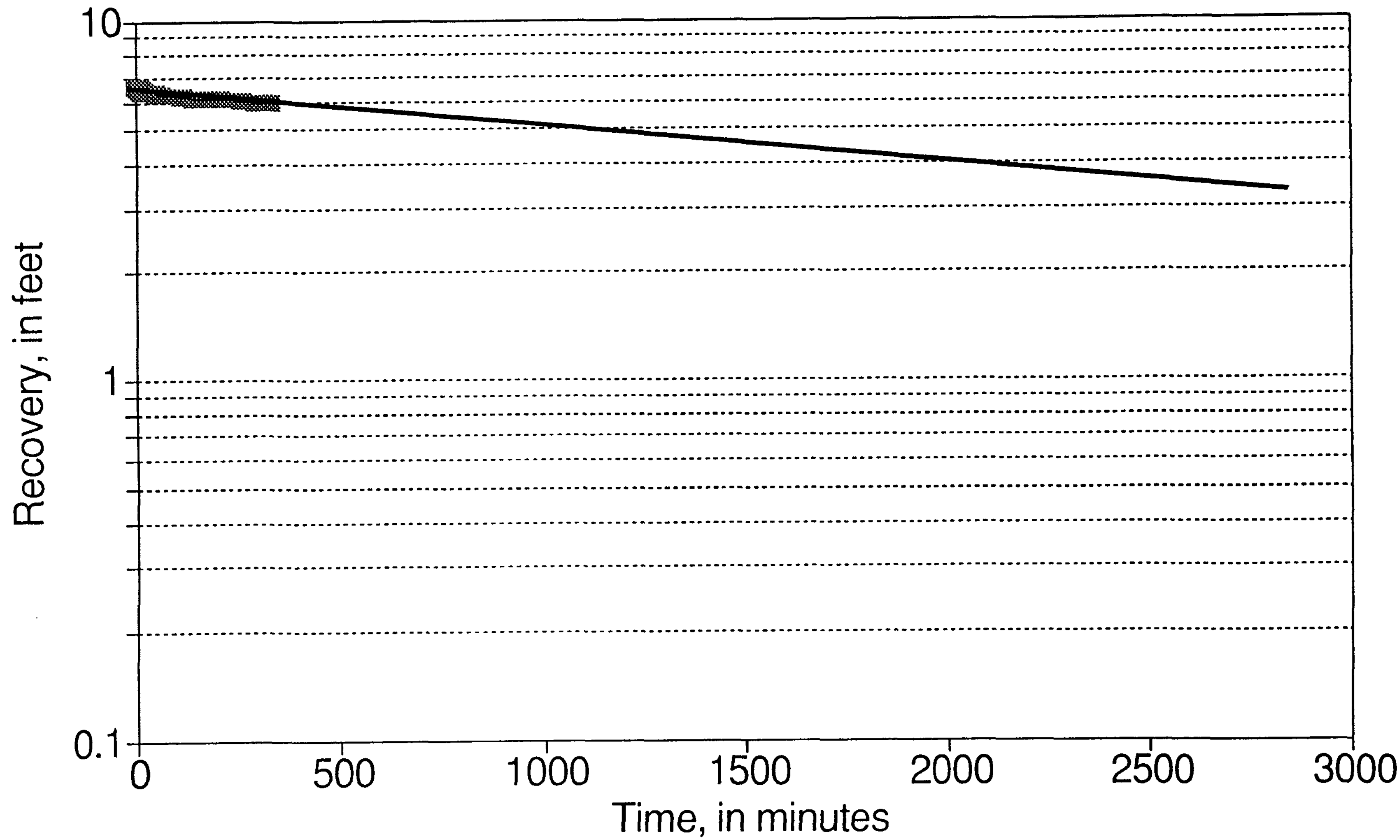
Plot of Recovery versus Time

for Monitor Well 6-6

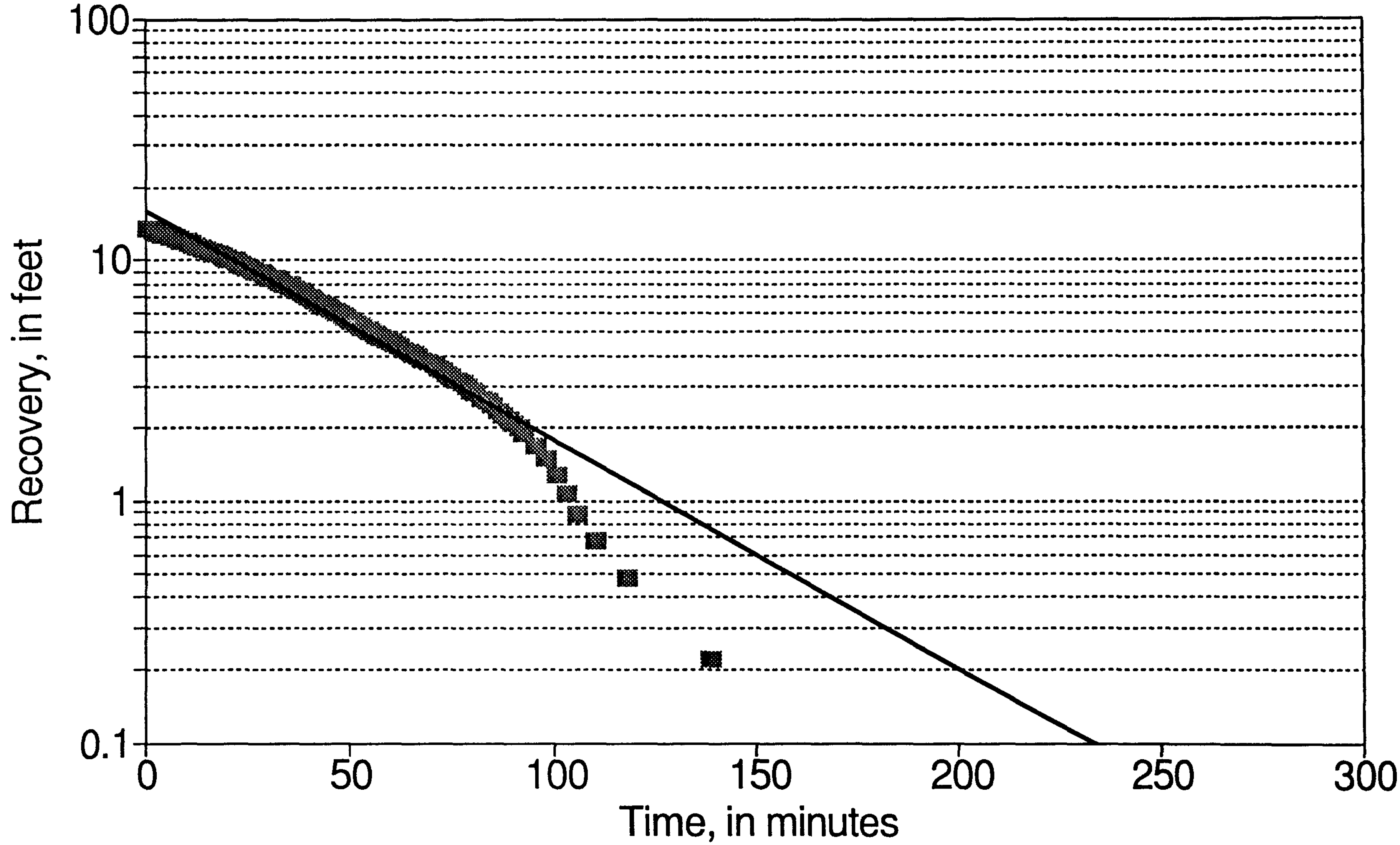


Plot of Recovey versus Time

for Monitor Well 6-7

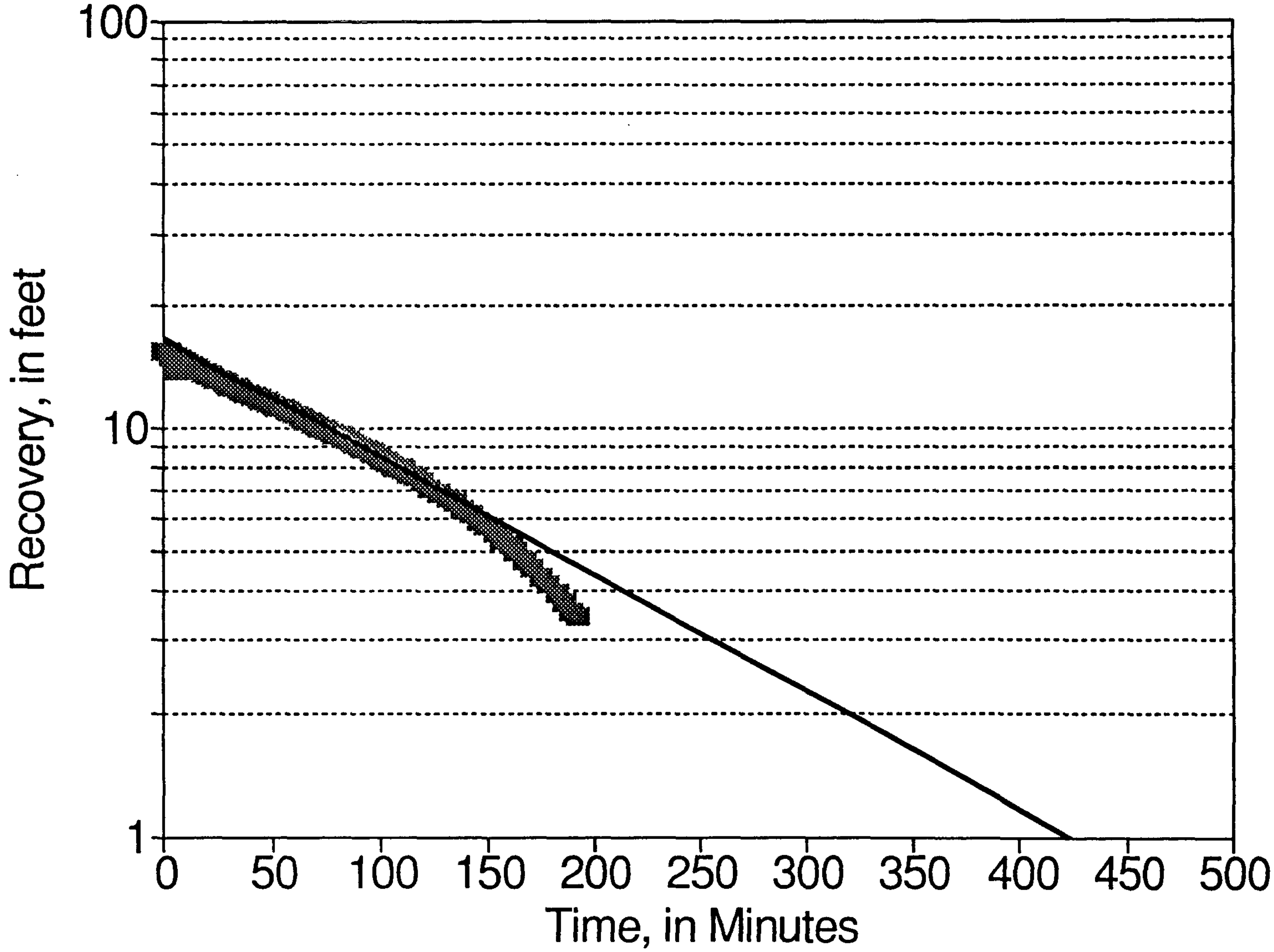


Plot of Recovery versus Time
for Monitor Well 6-8



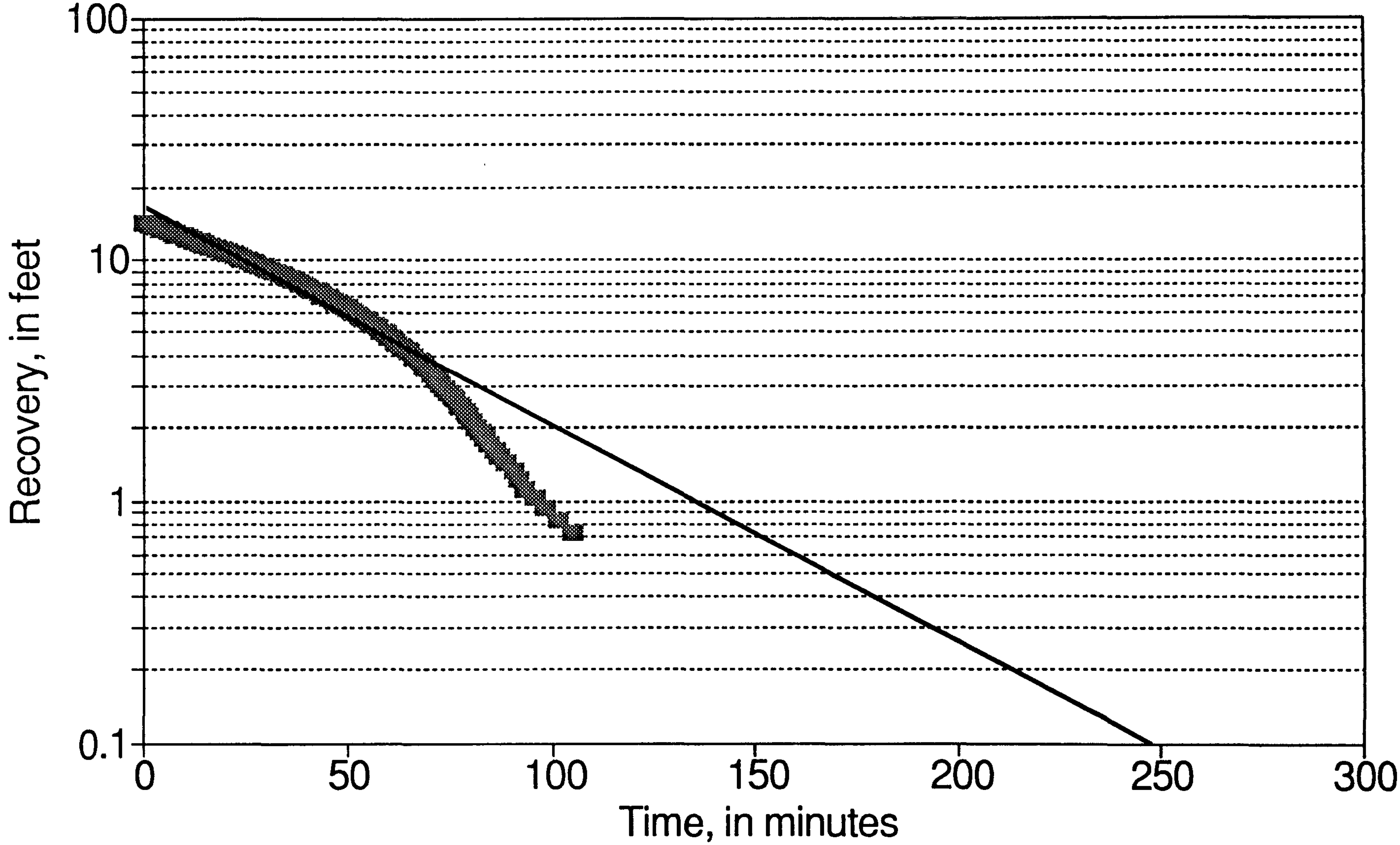
Plot of Recovery versus Time

for Monitor Well 6-9



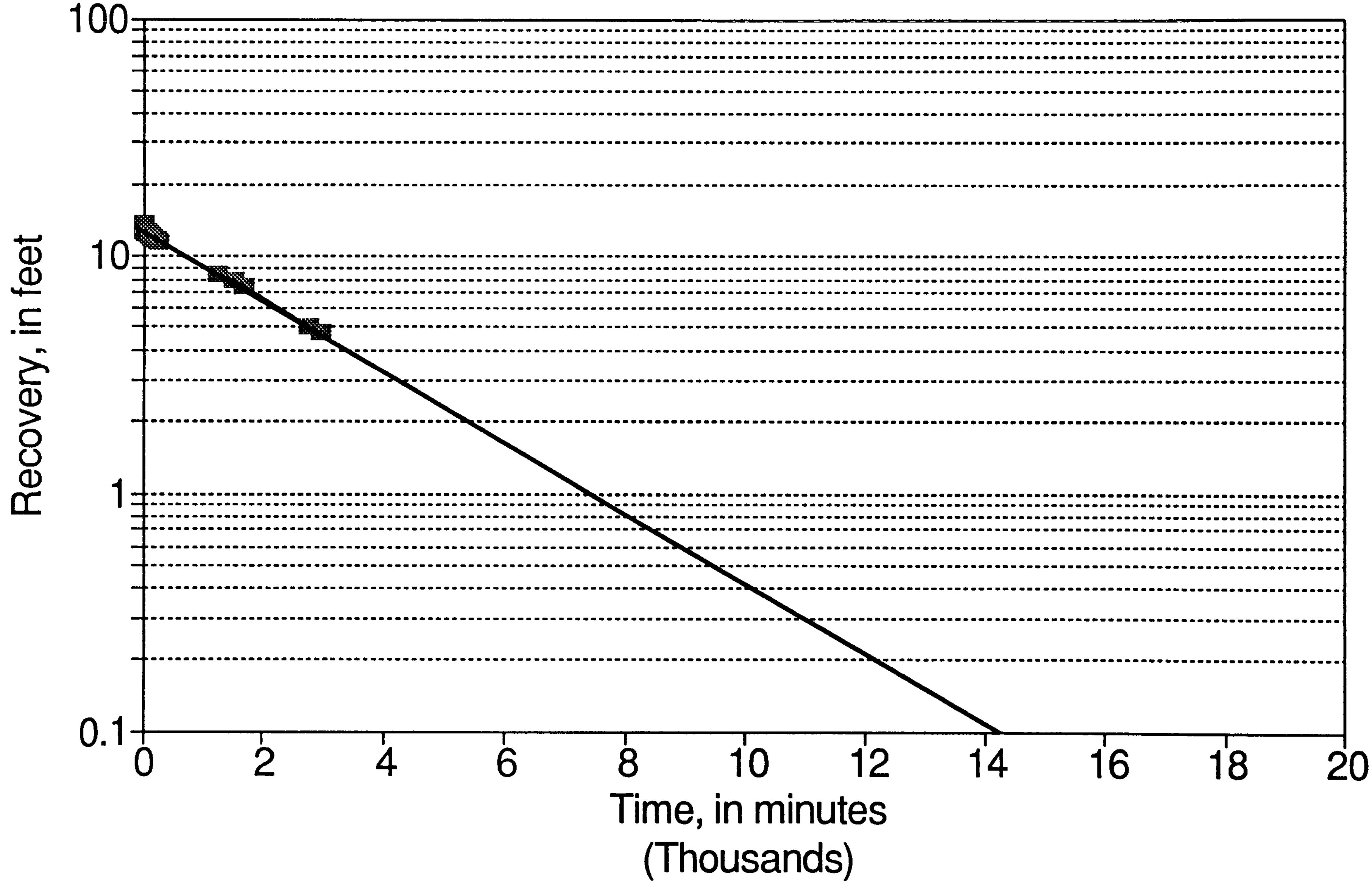
Plot of Recovery versus Time

for Monitor Well 6-10



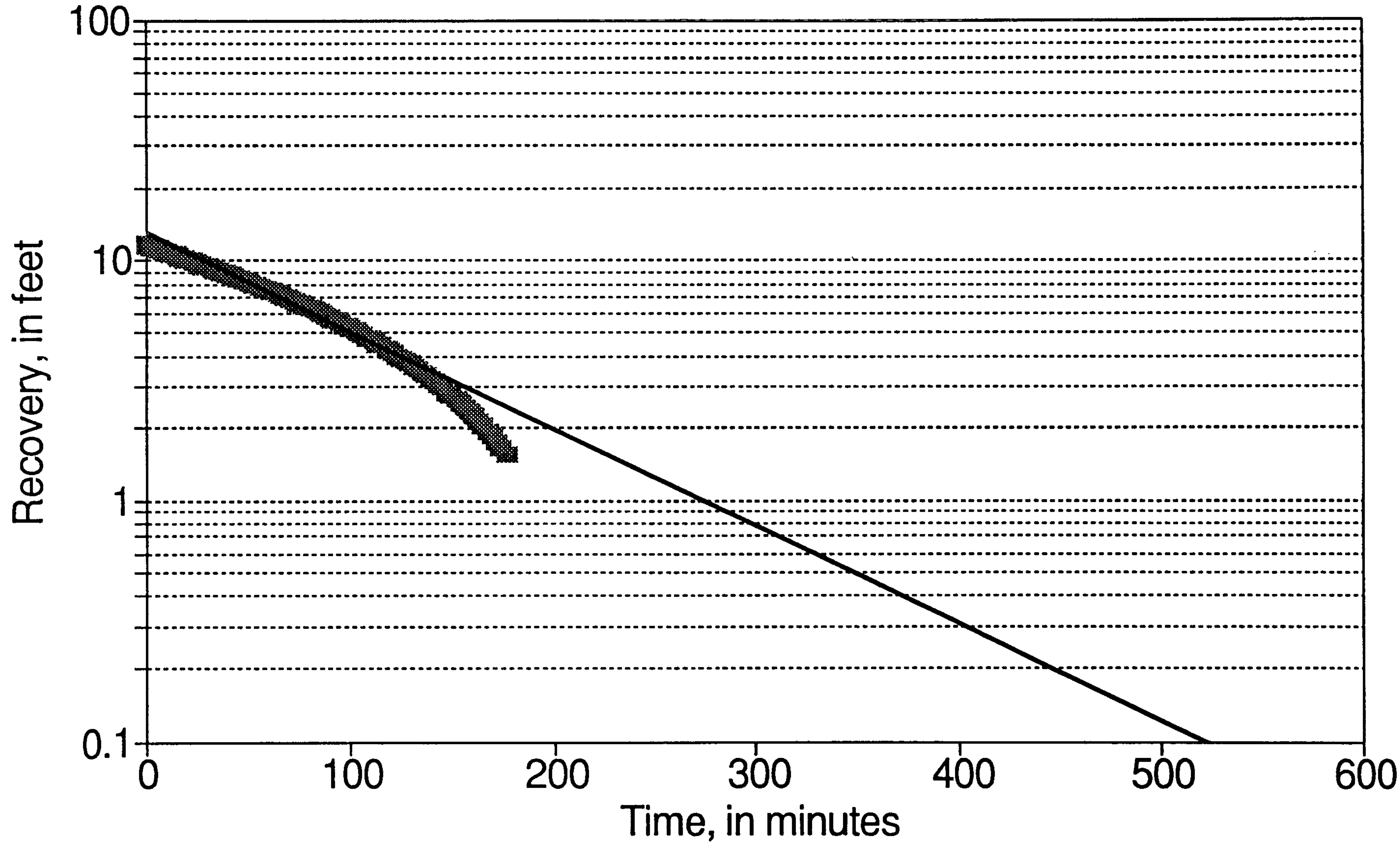
Plot of Recovery versus time

for Monitor Well 6-11

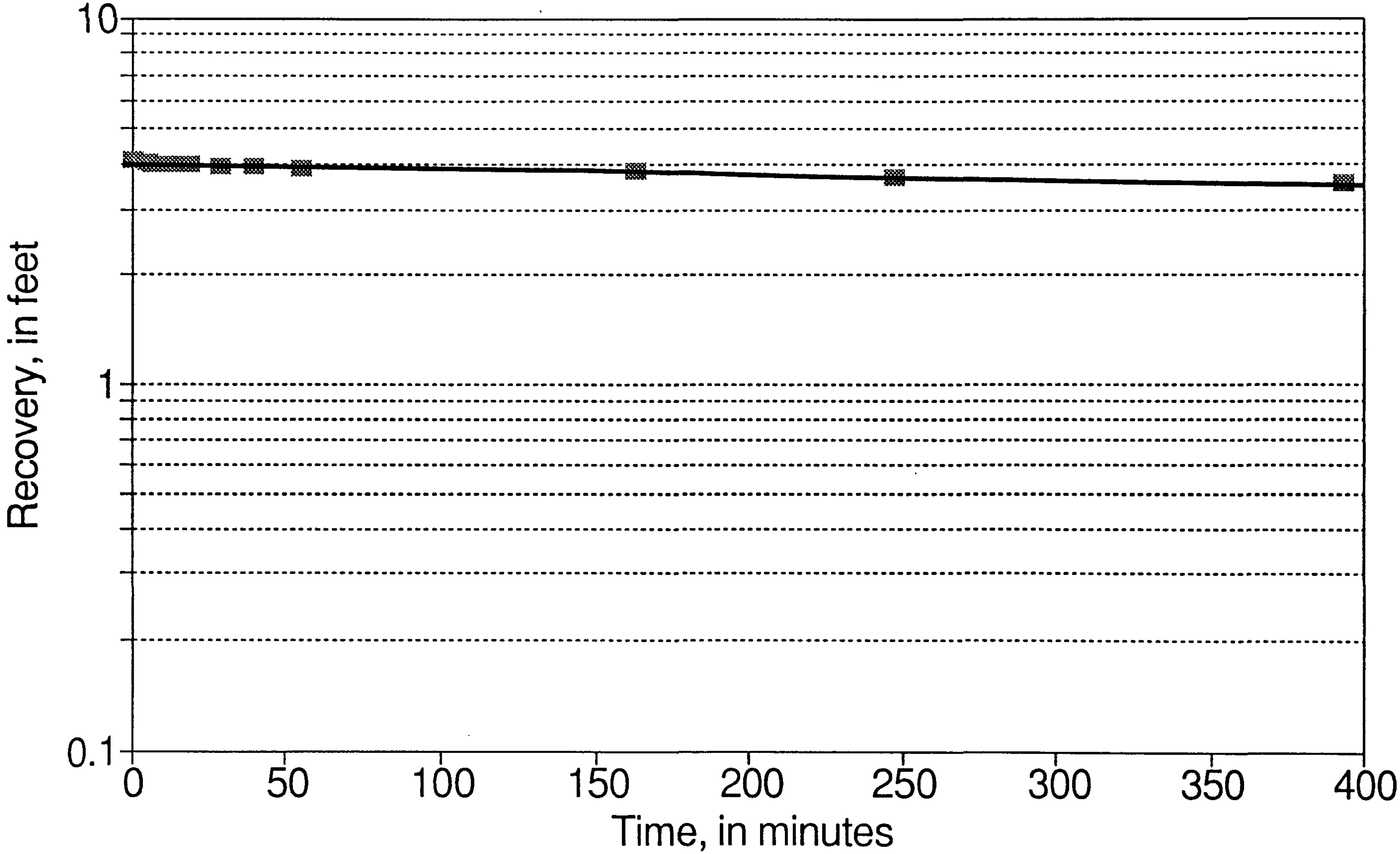


Plot of Recovery versus Time

for Monitor Well 6-12

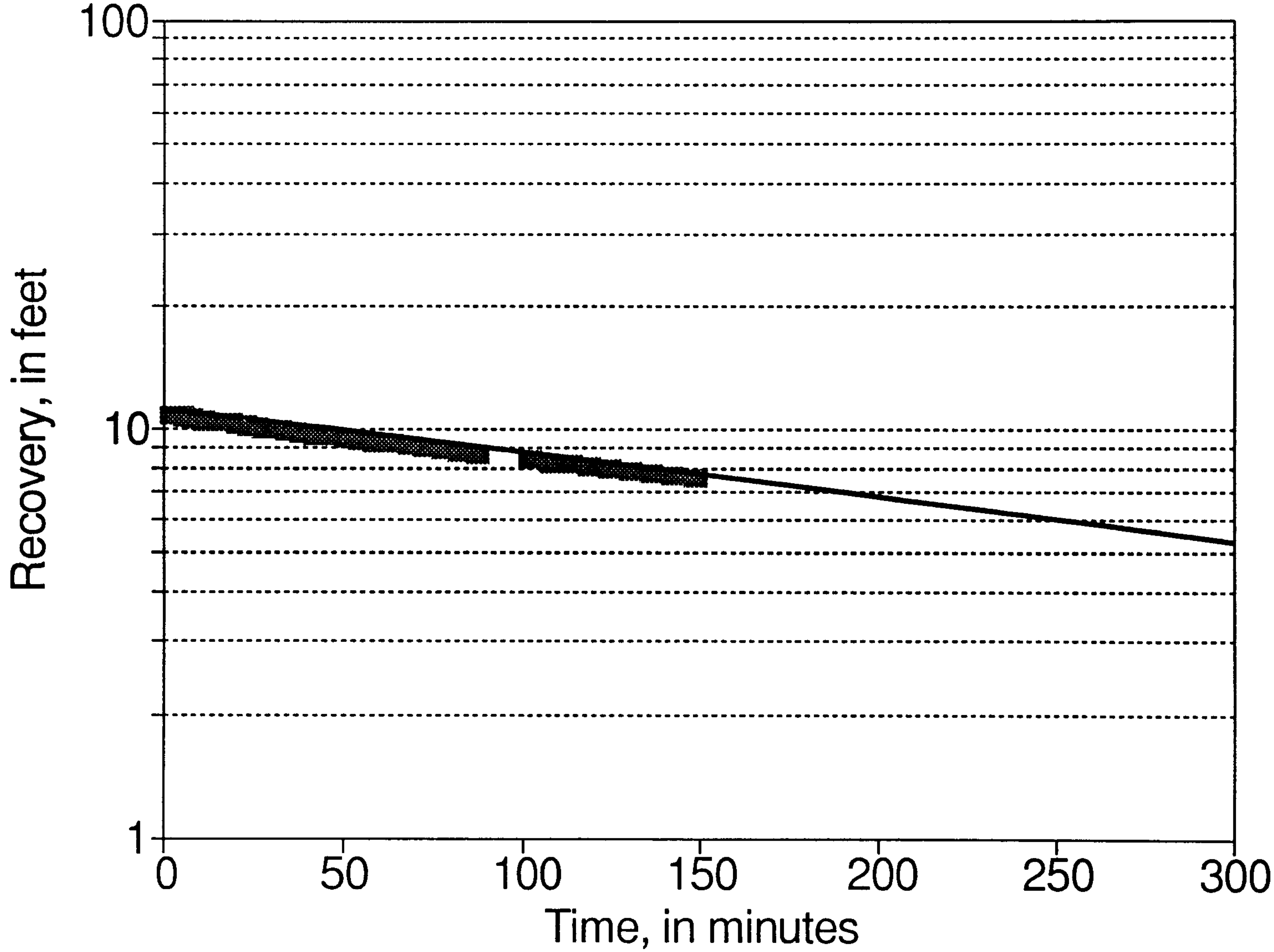


Plot of Recovery versus Time
for Monitor Well 6-13



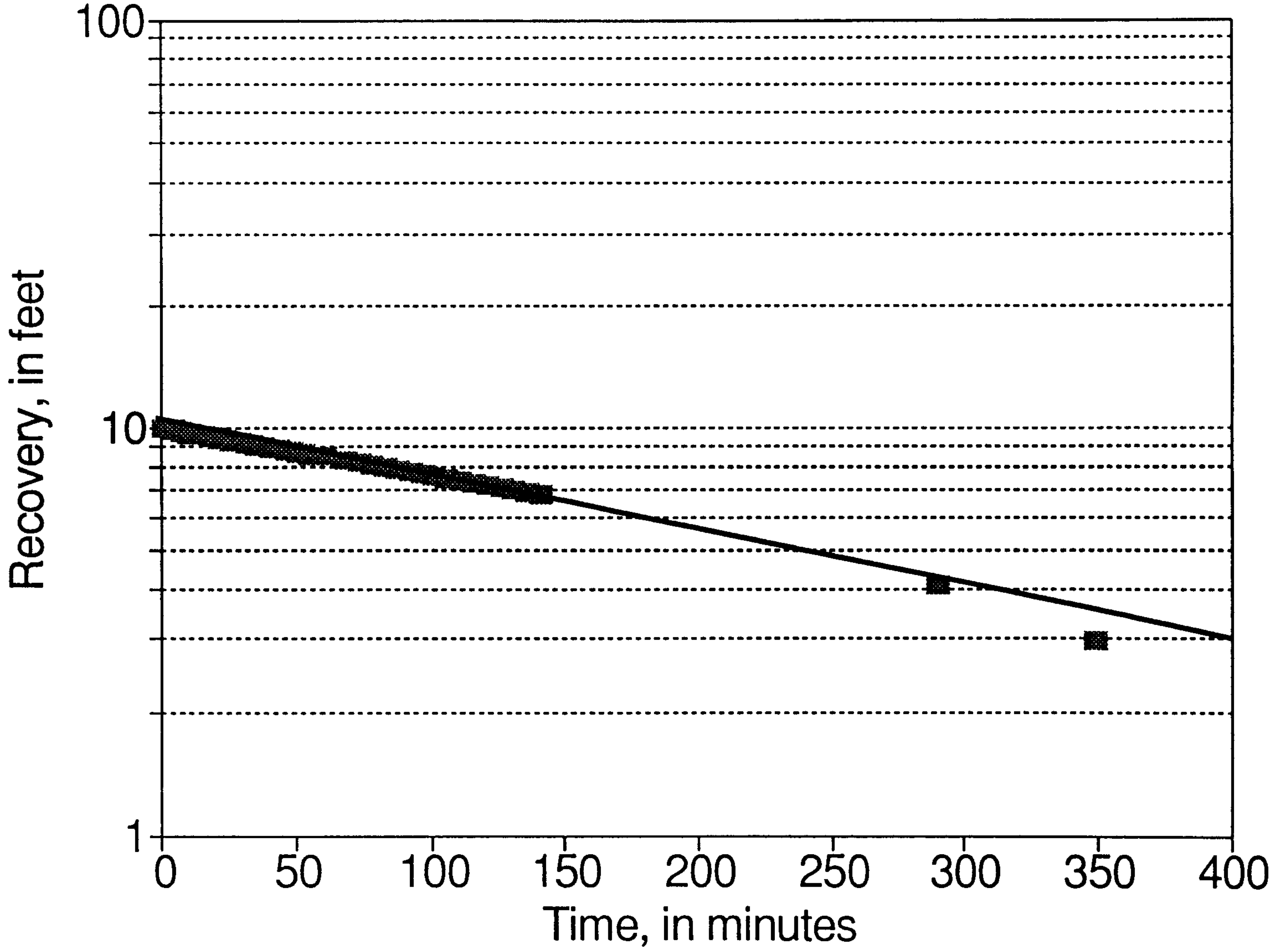
Plot of Recovery versus Time

for Monitor Well 6-14



Plot of Recovery versus Time

for Monitor Well 6-15



APPENDIX F

RESULTS OF INORGANIC AND RADIONUCLIDE CHEMICAL ANALYSES

PERCHED AQUIFER INORGANIC CHEMISTRY DATA

Enseco
A Corning Company

Metals

Total Metals

Client Name: Applied Energy Company
Client ID: Water Tank
Lab ID: 000806-0002-SA
Matrix: AQUEOUS
Sampled: 24 JAN 91
Received: 25 JAN 91
Authorized: 25 JAN 91
Prepared: See Below
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Calcium	41.1	mg/L	0.20	6010	05 FEB 91	07 FEB 91
Iron	ND	mg/L	0.10	6010	05 FEB 91	07 FEB 91
Magnesium	8.9	mg/L	0.20	6010	05 FEB 91	07 FEB 91
Manganese	ND	mg/L	0.010	6010	05 FEB 91	07 FEB 91
Potassium	ND	mg/L	5.0	6010	05 FEB 91	07 FEB 91
Sodium	21.2	mg/L	5.0	6010	05 FEB 91	07 FEB 91

ND = Not detected
NA = Not applicable

Reported By: David Bravo

Approved By: Kurt Ill

Enseco
A Corning Company

General Inorganics

Client Name: Applied Energy Company
Client ID: Water Tank
Lab ID: 000806-0002-SA
Matrix: AQUEOUS Sampled: 24 JAN 91 Received: 25 JAN 91
Authorized: 25 JAN 91 Prepared: See Below Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Alkalinity, Total as $CaCO_3$ at pH 4.5	121	mg/L	5.0	310.1	NA	31 JAN 91
Alkalinity, Bicarb. as $CaCO_3$ at pH 4.5	121	mg/L	5.0	310.1	NA	31 JAN 91
Alkalinity, Carb. as $CaCO_3$ at pH 8.3	ND	mg/L	5.0	310.1	NA	31 JAN 91
Alkalinity, Hydrox. as $CaCO_3$	ND	mg/L	5.0	310.1	NA	31 JAN 91
Coliform, Fecal	ND	Col/100	2.0	909C	NA	26 JAN 91
Fluoride	0.34	mg/L	0.10	340.2	NA	29 JAN 91
Ammonia as N	ND	mg/L	0.10	350.1	NA	04 FEB 91
Nitrate as N	1.5	mg/L	0.10	353.2	NA	02 FEB 91
Orthophosphate as P	ND	mg/L	0.050	365.3	NA	25 JAN 91
pH	7.7	units		9040	NA	25 JAN 91
Sulfate	31.0	mg/L	5.0	9038	NA	29 JAN 91
Specific Conductance at 25 deg.C	362	umhos/cm	1.0	120.1	NA	25 JAN 91
Total Dissolved Solids	211	mg/L	10.0	160.1	NA	31 JAN 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal Approved By: David Bravo

Enseco
A CORNING Company

General Inorganics

Client Name: Applied Energy Company
Client ID: Water Tank
Lab ID: 000806-0002-SA
Matrix: AQUEOUS   Sampled: 24 JAN 91   Received: 25 JAN 91
Authorized: 25 JAN 91   Prepared: See Below   Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrite as N	ND	mg/L	0.010	353.2	NA	25 JAN 91
Chloride	10.9	mg/L	3.0	9252	NA	31 JAN 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal   Approved By: David Bravo

Enseco
A Corning Company

Metals

Total Metals

Client Name: Applied Energy Company
Client ID: 6-CH-3
Lab ID: 000806-0004-SA
Matrix: AQUEOUS
Authorized: 25 JAN 91

Sampled: 24 JAN 91
Prepared: See Below

Received: 25 JAN 91
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Calcium	49.6	mg/L	0.20	6010	05 FEB 91	07 FEB 91
Iron	6.7	mg/L	0.10	6010	05 FEB 91	07 FEB 91
Magnesium	15.9	mg/L	0.20	6010	05 FEB 91	07 FEB 91
Manganese	0.31	mg/L	0.010	6010	05 FEB 91	07 FEB 91
Potassium	ND	mg/L	5.0	6010	05 FEB 91	07 FEB 91
Sodium	257	mg/L	5.0	6010	05 FEB 91	07 FEB 91

ND = Not detected
NA = Not applicable

Reported By: David Bravo

Approved By: Kurt Ill

General Inorganics

Client Name: Applied Energy Company
Client ID: 6-CH-3
Lab ID: 000804-0001-SA
Matrix: AQUEOUS
Authorized: 25 JAN 91

Sampled: 23 JAN 91
Prepared: See Below

Received: 24 JAN 91
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Alkalinity, Total as CaCO3 at pH 4.5	207	mg/L	5.0	310.1	NA	31 JAN 91
Alkalinity, Bicarb. as CaCO3 at pH 4.5	207	mg/L	5.0	310.1	NA	31 JAN 91
Alkalinity, Carb. as CaCO3 at pH 8.3	ND	mg/L	5.0	310.1	NA	31 JAN 91
Alkalinity, Hydrox. as CaCO3	ND	mg/L	5.0	310.1	NA	31 JAN 91
Coliform, Fecal	ND	Col/100	2.0	909C	NA	25 JAN 91
Fluoride	2.4	mg/L	0.10	340.2	NA	29 JAN 91
Ammonia as N	3.6	mg/L	0.10	350.1	NA	04 FEB 91
Nitrate as N	0.73	mg/L	0.10	353.2	NA	02 FEB 91
pH	7.1	units		9040	NA	24 JAN 91
Sulfate	200	mg/L	100	9038	NA	29 JAN 91
Specific Conductance at 25 deg.C	1700	umhos/cm	1.0	120.1	NA	25 JAN 91
Total Dissolved Solids	993	mg/L	10.0	160.1	NA	31 JAN 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal

Approved By: David Bravo

Enseco
A Corning Company

General Inorganics

Client Name: Applied Energy Company
Client ID: 6-CH-3
Lab ID: 000804-0001-SA
Matrix: AQUEOUS
Sampled: 23 JAN 91
Received: 24 JAN 91
Authorized: 25 JAN 91
Prepared: See Below
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrite as N	0.038	mg/L	0.010	353.2	NA	25 JAN 91
Chloride	101	mg/L	3.0	9252	NA	31 JAN 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal

Approved By: David Bravo

Enseco
A CORNING Company

Metals

Total Metals

Client Name: Applied Energy Company
Client ID: 6-CH-4
Lab ID: 000806-0001-SA
Matrix: AQUEOUS
Authorized: 25 JAN 91

Sampled: 24 JAN 91
Prepared: See Below

Received: 25 JAN 91
