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ADDENDUM
FINAL INVESTIGATION REPORT

Texaco Exploration and Production, Inc.
Eunice #2 (North) Gas Plant
Lea County, New Mexico

January 1998

Prepared for

Prepared by

Highlander Environmental Corp.

ADDENDUM
FINAL INVESTIGATION REPORT
TEXACO EXPLORATION AND PRODUCTION, INC.
EUNICE #2 (NORTH) GAS PLANT
LEA COUNTY, NEW MEXICO

Prepared for

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January 1998

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(D:\Oil-Gas\787\Addendum Report)

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Midland, Texas

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ADDENDUM

FINAL SITE INVESTIGATION REPORT

TEXACO EXPLORATION AND PRODUCTION, INC.

EUNICE #2 (NORTH) GAS PLANT

LEA COUNTY, NEW MEXICO

1.0 INTRODUCTION

Texaco Exploration and Production, Inc. (Texaco) has retained Highlander Environmental Corp. (Highlander) to conduct additional investigations at its Eunice #2 (North) Gas Plant (Site) to delineate the extent of dissolved chromium detected in groundwater during a comprehensive facility investigation (CFI), conducted from March 31 through May 12, 1997. The CFI was required by the State of New Mexico, Energy, Minerals and Natural Resources Department, Oil Conservation Division (OCD), in accordance with Title 20 of the New Mexico Administrative Code (NMAC), 6.2.3109.E, for renewal of the facility's Groundwater Discharge Plan (Discharge Plan GW-004). The additional investigations were required by the OCD following its review of the report titled, "Final Investigation Report, Texaco Exploration and Production, Inc., Eunice # 2 (North) Gas Plant, Lea County, New Mexico, May 1997". The additional investigations were conducted from August 18 through December 18, 1998. Appendix A presents correspondence from the OCD.

1.1 Background and Location

The Site was constructed in the 1940's, subsequently modified and currently operates as a turbo expander type natural gas processing plant for extraction of NGLC natural gas liquids. The Site is located approximately 0.25 miles north of Eunice, New Mexico, in the southeast quarter (SE/4), of the northeast quarter (NE/4), and the NE/4 of the SE/4, Section 28, Township 21 South, Range 37 East, Lea County, New Mexico. Figure 1 presents a Site location and topographic map. Figure 2 presents a drawing for the Site.

1.2 Previous Investigation

From March 31 through May 12, 1997, Highlander conducted an investigation to further evaluate soil and groundwater impacts detected during the Groundwater Discharge Plan Investigation conducted from August 5-15, 1996. The investigation consisted of drilling hand auger and rotary drilled soil borings, installation of monitoring wells, collection and analysis of soil; phase separated hydrocarbon (PSH) and groundwater samples, and hydraulic conductivity measurements.

Five (5) hand auger borings were installed on the north side of the compressor building to investigate the extent of elevated chromium and barium detected in soil at boring location AH-5 during the previous investigation. The borings (AH-5-1 through AH-5-5) were drilled to depths varying from 0.5 feet BGS (AH-5-2) to approximately 3.3 feet BGS (AH-5-3) and soil samples were analyzed for total chromium and total barium. The soil sample exhibiting the highest total chromium level was also tested by the Toxicity Characteristic Leaching Procedure (TCLP) to determine if the chromium levels detected in soil are hazardous by toxicity characteristic.

Highlander personnel supervised drilling of five (5) rotary drilled borings (MW-2 through MW-6). Soil boring MW-2 was installed near the northwest corner of the Site for the purpose of determining background soil and groundwater conditions for the Site. Soil borings MW-3 and MW-4 were installed near the southeast corner and east side of the Site, respectively, to determine down gradient groundwater conditions. Soil borings MW-5 and MW-6 were installed near the north sump for the purpose of evaluating groundwater quality and the presence of (PSH). At background boring location MW-2, soil samples were collected from depths of 10-11 feet, 20-22 feet, 30-32 feet, 40-42 feet, and 50-52 feet BGS and analyzed for total metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver).

The rotary drilled borings were completed as monitor wells to determine the extent of impacts previously detected in the groundwater, and to assess the presence of PSH on groundwater in the vicinity of the north sump The groundwater samples were analyzed for volatile and semi-volatile (PAH) organic compounds, dissolved (filtered) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver), chloride, and total dissolved solids (TDS).

The total metals analysis of soil samples from rotary drilled boring MW-2 (background) did not report arsenic, cadmium, lead, mercury, selenium, and silver at concentrations above the test method detection limits. The maximum barium level detected was 270 mg/kg in the sample from 20-22 feet BGS. The maximum chromium level detected 62 mg/kg in the sample from 50-52 feet BGS. Soil samples from the hand auger borings reported chromium levels ranging in concentration from 6.2 mg/kg (AH-5-1, 1.5-2.0 feet) to 4400 mg/kg (AH-5-2, 0-0.5 feet). Chromium in soil in this area generally decreases in concentrations below background level at a depth of 1 foot BGS. Based on the laboratory data, the vertical extent of the chromium impact to soil was determined. However, the area of elevated chromium in soil extends west of boring AH-5, AH-5-1, and AH-5-2 at least ten (10) feet, and west of boring AH-5-5. The soil affected by the elevated total chromium extends north of the compressor building approximately 5 feet. The area of soil affected by the elevated chromium is estimated to be approximately 125 square feet or approximately 5 cubic yards of soil. The soil sample exhibiting the highest total chromium level (4400 mg/kg) was tested by the TCLP method for toxicity. The TCLP level for chromium in the sample was less than the test method detection limit of 0.05 mg/l, concluding that the soil does not exhibit a hazardous characteristic. Levels of cadmium (2.7 mg/kg) and lead (64.4 mg/kg) previously reported in the soil samples from boring AH-5 (0-0.5 feet BGS) on October 17, 1995, are slightly elevated in comparison to background levels. However, these levels are within the range expected for the region.

Groundwater samples collected from monitor wells MW-1 through MW-6, and water well

WW-1 on April 22-23, 1997, reported detectable levels of six (6) volatile organic compounds, including BTEX, dichlorodifluoromethane, and tetrachloroethene. The New Mexico WQCC has established Human Health Standards (20 NMAC, 6.2.3103.A) for all of these compounds, except dichlorodifluoromethane, and tetrachloroethene. The Human Health Standards for the BTEX compounds are 10 ug/L (benzene), 750 ug/L (toluene and ethylbenzene), and 620 ug/L (xylenes). BTEX was only detected in groundwater from monitor wells MW-1, MW-5, and MW-6. The benzene levels in groundwater from these wells ranged from 11 ug/L (MW-1) to 540 ug/l (MW-5). Previously (August 8, 1996), benzene was reported in groundwater from well MW-1 at 9 ug/L. Toluene was reported in groundwater from these wells at concentrations ranging from 33 ug/L (MW-1) to 310 ug/L (MW-5). Ethylbenzene was reported at concentrations ranging from 75 ug/L (MW-1) to 110 ug/L (MW-6). Xylenes were reported at concentrations ranging from 49 ug/L (MW-1) to 330 ug/L (MW-6). The concentrations of toluene, ethylbenzene, and xylenes in groundwater from wells MW-1, MW-5, and MW-6 were below the WQCC standards. The toluene, ethylbenzene, and xylenes concentrations reported in groundwater from well MW-1 on April 23, 1997 were considerably lower than the levels for these constituents reported from well MW-1 on August 1, 1996. However, the levels reported on August 1, 1996 were also below the WQCC standards. Groundwater samples from the up gradient monitor well, MW-2, and down gradient monitor wells, MW-3 and MW-4 did not report BTEX levels above the test method detection limits, concluding that the BTEX impacts to groundwater are localized and confined to the Site. Dichlorodifluoromethane was reported in groundwater samples from all wells, except the up gradient well, MW-2. The concentrations of dichlorodifluoromethane reported in the groundwater samples ranged from 6 ug/L (MW-3), to 98 ug/L (MW-1). Previously, dichlorodifluoromethane was reported in groundwater from water well WW-1 at 113 ug/L (June 14, 1996). The level of dichlorodifluoromethane reported in groundwater from this well on April 23, 1997 was 66 ug/L. Tetrachloroethene was only detected at 1 ug/L (test method detection limit) in groundwater from water well WW-1. The WQCC does not have Human Health Standards for dichlorodifluoromethane

and tetrachloroethene. However, dichlorodifluoromethane and tetrachloroethene are listed as toxic pollutants, in accordance with the WQCC definition (20 NMAC 6.2.1101.TT). In accordance with 20 NMAC 6.2.1101.TT, dichlorodifluoromethane and tetrachloroethene are considered toxic pollutant(s) if these contaminants are in the environment at concentrations, shown by publicly available scientific information, to have the potential for causing injuries to health upon exposure, ingestion, or assimilation. Highlander evaluated the U.S. EPA, Region III, Risk-Based Concentration Table, and the Office of Water, Drinking Water Regulations and Health Advisories (EPA 822-B-96-002), to obtain information on human health exposure data for these compounds. Based on the review, the Lifetime Drinking Water Health Advisory (HA) for dichlorodifluoromethane, for an adult (70-kg), is 1 mg/L (1,000 ug/L). The Lifetime HA is defined as the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects over a lifetime of exposure, with a margin of safety. No Lifetime HA was available for tetrachloroethene. However, the Drinking Water Equivalent Level (DWEL) for tetrachloroethene is 0.5 mg/L, or 500 ug/L. The DWEL is defined as a lifetime exposure concentration protective of adverse, non-cancer health effects, that exposure to a contaminant is from a drinking water source. Based on the information reviewed, the levels of dichlorodifluoromethane and tetrachloroethene reported in the groundwater samples do not pose a risk to human health.