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Calcium	211	mg/L	0.20	6010	05 FEB 91	07 FEB 91
Iron	ND	mg/L	0.10	6010	05 FEB 91	07 FEB 91
Magnesium	ND	mg/L	0.20	6010	05 FEB 91	07 FEB 91
Manganese	ND	mg/L	0.010	6010	05 FEB 91	07 FEB 91
Potassium	208	mg/L	5.0	6010	05 FEB 91	07 FEB 91
Sodium	566	mg/L	5.0	6010	05 FEB 91	07 FEB 91

ND = Not detected
NA = Not applicable

Reported By: David Bravo

Approved By: Kurt Ill

Enseco
A CORNING Company

General Inorganics

Client Name: Applied Energy Company
Client ID: 6-CH-4
Lab ID: 000806-0001-SA
Matrix: AQUEOUS
Authorized: 25 JAN 91

Sampled: 24 JAN 91
Prepared: See Below

Received: 25 JAN 91
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Alkalinity, Total as $CaCO_3$ at pH 4.5	1210	mg/L	5.0	310.1	NA	31 JAN 91
Alkalinity, Bicarb. as $CaCO_3$ at pH 4.5	ND	mg/L	5.0	310.1	NA	31 JAN 91
Alkalinity, Carb. as $CaCO_3$ at pH 8.3	140	mg/L	5.0	310.1	NA	31 JAN 91
Alkalinity, Hydrox. as $CaCO_3$	1070	mg/L	5.0	310.1	NA	31 JAN 91
Coliform, Fecal	ND	Col/100	2.0	909C	NA	26 JAN 91
Fluoride	0.40	mg/L	0.10	340.2	NA	29 JAN 91
Ammonia as N	0.35	mg/L	0.10	350.1	NA	04 FEB 91
Nitrate as N	9.5	mg/L	0.50	353.2	NA	02 FEB 91
Orthophosphate as P	ND	mg/L	0.050	365.3	NA	25 JAN 91
pH	12.2	units		9040	NA	25 JAN 91
Sulfate	200	mg/L	50.0	9038	NA	29 JAN 91
Specific Conductance at 25 deg.C	6150	umhos/cm	1.0	120.1	NA	02 FEB 91
Total Dissolved Solids	2510	mg/L	10.0	160.1	NA	31 JAN 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal

Approved By: David Bravo

Enseco
A Corning Company

General Inorganics

Client Name: Applied Energy Company
Client ID: 6-CH-4
Lab ID: 000806-0001-SA
Matrix: AQUEOUS
Authorized: 25 JAN 91

Sampled: 24 JAN 91
Prepared: See Below

Received: 25 JAN 91
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrite as N	0.032	mg/L	0.010	353.2	NA	25 JAN 91
Chloride	372	mg/L	30.0	9252	NA	31 JAN 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal

Approved By: David Bravo

Enseco
A Corning Company

Metals

Total Metals

Client Name: Applied Energy Company
Client ID: 6-CH-5
Lab ID: 000806-0003-SA
Matrix: AQUEOUS Sampled: 24 JAN 91 Received: 25 JAN 91
Authorized: 25 JAN 91 Prepared: See Below Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Calcium	86.4	mg/L	0.40	6010	05 FEB 91	07 FEB 91
Iron	ND	mg/L	0.20	6010	05 FEB 91	07 FEB 91
Magnesium	27.1	mg/L	0.40	6010	05 FEB 91	07 FEB 91
Manganese	0.056	mg/L	0.020	6010	05 FEB 91	07 FEB 91
Potassium	ND	mg/L	10.0	6010	05 FEB 91	07 FEB 91
Sodium	1010	mg/L	10.0	6010	05 FEB 91	07 FEB 91

ND = Not detected
NA = Not applicable

Reported By: David Bravo Approved By: Kurt Ill

Enseco
A Corning Company

General Inorganics

Client Name: Applied Energy Company
Client ID: 6-CH-5
Lab ID: 000806-0003-SA
Matrix: AQUEOUS   Sampled: 24 JAN 91   Received: 25 JAN 91
Authorized: 25 JAN 91   Prepared: See Below   Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Alkalinity, Total as CaCO3 at pH 4.5	521	mg/L	5.0	310.1	NA	31 JAN 91
Alkalinity, Bicarb. as CaCO3 at pH 4.5	521	mg/L	5.0	310.1	NA	31 JAN 91
Alkalinity, Carb. as CaCO3 at pH 8.3	ND	mg/L	5.0	310.1	NA	31 JAN 91
Alkalinity, Hydrox. as CaCO3	ND	mg/L	5.0	310.1	NA	31 JAN 91
Coliform, Fecal	ND	Col/100	2.0	909C	NA	26 JAN 91
Fluoride	0.58	mg/L	0.10	340.2	NA	29 JAN 91
Ammonia as N	0.61	mg/L	0.10	350.1	NA	04 FEB 91
Nitrate as N	ND	mg/L	0.10	353.2	NA	02 FEB 91
Orthophosphate as P	0.22	mg/L	0.050	365.3	NA	25 JAN 91
pH	7.9	units		9040	NA	25 JAN 91
Sulfate	1350	mg/L	300	9038	NA	29 JAN 91
Specific Conductance at 25 deg.C	5240	umhos/cm	1.0	120.1	NA	25 JAN 91
Total Dissolved Solids	3520	mg/L	10.0	160.1	NA	31 JAN 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal   Approved By: David Bravo

Enseco
A CORNING Company

General Inorganics

Client Name: Applied Energy Company
Client ID: 6-CH-5
Lab ID: 000806-0003-SA
Matrix: AQUEOUS   Sampled: 24 JAN 91   Received: 25 JAN 91
Authorized: 25 JAN 91   Prepared: See Below   Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrite as N	ND	mg/L	0.010	353.2	NA	25 JAN 91
Chloride	397	mg/L	200	9252	NA	31 JAN 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal   Approved By: David Bravo

Enseco
A Corning Company

QC LOT ASSIGNMENT REPORT
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
000804-0001-SA	AQUEOUS	COND-A	25 JAN 91-A	-
000804-0001-SA	AQUEOUS	ALK-A	31 JAN 91-A	-
000804-0001-SA	AQUEOUS	TDS-S	29 JAN 91-A	-
000804-0001-SA	AQUEOUS	SO4-A	29 JAN 91-A	-
000804-0001-SA	AQUEOUS	F-A	29 JAN 91-A	-
000804-0001-SA	AQUEOUS	PH-A	24 JAN 91-A	-
000804-0001-SA	AQUEOUS	NH3-A	04 FEB 91-A	-
000804-0001-SA	AQUEOUS	NO3-A	02 FEB 91-A	-
000804-0001-SA	AQUEOUS	NO2-A	25 JAN 91-A	-
000804-0001-SA	AQUEOUS	CL-A	31 JAN 91-A	-

Enseco
A Corning Company

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Category: COND-A Matrix: AQUEOUS QC Lot: 25 JAN 91-A Concentration Units: umhos/cm								
Specific Conductance at 25 deg.C	1070	1040	1050	1050	98	95-105	0.9	5
Category: ALK-A Matrix: AQUEOUS QC Lot: 31 JAN 91-A Concentration Units: mg/L								
Alkalinity, Total as CaCO3 at pH 4.5	148	138	142	140	95	90-110	2.9	10
Category: TDS-S Matrix: AQUEOUS QC Lot: 29 JAN 91-A Concentration Units: mg/L								
Total Dissolved Solids	834	781	785	783	94	90-110	0.5	10
Category: SO4-A Matrix: AQUEOUS QC Lot: 29 JAN 91-A Concentration Units: mg/L								
Sulfate	124	130	120	125	101	93-107	8.0	15
Category: F-A Matrix: AQUEOUS QC Lot: 29 JAN 91-A Concentration Units: mg/L								
Fluoride	100	109	109	109	109	88-112	0.0	15

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
A Corning Company

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation (cont.)