Seven (7) semi-volatile organic compounds were reported at detectable concentrations and included, acetophenone, naphthalene, 2-methylnaphthalene, 2-methylphenol, 4-methylphenol/3-methylphenol, fluorene, and anthracene. The only compound for which there is a WQCC Human Health Standard is total naphthalene, plus monometylnaphthalenes (0.03 mg/L). Naphthalene was only detected above the test method detection limit in groundwater from monitor wells MW-5 and MW-6. The concentration of total naphthalene plus mononaphthalenes detected in the groundwater samples from wells MW-5 and MW-6 was 0.120 mg/L and 0.016 mg/L, respectively. Naphthalene was not detected in well MW-4. The extent of the naphthalene impact to groundwater appears to be

localized, and contained to the Site. Acetophenone (0.005 mg/L) was only detected in groundwater from well MW-1, and the compounds 2-methylphenol (0.004 mg/L), and 4-methylphenol/3-methylphenol (0.002 mg/L) were only detected in groundwater from well MW-6. There are no WQCC standards, or EPA Drinking Water Health Advisories for acetophenone, 2-methylphenol or 4-methylphenol/3-methylphenol in groundwater, nor are these compounds listed as toxic pollutants, in accordance with 20 NMAC 6.2.1101.TT. The compound 2-methylnaphthalene was detected in the groundwater samples from monitor wells MW-5 and MW-6, at concentrations of 0.022 mg/L and 0.026 mg/L, respectively. Fluorene (0.002 mg/L) was only detected in the groundwater sample from well MW-5. Anthracene was detected in the groundwater samples from well MW-6 (0.002 mg/L), and water well WW-1 (0.002 mg/L). There are no WQCC standards for these compounds in groundwater; however, these compounds are considered toxic pollutants, in accordance with 20 NMAC 6.2.1101.TT. Highlander evaluated the U.S. EPA, Region III, Risk-Based Concentration Table, and the Office of Water, Drinking Water Regulations and Health Advisories (EPA 822-B-96-002), to obtain information on human health exposure data for these compounds. Based on the review, the risk-based standard for anthracene in tap water is 2200 ug/L, or 2.20 mg/L, and 1500 ug/L, or 1.5 mg/ for fluorene. There is no risk based standard or HA for 2-methylnaphthalene. Based on the information reviewed, the levels of anthracene and fluorene reported in the groundwater samples do not pose a risk to human health.

Groundwater samples from monitor wells MW-1 through MW-6, and water well WW-1 were also analyzed for dissolved metals (arsenic, barium, cadmium. chromium, lead, mercury, selenium, and silver), chloride, and TDS. Only barium, chromium, and lead were detected in the groundwater samples above the test methods detection limits. Barium (0.3 mg/L) was only detected in groundwater from monitor well MW-6 and was below the WQCC standard of 1.0 mg/L. Chromium was reported in groundwater from wells MW-3 (0.36 mg/L), MW-4 (0.08 mg/L), and WW-1 (0.52 mg/L), and exceeded the WQCC standard of 0.05 mg/L. However, the EPA drinking water

Maximum Contaminant Level (MCL) for chromium is 0.1 mg/l. The chromium level reported in groundwater from well WW-1 on April 23, 1997 (0.52 mg/L) was lower than the concentration reported from this well on August 1, 1996 (0.82 mg/L). Lead (0.1 mg/L) was reported in groundwater from wells MW-1, MW-4, and MW-6, and exceeded the WQCC standard of 0.05 mg/L.

Chloride was reported in the groundwater samples at concentrations ranging from 200 mg/L (MW-1) to 1500 mg/L (MW-6). The chloride levels were generally highest in groundwater in the vicinity of the north sump, and at water well WW-1. The chloride levels in samples from these wells ranged from 800 mg/L (MW-5 and WW-1) to 1500 mg/L (MW-6). The chloride levels reported in groundwater from well MW-6 indicates that an impact has occurred in this area. Pumping of water well WW-1 appears to have captured the chloride impact at wells MW-5 and MW-6, since groundwater sample analysis from monitor well MW-4 (290 mg/L) is below the background level reported in the sample from well MW-2 (350 mg/L). Contribution of chloride from off site sources may also be a factor to the elevated chloride level in well WW-1, due to the cone of depression, which appears to extend north (up gradient) of the Site. The chloride levels reported in groundwater samples from all wells, excluding well MW-1, located near the central area of the Site, exceeded the WQCC standard of 250 mg/L for domestic water supply (20 NMAC 6.2.3103.B).

Levels of TDS reported in groundwater samples ranged from 1200 mg/L (MW-2) to 3200 mg/L (MW-6). The TDS levels reported in the groundwater samples, including the background sample from well MW-2, exceeded the WQCC standard of 1000 mg/L for domestic water supply (20 NMAC 6.2.3103.B).

Falling and rising head hydraulic conductivity (slug) tests were conducted on three (3) monitor wells (MW-2, MW-3, and MW-4), and reported hydraulic conductivity values ranging from 5.35×10^{-5} feet per second (Ft./Sec.), at well MW-1, to 9.56×10^{-5} Ft./Sec. at well MW-4. The

average horizontal hydraulic conductivity measured from the rising head slug tests was 7.73×10^{-5} Ft./Sec. The overall average horizontal hydraulic conductivity of the unconfined aquifer, based on the falling head and rising head slug tests was 6.62×10^{-5} Ft./Sec., or 5.7225 Ft./Day.

Monitor wells MW-5 and MW-6 were installed in the vicinity of the north sump to evaluate the presence of PSH. The wells were periodically inspected and on May 12, 1997, PSH was detected at a thickness of 0.02 feet (MW-5), and 0.15 feet (MW-6). The PSH in well MW-6 was samples and analyzed by GC-FID method. The GC-FID analysis reported hydrocarbons in the C-10 to C-12 carbon range, which is consistent with diesel fuel. This analysis also reported that the hydrocarbons were consistent with the semi-volatile organic compounds reported in the groundwater samples from wells MW-5 and MW-6. The GC-FID analysis reported hydrocarbons in the C-6 to C-10 range, which is consistent with natural gas condensate or gasoline.

A survey of water wells within a one (1) mile radius of the Site was conducted, and identified records for twelve (12) water wells. The nearest downgradient water well is located approximately 500 feet southeast of the Site. No information was available from the New Mexico State Engineer's records to determine the current status (i.e., active, inactive, or plugged), or use of this well. However, an interview with the property owner indicated that the well was actively used for irrigation and livestock purposes. The next closest well down gradient to the Site is located approximately 1,625 feet south of the Site.

1.3 Site Setting

1.3.1 Topography

The topography of the Site gently slopes from west to east. The elevation of the Site ranges

from about 3430 feet above mean sea level (AMSL) along the west side to about 3420 feet AMSL along the east side. Storm water runoff generally follows the topography of the Site. The nearest surface water body to the Site is greater than two miles east. There is one water well at the Site (Water Well WW-1) which is used for industrial purposes (i.e. cooling towers, etc.).

1.3.2 Soils

The Site is underlain by soils of the Pyote Series and Berino Series (Turner, et.al. 1974). The Pyote Series is represented by the Pyote and Maljamar fine sands (0 to 3 percent slopes) soil. The Berino Series is represented by the Berino-Cacique loamy fine sand association (0 to 3 percent) soil.

The Pyote and Maljamar fine sands (PU) is the predominant soil type at the Site and consists of a surface layer of fine grained brown sand, approximately 30 inches thick. Several subsoil strata consisting of fine sandy loam, varying from strong brown to light brown in color and approximately 30 inches thick underlie the surface layer. The Pyote and Maljamar fine sands soil has moderately rapid permeability and low corrosivity potential to uncoated steel. The principal uses of Pyote and Maljamar fine sands soil are range, wildlife habitat and recreational areas. The Pyote and Maljamar fine sand soil occupies the central part of the Site.

The Berino-Cacique loamy fine sands association (BE) is present along the north and south boundaries of the Site. The Berino-Cacique loamy fine sands soil consists of a thin surface layer, approximately 6 inches thick of reddish-brown loamy fine sand. The surface layer is underlain by several substrata consisting of sandy clay loam, varying in color from red to light brown and approximately 54 inches thick. The Berino-Cacique loamy fine sand soil has a moderate permeability and moderate corrosivity potential to uncoated steel. Uses of Berino-Cacique loamy fine sand soil include rangeland, recreational areas and wildlife habitat.