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision (RPD) Limit
Category: PH-A Matrix: AQUEOUS QC Lot: 24 JAN 91-A Concentration Units: units								
pH	9.1	8.92	8.88	8.90	98	98-102	0.4	5
Category: NH3-A Matrix: AQUEOUS QC Lot: 04 FEB 91-A Concentration Units: mg/L								
Ammonia as N	13.2	13.0	13.5	13.2	100	93-107	3.8	20
Category: NO3-A Matrix: AQUEOUS QC Lot: 02 FEB 91-A Concentration Units: mg/L								
Nitrate as N	1.0	1.03	1.01	1.02	102	91-109	2.0	10
Category: NO2-A Matrix: AQUEOUS QC Lot: 25 JAN 91-A Concentration Units: mg/L								
Nitrite as N	1.0	0.973	0.927	0.950	95	90-110	4.8	10
Category: CL-A Matrix: AQUEOUS QC Lot: 31 JAN 91-A Concentration Units: mg/L								
Chloride	143	149	139	144	101	92-108	6.9	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
A CORNING Company

QC LOT ASSIGNMENT REPORT
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
000806-0001-SA	AQUEOUS	COND-A	02 FEB 91-A	-
000806-0001-SA	AQUEOUS	ALK-A	31 JAN 91-A	-
000806-0001-SA	AQUEOUS	TDS-S	29 JAN 91-A	-
000806-0001-SA	AQUEOUS	COLIFORM-A	25 JAN 91-A	25 JAN 91-A
000806-0001-SA	AQUEOUS	SO4-A	29 JAN 91-A	29 JAN 91-A
000806-0001-SA	AQUEOUS	F-A	29 JAN 91-A	-
000806-0001-SA	AQUEOUS	PH-A	25 JAN 91-A	-
000806-0001-SA	AQUEOUS	NH3-A	04 FEB 91-A	-
000806-0001-SA	AQUEOUS	NO3-A	02 FEB 91-A	-
000806-0001-SA	AQUEOUS	NO2-A	25 JAN 91-A	-
000806-0001-SA	AQUEOUS	CL-A	31 JAN 91-A	-
000806-0001-SA	AQUEOUS	PO4-A	25 JAN 91-A	-
000806-0002-SA	AQUEOUS	COND-A	25 JAN 91-A	-
000806-0002-SA	AQUEOUS	ALK-A	31 JAN 91-A	-
000806-0002-SA	AQUEOUS	TDS-S	29 JAN 91-A	-
000806-0002-SA	AQUEOUS	COLIFORM-A	25 JAN 91-A	25 JAN 91-A
000806-0002-SA	AQUEOUS	SO4-A	29 JAN 91-A	29 JAN 91-A
000806-0002-SA	AQUEOUS	F-A	29 JAN 91-A	-
000806-0002-SA	AQUEOUS	PH-A	25 JAN 91-A	-
000806-0002-SA	AQUEOUS	NH3-A	04 FEB 91-A	-
000806-0002-SA	AQUEOUS	NO3-A	02 FEB 91-A	-
000806-0002-SA	AQUEOUS	NO2-A	25 JAN 91-A	-
000806-0002-SA	AQUEOUS	CL-A	31 JAN 91-A	-
000806-0002-SA	AQUEOUS	PO4-A	25 JAN 91-A	-
000806-0003-SA	AQUEOUS	COND-A	25 JAN 91-A	-
000806-0003-SA	AQUEOUS	ALK-A	31 JAN 91-A	-
000806-0003-SA	AQUEOUS	TDS-S	29 JAN 91-A	-
000806-0003-SA	AQUEOUS	COLIFORM-A	25 JAN 91-A	25 JAN 91-A
000806-0003-SA	AQUEOUS	SO4-A	29 JAN 91-A	29 JAN 91-A
000806-0003-SA	AQUEOUS	F-A	29 JAN 91-A	-
000806-0003-SA	AQUEOUS	PH-A	25 JAN 91-A	-
000806-0003-SA	AQUEOUS	NH3-A	04 FEB 91-A	-
000806-0003-SA	AQUEOUS	NO3-A	02 FEB 91-A	-
000806-0003-SA	AQUEOUS	NO2-A	25 JAN 91-A	-
000806-0003-SA	AQUEOUS	CL-A	31 JAN 91-A	-
000806-0003-SA	AQUEOUS	PO4-A	25 JAN 91-A	-

Enseco
A Corning Company

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision (RPD) Limit
Category: COND-A Matrix: AQUEOUS QC Lot: 02 FEB 91-A Concentration Units: umhos/cm								
Specific Conductance at 25 deg.C	1070	1100	1080	1090	102	95-105	1.8	5
Category: ALK-A Matrix: AQUEOUS QC Lot: 31 JAN 91-A Concentration Units: mg/L								
Alkalinity, Total as $CaCO_3$ at pH 4.5	148	138	142	140	95	90-110	2.9	10
Category: TDS-S Matrix: AQUEOUS QC Lot: 29 JAN 91-A Concentration Units: mg/L								
Total Dissolved Solids	834	781	785	783	94	90-110	0.5	10
Category: COLIFORM-A Matrix: AQUEOUS QC Lot: 25 JAN 91-A Concentration Units: mg/L								
Warning *** No components were found.								
Category: SO4-A Matrix: AQUEOUS QC Lot: 29 JAN 91-A Concentration Units: mg/L								
Sulfate	124	130	120	125	101	93-107	8.0	15

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
A Corning Company

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation (cont.)

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Category: F-A Matrix: AQUEOUS QC Lot: 29 JAN 91-A Concentration Units: mg/L								
Fluoride	100	109	109	109	109	88-112	0.0	15
Category: PH-A Matrix: AQUEOUS QC Lot: 25 JAN 91-A Concentration Units: units								
pH	9.1	8.94	9.01	8.98	99	98-102	0.8	5
Category: NH3-A Matrix: AQUEOUS QC Lot: 04 FEB 91-A Concentration Units: mg/L								
Ammonia as N	13.2	13.0	13.5	13.2	100	93-107	3.8	20
Category: NO3-A Matrix: AQUEOUS QC Lot: 02 FEB 91-A Concentration Units: mg/L								
Nitrate as N	1.0	1.03	1.01	1.02	102	91-109	2.0	10
Category: NO2-A Matrix: AQUEOUS QC Lot: 25 JAN 91-A Concentration Units: mg/L								
Nitrite as N	1.0	0.973	0.927	0.950	95	90-110	4.8	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation (cont.)

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Category: CL-A Matrix: AQUEOUS QC Lot: 31 JAN 91-A Concentration Units: mg/L								
Chloride	143	149	139	144	101	92-108	6.9	10
Category: PO4-A Matrix: AQUEOUS QC Lot: 25 JAN 91-A Concentration Units: mg/L								
Orthophosphate as P	2.9	3.07	3.06	3.06	106	85-115	0.3	15
Category: COND-A Matrix: AQUEOUS QC Lot: 25 JAN 91-A Concentration Units: umhos/cm								
Specific Conductance at 25 deg.C	1070	1040	1050	1050	98	95-105	0.9	5

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
A CORNING Company

METHOD BLANK REPORT
Wet Chemistry Analysis and Preparation

Analyte	Result	Units	Reporting Limit
Test: COLIFEC-A Matrix: AQUEOUS QC Lot: 25 JAN 91-A QC Run: 25 JAN 91-A			
Coliform, Fecal	ND	Col/100 ml	2.0
Test: SO4-SPEC-A Matrix: AQUEOUS QC Lot: 29 JAN 91-A QC Run: 29 JAN 91-A			

Warning *** QI or QH record was not found.

Enseco
A Corning Company

QC LOT ASSIGNMENT REPORT
Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
000806-0001-SA	AQUEOUS	ICP-AT	05 FEB 91-A	05 FEB 91-A
000806-0002-SA	AQUEOUS	ICP-AT	05 FEB 91-A	05 FEB 91-A
000806-0003-SA	AQUEOUS	ICP-AT	05 FEB 91-A	05 FEB 91-A
000806-0004-SA	AQUEOUS	ICP-AT	05 FEB 91-A	05 FEB 91-A

Enseco
A Corning Company

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation

Category: ICP-AT
Matrix: AQUEOUS
QC Lot: 05 FEB 91-A
Concentration Units: mg/L

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision (RPD) Limit
Aluminum	2.0	1.99	2.04	2.02	101	75-125	2.5	20
Antimony	0.5	0.539	0.517	0.528	106	75-125	4.2	20
Arsenic	0.5	0.470	0.497	0.484	97	75-125	5.6	20
Barium	2.0	1.95	1.96	1.96	98	75-125	0.5	20
Beryllium	0.05	0.0483	0.0487	0.0485	97	75-125	0.8	20
Cadmium	0.05	0.0471	0.0483	0.0477	95	75-125	2.5	20
Calcium	100	101	101	101	101	75-125	0.0	20
Chromium	0.2	0.193	0.190	0.192	96	75-125	1.6	20
Cobalt	0.5	0.470	0.471	0.470	94	75-125	0.2	20
Copper	0.25	0.240	0.246	0.243	97	75-125	2.5	20
Iron	1.0	0.974	0.969	0.972	97	75-125	0.5	20
Lead	0.5	0.475	0.469	0.472	94	75-125	1.3	20
Magnesium	50	51.6	52.0	51.8	104	75-125	0.8	20
Manganese	0.5	0.480	0.482	0.481	96	75-125	0.4	20
Nickel	0.5	0.480	0.480	0.480	96	75-125	0.0	20
Potassium	50	49.0	49.3	49.2	98	75-125	0.6	20
Selenium	0	NA	NA	NC	NC	75-125	NC	20
Silver	0.05	0.0497	0.0475	0.0486	97	75-125	4.5	20
Sodium	100	101	103	102	102	75-125	2.0	20
Thallium	0	NA	NA	NC	NC	75-125	NC	20
Tin	0.4	NA	NA	NC	NC	75-125	NC	20
Vanadium	0.5	0.495	0.499	0.497	99	75-125	0.8	20
Zinc	0.5	0.476	0.477	0.476	95	75-125	0.2	20

ND = Not detected
NC = Not calculated, calculation not applicable
NA = Not applicable

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
A CORNING Company

METHOD BLANK REPORT
Metals Analysis and Preparation

Analyte	Result	Units	Reporting Limit
Test: ICP-AT			
Matrix: AQUEOUS			
QC Lot: 05 FEB 91-A QC Run: 05 FEB 91-A			
Calcium	ND	mg/L	0.10
Iron	ND	mg/L	0.050
Magnesium	ND	mg/L	0.10
Manganese	ND	mg/L	0.0050
Potassium	ND	mg/L	5.0
Sodium	ND	mg/L	0.050
Test: ICP-AT			
Matrix: AQUEOUS			
QC Lot: 05 FEB 91-A QC Run: 05 FEB 91-A			
Calcium	ND	mg/L	0.10
Iron	ND	mg/L	0.050
Magnesium	ND	mg/L	0.10
Manganese	ND	mg/L	0.0050
Potassium	ND	mg/L	5.0
Sodium	ND	mg/L	0.050

Enseco
A Corning Company

ICP METALS

Client Name: Applied Energy Company
Client ID: PW 6-3
Lab ID: 000995-0005-SA
Matrix: AQUEOUS Sampled: 20 MAR 91 Received: 21 MAR 91
Authorized: 21 MAR 91 Prepared: See Below Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Aluminum	0.35	mg/L	0.10	6010	27 MAR 91	29 MAR 91
Antimony	ND	mg/L	0.060	6010	27 MAR 91	29 MAR 91
Barium	0.14	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Beryllium	ND	mg/L	0.0020	6010	27 MAR 91	29 MAR 91
Cadmium	ND	mg/L	0.0050	6010	27 MAR 91	29 MAR 91
Calcium	89.8	mg/L	0.20	6010	27 MAR 91	29 MAR 91
Chromium	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Cobalt	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Copper	ND	mg/L	0.020	6010	27 MAR 91	29 MAR 91
Iron	0.21	mg/L	0.10	6010	27 MAR 91	29 MAR 91
Lead	ND	mg/L	0.050	6010	27 MAR 91	29 MAR 91
Magnesium	51.2	mg/L	0.20	6010	27 MAR 91	29 MAR 91
Manganese	0.26	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Molybdenum	ND	mg/L	0.020	6010	27 MAR 91	29 MAR 91
Nickel	ND	mg/L	0.040	6010	27 MAR 91	29 MAR 91
Potassium	ND	mg/L	5.0	6010	27 MAR 91	29 MAR 91
Silver	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Sodium	122	mg/L	5.0	6010	27 MAR 91	29 MAR 91
Vanadium	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Zinc	0.027	mg/L	0.020	6010	27 MAR 91	29 MAR 91

ND = Not detected
NA = Not applicable

Reported By: David Bravo Approved By: Bose Lawal

Enseco
A Corning Company

General Inorganics

Client Name: Applied Energy Company
Client ID: PW 6-3
Lab ID: 000995-0005-SA
Matrix: AQUEOUS — Sampled: 20 MAR 91 — Received: 21 MAR 91
Authorized: 21 MAR 91 — Prepared: See Below — Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Alkalinity, Total as $CaCO_3$ at pH 4.5	524	mg/L	5.0	310.1	NA	02 APR 91
Alkalinity, Bicarb. as $CaCO_3$ at pH 4.5	524	mg/L	5.0	310.1	NA	02 APR 91
Alkalinity, Carb. as $CaCO_3$ at pH 8.3	ND	mg/L	5.0	310.1	NA	02 APR 91
Alkalinity, Hydrox. as $CaCO_3$	ND	mg/L	5.0	310.1	NA	02 APR 91
Coliform, Total	ND	Col/100	2.0	9132	NA	22 MAR 91
Fluoride	3.3	mg/L	0.10	340.2	NA	01 APR 91
Ammonia as N	ND	mg/L	0.10	350.1	NA	27 MAR 91
Nitrate as N	0.88	mg/L	0.50	353.2	NA	29 MAR 91
pH	7.1	units		9040	NA	21 MAR 91
Sulfate	115	mg/L	30.0	9038	NA	04 APR 91
Specific Conductance at 25 deg.C	1230	umhos/cm	1.0	120.1	NA	21 MAR 91
Total Dissolved Solids	838	mg/L	10.0	160.1	NA	26 MAR 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal

Approved By: Karen Helgerson

Enseco
A Corning Company

General Inorganics

Client Name: Applied Energy Company
Client ID: PW 6-3
Lab ID: 000995-0005-SA
Matrix: AQUEOUS
Sampled: 20 MAR 91
Received: 21 MAR 91
Authorized: 21 MAR 91
Prepared: See Below
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrite as N	ND	mg/L	0.010	354.1	NA	22 MAR 91
Chloride	ND	mg/L	3.0	9252	NA	25 MAR 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal

Approved By: Karen Helgerson

Enseco
A Corning Company

ICP METALS

Client Name: Applied Energy Company
Client ID: PW 6-4
Lab ID: 000995-0004-SA
Matrix: AQUEOUS
Sampled: 20 MAR 91
Received: 21 MAR 91
Authorized: 21 MAR 91
Prepared: See Below
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Aluminum	0.51	mg/L	0.10	6010	27 MAR 91	29 MAR 91
Antimony	ND	mg/L	0.060	6010	27 MAR 91	29 MAR 91
Barium	0.11	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Beryllium	ND	mg/L	0.0020	6010	27 MAR 91	29 MAR 91
Cadmium	ND	mg/L	0.0050	6010	27 MAR 91	29 MAR 91
Calcium	99.7	mg/L	0.20	6010	27 MAR 91	29 MAR 91
Chromium	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Cobalt	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Copper	ND	mg/L	0.020	6010	27 MAR 91	29 MAR 91
Iron	0.30	mg/L	0.10	6010	27 MAR 91	29 MAR 91
Lead	ND	mg/L	0.050	6010	27 MAR 91	29 MAR 91
Magnesium	30.9	mg/L	0.20	6010	27 MAR 91	29 MAR 91
Manganese	0.11	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Molybdenum	ND	mg/L	0.020	6010	27 MAR 91	29 MAR 91
Nickel	ND	mg/L	0.040	6010	27 MAR 91	29 MAR 91
Potassium	ND	mg/L	5.0	6010	27 MAR 91	29 MAR 91
Silver	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Sodium	113	mg/L	5.0	6010	27 MAR 91	29 MAR 91
Vanadium	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Zinc	ND	mg/L	0.020	6010	27 MAR 91	29 MAR 91

ND = Not detected
NA = Not applicable

Reported By: David Bravo

Approved By: Bose Lawal

Enseco
A Corning Company

General Inorganics

Client Name: Applied Energy Company
Client ID: PW 6-4
Lab ID: 000995-0004-SA
Matrix: AQUEOUS
Authorized: 21 MAR 91

Sampled: 20 MAR 91
Prepared: See Below

Received: 21 MAR 91
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Alkalinity, Total as $CaCO_3$ at pH 4.5	424	mg/L	5.0	310.1	NA	02 APR 91
Alkalinity, Bicarb. as $CaCO_3$ at pH 4.5	424	mg/L	5.0	310.1	NA	02 APR 91
Alkalinity, Carb. as $CaCO_3$ at pH 8.3	ND	mg/L	5.0	310.1	NA	02 APR 91
Alkalinity, Hydrox. as $CaCO_3$	ND	mg/L	5.0	310.1	NA	02 APR 91
Coliform, Total	ND	Col/100	2.0	9132	NA	22 MAR 91
Fluoride	1.3	mg/L	0.10	340.2	NA	01 APR 91
Ammonia as N	ND	mg/L	0.10	350.1	NA	27 MAR 91
Nitrate as N	27.0	mg/L	1.0	353.2	NA	29 MAR 91
pH	7.3	units		9040	NA	21 MAR 91
Sulfate	16.0	mg/L	5.0	9038	NA	03 APR 91
Specific Conductance at 25 deg.C	1180	umhos/cm	1.0	120.1	NA	21 MAR 91
Total Dissolved Solids	804	mg/L	10.0	160.1	NA	26 MAR 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal

Approved By: Karen Helgerson

General Inorganics

Client Name: Applied Energy Company
Client ID: PW 6-4
Lab ID: 000995-0004-SA
Matrix: AQUEOUS
Authorized: 21 MAR 91

Sampled: 20 MAR 91
Prepared: See Below

Received: 21 MAR 91
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrite as N	ND	mg/L	0.010	354.1	NA	22 MAR 91
Chloride	ND	mg/L	3.0	9252	NA	25 MAR 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal

Approved By: Karen Helgerson

Enseco
A Corning Company

ICP METALS

Client Name: Applied Energy Company
Client ID: PW 6-5
Lab ID: 000995-0007-SA
Matrix: AQUEOUS   Sampled: 20 MAR 91   Received: 21 MAR 91
Authorized: 21 MAR 91   Prepared: See Below   Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Aluminum	0.25	mg/L	0.10	6010	27 MAR 91	29 MAR 91
Antimony	ND	mg/L	0.060	6010	27 MAR 91	29 MAR 91
Barium	0.059	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Beryllium	ND	mg/L	0.0020	6010	27 MAR 91	29 MAR 91
Cadmium	ND	mg/L	0.0050	6010	27 MAR 91	29 MAR 91
Calcium	338	mg/L	0.20	6010	27 MAR 91	29 MAR 91
Chromium	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Cobalt	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Copper	ND	mg/L	0.020	6010	27 MAR 91	29 MAR 91
Iron	0.15	mg/L	0.10	6010	27 MAR 91	29 MAR 91
Lead	ND	mg/L	0.050	6010	27 MAR 91	29 MAR 91
Magnesium	78.5	mg/L	0.20	6010	27 MAR 91	29 MAR 91
Manganese	0.19	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Molybdenum	ND	mg/L	0.020	6010	27 MAR 91	29 MAR 91
Nickel	ND	mg/L	0.040	6010	27 MAR 91	29 MAR 91
Potassium	5.2	mg/L	5.0	6010	27 MAR 91	29 MAR 91
Silver	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Sodium	588	mg/L	5.0	6010	27 MAR 91	29 MAR 91
Vanadium	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Zinc	ND	mg/L	0.020	6010	27 MAR 91	29 MAR 91

ND = Not detected
NA = Not applicable

Reported By: David Bravo   Approved By: Bose Lawal

Enseco
A Corning Company

General Inorganics

Client Name: Applied Energy Company
Client ID: PW 6-5
Lab ID: 000995-0007-SA
Matrix: AQUEOUS
Authorized: 21 MAR 91

Sampled: 20 MAR 91
Prepared: See Below

Received: 21 MAR 91
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Alkalinity, Total as CaCO3 at pH 4.5	416	mg/L	5.0	310.1	NA	02 APR 91
Alkalinity, Bicarb. as CaCO3 at pH 4.5	416	mg/L	5.0	310.1	NA	02 APR 91
Alkalinity, Carb. as CaCO3 at pH 8.3	ND	mg/L	5.0	310.1	NA	02 APR 91
Alkalinity, Hydrox. as CaCO3	ND	mg/L	5.0	310.1	NA	02 APR 91
Coliform, Total	6.0	Col/100	2.0	9132	NA	22 MAR 91
Fluoride	0.44	mg/L	0.10	340.2	NA	01 APR 91
Ammonia as N	ND	mg/L	0.10	350.1	NA	27 MAR 91
Nitrate as N	8.2	mg/L	0.50	353.2	NA	29 MAR 91
pH	7.3	units		9040	NA	21 MAR 91
Sulfate	1650	mg/L	250	9038	NA	26 MAR 91
Specific Conductance at 25 deg.C	4080	umhos/cm	1.0	120.1	NA	21 MAR 91
Total Dissolved Solids	3480	mg/L	50.0	160.1	NA	26 MAR 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal

Approved By: David Bravo

Enseco
A Corning Company

General Inorganics

Client Name: Applied Energy Company
Client ID: PW 6-5
Lab ID: 000995-0007-SA
Matrix: AQUEOUS
Authorized: 21 MAR 91

Sampled: 20 MAR 91
Prepared: See Below

Received: 21 MAR 91
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrite as N	ND	mg/L	0.010	354.1	NA	22 MAR 91
Chloride	238	mg/L	60.0	9252	NA	25 MAR 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal

Approved By: Karen Helgerson

Enseco
A Corning Company

ICP METALS

Client Name: Applied Energy Company
Client ID: PW 6-6
Lab ID: 000995-0006-SA
Matrix: AQUEOUS
Authorized: 21 MAR 91

Sampled: 20 MAR 91
Prepared: See Below

Received: 21 MAR 91
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Aluminum	0.54	mg/L	0.10	6010	27 MAR 91	29 MAR 91
Antimony	ND	mg/L	0.060	6010	27 MAR 91	29 MAR 91
Barium	0.11	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Beryllium	ND	mg/L	0.0020	6010	27 MAR 91	29 MAR 91
Cadmium	ND	mg/L	0.0050	6010	27 MAR 91	29 MAR 91
Calcium	83.8	mg/L	0.20	6010	27 MAR 91	29 MAR 91
Chromium	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Cobalt	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Copper	ND	mg/L	0.020	6010	27 MAR 91	29 MAR 91
Iron	0.31	mg/L	0.10	6010	27 MAR 91	29 MAR 91
Lead	ND	mg/L	0.050	6010	27 MAR 91	29 MAR 91
Magnesium	26.5	mg/L	0.20	6010	27 MAR 91	29 MAR 91
Manganese	0.42	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Molybdenum	ND	mg/L	0.020	6010	27 MAR 91	29 MAR 91
Nickel	ND	mg/L	0.040	6010	27 MAR 91	29 MAR 91
Potassium	ND	mg/L	5.0	6010	27 MAR 91	29 MAR 91
Silver	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Sodium	142	mg/L	5.0	6010	27 MAR 91	29 MAR 91
Vanadium	ND	mg/L	0.010	6010	27 MAR 91	29 MAR 91
Zinc	ND	mg/L	0.020	6010	27 MAR 91	29 MAR 91

ND = Not detected
NA = Not applicable

Reported By: David Bravo

Approved By: Bose Lawal

Enseco
A Corning Company

General Inorganics

Client Name: Applied Energy Company
Client ID: PW 6-6
Lab ID: 000995-0006-SA
Matrix: AQUEOUS
Authorized: 21 MAR 91
Sampled: 20 MAR 91
Prepared: See Below
Received: 21 MAR 91
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Alkalinity, Total as CaCO3 at pH 4.5	443	mg/L	5.0	310.1	NA	02 APR 91
Alkalinity, Bicarb. as CaCO3 at pH 4.5	443	mg/L	5.0	310.1	NA	02 APR 91
Alkalinity, Carb. as CaCO3 at pH 8.3	ND	mg/L	5.0	310.1	NA	02 APR 91
Alkalinity, Hydrox. as CaCO3	ND	mg/L	5.0	310.1	NA	02 APR 91
Coliform, Total	ND	Col/100	2.0	9132	NA	22 MAR 91
Fluoride	1.9	mg/L	0.10	340.2	NA	01 APR 91
Ammonia as N	ND	mg/L	0.10	350.1	NA	27 MAR 91
Nitrate as N	1.3	mg/L	0.10	353.2	NA	29 MAR 91
pH	7.1	units		9040	NA	21 MAR 91
Sulfate	105	mg/L	30.0	9038	NA	04 APR 91
Specific Conductance at 25 deg.C	1110	umhos/cm	1.0	120.1	NA	21 MAR 91
Total Dissolved Solids	779	mg/L	10.0	160.1	NA	26 MAR 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal

Approved By: Karen Helgerson

Enseco
A Corning Company

General Inorganics

Client Name: Applied Energy Company
Client ID: PW 6-6
Lab ID: 000995-0006-SA
Matrix: AQUEOUS   Sampled: 20 MAR 91   Received: 21 MAR 91
Authorized: 21 MAR 91   Prepared: See Below   Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrite as N	0.022	mg/L	0.010	354.1	NA	22 MAR 91
Chloride	31.8	mg/L	3.0	9252	NA	25 MAR 91