1.3.3 Geology

Deposits of Recent-age windblown sand ranging in thickness from about a few feet to as much as 40 feet underlie the area in vicinity of the Site. The windblown sand deposits consist of unconsolidated fine to medium grained sand. The windblown sand is underlain by the Pliocene-age Ogallala Formation. The Ogallala Formation consists of semiconsolidated deposits of fine-grained calcareous sand, capped by a layer of caliche. The Ogallala Formation also contains minor amounts of clay, silt and gravel (Nicholson and Clebsch, 1961 and Brown, 1976). Regionally, the Ogallala Formation ranges in thickness from a few inches to about 300 feet. Based on Site-specific data, the Ogallala Formation ranges in thickness from about 72 feet to 116 feet. The Ogallala Formation generally thins from west to east. Figure 3 presents an isopach map representing the thickness for the Ogallala Formation.

The Ogallala Formation is underlain by the Triassic-age Chinle Formation. The Chinle Formation consists of red to reddish-brown shale. The elevation of the top of the Chinle Formation ranges from 3342 feet above mean sea level (MSL) east of the Site to about 3311 feet above MSL west of the Site. The surface topography of the Chinle Formation slopes from east to west at approximately 0.01 feet per foot. Figure 4 presents a structure contour map for the surface of the Chinle Formation.

1.3.4 Groundwater

Groundwater occurs in the Pliocene-age Ogallala Formation. The Ogallala Formation, commonly referred to as the High Plains Aquifer, occurs under unconfined conditions. The regional direction of groundwater flow in the vicinity of the Site is from west-northwest to east-southeast.

Recharge to the Ogallala Formation occurs through infiltration of precipitation from rainfall and snowmelt. Discharge from the Ogallala Formation occurs principally through pumping from wells.

The depth-to-groundwater beneath the Site on December 18, 1997, ranged from 39.16 feet BGS at well MW-18A, located southeast of the Site, to 73.17 feet BGS at water well WW-1, located on the north side of the Site. Figure 5 presents a depth-to-groundwater map for the Site on December 18, 1997. Referring to Figure 5, pumping from water well WW-1 has influenced the depth-to-groundwater at the Site. Pumping from a domestic water well and an industrial water well located southeast of the Site has also influenced the depth-to-groundwater. Figure 6 presents a drawing of the groundwater potentiometric surface on December 18, 1997. Referring to Figure 6, the elevation of the groundwater surface on December 18, 1997 ranged from 3378.15 feet above mean sea level (AMSL) at well MW-15A, located south of the Site, to 3355.61 at well WW-1. Groundwater flow beneath the Site is generally controlled by well WW-1 during pumping. The influence of well WW-1 from pumping has created a cone of depression, which extends away from the well and causes groundwater to flow towards the well. The groundwater potentiometric surface has also been influenced from pumping of a domestic water well and an industrial water well located southeast of the Site. However, pumping from these two wells has been discontinued. The potentiometric elevation measurements also indicate that the Ogallala aquifer in the Site area is under unconfined conditions and no apparent hydrologic barriers (i.e., clay, shale, etc.) are present. Generally, the elevation of the groundwater surface in the shallow and deep monitor wells are consistent and suggest that the entire saturated thickness of the Ogallala aquifer is in communication.

Figure 7 presents a saturated thickness map for the Ogallala Formation for December 18, 1997. The saturated thickness of the Ogallala Formation on December 18, 1997 ranged from about 33 feet southeast of the Site (monitor well MW-19A) to about 66 feet southwest of the Site (monitor well MW-12A). Pumping of the water well at the Site has influenced the saturated thickness of the

Ogallala Formation and the two wells located southeast of the Site. Generally, the saturated thickness of the Ogallala Formation decreases from east to west and reflects the isopach thickness of the formation.

2.0 ADDITIONAL INVESTIGATION ACTIVITIES

From August 18 through December 18, 1997, Highlander conducted additional investigations to delineate the lateral and vertical extent of dissolved chromium previously detected in groundwater. Highlander personnel interviewed Texaco personnel and obtained historical aerial photographs available for the area to evaluate facility operation areas and to identify potential source(s) for the chromium. Highlander installed three (3) hand auger borings; supervised installation of fifteen (15) rotary drilled borings and collected soil samples for laboratory analysis to examine the potential source(s) for the chromium. Also, Highlander personnel supervised drilling and installation of five (5) shallow and thirteen (13) deep monitor wells to define the extent of dissolved chromium in the groundwater. Groundwater samples were collected from the new monitor wells and two existing (2) water wells for laboratory analysis. An evaluation for PSH was performed at wells MW-5 and MW-6 and a field bailout test was conducted at well MW-6 to determine the actual formation PSH thickness. A summary of these activities is presented below.

2.1 Aerial Photograph Review

Highlander personnel reviewed historical aerial photographs available for the area to evaluate the potential source(s) for the chromium impact. The photographs were obtained from the U. S. Department of Agriculture, Farm Services Agency district office located in Lovington, New Mexico, and from National Aerial Resources, Inc., Troy, New York. Aerial photographs available for the

area included a February 7, 1949 photograph (1" = 1667'), and a February 4, 1968 aerial photograph (1" = 2000'. These photographs did not provide sufficient resolution to distinguish potential source(s) for the chromium impact. However, Highlander personnel did interview Texaco employees and were able to obtain an oblique aerial photograph from Texaco, which aided in assessing possible source areas.

The oblique aerial photograph, taken in about 1951, indicated an area southwest of the cooling tower, which was devoid of vegetation. Texaco personnel also indicated that in the past (1940's-1960's), water from the cooling tower was used to irrigate the grass and trees at the Site, a common practice at that time. This practice was discontinued many years ago. Highlander personnel utilized the oblique aerial photograph, and recollection of Texaco employees to investigate potential source areas by drilling soil borings around the cooling tower and south-southwest of the cooling tower.

2.2 Soil Boring Installations

Highlander personnel installed three (3) hand auger borings and supervised drilling of fifteen (15) rotary drilled borings for the purpose of determining the potential source(s) for the chromium impact. The three (3) hand auger borings (AH-1, AH-2 and AH-3) were installed south of the cooling tower in the vicinity of monitor wells MW-3, MW-7 and MW-7A. The borings were advanced to depths of approximately 2.5 feet BGS using a stainless steel hand auger, and soil samples were collected from 0.0 to 0.5 feet BGS and 2.0 to 2.5 feet BGS. The soil samples were submitted under chain-of-custody control to Trace Analysis, Inc., Lubbock, Texas, and analyzed for total metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver).

Fifteen (15) rotary drilled borings were installed in the vicinity of the cooling tower, and

south-southwest of the cooling tower. Scarborough Drilling, Inc. drilled the borings using a truck-mounted air rotary drilling rig. The soil borings were advanced to depths of 22 to 52 feet BGS and soil samples were collected at approximately every 10 feet (i.e., 5 – 7 feet, 10 – 12 feet, etc.) using a 2-foot long split spoon sampler. The soil samples were submitted to the laboratory under chain-of-custody control and analyzed for total chromium.

A lithological sample log was prepared for each rotary drilled boring from examination of drill hole cuttings and soil samples. The drilling rig and all down-hole equipment (i.e., drill rods, bits, etc.) were thoroughly washed between borings using a high pressure hot water washer. The hand auger was washed between samples using a laboratory grade detergent wash, followed by thoroughly rinsing the auger with distilled water. Drill cuttings were placed on the ground adjacent to the borings and later transferred to a secured area at the Site. Following drilling, the rotary drilled borings were plugged using a portland cement and bentonite grout mix. Figure 2 presents a Site drawing showing the locations for the soil borings. A summary of soil boring drilling details is presented on Table 1. Table 2 presents a summary of soil sample laboratory results. Appendix B presents lithological sample logs for the rotary drilled borings. Appendix C presents the laboratory reports.

2.3 Monitor Well Installations

Highlander personnel supervised drilling and installation of five (5) shallow monitor wells (MW-7, MW-8, MW-9, MW-10 and MW-13), and thirteen (13) deep monitor wells (MW-4A, MW-7A through MW-19A). The monitor wells were installed to investigate the lateral and vertical extent of chromium impact to the Ogallala aquifer. The monitor wells were installed hydraulically down gradient (south, southwest and southeast) of the Site. The locations for the monitor wells were based on the groundwater potentiometric surface map from April 22-23, 1997 depth-to-groundwater