ND = Not detected
NA = Not applicable

Reported By: Bose Lawal   Approved By: Karen Helgerson

Enseco
A Corning Company

QC LOT ASSIGNMENT REPORT
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
000995-0004-SA	AQUEOUS	TDS-S	22 MAR 91-A	-
000995-0004-SA	AQUEOUS	PH-A	21 MAR 91-A	-
000995-0004-SA	AQUEOUS	ALK-A	02 APR 91-A	-
000995-0004-SA	AQUEOUS	F-A	01 APR 91-A	-
000995-0004-SA	AQUEOUS	CL-A	25 MAR 91-A	-
000995-0004-SA	AQUEOUS	SO4-A	03 APR 91-A	-
000995-0004-SA	AQUEOUS	COND-A	21 MAR 91-A	-
000995-0004-SA	AQUEOUS	NO3-A	29 MAR 91-A	-
000995-0004-SA	AQUEOUS	NH3-A	27 MAR 91-A	-
000995-0004-SA	AQUEOUS	NO2-A	22 MAR 91-A	-
000995-0005-SA	AQUEOUS	TDS-S	22 MAR 91-A	-
000995-0005-SA	AQUEOUS	PH-A	21 MAR 91-A	-
000995-0005-SA	AQUEOUS	ALK-A	02 APR 91-A	-
000995-0005-SA	AQUEOUS	F-A	01 APR 91-A	-
000995-0005-SA	AQUEOUS	CL-A	25 MAR 91-A	-
000995-0005-SA	AQUEOUS	SO4-A	04 APR 91-A	-
000995-0005-SA	AQUEOUS	COND-A	21 MAR 91-A	-
000995-0005-SA	AQUEOUS	NO3-A	29 MAR 91-A	-
000995-0005-SA	AQUEOUS	NH3-A	27 MAR 91-A	-
000995-0005-SA	AQUEOUS	NO2-A	22 MAR 91-A	-
000995-0006-SA	AQUEOUS	TDS-S	22 MAR 91-A	-
000995-0006-SA	AQUEOUS	PH-A	21 MAR 91-A	-
000995-0006-SA	AQUEOUS	ALK-A	02 APR 91-A	-
000995-0006-SA	AQUEOUS	F-A	01 APR 91-A	-
000995-0006-SA	AQUEOUS	CL-A	25 MAR 91-A	-
000995-0006-SA	AQUEOUS	SO4-A	04 APR 91-A	-
000995-0006-SA	AQUEOUS	COND-A	21 MAR 91-A	-
000995-0006-SA	AQUEOUS	NO3-A	29 MAR 91-A	-
000995-0006-SA	AQUEOUS	NH3-A	27 MAR 91-A	-
000995-0006-SA	AQUEOUS	NO2-A	22 MAR 91-A	-
000995-0007-SA	AQUEOUS	TDS-S	22 MAR 91-A	-
000995-0007-SA	AQUEOUS	PH-A	21 MAR 91-A	-
000995-0007-SA	AQUEOUS	ALK-A	02 APR 91-A	-
000995-0007-SA	AQUEOUS	F-A	01 APR 91-A	-
000995-0007-SA	AQUEOUS	CL-A	25 MAR 91-A	-
000995-0007-SA	AQUEOUS	SO4-A	26 MAR 91-A	-
000995-0007-SA	AQUEOUS	COND-A	21 MAR 91-A	-
000995-0007-SA	AQUEOUS	NO3-A	29 MAR 91-A	-
000995-0007-SA	AQUEOUS	NH3-A	27 MAR 91-A	-
000995-0007-SA	AQUEOUS	NO2-A	22 MAR 91-A	-

Enseco
A Corning Company

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation

Category: ICP-AT
Matrix: AQUEOUS
QC Lot: 27 MAR 91-A
Concentration Units: mg/L

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Aluminum	2.0	1.97	1.97	1.97	99	75-125	0.0	20
Antimony	0.5	0.521	0.501	0.511	102	75-125	4.0	20
Arsenic	0.5	0.483	0.501	0.492	98	75-125	3.6	20
Barium	2.0	1.92	1.92	1.92	96	75-125	0.1	20
Beryllium	0.05	0.0488	0.0489	0.0488	98	75-125	0.2	20
Cadmium	0.05	0.0471	0.0488	0.0480	96	75-125	3.5	20
Calcium	100	94.8	95.0	94.9	95	75-125	0.2	20
Chromium	0.2	0.182	0.183	0.182	91	75-125	0.8	20
Cobalt	0.5	0.469	0.468	0.469	94	75-125	0.1	20
Copper	0.25	0.245	0.247	0.246	98	75-125	0.8	20
Iron	1.0	0.963	0.969	0.966	97	75-125	0.7	20
Lead	0.5	0.483	0.489	0.486	97	75-125	1.1	20
Magnesium	50	47.2	47.4	47.3	95	75-125	0.3	20
Manganese	0.5	0.495	0.496	0.495	99	75-125	0.2	20
Nickel	0.5	0.456	0.474	0.465	93	75-125	4.0	20
Potassium	50	44.6	44.8	44.7	89	75-125	0.4	20
Selenium	0	NA	NA	NC	NC	75-125	NC	20
Silver	0.05	0.0480	0.0463	0.0472	94	75-125	3.6	20
Sodium	100	93.8	94.4	94.1	94	75-125	0.6	20
Thallium	0	NA	NA	NC	NC	75-125	NC	20
Tin	0.4	NA	NA	NC	NC	75-125	NC	20
Vanadium	0.5	0.487	0.484	0.486	97	75-125	0.6	20
Zinc	0.5	0.470	0.472	0.471	94	75-125	0.3	20

ND = Not detected
NC = Not calculated, calculation not applicable
NA = Not applicable

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
A Corning Company

METHOD BLANK REPORT
Metals Analysis and Preparation

Test: ICPOCP-ICPS-AT
Matrix: AQUEOUS
QC Lot: 27 MAR 91-A QC Run: 27 MAR 91-A

Analyte	Result	Units	Reporting Limit
Aluminum	ND	mg/L	0.10
Antimony	ND	mg/L	0.060
Barium	ND	mg/L	0.010
Beryllium	ND	mg/L	0.0020
Cadmium	ND	mg/L	0.0050
Calcium	ND	mg/L	0.20
Chromium	ND	mg/L	0.010
Cobalt	ND	mg/L	0.010
Copper	ND	mg/L	0.020
Iron	ND	mg/L	0.10
Lead	ND	mg/L	0.050
Magnesium	ND	mg/L	0.20
Manganese	ND	mg/L	0.010
Molybdenum	ND	mg/L	0.020
Nickel	ND	mg/L	0.040
Potassium	ND	mg/L	5.0
Silver	ND	mg/L	0.010
Sodium	ND	mg/L	5.0
Vanadium	ND	mg/L	0.010
Zinc	ND	mg/L	0.020

Enseco
A Corning Company

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Category: TDS-S Matrix: AQUEOUS QC Lot: 22 MAR 91-A Concentration Units: mg/L								
Total Dissolved Solids	834	766	768	767	92	90-110	0.3	10
Category: PH-A Matrix: AQUEOUS QC Lot: 21 MAR 91-A Concentration Units: units								
pH	9.1	9.00	9.00	9.00	99	98-102	0.0	5
Category: ALK-A Matrix: AQUEOUS QC Lot: 02 APR 91-A Concentration Units: mg/L								
Alkalinity, Total as CaCO3 at pH 4.5	148	150	149	150	101	90-110	0.7	10
Category: F-A Matrix: AQUEOUS QC Lot: 01 APR 91-A Concentration Units: mg/L								
Fluoride	4.1	4.04	4.04	4.04	99	88-112	0.0	15
Category: CL-A Matrix: AQUEOUS QC Lot: 25 MAR 91-A Concentration Units: mg/L								
Chloride	254	258	238	248	98	92-108	8.1	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation (cont.)

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Category: SO4-A Matrix: AQUEOUS QC Lot: 03 APR 91-A Concentration Units: mg/L								
Sulfate	30	29.0	29.0	29.0	97	93-107	0.0	15
Category: COND-A Matrix: AQUEOUS QC Lot: 21 MAR 91-A Concentration Units: umhos/cm								
Specific Conductance at 25 deg.C	1910	1990	1980	1980	104	95-105	0.5	5
Category: NO3-A Matrix: AQUEOUS QC Lot: 29 MAR 91-A Concentration Units: mg/L								
Nitrate as N	3.8	3.92	3.69	3.80	100	91-109	6.0	10
Category: NH3-A Matrix: AQUEOUS QC Lot: 27 MAR 91-A Concentration Units: mg/L								
Ammonia as N	9.1	9.13	8.94	9.04	99	93-107	2.1	20
Category: NO2-A Matrix: AQUEOUS QC Lot: 22 MAR 91-A Concentration Units: mg/L								
Nitrite as N	0.10	0.0980	0.0990	0.0985	99	90-110	1.0	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

Analytical Technologies, Inc.

CLIENT : D.B. STEPHENS & ASSOCIATES
PROJECT # : 89-030-L
PROJECT NAME : ENRON LAGUNA

DATE RECEIVED : 04/22/91
REPORT DATE : 05/20/91

ATI I.D. : 104784

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	SUPPLY WELL	AQUEOUS	04/17/91
02	6-PW-5	AQUEOUS	04/18/91
03	6-PW-4	AQUEOUS	04/17/91
04	6-6	AQUEOUS	04/17/91
05	6-8	AQUEOUS	04/17/91
06	6-PW-8	AQUEOUS	04/18/91
07	6-PW-7	AQUEOUS	04/18/91

----- TOTALS -----

MATRIX	# SAMPLES
AQUEOUS	7

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

METALS RESULTS

ATI I.D. : 104784

CLIENT : D.B. STEPHENS & ASSOCIATES
PROJECT # : 89-030-L
PROJECT NAME : ENRON LAGUNA

DATE RECEIVED : 04/22/91

REPORT DATE : 05/20/91

PARAMETER	UNITS	01	02	03	04	05
CALCIUM	MG/L	52.1	276	113	67.3	76.6
COPPER	MG/L	<0.010	<0.010	<0.010	<0.010	<0.010
IRON	MG/L	<0.020	<0.020	<0.020	<0.020	<0.020
HARDNESS	MG/L	169	914	421	265	390
POTASSIUM	MG/L	1.7	4.4	5.4	2.6	1.2
MAGNESIUM	MG/L	9.5	54.6	33.7	23.5	48.4
MANGANESE	MG/L	<0.010	0.011	<0.010	0.037	0.156
SODIUM	MG/L	22.6	546	104	133	368
ZINC	MG/L	0.033	<0.010	<0.010	<0.010	<0.010

Analytical Technologies, Inc.

METALS RESULTS

ATI I.D. : 104784

CLIENT : D.B. STEPHENS & ASSOCIATES
PROJECT # : 89-030-L
PROJECT NAME : ENRON LAGUNA

DATE RECEIVED : 04/22/91

REPORT DATE : 05/20/91

PARAMETER	UNITS	06	07
CALCIUM	MG/L	254	187
COPPER	MG/L	<0.010	<0.010
IRON	MG/L	<0.020	<0.020
HARDNESS	MG/L	823	678
POTASSIUM	MG/L	3.2	8.6
MAGNESIUM	MG/L	45.9	51.3
MANGANESE	MG/L	0.082	0.059
SODIUM	MG/L	72.2	430
ZINC	MG/L	<0.010	<0.010

Analytical Technologies, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 104784

CLIENT : D.B. STEPHENS & ASSOCIATES
DATE RECEIVED : 04/22/91
PROJECT # : 89-030-L
PROJECT NAME : ENRON LAGUNA
REPORT DATE : 05/20/91

PARAMETER	UNITS	01	02	03	04	05
CARBONATE (CACO3)	MG/L	<1	<1	<1	<1	<1
BICARBONATE (CACO3)	MG/L	166	475	279	343	680
HYDROXIDE (CACO3)	MG/L	<1	<1	<1	<1	<1
TOTAL ALKALINITY (AS CACO3)	MG/L	166	475	279	343	680
CHLORIDE	MG/L	13	132	68	39	111
CONDUCTIVITY, (UMHOS/CM)		386	3250	1150	1050	2030
FLUORIDE	MG/L	0.25	0.42	1.29	1.30	3.50
AMMONIA AS NITROGEN	MG/L	-	-	0.03	<0.03	0.03
NITRATE AS NITROGEN	MG/L	-	-	42	15	0.33
PH	UNITS	8.1	7.4	7.7	7.6	7.5
SULFATE	MG/L	30	1300	130	120	340
TOTAL DISSOLVED SOLIDS	MG/L	240	2600	790	660	1300

Analytical Technologies, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 104784

CLIENT : D.B. STEPHENS & ASSOCIATES
PROJECT # : 89-030-L
PROJECT NAME : ENRON LAGUNA

DATE RECEIVED : 04/22/91
REPORT DATE : 05/20/91

PARAMETER	UNITS	06	07
CARBONATE (CACO3)	MG/L	<1	<1
BICARBONATE (CACO3)	MG/L	296	171
HYDROXIDE (CACO3)	MG/L	<1	<1
TOTAL ALKALINITY (AS CACO3)	MG/L	296	171
CHLORIDE	MG/L	29	480
CONDUCTIVITY, (UMHOS/CM)		1640	2990
FLUORIDE	MG/L	0.38	0.75
PH	UNITS	7.4	7.5
SULFATE	MG/L	460	770
TOTAL DISSOLVED SOLIDS	MG/L	1300	2000

Analytical Technologies, Inc.

GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : D.B. STEPHENS & ASSOCIATES
PROJECT # : 89-030-L
PROJECT NAME : ENRON LAGUNA

ATI I.D. : 104784

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
CARBONATE	MG/L	10478403	<1	<1	NA	NA	NA	NA
BICARBONATE	MG/L		279	284	2	NA	NA	NA
HYDROXIDE	MG/L		<1	<1	NA	NA	NA	NA
TOTAL ALKALINITY	MG/L		279	284	2	NA	NA	NA
CARBONATE	MG/L	10563801	<1	<1	NA	NA	NA	NA
BICARBONATE	MG/L		205	206	0.5	NA	NA	NA
HYDROXIDE	MG/L		<1	<1	NA	NA	NA	NA
TOTAL ALKALINITY	MG/L		205	206	0.5	NA	NA	NA
CHLORIDE	MG/L	10478407	480	490	2	1250	750	103
CONDUCTIVITY(UMHOS/CM)		10478407	2990	2960	1	NA	NA	NA
FLUORIDE	MG/L	10474104	0.31	0.32	3	0.62	0.30	103
FLUORIDE	MG/L	10478403	1.29	1.28	1	2.64	1.30	104
AMMONIA AS NITROGEN	MG/L	10474101	0.22	0.20	10	0.48	0.25	104
NITRATE AS NITROGEN	MG/L	10479003	0.19	0.18	5	2.18	2.00	100
PH	UNITS	10478403	7.7	7.7	0	NA	NA	NA
SULFATE	MG/L	10479003	3900	3900	0	7900	4000	100
TOTAL DISSOLVED SOLIDS	MG/L	10479002	1960	1920	2	NA	NA	NA

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Analytical Technologies, Inc.

METALS - QUALITY CONTROL

CLIENT : D.B. STEPHENS & ASSOCIATES
PROJECT # : 89-030-L
PROJECT NAME : ENRON LAGUNA

ATI I.D. : 104784

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
CALCIUM	MG/L	10478403	113	114	1	162	50.0	98
COPPER	MG/L	10479001	<0.010	<0.010	NA	0.099	0.100	99
IRON	MG/L	10479001	44.2	42.7	3	150	100	106
HARDNESS	MG/L	10478403	421	424	0.7	NA	NA	NA
POTASSIUM	MG/L	10478403	5.4	5.5	2	54.2	50.0	98
MAGNESIUM	MG/L	10478403	33.7	33.9	0.6	58.0	25.0	97
MANGANESE	MG/L	10479001	1.06	1.02	4	2.17	1.00	111
SODIUM	MG/L	10478403	104	106	2	148	50.0	88
SODIUM	MG/L	10478402	546	557	2	1094	500	110
ZINC	MG/L	10479001	0.027	0.026	4	0.124	0.100	97

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Analytical Technologies, Inc.

DATE: 05-07-91

ION BALANCE

ATI ACCESSION NUMBER: 10478401
SAMPLE IDENTIFICATION: Supply Well
CLIENT: D.B. STEPHENS & ASSOCIATES

ANIONS	RESULT MG/L	FACTOR ME/L	TOTAL
ALKALINITY (AS CACO3)	166.000	0.02000	3.32000
CHLORIDE	13.000	0.02821	0.36673
FLUORIDE	0.250	0.05264	0.01316
NITRATE AS N	NA	0.01613	0.00000
SULFATE	30.000	0.02082	0.62460

TOTAL ANIONS 4.32449

CATIONS	RESULT	FACTOR	TOTAL
CALCIUM	52.100	0.04990	2.59979
POTASSIUM	1.700	0.02558	0.04349
MAGNESIUM	9.500	0.08229	0.78175
SODIUM	22.600	0.04350	0.98310
COPPER	< 0.010	0.03147	0.00000
IRON	< 0.020	0.05372	0.00000
MANGANESE	< 0.010	0.03640	0.00000
ZINC	0.033	0.03059	0.00101

TOTAL CATIONS 4.40914

%RPD (<10%) -1.94

TOTAL ANIONS/CATIONS	229		
TOTAL DISSOLVED SOLIDS	240	%RPD (<15%)	-4.79
ELECTRICAL COND.	386	TDS/EC RATIO (0.65+/-0.1)	0.62176

Analytical Technologies, Inc.

ION BALANCE

ATI ACCESSION NUMBER: 10478402
SAMPLE IDENTIFICATION: 6-PW-5
CLIENT: D.B. STEPHENS & ASSOCIATES

ANIONS	RESULT MG/L	FACTOR ME/L	TOTAL
ALKALINITY (AS CACO3)	475.000	0.02000	9.50000
CHLORIDE	132.000	0.02821	3.72372
FLUORIDE	0.420	0.05264	0.02211
NITRATE AS N	N/A	0.01613	0.00000
SULFATE	1300.000	0.02082	27.06600

TOTAL ANIONS 40.31183

CATIONS	RESULT	FACTOR	TOTAL
CALCIUM	276.000	0.04990	13.77240
POTASSIUM	4.400	0.02558	0.11255
MAGNESIUM	54.600	0.08229	4.49303
SODIUM	546.000	0.04350	23.75100
COPPER	< 0.010	0.03147	0.00000
IRON	< 0.020	0.05372	0.00000
MANGANESE	< 0.010	0.03640	0.00000
ZINC	< 0.010	0.03059	0.00000

TOTAL CATIONS 42.12899

%RPD (<10%) -4.41

TOTAL ANIONS/CATIONS	2598		
TOTAL DISSOLVED SOLIDS	2600	%RPD (<15%)	-0.06
ELECTRICAL COND.	3250	TDS/EC RATIO (0.65+/-0.1)	0.80000

Analytical Technologies, Inc.

ION BALANCE

ATI ACCESSION NUMBER: 10478404
SAMPLE IDENTIFICATION: 6-6
CLIENT: D.B. STEPHENS & ASSOCIATES

ANIONS	RESULT MG/L	FACTOR ME/L	TOTAL
ALKALINITY (AS CACO3)	343.000	0.02000	6.86000
CHLORIDE	39.000	0.02821	1.10019
FLUORIDE	1.300	0.05264	0.06843
NITRATE AS N	15.000	0.01613	1.07184
SULFATE	120.000	0.02082	2.49840

TOTAL ANIONS 11.59886

CATIONS	RESULT	FACTOR	TOTAL
CALCIUM	67.300	0.04990	3.35827
POTASSIUM	2.600	0.02558	0.06651
MAGNESIUM	23.500	0.08229	1.93382
SODIUM	133.000	0.04350	5.78550
COPPER	< 0.010	0.03147	0.00000
IRON	< 0.020	0.05372	0.00000
MANGANESE	0.037	0.03640	0.00135
ZINC	< 0.010	0.03059	0.00000

TOTAL CATIONS 11.14544

%RPD (<10%) 3.99

TOTAL ANIONS/CATIONS	608		
TOTAL DISSOLVED SOLIDS	660	%RPD (<15%)	-8.28
ELECTRICAL COND.	1050	TDS/EC RATIO (0.65+/-0.1)	0.62857

Analytical Technologies, Inc.

DATE: 05-07-91

ION BALANCE

ATI ACCESSION NUMBER: 10478405
SAMPLE IDENTIFICATION: 6-8
CLIENT: D.B. STEPHENS & ASSOCIATES

ANIONS	RESULT MG/L	FACTOR ME/L	TOTAL
ALKALINITY (AS CACO3)	680.000	0.02000	13.60000
CHLORIDE	111.000	0.02821	3.13131
FLUORIDE	3.500	0.05264	0.18424
NITRATE AS N	0.330	0.01613	0.02358
SULFATE	340.000	0.02082	7.07880

TOTAL ANIONS 24.01793

CATIONS	RESULT	FACTOR	TOTAL
CALCIUM	76.600	0.04990	3.82234
POTASSIUM	1.200	0.02558	0.03070
MAGNESIUM	48.400	0.08229	3.98284
SODIUM	368.000	0.04350	16.00800
COPPER	< 0.010	0.03147	0.00000
IRON	< 0.020	0.05372	0.00000
MANGANESE	0.156	0.03640	0.00568
ZINC	< 0.010	0.03059	0.00000

TOTAL CATIONS 23.84955

%RPD (<10%) 0.70

TOTAL ANIONS/CATIONS	1357		
TOTAL DISSOLVED SOLIDS	1300	%RPD (<15%)	4.30
ELECTRICAL COND.	2030	TDS/EC RATIO (0.65+/-0.1)	0.64039

Analytical Technologies, Inc.

DATE: 05-07-91

ION BALANCE

ATI ACCESSION NUMBER: 10478406
SAMPLE IDENTIFICATION: 6-PW-8
CLIENT: D.B. STEPHENS & ASSOCIATES

ANIONS	RESULT MG/L	FACTOR ME/L	TOTAL
ALKALINITY (AS CACO3)	296.000	0.02000	5.92000
CHLORIDE	29.000	0.02821	0.81809
FLUORIDE	0.380	0.05264	0.02000
NITRATE AS N	NA	0.01613	0.00000
SULFATE	460.000	0.02082	9.57720

TOTAL ANIONS 16.33529

CATIONS	RESULT	FACTOR	TOTAL
CALCIUM	254.000	0.04990	12.67460
POTASSIUM	3.200	0.02558	0.08186
MAGNESIUM	45.900	0.08229	3.77711
SODIUM	72.200	0.04350	3.14070
COPPER	< 0.010	0.03147	0.00000
IRON	< 0.020	0.05372	0.00000
MANGANESE	0.082	0.03640	0.00298
ZINC	< 0.010	0.03059	0.00000

TOTAL CATIONS 19.67725

%RPD (<10%) -18.56

TOTAL ANIONS/CATIONS	1042		
TOTAL DISSOLVED SOLIDS	1300	%RPD (<15%)	-22.00
ELECTRICAL COND.	1640	TDS/EC RATIO (0.65+/-0.1)	0.79268

Analytical Technologies, Inc.

DATE: 05-07-91

ION BALANCE

ATI ACCESSION NUMBER: 10478407
SAMPLE IDENTIFICATION: 6-PW-7
CLIENT: D.B. STEPHENS & ASSOCIATES

ANIONS	RESULT MG/L	FACTOR ME/L	TOTAL
ALKALINITY (AS CACO3)	171.000	0.02000	3.42000
CHLORIDE	480.000	0.02821	13.54080
FLUORIDE	0.750	0.05264	0.03948
NITRATE AS N	NA	0.01613	0.00000
SULFATE	770.000	0.02082	16.03140

TOTAL ANIONS 33.03168

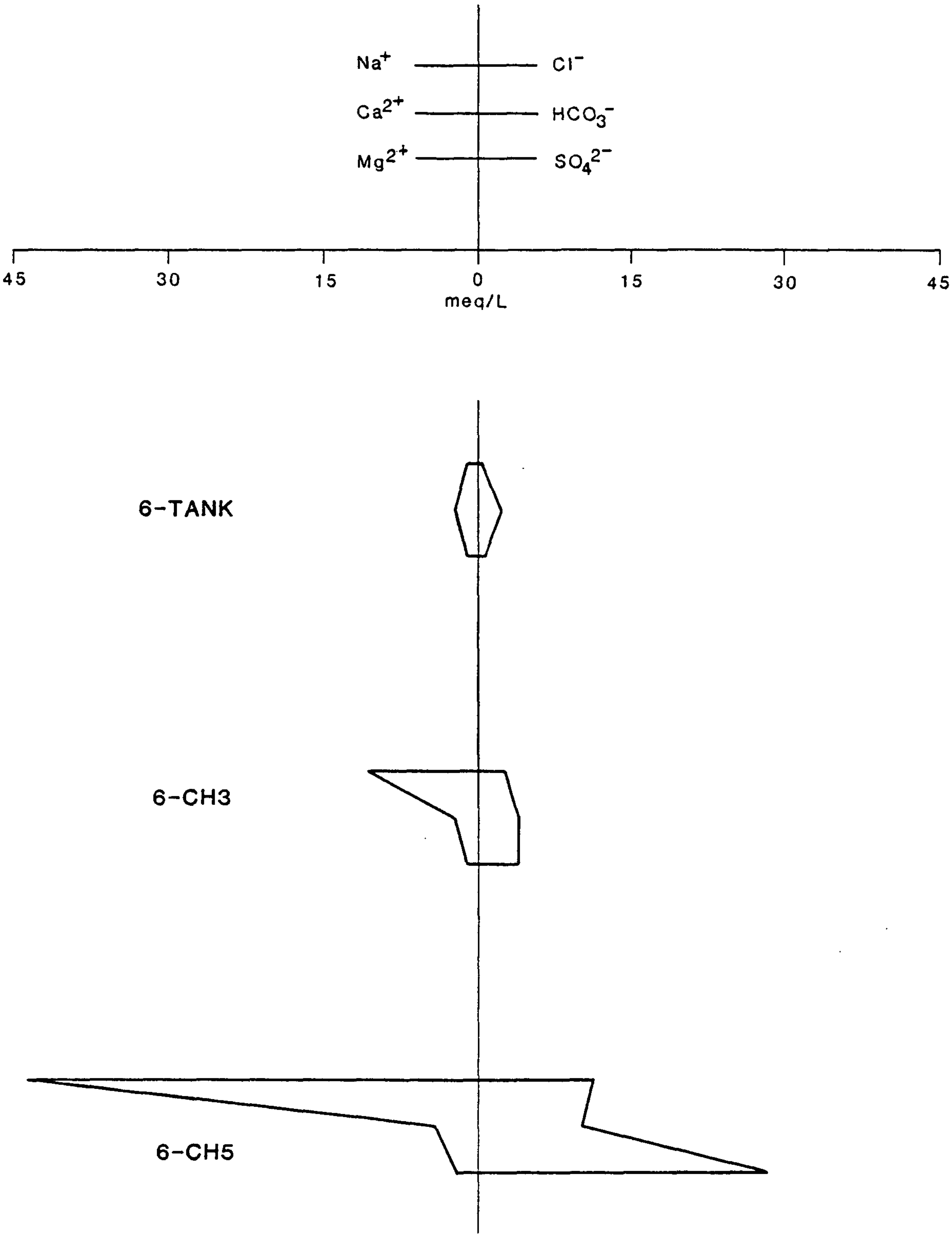
CATIONS	RESULT	FACTOR	TOTAL
CALCIUM	187.000	0.04990	9.33130
POTASSIUM	8.600	0.02558	0.21999
MAGNESIUM	51.300	0.08229	4.22148
SODIUM	430.000	0.04350	18.70500
COPPER	< 0.010	0.03147	0.00000
IRON	< 0.020	0.05372	0.00000
MANGANESE	0.059	0.03640	0.00215
ZINC	< 0.010	0.03059	0.00000

TOTAL CATIONS 32.47991

%RPD (<10%) 1.68

TOTAL ANIONS/CATIONS	2030		
TOTAL DISSOLVED SOLIDS	2000	%RPD (<15%)	1.50
ELECTRICAL COND.	2990	TDS/EC RATIO (0.65+/-0.1)	0.66890

STIFF DIAGRAMS

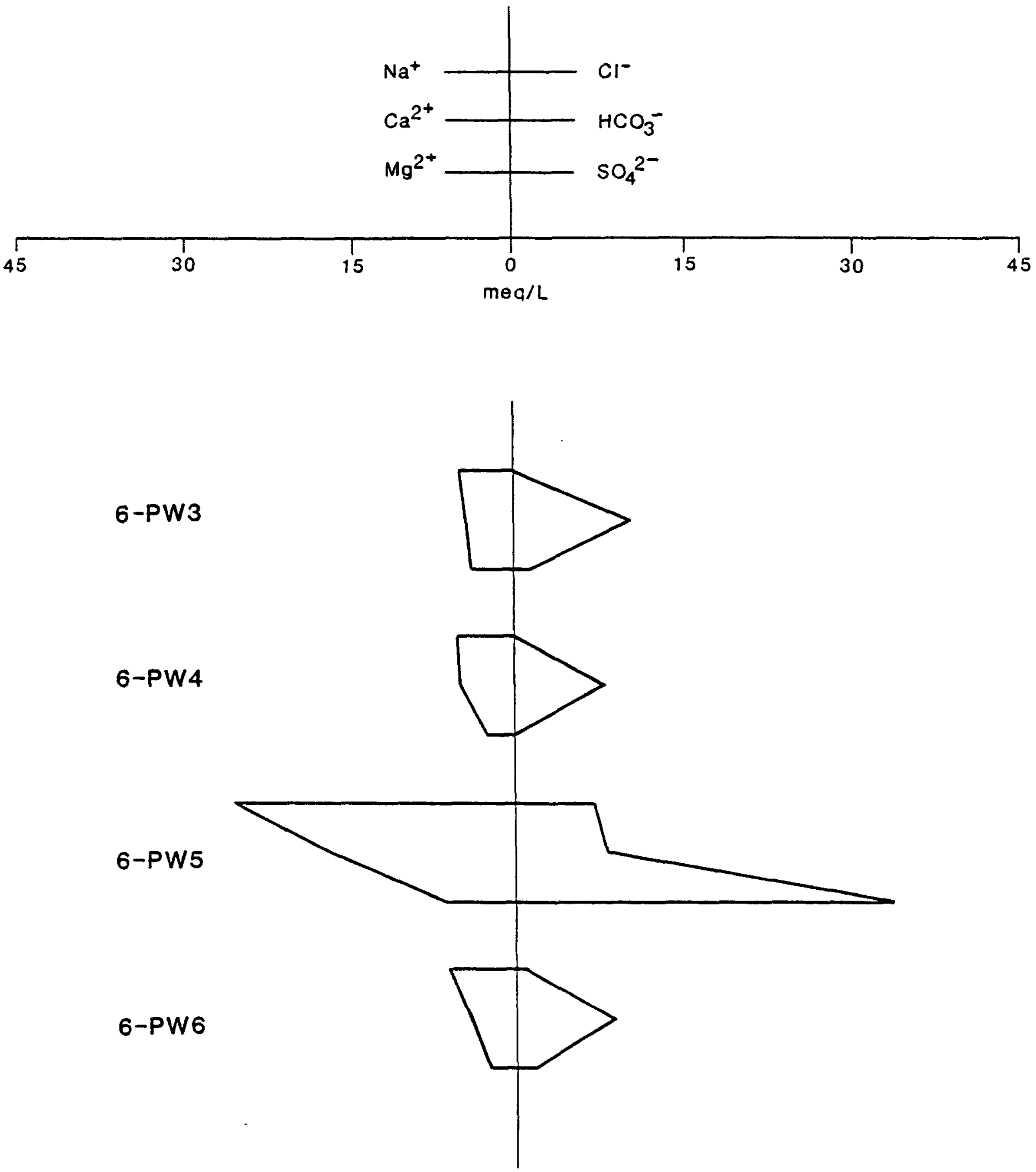


Stiff Diagrams Showing Inorganic Chemistry for Laguna Wells, January 24, 1991

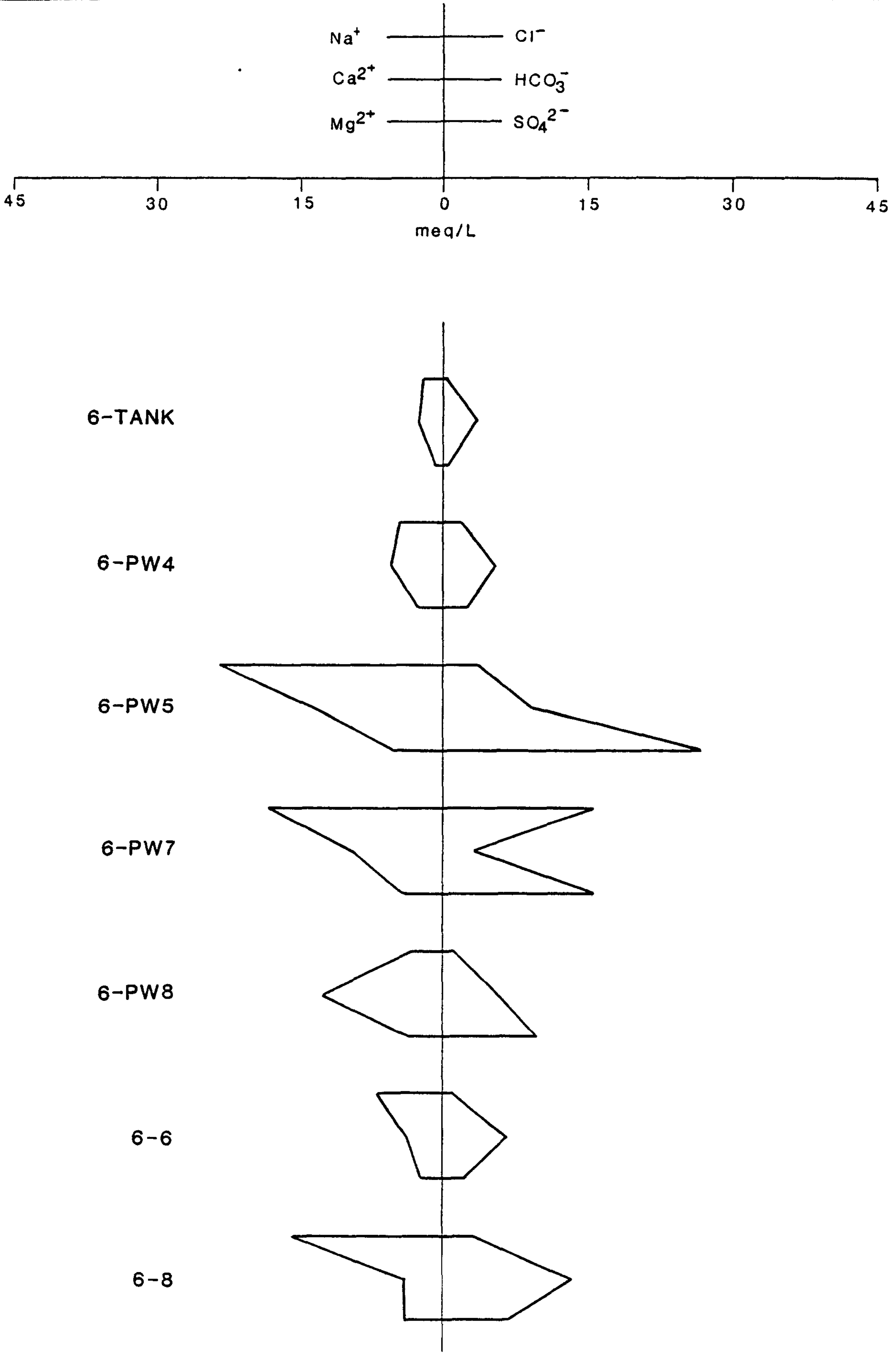
DANIEL B. STEPHENS & ASSOCIATES, INC.

1-92 JN 91-200

Figure F.1



Stiff Diagrams Showing Inorganic Chemistry for Laguna Wells, March 20, 1991



Stiff Diagrams Showing Inorganic Chemistry for Laguna Wells, April 17, 1991

RADIONUCLIDE CHEMISTRY DATA

KRUEGER ENTERPRISES, INC.
GEOCHRON LABORATORIES DIVISION
24 BLACKSTONE STREET • CAMBRIDGE, MASSACHUSETTS 02139 • (617) 876-3691

RADIOCARBON AGE DETERMINATION — REPORT OF ANALYTICAL WORK

Our Sample No. GX-16681-Priority

Date Received: 04/08/91

Your Reference: letter of 04/05/91

Date Reported: 04/14/91

Submitted by: Dale Hammermeister
Daniel B. Stephens & Assoc., Inc.
4415 Hawking, N.E.
Albuquerque, NM 87109

Sample Name: 6-PW-8.
Barium carbonate.

AGE = 5650 +/- 190 C-14 years BP (C-13 corrected).
(49.5 +/- 1.2) % of the modern (1950) C-14 activity.

Description: Sample of barium salts from water sample.

Pretreatment: The barium salt precipitate was rapidly vacuum filtered and immediately hydrolyzed, under vacuum, to recover carbon dioxide from the barium carbonates for the analysis. C-13 analysis was made on a small portion of the same evolved gas.

Comment:

$\delta^{13}C_{PDB}$ = -16.7 ‰

- -

Notes: This date is based upon the Libby half life (5570 years) for ^{14}C. The error stated is $\pm 1\sigma$ as judged by the analytical data alone. Our modern standard is 95% of the activity of N.B.S. Oxalic Acid.
The age is referenced to the year A.D. 1950.

KRUEGER ENTERPRISES, INC.
GEOCHRON LABORATORIES DIVISION
24 BLACKSTONE STREET • CAMBRIDGE, MASSACHUSETTS 02139 • (617) 876-3691

RADIOCARBON AGE DETERMINATION

REPORT OF ANALYTICAL WORK

Our Sample No. GX-16678-Priority

Date Received: 04/08/91

Your Reference: letter of 04/05/91

Date Reported: 04/14/91

Submitted by: Dale Hammermeister
Daniel B. S. & Assoc., Inc.
4415 Hawking, N.E.
Albuquerque, NM 87109

Sample Name: 6-PW-5.
Barium carbonate.

AGE = 8345 +/- 145 C-14 years BP (C-13 corrected).
(35.4 +/- 0.6) % of the modern (1950) C-14 activity.

Description: Sample of barium salts from water sample.

Pretreatment: The barium salt precipitate was rapidly vacuum filtered and immediately hydrolyzed, under vacuum, to recover carbon dioxide from the barium carbonates for the analysis. C-13 analysis was made on a small portion of the same evolved gas.

Comment:

$\delta^{13}C_{PDB}$ = -14.6 ‰

Notes: This date is based upon the Libby half life (5570 years) for ^{14}C. The error stated is $\pm 1\sigma$ as judged by the analytical data alone. Our modern standard is 95% of the activity of N.B.S. Oxalic Acid. The age is referenced to the year A.D. 1950.

KRUEGER ENTERPRISES, INC.
GEOCHRON LABORATORIES DIVISION
24 BLACKSTONE STREET • CAMBRIDGE, MASSACHUSETTS 02139 • (617) 876-3691

RADIOCARBON AGE DETERMINATION

REPORT OF ANALYTICAL WORK

Our Sample No. GX-16651-Priority

Date Received: 03/22/91

Your Reference: letter of 03/21/91

Date Reported: 03/28/91

Submitted by: Dale Hammermeister
Daniel B. S. & Assoc., Inc.
4415 Hawking, N.E.
Albuquerque, NM 87109

Sample Name: 6-CH-3-C.
Water Sample.

AGE = 3545 +/- 90 C-14 years BP (C-13 corrected).
(64.3 +/- 0.7)% of the modern (1950) C-14 activity

Description: Sample of water.

Pretreatment: The barium salt precipitate was rapidly vacuum filtered and immediately hydrolyzed, under vacuum, to recover carbon dioxide from the barium carbonates for the analysis. C-13 analysis was made on a small portion of the same evolved gas.

Comment:

$\delta^{13}C_{PDB}$ = -12.1 ‰

Notes: This date is based upon the Libby half life (5570 years) for ^{14}C. The error stated is $\pm 1\sigma$ as judged by the analytical data alone. Our modern standard is 95% of the activity of N.B.S. Oxalic Acid.
The age is referenced to the year A.D. 1950.

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RADIOCARBON AGE DETERMINATION | REPORT OF ANALYTICAL WORK

Our Sample No. GX-16679-Priority | Date Received: 04/08/91

Your Reference: letter of 04/05/91 | Date Reported: 04/14/91

Submitted by: Dale Hammermeister
Daniel B. Stephens & Assoc., Inc.
4415 Hawking, N.E.
Albuquerque, NM 87109

Sample Name: 6-PW-4.
Barium carbonate.

AGE = 3385 +/- 150 C-14 years BP (C-13 corrected).
(65.6 +/- 1.2) % of the modern (1950) C-14 activity.

Description: Sample of barium salts from water sample.

Pretreatment: The barium salt precipitate was rapidly vacuum filtered and immediately hydrolyzed, under vacuum, to recover carbon dioxide from the barium carbonates for the analysis. C-13 analysis was made on a small portion of the same evolved gas.

Comment:

$\delta^{13}C_{PDB}$ = -10.8 ‰

Notes: This date is based upon the Libby half life (5570 years) for ^{14}C. The error stated is $\pm 1\sigma$ as judged by the analytical data alone. Our modern standard is 95% of the activity of N.B.S. Oxalic Acid.
The age is referenced to the year A.D. 1950.

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RADIOCARBON AGE DETERMINATION | **REPORT OF ANALYTICAL WORK**

Our Sample No. GX-16652-Priority | Date Received: 03/22/91

Your Reference: letter of 03/21/91 | Date Reported: 03/28/91

Submitted by: Dale Hammermeister
Daniel B. S. & Assoc., Inc.
4415 Hawking, N.E.
Albuquerque, NM 87109

Sample Name: 6-CH-5-C.
Water Sample.

AGE = Greater than 42,000 C-14 years BP (C-13 corrected).
(0.0 +/- 0.4)% of the modern (1950) C-14 activity

Description: Sample of water.

Pretreatment: The barium salt precipitate was rapidly vacuum filtered and immediately hydrolyzed, under vacuum, to recover carbon dioxide from the barium carbonates for the analysis. C-13 analysis was made on a small portion of the same evolved gas.

Comment: No C-14 activity detected.

$\delta^{13}C_{PDB}$ = - 5.8 ‰

Notes: This date is based upon the Libby half life (5570 years) for ^{14}C. The error stated is $\pm 1\sigma$ as judged by the analytical data alone. Our modern standard is 95% of the activity of N.B.S. Oxalic Acid. The age is referenced to the year A.D. 1950.

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RADIOCARBON AGE DETERMINATION — REPORT OF ANALYTICAL WORK

Our Sample No. GX-16680-Priority

Date Received: 04/08/91

Your Reference: letter of 04/05/91

Date Reported: 04/14/91

Submitted by: Dale Hammermeister
Daniel B. Stephens & Assoc., Inc.
4415 Hawking, N.E.
Albuquerque, NM 87109

Sample Name: 6-5D.
Barium carbonate.

AGE = 30,400 +/- 3900 C-14 years BP (C-13 corrected).
(2.3 +/- 1.0) % of the modern (1950) C-14 activity.

Description: Sample of barium salts from water sample.

Pretreatment: The barium salt precipitate was rapidly vacuum filtered and immediately hydrolyzed, under vacuum, to recover carbon dioxide from the barium carbonates for the analysis. C-13 analysis was made on a small portion of the same evolved gas.

Comment:

$\delta^{13}C_{PDB}$ = - 7.4 ‰

Notes: This date is based upon the Libby half life (5570 years) for ^{14}C. The error stated is $\pm 1\sigma$ as judged by the analytical data alone. Our modern standard is 95% of the activity of N.B.S. Oxalic Acid. The age is referenced to the year A.D. 1950.

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Dale Hammermeister
Daniel B. Stephens & Assoc., Inc.
4415 Hawkins, N.E.
Albuquerque, NM 87109

Date Received: 3/22/91
Date Reported: 3/28/91
Reference: Project #89-030L

REPORT OF TRITIUM ANALYSES

Our Sample No.	Your Sample No.	Tritium Units
T-4356	6-TANK-T	2.8 +/- 2.2
T-4357	6-CH-3-T	7.1 +/- 2.3
T-4358	6-CH-5-T	2.8 +/- 2.2

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RADIOCARBON AGE DETERMINATION — REPORT OF ANALYTICAL WORK

Our Sample No. GX-16650-Priority — Date Received: 03/22/91

Your Reference: letter of 03/21/91 — Date Reported: 03/28/91

Submitted by: Dale Hammermeister
Daniel B. S. & Assoc., Inc.
4415 Hawking, N.E.
Albuquerque, NM 87109

Sample Name: 6-Tank-C.
Water Sample.

AGE = 2800 +/- 85 C-14 years BP (C-13 corrected).
(70.6 +/- 0.7)% of the modern (1950) C-14 activity

Description: Sample of water.

Pretreatment: The barium salt precipitate was rapidly vacuum filtered and immediately hydrolyzed, under vacuum, to recover carbon dioxide from the barium carbonates for the analysis. C-13 analysis was made on a small portion of the same evolved gas.

Comment:

$\delta^{13}C_{PDB} = -8.8$ ‰

Notes: This date is based upon the Libby half life (5570 years) for ^{14}C. The error stated is $\pm 1\sigma$ as judged by the analytical data alone. Our modern standard is 95% of the activity of N.B.S. Oxalic Acid.

The age is referenced to the year A.D. 1950.

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RADIOCARBON AGE DETERMINATION | **REPORT OF ANALYTICAL WORK**

Our Sample No.	GX-16682-Priority	Date Received:	04/08/91
Your Reference:	letter of 04/05/91	Date Reported:	04/14/91

Submitted by: Dale Hammermeister
Daniel B. Stephens & Assoc., Inc.
4415 Hawking, N.E.
Albuquerque, NM 87109

Sample Name: Supply Well.
Barium carbonate.

AGE = 2670 +/- 90 C-14 years BP (C-13 corrected).
(71.7 +/- 0.8) % of the modern (1950) C-14 activity.

Description: Sample of barium salts from water sample.

Pretreatment: The barium salt precipitate was rapidly vacuum filtered and immediately hydrolyzed, under vacuum, to recover carbon dioxide from the barium carbonates for the analysis. C-13 analysis was made on a small portion of the same evolved gas.

Comment:

$\delta^{13}C_{PDB}$ = - 8.4 ‰

- -

Notes: This date is based upon the Libby half life (5570 years) for ^{14}C. The error stated is $\pm 1\sigma$ as judged by the analytical data alone. Our modern standard is 95% of the activity of N.B.S. Oxalic Acid. The age is referenced to the year A.D. 1950.

CHEMICAL ANALYSES FROM COREHOLES

CHEMICAL ANALYSES FROM COREHOLES

Samples dated 10/15/90 (date received) are mislabeled in this report. The labels read 5-6CH-##; the correct label is 6-CH5-##. All depth interval labeling is correct.