measurements. Scarborough Drilling, Inc., using a water rotary drilling rig installed the monitor wells from August 18, 1997 through December 3, 1997. The shallow monitor wells were installed into the upper part of the Ogallala aquifer and were drilled to depths from 65 to 67 feet BGS. The wells were completed with 4 inch diameter, screw threaded, schedule 40 PVC casing, and 0.020 inch factory slotted screen. The well screen, approximately twenty (20) feet in length, was installed into the boring with approximately fifteen (15) feet of screen into the groundwater and five (5) feet above the groundwater. The annulus between the well screen and boring was backfilled with graded (20-40) silica sand to an approximate depth of two (2) feet above the screen. A layer of bentonite pellets, approximately 3 feet thick, was placed over the sand and hydrated with potable water. The remainder of the boring was filled with a portland cement and bentonite grout mix. The deep monitor wells (MW-4A, MW-7A through MW-19A) were installed to assess impacts to the lower portion of the Ogallala aquifer, due to possible downward vertical migration of contaminants and vertical migration produced by pumping from offsite water wells. The deep monitor wells were drilled to depths from about 72 feet BGS (MW-19A) to about 116 feet BGS (MW-11A and MW-12A). Drilling was terminated at the top of the Triassic-age Chinle Formation, which consists of red to reddish-brown shale. The wells were completed with 4 inch diameter, screw threaded, schedule 40 PVC casing, and 0.020 inch factory slotted screen. The well screen, approximately ten (10) feet in length, was installed near the base of the Ogallala Formation. The annulus between the well screen and boring was backfilled with graded (20-40) silica sand to an approximate depth of two (2) feet above the screen. A bentonite pellet seal, approximately 3 feet thick, was placed over the sand and the remainder of the boring was filled with a portland cement and bentonite grout mix. The monitor wells are secured with water-tight caps and locking covers. The well covers were placed in a concrete pad measuring approximately 3 X 3 feet. Table 1 presents a summary of monitor well drilling and completion details. Appendix D presents the monitor well completion records.

The drilling rig and all down-hole equipment (i.e., drill rods, bits, etc.) were thoroughly

washed between borings using a high pressure hot water washer. Following installation, Scarborough Drilling, Inc. using a three (3) inch diameter steel bailer, developed the monitor wells. The well bailer was also thoroughly decontaminated between wells using a high pressure hot water washer. The purged groundwater from all wells, except wells MW-8 and MW-8A, was placed in a portable tank, and transferred to the waste oil and water storage tanks via the north sump. Purged water from wells MW-8 and MW-8A was placed in 55-gallon drums, labeled and retained on Site until disposal is arranged.

Highlander personnel collected groundwater samples from the new monitor wells following development of the wells. Prior to sampling, each well was measured for depth-to-groundwater and total well depth, and inspected for the presence of PSH. The monitor wells were then purged by pumping with an electric submersible pump. A minimum of three (3) casing volumes of groundwater was removed from each well. The purged groundwater was contained in a 200-gallon portable tank and transferred to the waste oil and water storage area via the north sump. Groundwater purged from wells MW-8 and MW-8A was contained in 55-gallon drums, labeled and retained on Site until disposal is arranged. Following purging, groundwater samples were collected from monitor wells using dedicated disposable PVC bailers and line. Highlander personnel also collected groundwater samples from two (2) water wells located off Site. The water wells are located southeast of the Site, and the samples were collected from a spigot nearest to the well head. The groundwater samples were carefully transferred to appropriately labeled and preserved sample containers provided by the analytical laboratory (Trace Analysis, Inc., Lubbock, Texas). Groundwater samples from wells MW-4A, MW-7, MW-7A, MW-8, MW-8A, MW-9, MW-9A, MW-10, MW-11A and MW-12A) were analyzed for volatile and semi-volatile (PAH) organic compounds by EPA methods SW-846-8240 and 8270, respectively, dissolved (filtered) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver), chloride, and total dissolved solids (TDS). Groundwater samples from the remaining wells (MW-13, MW-13A through

MW-19A) and two (2) offsite water wells were analyzed for dissolved metals only. Groundwater samples from wells MW-8 and MW-8A were also analyzed for hexavalent chromium + 6 and total chromium + 3. Table 3 presents a summary of the volatile organic parameters detected in the groundwater samples. Table 4 presents a summary of the semi-volatile (PAH) organic parameters detected in the groundwater samples. Table 5 presents a summary of the dissolved metals analysis, including hexavalent chromium +6 and chromium + 3. Table 6 presents a summary of the chloride and TDS analysis. Appendix C presents the laboratory reports, chain-of-custody forms, and QA/QC documentation.

2.4 Phase Separated Hydrocarbon (PSH) Assessment

Monitor wells MW-5 and MW-6 located adjacent to the north sumps were installed to evaluate the presence of PSH on groundwater. Monitor well MW-5 was installed on the east side of the sump, and monitor well MW-6 was installed on the west side of the sump. The monitor wells were periodically inspected for the presence of PSH. On December 18, 1997, PSH was observed on the groundwater in wells MW-5 and MW-6 at a thickness of 0.47 feet and 2.78 feet, respectively. The thickness of the PSH was determined with a Heron Instruments, Model H.Oil electronic oil and water interface probe.