Western Atlas International
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CORE LABORATORIES

ANALYTICAL REPORT

901599

FOR

Daniel B. Stephens & Associates
Daniel B. Stephens
4415 Hawkins, N.E.
Albuquerque, NM 87109

10/23/90

Western Atlas International
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CORE LABORATORIES

FINAL REPORT DISTRIBUTION
10/23/90

JOB NUMBER: 901599

COMPANY NAME	COMPANY MAILING ADDRESS	COMPANY CITY	STATE	COMPANY ZIP CODE
Daniel B. Stephens & Associates Daniel B. Stephens	4415 Hawkins, N.E.	Albuquerque	NM	87109

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CORE LABORATORIES

LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: 89-030 Enron: Laguna Coremole
DATE SAMPLED.......: 10/04/90
TIME SAMPLED.......: 11:17
WORK DESCRIPTION...: 5-6CH-20

LABORATORY I.D...: 901599-0001
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
24 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	0.93	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

APPROVED BY: _Jm L_

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CORE LABORATORIES

LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: 89-030 Enron: Laguna Coremole
DATE SAMPLED.......: 10/04/90
TIME SAMPLED.......: 12:13
WORK DESCRIPTION...: 5-6CH-25

LABORATORY I.D...: 901599-0002
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
624 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	9.4	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	0.48	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

APPROVED BY: ____

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L A B O R A T O R Y   T E S T S   R E S U L T S
10/23/90

JOB NUMBER: 901599   CUSTOMER: Daniel B. Stephens & Associates   ATTN: Daniel B. Stephens

CLIENT I.D.........: 89-030 Enron: Laguna Coremole
DATE SAMPLED.......: 10/04/90
TIME SAMPLED.......: 13:02
WORK DESCRIPTION...: 5-6CH-30

LABORATORY I.D...: 901599-0003
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL   solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
24 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	3.6	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

APPROVED BY: [signature]

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CORE LABORATORIES

LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

IENT I.D.........: 89-030 Enron: Laguna Coremole
TE SAMPLED.......: 10/04/90
TIME SAMPLED.......: 13:35
ORK DESCRIPTION...: 5-6CH-35

LABORATORY I.D...: 901599-0004
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
24 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	3.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

PPROVED BY: ___________

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CORE LABORATORIES

LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

LIENT I.D.........: 89-030 Enron: Laguna Coremole
ATE SAMPLED.......: 10/04/90
TIME SAMPLED.......: 14:12
WORK DESCRIPTION...: 5-6CH-40

LABORATORY I.D...: 901599-0005
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
24 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	0.17	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

LIENT I.D.........: 89-030 Enron: Laguna Coremole
ATE SAMPLED.......: 10/04/90
TIME SAMPLED.......: 14:29
ORK DESCRIPTION...: 5-6CH-45

LABORATORY I.D...: 901599-0006
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
24 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	0.2	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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L A B O R A T O R Y   T E S T S   R E S U L T S
10/23/90

JOB NUMBER: 901599   CUSTOMER: Daniel B. Stephens & Associates   ATTN: Daniel B. Stephens

IENT I.D.........: 89-030 Enron: Laguna Coremole
TE SAMPLED.......: 10/04/90
TIME SAMPLED.......: 14:52
RK DESCRIPTION...: 5-6CH-50

LABORATORY I.D...: 901599-0007
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL   solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
4 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

IENT I.D.........: 89-030 Enron: Laguna Coremole
TE SAMPLED.......: 10/04/90
TIME SAMPLED.......: 15:00
WORK DESCRIPTION...: 5-6CH-55

LABORATORY I.D...: 901599-0008
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
4 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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L A B O R A T O R Y   T E S T S   R E S U L T S
10/23/90

JOB NUMBER: 901599   CUSTOMER: Daniel B. Stephens & Associates   ATTN: Daniel B. Stephens

CLIENT I.D.........: 89-030 Enron: Laguna Coremole
DATE SAMPLED.......: 10/04/90
TIME SAMPLED.......: 15:45
WORK DESCRIPTION...: 5-6CH-60

LABORATORY I.D...: 901599-0009
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL   solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
624 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	3.2	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: 89-030 Enron: Laguna Coremole
DATE SAMPLED.......: 10/04/90
TIME SAMPLED.......: 16:18
WORK DESCRIPTION...: 5-6CH-65

LABORATORY I.D...: 901599-0010
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
624 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	0.23	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D........: 89-030 Enron: Laguna Coremole
DATE SAMPLED.......: 10/04/90
TIME SAMPLED.......: 16:29
WORK DESCRIPTION...: 5-6CH-70

LABORATORY I.D...: 901599-0011
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
624 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	0.23	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

IENT I.D.........: 89-030 Enron: Laguna Coremole
TE SAMPLED.......: 10/05/90
TIME SAMPLED.......: 08:27
ORK DESCRIPTION...: 5-6CH-75

LABORATORY I.D...: 901599-0012
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
4 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	0.31	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
10/23/90

OB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

LIENT I.D.........: 89-030 Enron: Laguna Coremole
ATE SAMPLED.......: 10/05/90
IME SAMPLED.......: 08:37
WORK DESCRIPTION...: 5-6CH-80

LABORATORY I.D...: 901599-0013
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
624 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	0.33	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

LIENT I.D.........: 89-030 Enron: Laguna Coremole
ATE SAMPLED.......: 10/05/90
TIME SAMPLED.......: 09:02
ORK DESCRIPTION...: 5-6CH-85

LABORATORY I.D...: 901599-0014
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
24 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	3.5	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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L A B O R A T O R Y   T E S T S   R E S U L T S
10/23/90

JOB NUMBER: 901599   CUSTOMER: Daniel B. Stephens & Associates   ATTN: Daniel B. Stephens

LIENT I.D.........: 89-030 Enron: Laguna Coremole
ATE SAMPLED.......: 10/05/90
TIME SAMPLED.......: :
WORK DESCRIPTION...: 5-6CH-90

LABORATORY I.D...: 901599-0015
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
24 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	0.14	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: 89-030 Enron: Laguna Coremole
DATE SAMPLED.......: 10/05/90
TIME SAMPLED.......: :
WORK DESCRIPTION...: 5-6CH-93.7

LABORATORY I.D...: 901599-0016
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
624 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

LIENT I.D.........: 89-030 Enron: Laguna Coremole
ATE SAMPLED.......: 10/05/90
TIME SAMPLED.......: :
ORK DESCRIPTION...: 5-6CH-95

LABORATORY I.D...: 901599-0017
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
24 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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L A B O R A T O R Y   T E S T S   R E S U L T S
10/23/90

JOB NUMBER: 901599   CUSTOMER: Daniel B. Stephens & Associates   ATTN: Daniel B. Stephens

CLIENT I.D........: 89-030 Enron: Laguna Coremole
DATE SAMPLED.......: 10/05/90
TIME SAMPLED.......: :
WORK DESCRIPTION...: 5-6CH-100

LABORATORY I.D...: 901599-0018
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL   solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
624 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: 89-030 Enron: Laguna Coremole
DATE SAMPLED.......: 10/03/90
TIME SAMPLED.......: :
WORK DESCRIPTION...: 5-6CH-0'1"

LABORATORY I.D...: 901599-0019
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
624 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

APPROVED BY: [signature]

10201 Westheimer
Houston, TX 77042
(713) 972-6700

Western Atlas International
A Litton Dresser Company

CORE LABORATORIES

LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

LIENT I.D.........: 89-030 Enron: Laguna Coremole
ATE SAMPLED.......: 10/03/90
TIME SAMPLED.......: :
WORK DESCRIPTION...: 5-6CH-5'

LABORATORY I.D...: 901599-0020
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
24 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

LIENT I.D.........: 89-030 Enron: Laguna Coremole
ATE SAMPLED.......: 10/03/90
TIME SAMPLED.......: :
RK DESCRIPTION...: 5-6CH-10'

LABORATORY I.D...: 901599-0021
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
4 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	0.12	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

PROVED BY: Shml

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CORE LABORATORIES

LABORATORY TESTS RESULTS
10/23/90

JOB NUMBER: 901599 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

IENT I.D.........: 89-030 Enron: Laguna Coremole
TE SAMPLED.......: 10/03/90
TIME SAMPLED.......: :
RK DESCRIPTION...: 5-6CH-15'

LABORATORY I.D...: 901599-0022
DATE RECEIVED....: 10/15/90
TIME RECEIVED....: 15:15
REMARKS..........: 1x500mlGL solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
4 Volatiles in Soil		*1		EPA 8240	10/16/90	PFC
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	0.16	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichlorofluoromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		

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№ 03500

CORE LABORATORIES

Western Atlas International
A Litton/Dresser Company
10201 WESTHEIMER BLDG. 1A, HOUSTON, TX 77042
(713) 972-6700

Analysis Request and Chain of Custody Record

Project no.	Client/Project Name	Project Location
	Core Lab	

Lab ID No.	Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid Sludge, Etc.)	Preser-vative	ANALYSIS REQUESTED	LABORATORY REMARKS
01	S-6CH-20'	10/4/90 11:17						Cryogenic Crushing	
02	S-6CH-25'	10/4/90 12:13							
03	S-6CH-30'	10/4/90 13:02							
04	S-6CH-35'	10/4/90 13:35							
05	S-6CH-45'	10/4/90 14:12						COC has 40' 14:12	~~[illegible]~~
06	S-6CH-40'	10/4/90 14:29						COC has 45' 14:29	
07	S-6CH-50'	10/4/90 14:52							
08	S-6CH-55'	10/4/90 15:00							
09	C-HS-6CH-60'	10/4/90 15:45							
10	S-6CH-65'	10/4/90 16:18							

Samplers: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	COC Seal No.
	[signature] L.T. Walls	Date: 10/12/90 Time:	Mike Koz	Date: 10-12-90 Time: 1:05P	
Affiliation	Mike Koz	Date: 10-15-90 Time: 4:30p	R. Keady	Date: 10/15/90 Time: 4:30P	
	R. Keady	Date: 10/15/90 Time: 5:15 P.M.	Received by Laboratory; (Signature)	Date: Time:	Intact:

REMARKS:

Data Results To: (Name/Address)
1.
2.

Laboratory No. 901599

White - Return With Results Of Analysis Yellow - Lab Copy Pink - Samples Copy

ENVIRONMENTAL

DANIEL B. STEPHENS & ASSOCIATES, INC.

CONSULTANTS IN GROUND-WATER HYDROLOGY

CHAIN OF CUSTODY RECORD

1-505-345-4567
4415 HAWKINS NE
ALBUQUERQUE, NM 87109

PROJECT NO.: 89-030

PROJECT NAME: ENRON: LAGUNA CONTROLLE
CONTACT PERSON: JEFF HAVLENA

SAMPLERS (Signature): [signature] for K. C. THOMPSON

STA. NO.	DATE	TIME	COMP.	GRAB	SAMPLE I.D. NO.	MATRIX	NUMBER OF CONTAINER (VOLUME/SIZE)	REQUIRED ANALYSIS EPA 8240 *										REMARKS
01	10-4-90	11:17			5-6CH-20	SOIL/ROCK	* 500ml	X						..				FROZEN 10/5-10/10 SANDSTONE
02		12:13			5-6CH-25	SOIL/ROCK		X										
03		13:02			5-6CH-30	SOIL/ROCK		X										
04		13:35			5-6CH-35	SOIL/ROCK		X										
05		14:12			5-6CH-40	SOIL/ROCK		X										
06		14:29			5-6CH-45	SOIL/ROCK		X										
07		14:52			5-6CH-50	SOIL/ROCK		X										
08		15:00			5-6CH-55	SOIL/ROCK		X										
09		15:45			5-6CH-60	SOIL/ROCK		X										
10		16:18			5-6CH-65	SOIL/ROCK		X										
11		16:29			5-6CH-70	SOIL/ROCK		X										
12	10-5-90	08:27			5-6CH-75	SOIL/ROCK		X										
13		08:37			5-6CH-80	SOIL/ROCK		X										
14		09:02			5-6CH-85	SOIL/ROCK		X										

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)
[signature]	10/10/90	15:30					
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)

OCTOBER 18, 1988

* NOTE: VIALS SAY 8010. PLEASE PERFORM 8240 INSTEAD

9015??

102P

ENVIRONMENTAL

DANIEL B. STEPHENS & ASSOCIATES, INC.
CONSULTANTS IN GROUND-WATER HYDROLOGY

CHAIN OF CUSTODY RECORD

(505) 345-4567
4415 Hawkins NE
Albuquerque, NM 87109

PROJECT NO.: 89-636

PROJECT NAME: Enron : Laguna Compressor

Contact : Jeff Havlena

SAMPLERS (Signature) for KC Thompson

STA. NO.	DATE	TIME	COMP.	GRAB	SAMPLE I.D. NO.	MATRIX	NUMBER OF CONTAINER (VOLUME/SIZE)	REQUIRED ANALYSIS: EPA 8240 *										REMARKS
15	10-5-90				5-6C4-90	Soil/Rock	1x500ml	X										
16	10-5-90				5-6C4-93.7	Soil/Rock	1x500ml	X										
17	10-5-90				5-6C4-95	Soil/Rock	1x500ml	X										
18	10-5-90				5-6C4-100	Soil/Rock	1x500ml	X										

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)

OCTOBER 18, 1988

901K99

ENVIRONMENTAL

DANIEL B. STEPHENS & ASSOCIATES, INC.
CONSULTANTS IN GROUND-WATER HYDROLOGY

1-505-345-4567
4415 HAWKINS NE
ALBUQUERQUE, NM 87109

CHAIN OF CUSTODY RECORD

PROJECT NO.: 89-030

PROJECT NAME: ENRON: LAGUNA CORRALLOS
CONTACT: JEFF HAVLENA

SAMPLERS (Signature): [signature] for K.C. THOMPSON

REQUIRED ANALYSIS: EPA 8240

STA. NO.	DATE	TIME	COMP.	GRAB	SAMPLE I.D. NO.	MATRIX	NUMBER OF CONTAINER (VOLUME/SIZE)	EPA 8240	REMARKS
~~[illegible]~~ 19	10/3/90	1557			5-6CH-0'1"	SOIL	1x 100ml	X	
~~[illegible]~~ 20	10/3/90	1600			5-6CH-5'	SOIL	1x 100ml	X	
~~[illegible]~~ 21	10/3/90	1604			5-6CH-10'	SOIL	1x 100ml	X	
~~[illegible]~~ 22	10/3/90	1615			5-6CH-15'	SOIL	1x 100ml	X	

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)
[signature]	10/10/90	15^{30}		rec. Carol [signature]	10/11/90	1500	
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)

Western Atlas International
A Litton Dresser Company

CORE LABORATORIES

A N A L Y T I C A L   R E P O R T

901659

FOR

Daniel B. Stephens & Associates
Daniel B. Stephens
4415 Hawkins, N.E.
Albuquerque, NM 87109

11/13/90

Western Atlas International
A Litton Dresser Company

CORE LABORATORIES

FINAL REPORT DISTRIBUTION
11/13/90

JOB NUMBER: 901659

COMPANY NAME	COMPANY MAILING ADDRESS	COMPANY CITY	STATE	COMPANY ZIP CODE
Daniel B. Stephens & Associates Daniel B. Stephens	4415 Hawkins, N.E.	Albuquerque	NM	87109

Western Atlas International
A Litton·Dresser Company

CORE LABORATORIES

LABORATORY TESTS RESULTS
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........:
DATE SAMPLED.......: 10/16/90
TIME SAMPLED.......: :
WORK DESCRIPTION...:

LABORATORY I.D...: 901659-0001
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: :
REMARKS..........:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil	N/A	1		EPA SW846-8240	N/A	N/A

APPROVED BY:

10201 Westheimer
Houston, TX 77042
(713) 972-6700

Western Atlas International
A Litton-Dresser Company

CORE LABORATORIES

L A B O R A T O R Y   T E S T S   R E S U L T S
11/13/90

JOB NUMBER: 901659   CUSTOMER: Daniel B. Stephens & Associates   ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/16/90
TIME SAMPLED.......: 13:47
WORK DESCRIPTION...: 6-CH5-15'

LABORATORY I.D...: 901659-0002
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x500mL Gl   Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	0.12	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

APPROVED BY: ____________

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CORE LABORATORIES

LABORATORY TESTS RESULTS
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/16/90
TIME SAMPLED.......: 14:30
WORK DESCRIPTION...: 6-CH5-20'

LABORATORY I.D...: 901659-0003
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x500mL Gl Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

APPROVED BY:

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L A B O R A T O R Y   T E S T S   R E S U L T S
11/13/90

JOB NUMBER: 901659   CUSTOMER: Daniel B. Stephens & Associates   ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/16/90
TIME SAMPLED.......: 14:36
WORK DESCRIPTION...: 6-CH4-25'

LABORATORY I.D...: 901659-0004
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x500mL Gl   Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

APPROVED BY:

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CORE LABORATORIES

LABORATORY TESTS RESULTS
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/16/90
TIME SAMPLED.......: 15:30
WORK DESCRIPTION...: 6-CH5-30'

LABORATORY I.D...: 901659-0005
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x500mL Gl Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

APPROVED BY:

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CORE LABORATORIES

LABORATORY TESTS RESULTS
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/16/90
TIME SAMPLED.......: 15:40
WORK DESCRIPTION...: 6-CH5-35'

LABORATORY I.D...: 901659-0006
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x500mL Gl Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

APPROVED BY: ________

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CORE LABORATORIES

LABORATORY TESTS RESULTS
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/17/90
TIME SAMPLED.......: 11:05
WORK DESCRIPTION...: 6-CH5-40'

LABORATORY I.D...: 901659-0007
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x250mL Gl Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

APPROVED BY: [signature]

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L A B O R A T O R Y T E S T S R E S U L T S
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/17/90
TIME SAMPLED.......: 11:05
WORK DESCRIPTION...: 6-CH5-45.4'

LABORATORY I.D...: 901659-0008
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x250mL Gl Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	1.4	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

APPROVED BY:

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CORE LABORATORIES

LABORATORY TESTS RESULTS
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/17/90
TIME SAMPLED.......: 11:48
WORK DESCRIPTION...: 6-CH5-50'

LABORATORY I.D...: 901659-0009
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x250mL Gl Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

APPROVED BY: ____________________

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CORE LABORATORIES

LABORATORY TESTS RESULTS
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/17/90
TIME SAMPLED.......: 11:48
WORK DESCRIPTION...: 6-CH5-55'

LABORATORY I.D...: 901659-0010
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x250mL Gl Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	0.96	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/17/90
TIME SAMPLED.......: 12:30
WORK DESCRIPTION...: 6-CH5-60'

LABORATORY I.D...: 901659-0011
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x250mL Gl Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/17/90
TIME SAMPLED.......: 12:30
WORK DESCRIPTION...: 6-CH5-65'

LABORATORY I.D...: 901659-0012
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x250mL Gl Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

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L A B O R A T O R Y   T E S T S   R E S U L T S
11/13/90

JOB NUMBER: 901659   CUSTOMER: Daniel B. Stephens & Associates   ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/17/90
TIME SAMPLED.......: 13:15
WORK DESCRIPTION...: 6-CH5-70'

LABORATORY I.D...: 901659-0013
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x250mL Gl   Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

APPROVED BY: [signature]

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L A B O R A T O R Y   T E S T S   R E S U L T S
11/13/90

JOB NUMBER: 901659   CUSTOMER: Daniel B. Stephens & Associates   ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/17/90
TIME SAMPLED.......: 13:15
WORK DESCRIPTION...: 6-CH5-75'

LABORATORY I.D...: 901659-0014
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x250mL Gl   Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	0.14	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/17/90
TIME SAMPLED.......: 14:10
WORK DESCRIPTION...: 6-CH5-80'

LABORATORY I.D...: 901659-0015
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x250mL Gl Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

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L A B O R A T O R Y   T E S T S   R E S U L T S
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/17/90
TIME SAMPLED.......: 14:10
WORK DESCRIPTION...: 6-CH5-85'

LABORATORY I.D...: 901659-0016
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x250mL Gl Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	0.16	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

APPROVED BY: ____________

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CORE LABORATORIES

LABORATORY TESTS RESULTS
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/17/90
TIME SAMPLED.......: 15:05
WORK DESCRIPTION...: 6-CH5-90'

LABORATORY I.D...: 901659-0017
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x250mL Gl Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

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L A B O R A T O R Y   T E S T S   R E S U L T S
11/13/90

JOB NUMBER: 901659   CUSTOMER: Daniel B. Stephens & Associates   ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/17/90
TIME SAMPLED.......: 15:05
WORK DESCRIPTION...: 6-CH5-94.5'

LABORATORY I.D...: 901659-0018
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x250mL Gl   Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	0.14	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

APPROVED BY:

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CORE LABORATORIES

LABORATORY TESTS RESULTS
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/17/90
TIME SAMPLED.......: 15:05
WORK DESCRIPTION...: 6-CH5-98'

LABORATORY I.D...: 901659-0019
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x250mL Gl Solid

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Soil		*1		EPA SW846-8240	10/26/90	PFC
Acetone	<0.9	0.9	mg/kg	EPA 8240/5030		
Acrolein	<1.2	1.2	mg/kg	EPA 8240/5030		
Acrylonitrile	<1.3	1.3	mg/kg	EPA 8240/5030		
Benzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Bromodichloromethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Bromoform	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Hexanone	<0.5	0.5	mg/kg	EPA 8240/5030		
Methyl bromide	<0.1	0.1	mg/kg	EPA 8240/5030		
Carbon tetrachloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Chlorobenzene	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
2-Chloroethyl vinyl ether	<0.1	0.1	mg/kg	EPA 8240/5030		
Chloroform	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
Dibromochloromethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,2-Dichloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,2-Dichloropropane	<0.2	0.2	mg/kg	EPA 8240/5030		
cis-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
trans-1,3-Dichloropropylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Ethylbenzene	<0.2	0.2	mg/kg	EPA 8240/5030		
Methylene chloride	<0.2	0.2	mg/kg	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<0.3	0.3	mg/kg	EPA 8240/5030		
Tetrachloroethylene	<0.1	0.1	mg/kg	EPA 8240/5030		
Toluene	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,1-Trichloroethane	<0.1	0.1	mg/kg	EPA 8240/5030		
1,1,2-Trichloroethane	<0.2	0.2	mg/kg	EPA 8240/5030		
Trichloroethylene	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl chloride	<0.1	0.1	mg/kg	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<0.6	0.6	mg/kg	EPA 8240/5030		
Carbon disulfide	<0.2	0.2	mg/kg	EPA 8240/5030		
Vinyl acetate	<0.5	0.5	mg/kg	EPA 8240/5030		
Xylenes (total)	<0.2	0.2	mg/kg	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<0.3	0.3	mg/kg	EPA 8240/5030		

APPROVED BY:

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CORE LABORATORIES

LABORATORY TESTS RESULTS
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/18/90
TIME SAMPLED.......: 13:55
WORK DESCRIPTION...: 6-CH3 Equip. Blank

LABORATORY I.D...: 901659-0020
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x40mL VOA Water

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Water		*1		EPA SW846-8240	10/29/90	PFC
Acetone	<17	17	ug/l	EPA 8240/5030		
Acrolein	<24	24	ug/l	EPA 8240/5030		
Acrylonitrile	<25	25	ug/l	EPA 8240/5030		
Benzene	<2	2	ug/l	EPA 8240/5030		
Bromodichloromethane	<4	4	ug/l	EPA 8240/5030		
Bromoform	<3	3	ug/l	EPA 8240/5030		
2-Hexanone	<9	9	ug/l	EPA 8240/5030		
Methyl bromide	<2	2	ug/l	EPA 8240/5030		
Carbon tetrachloride	<2	2	ug/l	EPA 8240/5030		
Chlorobenzene	<2	2	ug/l	EPA 8240/5030		
2-Chloroethyl vinyl ether	<3	3	ug/l	EPA 8240/5030		
Chloroform	<2	2	ug/l	EPA 8240/5030		
Methyl chloride	<5	5	ug/l	EPA 8240/5030		
Dibromochloromethane	<3	3	ug/l	EPA 8240/5030		
1,1-Dichloroethane	<2	2	ug/l	EPA 8240/5030		
1,2-Dichloroethane	<2	2	ug/l	EPA 8240/5030		
1,1-Dichloroethylene	<3	3	ug/l	EPA 8240/5030		
trans-1,2-Dichloroethylene	<2	2	ug/l	EPA 8240/5030		
1,2-Dichloropropane	<4	4	ug/l	EPA 8240/5030		
cis-1,3-Dichloropropylene	<2	2	ug/l	EPA 8240/5030		
trans-1,3-Dichloropropylene	<1	1	ug/l	EPA 8240/5030		
Ethylbenzene	<3	3	ug/l	EPA 8240/5030		
Methylene chloride	<4	4	ug/l	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<5	5	ug/l	EPA 8240/5030		
Tetrachloroethylene	<2	2	ug/l	EPA 8240/5030		
Toluene	9.8	2	ug/l	EPA 8240/5030		
1,1,1-Trichloroethane	<2	2	ug/l	EPA 8240/5030		
1,1,2-Trichloroethane	<3	3	ug/l	EPA 8240/5030		
Trichloroethylene	<4	4	ug/l	EPA 8240/5030		
Vinyl chloride	<2	2	ug/l	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<12	12	ug/l	EPA 8240/5030		
Carbon disulfide	<3	3	ug/l	EPA 8240/5030		
Vinyl acetate	<10	10	ug/l	EPA 8240/5030		
Xylenes (total)	<3	3	ug/l	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<6	6	ug/l	EPA 8240/5030		

APPROVED BY:

10201 Westheimer
Houston, TX 77042
(713) 972-6700

Western Atlas International
A Litton Dresser Company

CORE LABORATORIES

L A B O R A T O R Y   T E S T S   R E S U L T S

11/13/90

JOB NUMBER: 901659   CUSTOMER: Daniel B. Stephens & Associates   ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/18/90
TIME SAMPLED.......: 14:00
WORK DESCRIPTION...: 6-CH3

LABORATORY I.D...: 901659-0021
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 10:00
REMARKS..........: 3x40mL VOA   Water

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Water		*1		EPA SW846-8240	10/29/90	PFC
Acetone	<17	17	ug/l	EPA 8240/5030		
Acrolein	<24	24	ug/l	EPA 8240/5030		
Acrylonitrile	<25	25	ug/l	EPA 8240/5030		
Benzene	<2	2	ug/l	EPA 8240/5030		
Bromodichloromethane	<4	4	ug/l	EPA 8240/5030		
Bromoform	<3	3	ug/l	EPA 8240/5030		
2-Hexanone	<9	9	ug/l	EPA 8240/5030		
Methyl bromide	<2	2	ug/l	EPA 8240/5030		
Carbon tetrachloride	<2	2	ug/l	EPA 8240/5030		
Chlorobenzene	<2	2	ug/l	EPA 8240/5030		
2-Chloroethyl vinyl ether	<3	3	ug/l	EPA 8240/5030		
Chloroform	<2	2	ug/l	EPA 8240/5030		
Methyl chloride	<5	5	ug/l	EPA 8240/5030		
Dibromochloromethane	<3	3	ug/l	EPA 8240/5030		
1,1-Dichloroethane	<2	2	ug/l	EPA 8240/5030		
1,2-Dichloroethane	<2	2	ug/l	EPA 8240/5030		
1,1-Dichloroethylene	<3	3	ug/l	EPA 8240/5030		
trans-1,2-Dichloroethylene	<2	2	ug/l	EPA 8240/5030		
1,2-Dichloropropane	<4	4	ug/l	EPA 8240/5030		
cis-1,3-Dichloropropylene	<2	2	ug/l	EPA 8240/5030		
trans-1,3-Dichloropropylene	<1	1	ug/l	EPA 8240/5030		
Ethylbenzene	<3	3	ug/l	EPA 8240/5030		
Methylene chloride	<4	4	ug/l	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<5	5	ug/l	EPA 8240/5030		
Tetrachloroethylene	<2	2	ug/l	EPA 8240/5030		
Toluene	<2	2	ug/l	EPA 8240/5030		
1,1,1-Trichloroethane	<2	2	ug/l	EPA 8240/5030		
1,1,2-Trichloroethane	<3	3	ug/l	EPA 8240/5030		
Trichloroethylene	<4	4	ug/l	EPA 8240/5030		
Vinyl chloride	<2	2	ug/l	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<12	12	ug/l	EPA 8240/5030		
Carbon disulfide	<3	3	ug/l	EPA 8240/5030		
Vinyl acetate	<10	10	ug/l	EPA 8240/5030		
Xylenes (total)	<3	3	ug/l	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<6	6	ug/l	EPA 8240/5030		

APPROVED BY: ____________________

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CORE LABORATORIES

LABORATORY TESTS RESULTS
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/18/90
TIME SAMPLED.......: 14:15
WORK DESCRIPTION...: 6-CH Equip. Blank

LABORATORY I.D...: 901659-0022
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 1x40mL VOA Water

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Water		*1		EPA SW846-8240	10/29/90	PFC
Acetone	<17	17	ug/l	EPA 8240/5030		
Acrolein	<24	24	ug/l	EPA 8240/5030		
Acrylonitrile	<25	25	ug/l	EPA 8240/5030		
Benzene	<2	2	ug/l	EPA 8240/5030		
Bromodichloromethane	<4	4	ug/l	EPA 8240/5030		
Bromoform	<3	3	ug/l	EPA 8240/5030		
2-Hexanone	<9	9	ug/l	EPA 8240/5030		
Methyl bromide	<2	2	ug/l	EPA 8240/5030		
Carbon tetrachloride	<2	2	ug/l	EPA 8240/5030		
Chlorobenzene	<2	2	ug/l	EPA 8240/5030		
2-Chloroethyl vinyl ether	<3	3	ug/l	EPA 8240/5030		
Chloroform	<2	2	ug/l	EPA 8240/5030		
Methyl chloride	<5	5	ug/l	EPA 8240/5030		
Dibromochloromethane	<3	3	ug/l	EPA 8240/5030		
1,1-Dichloroethane	<2	2	ug/l	EPA 8240/5030		
1,2-Dichloroethane	<2	2	ug/l	EPA 8240/5030		
1,1-Dichloroethylene	<3	3	ug/l	EPA 8240/5030		
trans-1,2-Dichloroethylene	<2	2	ug/l	EPA 8240/5030		
1,2-Dichloropropane	<4	4	ug/l	EPA 8240/5030		
cis-1,3-Dichloropropylene	<2	2	ug/l	EPA 8240/5030		
trans-1,3-Dichloropropylene	<1	1	ug/l	EPA 8240/5030		
Ethylbenzene	<3	3	ug/l	EPA 8240/5030		
Methylene chloride	<4	4	ug/l	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<5	5	ug/l	EPA 8240/5030		
Tetrachloroethylene	<2	2	ug/l	EPA 8240/5030		
Toluene	<2	2	ug/l	EPA 8240/5030		
1,1,1-Trichloroethane	<2	2	ug/l	EPA 8240/5030		
1,1,2-Trichloroethane	<3	3	ug/l	EPA 8240/5030		
Trichloroethylene	<4	4	ug/l	EPA 8240/5030		
Vinyl chloride	<2	2	ug/l	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<12	12	ug/l	EPA 8240/5030		
Carbon disulfide	<3	3	ug/l	EPA 8240/5030		
Vinyl acetate	<10	10	ug/l	EPA 8240/5030		
Xylenes (total)	<3	3	ug/l	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<6	6	ug/l	EPA 8240/5030		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
11/13/90

JOB NUMBER: 901659 CUSTOMER: Daniel B. Stephens & Associates ATTN: Daniel B. Stephens

CLIENT I.D.........: Enron Laguna 89-030
DATE SAMPLED.......: 10/18/90
TIME SAMPLED.......: 14:20
WORK DESCRIPTION...: 6-CH3 Kore hole 1 water sample

LABORATORY I.D...: 901659-0023
DATE RECEIVED....: 10/20/90
TIME RECEIVED....: 11:00
REMARKS..........: 3x40mL VOA Water

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
8240 Volatiles in Water		*10		EPA SW846-8240	10/29/90	PFC
Acetone	<170	170	ug/l	EPA 8240/5030		
Acrolein	<240	240	ug/l	EPA 8240/5030		
Acrylonitrile	<250	250	ug/l	EPA 8240/5030		
Benzene	<20	20	ug/l	EPA 8240/5030		
Bromodichloromethane	<40	40	ug/l	EPA 8240/5030		
Bromoform	<30	30	ug/l	EPA 8240/5030		
2-Hexanone	<90	90	ug/l	EPA 8240/5030		
Methyl bromide	<20	20	ug/l	EPA 8240/5030		
Carbon tetrachloride	<20	20	ug/l	EPA 8240/5030		
Chlorobenzene	<20	20	ug/l	EPA 8240/5030		
2-Chloroethyl vinyl ether	<30	30	ug/l	EPA 8240/5030		
Chloroform	<20	20	ug/l	EPA 8240/5030		
Methyl chloride	<50	50	ug/l	EPA 8240/5030		
Dibromochloromethane	<30	30	ug/l	EPA 8240/5030		
1,1-Dichloroethane	<20	20	ug/l	EPA 8240/5030		
1,2-Dichloroethane	<20	20	ug/l	EPA 8240/5030		
1,1-Dichloroethylene	<30	30	ug/l	EPA 8240/5030		
trans-1,2-Dichloroethylene	<20	20	ug/l	EPA 8240/5030		
1,2-Dichloropropane	<40	40	ug/l	EPA 8240/5030		
cis-1,3-Dichloropropylene	<20	20	ug/l	EPA 8240/5030		
trans-1,3-Dichloropropylene	<10	10	ug/l	EPA 8240/5030		
Ethylbenzene	<30	30	ug/l	EPA 8240/5030		
Methylene chloride	<40	40	ug/l	EPA 8240/5030		
1,1,2,2-Tetrachloroethane	<50	50	ug/l	EPA 8240/5030		
Tetrachloroethylene	<20	20	ug/l	EPA 8240/5030		
Toluene	<20	20	ug/l	EPA 8240/5030		
1,1,1-Trichloroethane	<20	20	ug/l	EPA 8240/5030		
1,1,2-Trichloroethane	<30	30	ug/l	EPA 8240/5030		
Trichloroethylene	<40	40	ug/l	EPA 8240/5030		
Vinyl chloride	<20	20	ug/l	EPA 8240/5030		
Methyl ethyl ketone (2-Butanone)	<120	120	ug/l	EPA 8240/5030		
Carbon disulfide	<30	30	ug/l	EPA 8240/5030		
Vinyl acetate	<100	100	ug/l	EPA 8240/5030		
Xylenes (total)	<30	30	ug/l	EPA 8240/5030		
Methyl isobutyl ketone (4Me2C5one)	<60	60	ug/l	EPA 8240/5030		

APPROVED BY:

10201 Westheimer
Houston, TX 77042
(713) 972-6700

Narrative Log

To: Daniel B. Stephens
Daniel B. Stephens & Associates

From: LaDonna Kibler
Quality Assurance Officer

Date: November 14, 1990

Re: Job No. 901659

Please note that the sample identified on the COC as 6-CH5-10' (Core Lab. ID. Sample No. 1) was not shipped to the laboratory. Since the sample was not received, the Volatile analysis that was requested could not be performed on sample no. 1. If additional sample is available, Core Laboratories will perform the analysis as soon as the sample is received.

001

ENVIRONMENTAL — DANIEL B. STEPHENS & ASSOCIATES, INC.
CONSULTANTS IN GROUND-WATER HYDROLOGY

Std Rate

CHAIN OF CUSTODY RECORD

Quotation JMB 105-1

PROJECT NO.	PROJECT NAME
89-030	ENRON LAGUNA

SAMPLERS (Signature): Spencer S. Sipponen

	STA. NO.	DATE	TIME	COMP.	GRAB	SAMPLE I.D. NO.	MATRIX	NUMBER OF CONTAINER (VOLUME/SIZE)	REQUIRED ANALYSIS: 8240	REMARKS
1	10'	10-16	13:41		Core	6-CHS-10'	Rock	1/500ML	↓	Sample not received
02	15'	10-16	13:47		Core	6-CHS-15'	↓	1/500ML	↓	
03	20'	10-16	14:30		Core	6-CHS-20'	↓	1/500ML	↓	
04	25'	10-16	14:36		Core	6-CH4-25	↓	1/500ML	↓	Label Reads 5-6-CH4-25
05	30'	10-16	15:30		Core	6-CHS-30	↓	1/500ML	↓	
06	35'	10-16	15:40		Core	6-CHS-35	↓	1/500ML	↓	

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)
					10/20/90	11:30	Carol Dorn

OCTOBER 18, 1988

011669

ENVIRONMENTAL

DANIEL B. STEPHENS & ASSOCIATES, INC.
CONSULTANTS IN GROUND-WATER HYDROLOGY

Std. Rate

CHAIN OF CUSTODY RECORD

Quotation # JMB105-1

PROJECT NO. 69-030

PROJECT NAME Enron - Laguna, 6-CH-5

SAMPLERS (Signature) Clay M Culver

STA. NO.	DATE	TIME	COMP.	GRAB	SAMPLE I.D. NO.	MATRIX	NUMBER OF CONTAINER (VOLUME/SIZE)	REQUIRED ANALYSIS 8240										REMARKS
40'	10/17/90	:05		X	6-CHS-40	Rock	1-250ml											
45.4'	10/17/90	11:05		X	6-CHS-45.4	"	"											
6-CHS-50	10/17/90	11:48			6-CHS-50													
6-CHS-55	10/17/90	11:48			6-CHS-55													
6-CHS-60	10/17/90	12.30			6-CHS-60													
6-CHS-65	10/17/90	12.30			6-CHS-65													
6-CHS-70	10/17/90	13.15			6-CHS-70													
6-CHS-75	10/17/90	13:15			6-CHS-75													
6-CHS-80	10/17/90	1410			6-CHS-80													
6-CHS-85	10/17/90	1410			6-CHS-85													
6-CHS-90	10/17/90	1505			6-CHS-90													
6-CHS 94.5	10/17/90	1505			6-CHS-94.5													
6 CHS 98	10/17/90	1505			6-CHS-98													

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)
					10/20/90	1130	Carol Dunn

OCTOBER 18, 1988

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003

ENVIRONMENTAL — DANIEL B. STEPHENS & ASSOCIATES, INC.
CONSULTANTS IN GROUND-WATER HYDROLOGY

Std. Rate

CHAIN OF CUSTODY RECORD

Quotation # JMB 105-1

PROJECT NO.	PROJECT NAME
89-030	Enron Laguna

SAMPLERS (Signature) Clayton Culver

	STA. NO.	DATE	TIME	COMP.	GRAB	SAMPLE I.D. NO.	MATRIX	NUMBER OF CONTAINER (VOLUME / SIZE)	REQUIRED ANALYSIS 624	REMARKS
20	6-CH3	10/18/90	13:55		X	6-CH3 Equip Blank	H_2O	1-40 ml	↓	
21	21	↓	1400		↓	6-CH3	↓	3-40 ml	↓	
22	~~6H~~6-CH	↓	1415		↓	6-CH-Equip Blank	↓	1-40 ml	↓	
23		↓	1420		↓	6-CH3	↓	3-40 ml	↓	Label Reads 6-CH

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)
					10/20/90	1130	Carol Dom

DBF R 18, 1988

901169

APPENDIX G

STANDARD OPERATING PROCEDURE FOR WATER SAMPLING AT TRANSWESTERN PIPELINE CO. LAGUNA, NEW MEXICO

STANDARD OPERATING PROCEDURE

FOR

WATER SAMPLING OF MONITOR WELLS AT

LAGUNA, NEW MEXICO

1. PURPOSE

The intent of this Standard Operating Procedure (SOP) is to provide technical guidance to Daniel B. Stephens & Associates, Inc. (DBS&A) field personnel for the collection and handling of water quality samples from site wells at Laguna, New Mexico. This document contains specific guidelines for:

1) Sampling equipment cleaning, preparation, and handling
2) Well and well-head preparation
3) Sample collection
4) Sample preservation, handling, and shipping
5) Quality control/quality assurance
6) Chain of custody procedure

2. DUTIES AND RESPONSIBILITIES

It is the direct responsibility of the DBS&A project manager to ensure that all requirements and procedures contained in this SOP are followed during the field program. In addition, the DBS&A project manager will provide all DBS&A field personnel with copies of this SOP, which they are required to read and keep available at all times during the field work. The DBS&A personnel involved in the program include the following personnel.

2.1 Project Manager

The project manager is responsible for the completion of all field activities as specified in this SOP. The project manager shall monitor daily manpower requirements and expenditures, and will be responsible for compliance with preliminary budget estimates. The project manager will approve and be responsible for the development and implementation of subcontractor contracts, work agreements, work plans, SOPs, and health and safety plans. The project manager will be responsible for operational decisions necessary to implement the work plan, SOPs, and health and safety plan.

2.2 Health and Safety Officer

The health and safety officer will be responsible for strict adherence to the site- and project-specific health and safety plan (H&S). The health and safety officer or the appointed health and safety facilitator will monitor on-site health and safety issues, advise field personnel and sub-contractors of site-specific health and safety concerns, conduct the initial team health and safety briefing, conduct daily tailgate health and safety meetings if appropriate, and will report directly to the project manager.

2.3 Staff Scientist

The staff scientist will be responsible for executing the assigned tasks according to the procedures and techniques outlined in the work plan, the health and safety plan, and this SOP. The staff scientist will read each of the above plans and will be familiar with the material contained therein; the staff scientist is responsible for the safe and timely completion of all assigned tasks.

3. EQUIPMENT PREPARATION

Care will be taken to ensure that all field equipment is clean and in proper operating condition prior to departure for the field. This requires that each piece of equipment be inspected, cleaned, calibrated, and bench-tested in the DBS&A equipment warehouse prior to the start of field activities. Any deficiencies will be reported immediately to the project manager.

Table 1 lists the equipment utilized during regular sampling events.

3.1 Sampling Equipment Cleaning

3.1.1 Ground-Water Sampling Equipment

All sampling equipment that may come in direct contact with surface or ground water will be cleaned prior to each use in order to reduce the possibility of introducing contaminants into the water or sample. The cleaning method used will be 1) appropriate for the type of analysis to be performed on the sample, or 2) appropriate for the location of the well or sampling site with respect to areas of known contamination, or 3) appropriate for the type of sampling equipment used, or 4) appropriate for the presence or absence of free product within the well.

For wells or surface waters to be sampled for inorganics and/or metals, or for locations outside of the area of known contamination, the following procedures will be used:

I) Wash the equipment in non-phosphate detergent (Liquinox) and distilled/deionized water. All surfaces that may come in direct contact with surface or water are to be washed. A clean plastic tub will be used to contain the wash solution. Latex gloves will be worn during the entire washing and rinsing process.

II) The first rinse will be dilute (0.1 N) hydrochloric acid

III) The final rinse will be distilled/deionized water

IV) The equipment will be dried before use, to the extent practical.

The same procedure will be followed for wells or surface waters to be sampled for organics, with the exception that no hydrochloric acid rinse will be utilized. In contaminated areas, Steps I and III may be repeated two or more times.

Care will be taken to ensure that clean sampling equipment does not contact the ground or any other potentially contaminated surface. All wash and rinse water from potentially contaminated equipment shall be contained on-site in approved sealed and labeled 55-gallon drums, pending the results of analytical testing. The wash and rinse water will be changed frequently; wash and rinse water will be changed after each use when cleaning obviously contaminated equipment. Latex gloves will be worn for each cleaning event, or more frequently, as conditions require.

TABLE 1. FIELD EQUIPMENT

Sample Bottles

24	1 liter clear glass
36	40 ml VOA with HCl preservatives
5	40 ml VOA Trip Blanks

Field Equipment (as needed)

3	Coolers
1	3-ft Teflon bailer
12	Disposable Teflon bailers and Teflon bottom emptying device
1	Bailer tripod
1	Bailer reel
150 ft	Teflon coated bailer cord or natural twine
1	QED pump controller/driver with fittings
1	Repair kit for QED bladder pump
1	Conductivity meter
1	pH/MV meter
2	Buffers - pH 4
2	Buffers - pH 7
1	D.O/Temp meter
3	Rolls of paper towels
5	Rolls of bubble wrap
2	Rolls of duct tape
1	Roll of strapping tape
2	Rolls of package tape
2	Ziploc bags (gal)
2	Ziploc bags (1 qt)
1	Tool kit
1	M-Scope/well sounder
1	Dedicated well sounder for 6-9 and 6-10
1	Miscellaneous equipment kit
1	Battery

Personal Protection

24	Tyvek suits
36 pr	Tyvek boot covers
2	Half face respirators
10	Organic vapor cartridges
10	Dust/Mists pre-filters
200 pr	Latex gloves
2 pr	Neoprene gloves

TABLE 1. FIELD EQUIPMENT (CONTINUED)

2 pr	Leather gloves
2 pr	Safety goggles
1 doz	Disposable ear plugs
3	Hard hats
2 pr	Steel toed boots
2 pr	Steel toed swamp boots

Decontamination Equipment (as needed)

4	Plastic cleaning trays
2	2-gallon plastic buckets
1	Nalgene dish pan
1	Plastic dish pan
1	Roll Plastic sheeting
1	Roll 24" aluminum foil
1 qt	Liquinox
6	5-gal bottles distilled/deionized water

Forms

1	Field log book
10	Chain of Custody Forms (Organics)
10	Chain of Custody Forms (Inorganics)
10	Chain of Custody Seals
	Airbills
	Sample labels
1	Health and Safety Plan
1	Standard Operating Procedure
1	Set of MSD sheets
1	Site-specific instruction sheet with well sampling/QA requirements

All cleaned equipment will be stored in clean, labeled boxes. In addition, any equipment that may come in direct contact with ground water or water quality samples will be wrapped in clean inert plastic.

3.2 Equipment Calibration and Testing

All equipment will be calibrated and bench-tested prior to departure for the field. The following equipment will be calibrated, adjusted, and tested according to manufacturers' instructions (enclosed in the individual equipment cases):

- pH/MV meter
- Temperature meter
- Conductivity meter
- Pump controller/driver

In addition to the initial calibration and bench-testing, all meters will be inspected daily for operation and calibration. All equipment will be cleaned after each day of use, or more often, as necessary.

4. GROUND-WATER SAMPLING

4.1 Well and Wellhead Preparation

Prior to ground-water sample collection, the following steps will be conducted.

I) The area around the wellhead will be inspected for integrity, cleanliness, and signs of possible contamination.

II) A clean plastic sheet will be spread over the ground around the wellhead, where required.

III) The cap on the wellhead will be removed if possible. Any obvious odors within the wellbore will be noted.

IV) Where possible, the static water level will be measured to the nearest 0.01 foot using a water level sounder. The sounder will be cleaned using the outlined decontamination procedure to avoid cross contamination. A dedicated sounder is to be used in heavily contaminated wells.

V) If floating product is suspected at the site, a bailer will be used to extract a sample from the surface of the water within the well wherever possible. After an initial visual inspection, the fluid from the bailer will be slowly poured into a small tub or container in order to check for a sheen or any other sign of free product. Any obvious odors will be also noted in the sampling field book. If free product is detected, the bailer will be used to remove as much free product as is possible from the wellbore. Whenever a bailer is used within the wellbore, it will be lowered into the water slowly in order to prevent de-gassing. All recovered product will be contained for proper disposal. After any free product has been removed from the wellbore, all contaminated equipment will be cleaned or segregated from the clean equipment.

VI) The well will be purged at a flow rate equal to or greater than the sampling rate. The field parameters of temperature, pH, and electrical conductivity will be measured at the pump outlet or from bailed water within a clean container every 0.5 casing volume pumped, or more frequently. Purging will be considered complete when the above parameters are approximately stable over at least one casing volume. However, wherever possible, a minimum of three casing volumes will be purged from each well. All purge water will be contained in 55-gallon drums pending results of chemical analyses.

Careful notes will be recorded in the sampling field book during all of the above activities in order to document all pertinent conditions during the sampling event.

4.2 Ground-Water Sample Collection

Once the well has been sufficiently purged, the water quality samples will be collected. The samples should be collected as soon as is possible after purging is complete in order to reduce the possibility of volatilization within the wellbore.

Samples will be collected in decreasing order of volatility; volatile organics samples will be collected first. The pumping or bailer discharge rate during sample collection should never equal or exceed the rate at which the well was purged or as specified for each suite of analyses. Samples will be collected only in approved containers, according to the analysis to be performed.

Samples for volatile organics analysis (EPA method 602) will be collected in pre-cooled, pre-acidified, certified-clean, 40-ml, borosilicate vials with teflon septa supplied by the analytical laboratory. Whenever possible, the pumping rate during collection will be maintained at less than 100 ml per minute. The water stream will be directed against the inside surface of the vial. A convex meniscus should be allowed to form across the mouth of the filled vial. The outlet of the sampling pump discharge tubing or bailer should never be allowed to come into direct contact with the sample vial or the water within the vial. The vial will then be carefully capped and checked for bubbles before being wrapped and placed into the cooler. If air bubbles are present, the vial will not be reused and the entire procedure will be repeated.

Samples to be analyzed for PCB (EPA method 8080) will be collected in pre-cooled, certified-clean, 1-liter, narrow-mouth, glass bottles with teflon-lined cap. The flow rate will not exceed that used during well purging. The outlet of the sampling pump discharge tubing or bailer should not contact the sample bottle or the water within the sample bottle. The bottle will be filled to approximately full by directing the sample stream down the inside surface of the bottle. The bottle will be capped immediately after sample collection.

Samples to be analyzed for major ions/inorganics will be collected in pre-cooled, clean, 1-liter, plastic bottles or cubitainers. The procedures to be followed during sampling will be as those listed above for polynuclear aromatic hydrocarbons. Samples to be analyzed for metals will also be collected according to the above procedures; however, whenever possible the water sample will be pressure filtered through a clean 0.45-micron filter, and the sample will be acidified to a pH of <2 with nitric acid immediately upon collection.

After all water quality samples have been collected, the field parameters will be measured for a final time, wherever possible, in order to ensure that samples are representative of the aquifer water. If the field parameters are significantly different from the pre-sampling measurement, then the well will be repurged until the field parameters stabilize, and new samples will be collected.

All full sample bottles and vials will be wrapped and placed immediately in a cooler. The cooler will be kept at 4°C by filling the cooler with cube ice. The bags of ice will be placed in close contact to the sample bottles and vials, both on the side of and on top of the bottles and vials. Sampling bottles and vials will be protected from direct sunlight during and after sample collection. Full coolers will be sealed with strapping tape, and mailed via Federal Express to the analytical laboratory. Coolers will be mailed within 24 to 48 hours of collection, if possible.

5. QUALITY ASSURANCE/QUALITY CONTROL

The key elements in the quality assurance/quality control (QA/QC) program are sample splits, fictitious replicates, and blanks.

Table 2 lists the types and frequency of QA/QC samples.

TABLE 2. SAMPLE TYPE, DESCRIPTION, FREQUENCY OF COLLECTION

Sample Type	Description	Frequency of Collection
Aqueous	Primary water quality sample.	Each well/sampling
Fictitious Replicate	Replicate to be collected at the same time as the primary sample. To be labeled 6-99.	Every 10th primary
Trip Blank	Distilled/deionized water.	One per cooler (VOA only)
Aqueous Equipment Blank	Distilled/deionized water to be run through field-cleaned sampling equipment.	As needed
Split	Replicate sample sent to different lab.	As needed

6. CHAIN OF CUSTODY

The chain of custody program will include the following elements:

I) Standardized sample labels, as provided by the analytical laboratory. Information to include: sample name/ID number, project ID number, parameters to analyzed for, date and time of sample collection, and collector's name. The labels are to be permanently affixed to each bottle and vial, and will be filled out prior to sample collection.

II) Cooler seal. A chain of custody seal will be placed across the gap between the cooler body and the lid in order to ensure that the samples have not been tampered with during transit. Each cooler seal will be dated and initialed by the collector.

III) Field Logbook

A field logbook will be maintained which includes entries on:

- Date and time of each activity
- Well ID
- Well depth
- Depth to water and measurement method
- Presence of free product
- Total purged volume
- Well purging method
- Purge pumping rate
- Approximate well yield
- Duration of purge pumping
- Sample collection and pumping method
- Sequence of sample collection
- Surface water sample locations
- Sample ID numbers
- Analyses requested
- Preservatives and sample containers used
- Field personnel involved in sample collection
- Field parameters
- Shipper and shipping date/time
- Calibration and testing of equipment
- Field observations
- Weather conditions

IV) Chain of custody record. A chain of custody form will be completed and included in each shipment.

7. REVISIONS TO THIS SOP

The methods and procedures contained within this SOP are to be followed rigorously by DBS&A field personnel during the field program. Any deviation from the guidelines contained herein will not be allowed unless authorized in writing by the project manager. All such deviations will be thoroughly documented by the project manager, who has ultimate responsibility for any variance from this SOP. Such documentation will include reference to the procedure to be revised, a description of the revised procedure, reason for the revision, anticipated effects of the revision (especially with respect to the QA/QC program), personnel involved in the procedure, and the date and time of implementation of the revised procedure.

8. FIELD TEAM BRIEFINGS

Prior to departure to the field, the DBS&A field team will meet to discuss the objectives and methods of the field program. The work plan, this SOP, and the health and safety plan will be discussed in detail by the project manager during the briefing. All of the above plans and SOPs will have been reviewed by the team members prior to the meeting; all aspects of the field program will be familiar to all members of the team. In addition to the initial briefing, daily team meetings will be conducted by the project hydrologist in conjunction with the tailgate health and safety meetings, in order to allow discussion on the anticipated activities of the day.

9. ACKNOWLEDGEMENT

The undersigned have read this SOP and will adhere to the methods and procedures described therein:

Name	Title	Date

DANIEL B. STEPHENS & ASSOCIATES, INC.
ENVIRONMENTAL SCIENTISTS AND ENGINEERS

PLAN FOR
GROUND-WATER ASSESSMENT REPORT
FOR
COMPRESSOR STATION NO. 6
LAGUNA, NEW MEXICO

PREPARED FOR:

TRANSWESTERN PIPELINE CO.
HOUSTON, TEXAS

NOVEMBER 4, 1991

6020 ACADEMY NE • SUITE 100 • ALBUQUERQUE, NM 87109 • (505) 822-9400

DANIEL B. STEPHENS & ASSOCIATES, INC.
ENVIRONMENTAL SCIENTISTS AND ENGINEERS

RECEIVED
NOV 1 2 1991
OIL CONSERVATION DIV.
SANTA FE

1. INTRODUCTION

Daniel B. Stephens & Associates (DBS&A) was retained by Transwestern Pipeline Company (Transwestern) in March 1989 to characterize the hydrogeology at Compressor Station No. 6 in Laguna, New Mexico. The purpose of the investigation was to assess the potential for polychlorinated biphenyl compounds (PCBs) to impact the uppermost aquifer as required by the Consent Decree with EPA Region VI.

Transwestern Compressor Station No. 6 is located approximately 1.5 miles southwest of Laguna, Cibola County, New Mexico. Laguna is approximately 45 miles west of Albuquerque and 25 miles east of Grants, New Mexico. The Pueblo of Laguna includes 690 square miles of land surrounding the station.

An initial hydrogeologic report on the Laguna Compressor Station was completed by DBS&A in November 1989 (DBS&A, 1989). Five dual completion test wells were installed, at depths ranging from 130 to 160 and 220 to 341 feet (DBS&A, 1989). The wells monitored ground water in the massive Bluff Sandstone and in the Summerville and Todilto Formations. Water levels were approximately 50 feet below land surface. The wells were monitored for volatile, semi-volatile, and chlorinated organic compounds, pesticides, and PCBs. No PCBs or other organic compounds were detected during the initial investigation. Analytical chemistry results, detailed water level data, geologic logs from the wells, and a detailed description of local and regional geology were included in the initial report (DBS&A, 1989). After the initial report, very low levels of BTEX compounds and PCB were detected occasionally in the deep wells. None of the concentrations ever exceeded New Mexico Water Quality Control Commission ground water standards.

Subsequent to the initial investigation, shallow perched ground water was discovered at the Laguna Compressor Station. Additional investigation was undertaken to determine the extent and quality of the perched ground water. The remainder of this report will describe existing data on and proposed additional investigations of the perched ground water at the Laguna site.

2. SHALLOW PERCHED GROUND WATER

2.1 Hydrogeology

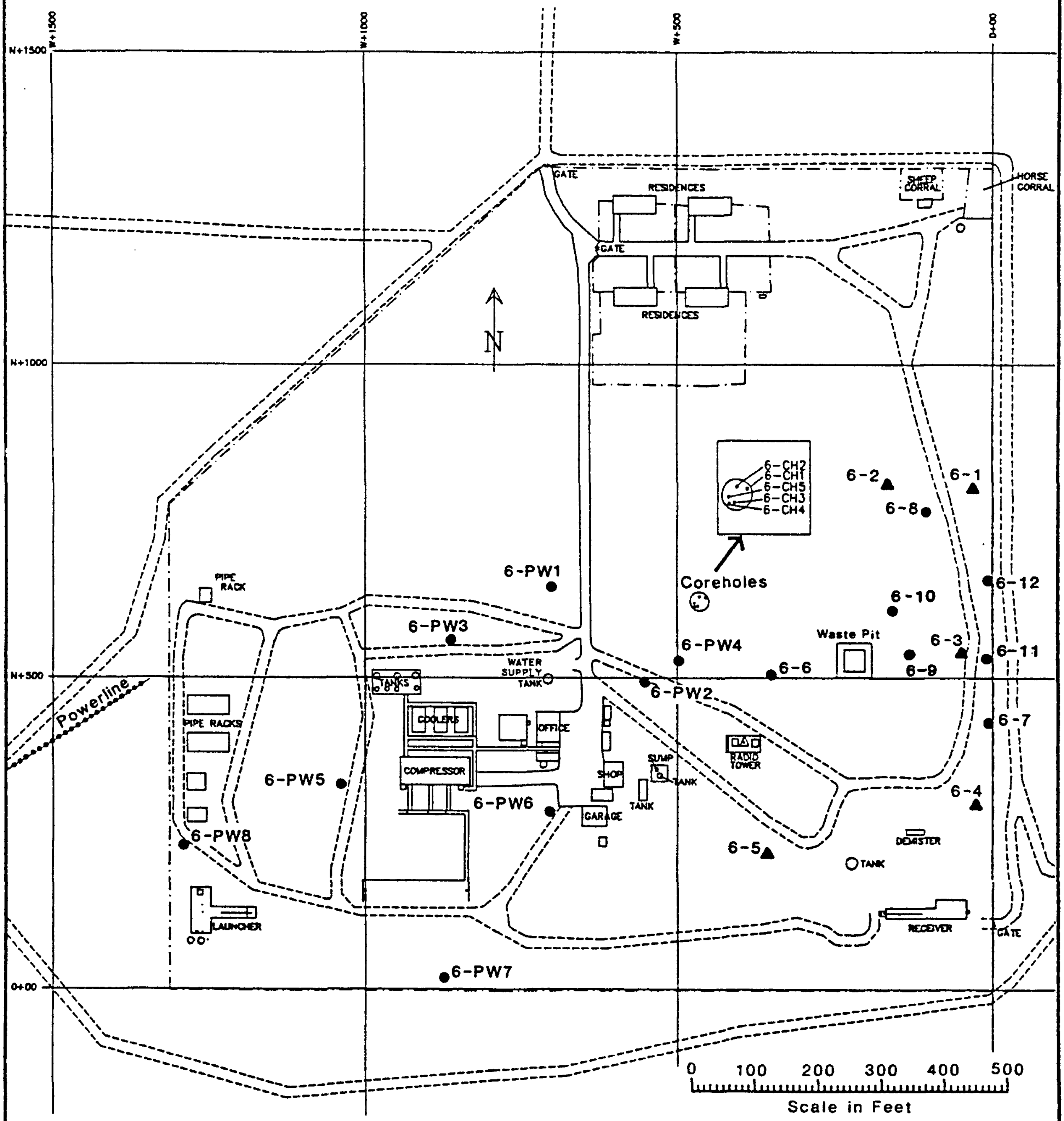
The Laguna site surficial geology consists of approximately 6 to 11 feet of unconsolidated Quaternary deposits underlain by the Bluff Sandstone. The Quaternary cover consists of moderately to well sorted silty sand. The Bluff can be divided into three sandstone zones based on the degree of weathering and fracturing. The upper weathered sandstone is weakly cemented with iron staining and is roughly 1-foot thick. The middle sandstone is moderately to heavily fractured, approximately 10 to 15 feet thick. The lower sandstone zone is relatively unfractured and massive, about 110 feet thick. Fractures in vertical Bluff Sandstone cores are mainly low angle and are controlled by bedding planes.

In March 1991 water was encountered at the top of the Bluff Sandstone during excavation of PCB-contaminated soils around the historical waste pit. Exploratory Wells 6-PW1 through 6-PW8 were drilled to determine the source and the extent of the perched water based on the results of a surface geophysical survey. To comply with the EPA Consent Decree by monitoring the first water-bearing unit, DBS&A also installed three shallow monitor wells to sample perched water upgradient and downgradient of the excavation (Monitor Wells 6-6, 6-7, and 6-8). After backfilling the excavation, downgradient Monitor Wells 6-9 and 6-10 were installed within 75 feet of the historical waste pit boundaries, and Monitor Wells 6-11 and 6-12 were subsequently installed at the site boundary (Figure 1).

Perched water elevations are nearly coincident with the bedrock contact near the historical waste pit and are approximately 1 foot above the bedrock surface near Monitor Well 6-8. Perched water elevations are summarized in Table 1, and a perched water table map is presented as Figure 2.

2.2 Ground-Water Chemistry

Samples from Monitor Wells 6-6 through 6-12 were analyzed for PCB (EPA Method 8080) and BTEX compounds (EPA Method 602). A summary of the analytical results is presented in Table 2. The presence of PCBs and BTEX compounds was confirmed in Monitor Wells 6-9 and 6-10 (Figure 1) in August 1991. Consequently, Wells 6-11 and 6-12 (Figure 1) were drilled and were monitored as site boundary wells along with existing Monitor Well 6-7. PCBs were not detected in any of the site boundary wells (Table 2). At the site boundary, concentrations of BTEX below New Mexico Water Quality Control Commission (NMWQCC) ground-water standards were detected in 6-12, and low levels of toluene were detected on two occasions in Monitor Well 6-7 (Table 2). No other BTEX constituents were detected in the site boundary monitor wells.



LEGEND

6-PW7 ● PERCHED AQUIFER MONITOR WELL

6-2 ▲ DEEPER AQUIFER MONITOR WELL

— · — · — FENCE

- - - - - GRAVEL/DIRT ROAD

═══ PAVED ROAD

DANIEL B. STEPHENS & ASSOCIATES, INC.
ENVIRONMENTAL SCIENTISTS AND ENGINEERS
ALBUQUERQUE, NEW MEXICO

FIGURE 1

MONITOR WELL LOCATIONS
TRANSWESTERN PIPELINE COMPANY
COMPRESSOR STATION NO. 6
LAGUNA, NEW MEXICO

DATE	PROJECT NO.	DESIGNED BY	DRAWN BY	CHECKED BY
7/9/91	89-030L	BM	REA	JH

TABLE 1. MONITOR WELL SERIES DEPTH TO WATER
(Feet Below Top of Casing [TOC])

DATE	6-6 TOC Elevation 5911.77	6-7 TOC Elevation 5901.96	6-8 TOC Elevation 5898.31	6-9 TOC Elevation 5903.05	6-10 TOC Elevation 5902.06	6-11 TOC Elevation *	6-12 TOC Elevation *
04/11/91	11.92	dry	10.70	**	**		
04/16/91	12.24	22.38	10.72	**	**		
04/17/91	12.25		10.70	**	**		
05/01/91	12.47	21.59	10.65	**	**		
05/08/91	12.57	18.94	10.65	**	**		
05/17/91	12.67	17.52	10.57	**	**		
05/22/91	12.77	17.33	10.58	**	**		
05/28/91	12.86	17.17	10.49	**	**		
06/12/91	13.10	18.21	10.46	**	**		
06/20/91	13.21	17.47	10.48	**	**		
07/01/91	13.36	18.65	10.33	**	**		
07/18/91	12.48	17.13	10.42	10.94	10.60		
07/22/91	13.52			10.96	10.64		
08/06/91				11.13	10.81		
08/07/91	13.62						
09/05/91	13.70	16.58	10.94	11.33	11.02		
09/06/91						25.32	12.08
10/14/91	13.55	17.38	10.89	11.43	11.18	14.60	12.28

* = Not Yet Surveyed
** = Not Yet Drilled

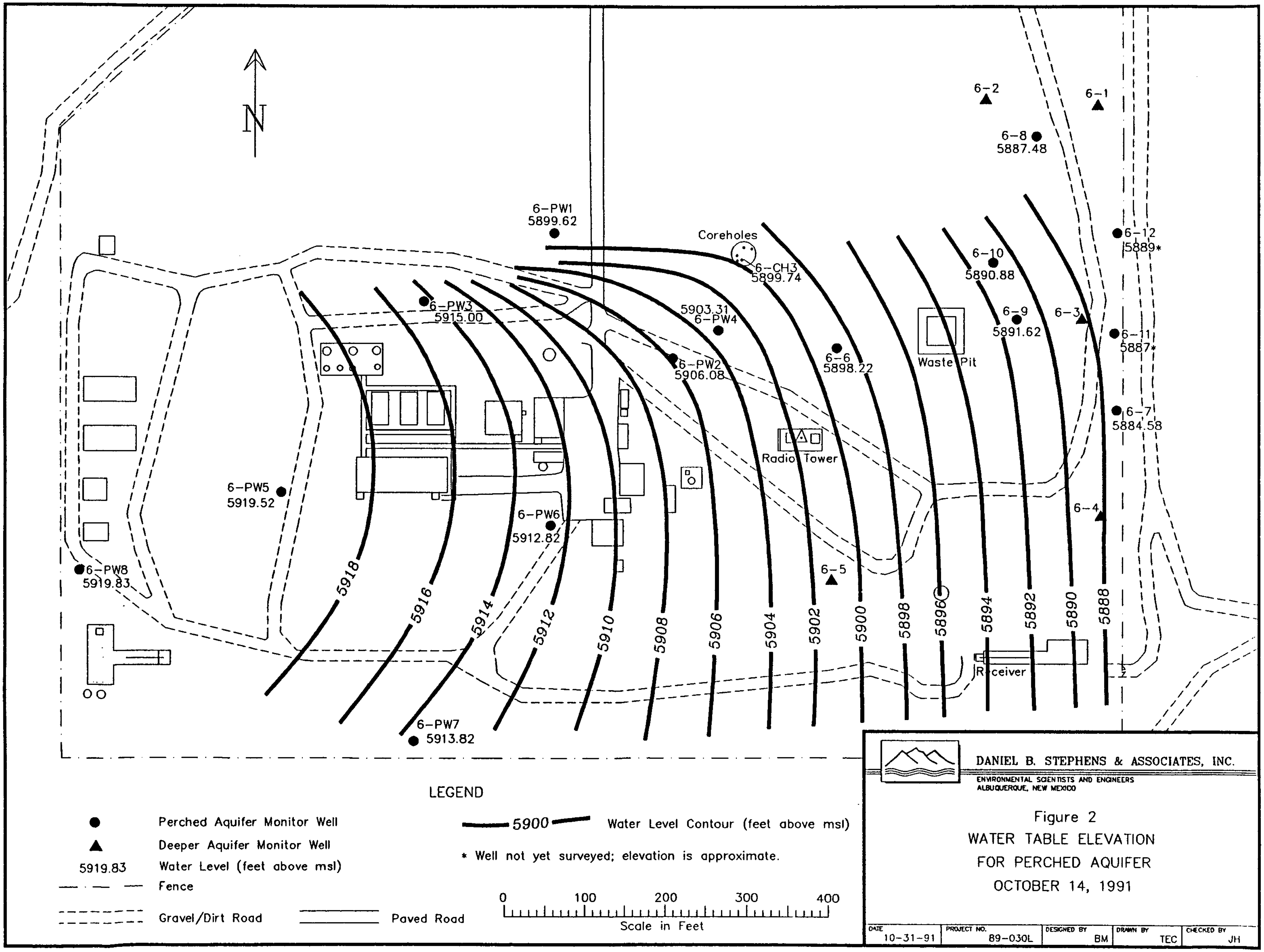


Figure 2
WATER TABLE ELEVATION
FOR PERCHED AQUIFER
OCTOBER 14, 1991

TABLE 2. SUMMARY OF ANALYTICAL RESULTS ENRON LAGUNA MONITOR WELLS

WELL	DATE	Total PCB* (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylene (ppb)
6-6	04/91	ND	ND	ND	ND	ND
	05/91	ND	ND	ND	ND	ND
	06/91	ND	ND	ND	ND	ND
	07/91	ND	NS	NS	NS	NS
	09/91	ND	ND	ND	ND	ND
	10/91	ND	ND	ND	ND	ND
6-7	04/91	ND	ND	0.80	ND	ND
	05/91	ND	ND	ND	ND	ND
	06/91	ND	ND	0.55	ND	ND
	09/91	ND	ND	ND	ND	ND
	10/91	ND	ND	ND	ND	ND
6-8	04/91	ND	ND	0.97	ND	ND
	05/91	ND	0.55	0.59	ND	ND
	06/91	ND	0.77	2.0	ND	1.1
	09/91	ND	0.5	ND	ND	ND
	10/91	ND	ND	ND	ND	ND
6-9	07/91	370.0	NS	NS	NS	NS
	08/91	2000	16.0	21.0	6.5	88.0
	09/91	4500	22.0	34.0	20.0	200.0
	10/91	4200	16.0	34.0	16.0	140.0
6-10	07/91	34.0	NS	NS	NS	NS
	08/91	160.0	31.0	9.5	8.9	95.0
	09/91	270.0	23.0	13.0	14.0	99.0
	10/91	290.0	13.0	11.0	8.1	62.0.

TABLE 2. (cont'd) SUMMARY OF ANALYTICAL RESULTS ENRON LAGUNA MONITOR WELLS

WELL	DATE	Total PCB* (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylene (ppb)
6-11	09/91	ND	ND	ND	ND	ND
	10/91	ND	ND	ND	ND	ND
6-12	09/91	ND	4.3	1.5	0.84	5.4
	10/91	ND	2.3	0.73	ND	1.1

NOTES:

ND = Not detected at or above the reporting limit.

Standard reporting limit from ENSECO's Houston Laboratory:
PCB = 1.0 (ppb) Benzene = 0.50 (ppb)
Toluene = 0.50 (ppb) Ethylbenzene = 0.50 (ppb)
Xylene = 0.50 (ppb)

*Total PCB includes
Aroclor 1016 Aroclor 1248
Aroclor 1221 Aroclor 1254
Aroclor 1232 Aroclor 1260
Aroclor 1242

All PCB detected was Aroclor 1242

New Mexico Water Quality Control Commission (NM WQCC) standards:
PCB = 1 (ppb) Benzene = 10 (ppb)
Toulene = 750 (ppb) Ethylbenzene = 750 (ppb)
Xylene = 620 (ppb)

3. PROPOSED ADDITIONAL INVESTIGATION

In order to characterize the horizontal and vertical extent of the PCB and the approximate rate of PCB transport, installation of additional monitor wells, additional ground-water sampling, abandonment of deep wells, and hydraulic testing are proposed.

Proposed locations of three additional monitor wells are shown in Figure 3 (Monitor Wells 6-13 to 6-15). The wells will be constructed in the same manner as existing shallow monitor wells in the perched zone. The wells will be drilled by augering to the alluvial/bedrock interface and using air rotary methods to drill through the fractured Bluff Sandstone to approximately 15 feet below the water table. The monitor wells will be constructed with new 2-inch Schedule 40, threaded PVC casing and 0.020-slot screen. Monitor well screens will be set at least one foot above the water table elevation at the time of well construction. A 10-20 silica sand pack will be placed around the screen with a 16-40 silica sand placed to at least 1 foot above the screened interval. Bentonite pellets will be placed above the sand pack and hydrated with distilled water. A bentonite slurry will be placed in the annulus to ground surface. The wells will be completed with above grade vaults and locking steel caps.

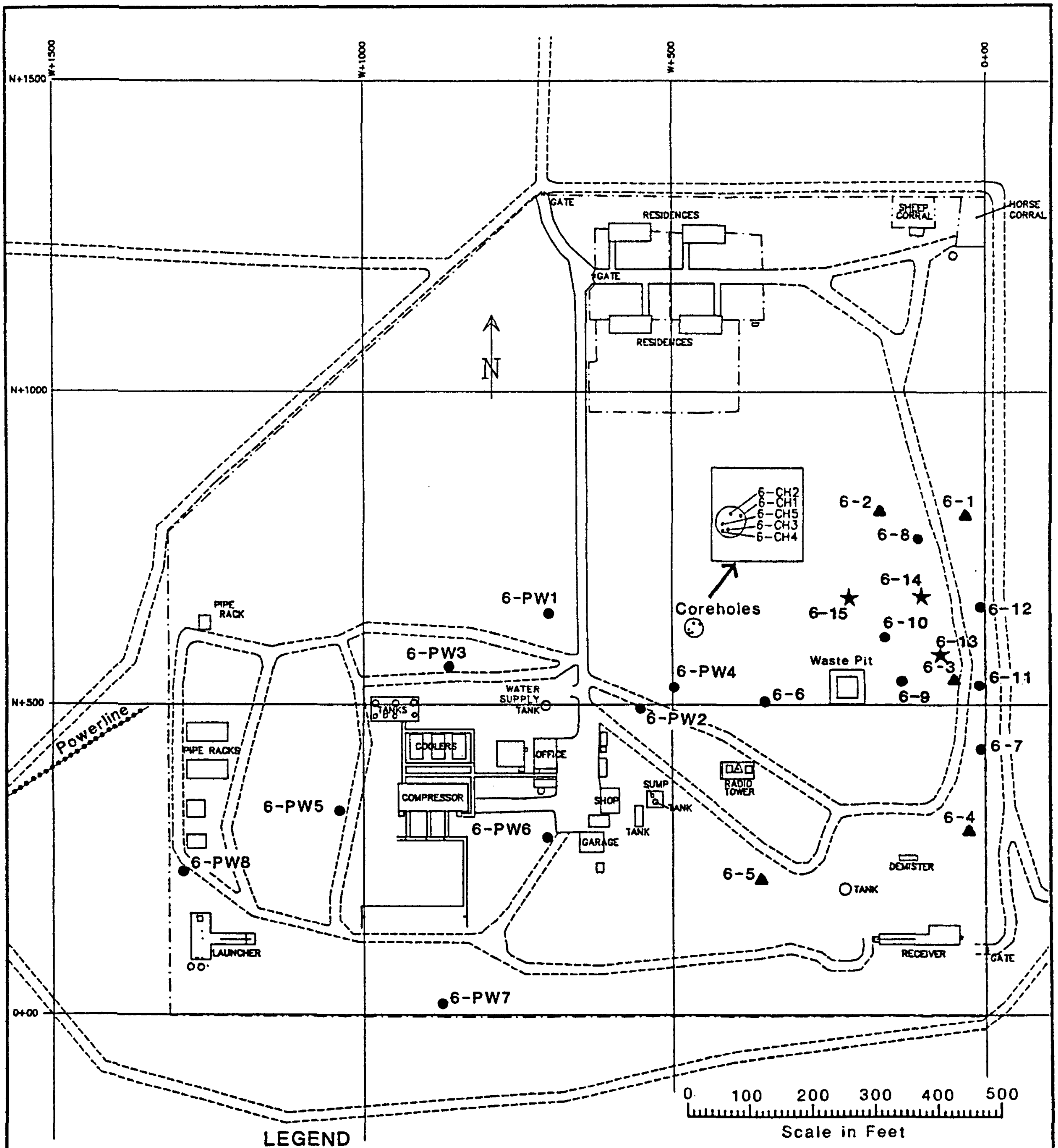
Ground-water sampling will consist of continued monthly monitoring of Monitor Wells 6-6 through 6-12 and proposed Monitor Wells 6-13 through 6-15. The wells will be monitored for PCB (EPA Method 8080) and BTEX (EPA Method 602). Additionally, PCB and BTEX samples will be collected from Monitor Wells 6-1S, 6-3S, and 6-5S to assess the vertical extent of these constituents.

Following this sampling of 6-1S, 6-3S, and 6-5S, we propose to abandon all of the deep monitor wells at the site (6-1 through 6-5). This is a precautionary measure to ensure that the deeper wells do not serve as a conduit for migration of PCBs. Proposed well abandonment procedures have previously been submitted to the New Mexico Oil Conservation Division (OCD) and are in review.

Bail-recovery tests were conducted on Monitor Wells 6-6 through 6-12 during the week of October 21 in support of data needs required by the Consent Decree. This data is currently being analyzed to provide information on hydraulic conductivities at the site.

3.1 Schedule

The three additional monitor wells will be installed within one month of EPA approval. We anticipate that the new wells (6-13, 6-14, and 6-15) and the deep monitor wells (6-1S, 6-3S, and 6-5S) will be sampled during the regularly monthly sampling round scheduled for the first week of December 1991. If no other data are required, a GAR will be complete by the end of January 1992.



LEGEND

6-PW7 ● PERCHED AQUIFER MONITOR WELL

★ PROPOSED PERCHED AQUIFER MONITOR WELL LOCATION

6-2 ▲ DEEPER AQUIFER MONITOR WELL

FENCE

GRAVEL/DIRT ROAD

PAVED ROAD

DANIEL B. STEPHENS & ASSOCIATES, INC.
ENVIRONMENTAL SCIENTISTS AND ENGINEERS
ALBUQUERQUE, NEW MEXICO

FIGURE 3

PROPOSED MONITOR WELL LOCATIONS
TRANSWESTERN PIPELINE COMPANY
COMPRESSOR STATION NO. 6
LAGUNA, NEW MEXICO

DATE	PROJECT NO	DESIGNED BY	DRAWN BY	CHECKED BY
7/9/91	89-030L	BM	REA	JH