Highlander personnel conducted a bailout test of well MW-6 to determine the actual formation PSH thickness at well MW-6. The bailout test was conducted on December 18, 1997 using the method developed after Gruszczenski (1987). The bailout test consisted of bailing the well of PSH and recording the rate of recovery of groundwater and PSH to determine an inflection point, or point at which the PSH thickness in the well is equal to the actual formation PSH thickness. Approximately ten (10) gallons of water and PSH was bailed from the well before measuring the rate of return. Based on the bailout test results for well MW-6, an inflection point was detected

approximately 18 minutes following bailing.

3.0 INVESTIGATION RESULTS

3.1 Soil Sample Results

Soil samples were collected from hand auger and rotary drilled borings placed in the vicinity of the cooling tower, and south and southwest of the cooling tower. Soil samples from the hand auger borings were analyzed for the metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver. Soil samples from the rotary drilled borings were analyzed for total chromium. Table 2 presents a summary of the metals analysis.

Referring to Table 2, barium, chromium and lead were the only metals reported in the soil samples from hand auger borings AH-1, AH-2 and AH-3. Barium was reported at levels from less than the test method detection limit (<20 mg/kg) to 48 mg/kg. The barium levels reported in the soil samples were below background concentrations, which ranged from 61 mg/kg to 270 mg/kg. Lead (120 mg/kg) was only reported in one soil sample (AH-3, 0.0 – 0.5 feet BGS). The total lead level reported in this sample was elevated above the background, which reported concentrations less than the test method detection limit (<10 mg/kg). However, the total lead concentration (120 mg/kg) is below the soil cleanup level of 500 to 1,000 mg/kg, established by EPA for residential soil cleanup at CERCLA sites. (OSWER Directive 9355.4-02, September 7, 1989).

Chromium was at detectable levels in soil samples from the hand auger and rotary drilled borings. Chromium levels in the background soil samples ranged from 37mg/kg to 62 mg/kg. The mean total chromium concentration in the background samples was 49.5 mg/kg. Chromium was reported above the mean background concentration in samples from borings AH-2, 2.0 - 2.5 feet (57

mg/kg), AH-3, 0.0 - 0.5 feet (55 mg/kg), CT BH-1, 5 - 7 feet (61 mg/kg), SW BH-5, 5 - 6 feet (65 mg/kg), and SW BH-10, 5 - 7 feet (120 mg/kg). Although these levels are elevated in comparison to the mean background concentration, only the samples from borings SW BH-5 and SW BH-10 exceed the maximum background level. These levels are below the EPA Region III Risk-Based Concentrations for soil at industrial sites (5,100 mg/kg) and residential sites (390 mg/kg). Based on the soil sample analysis, chromium is present in the shallow soil in the vicinity of and south-southwest of the cooling tower. However, the chromium concentrations reported in the soil samples do not indicate that there is a significant health risk.

3.2 Groundwater Sample Results

Groundwater samples were collected from monitor wells MW-4A, MW-7, MW-7A, MW-8, MW-8A, MW-9, MW-9A, MW-10, MW-11A and MW-12A were analyzed for volatile organic compounds (8240) semi-volatile (PAH) organic compounds (8270), dissolved metals, chloride and TDS. The remaining monitor wells (MW-10, MW-13, MW-13A through MW-19A) and two (2) offsite water wells were analyzed for dissolved metals only. Table 3 presents a summary of the volatile organic laboratory test results. Table 4 presents a summary of the semi-volatile organic test results. Table 5 presents a summary of the metals analysis, and Table 6 presents a summary of the chloride, and TDS analysis.

3.2.1 Volatile and Semi-Volatile Organic Compounds

Referring to Table 3, only benzene (2 ug/L) and dichlorodifluoromethane (5.0 ug/L and 12 ug/L) were detected in the monitoring wells. Benzene was reported in the groundwater sample from well MW-9 and was below the WQCC standard of 10 ug/L. Dichlorodifluoromethane was only reported in the groundwater samples from wells MW-7 and MW-8. The WQCC does not have

Human Health Standards for dichlorodifluoromethane; however, dichlorodifluoromethane is listed as a toxic pollutant, in accordance with the WQCC definition (20 NMAC 6.2.1101.TT). In accordance with 20 NMAC 6.2.1101.TT, dichlorodifluoromethane is considered a toxic pollutant if it is present in the environment at a concentration, shown by publicly available scientific information, to have the potential for causing injuries to health upon exposure, ingestion, or assimilation. Highlander evaluated the U.S. EPA, Region III, Risk-Based Concentration Table, and the Office of Water, Drinking Water Regulations and Health Advisories (EPA 822-B-96-002), to obtain information on human health exposure data for these compounds. Based on the review, the Lifetime Drinking Water Health Advisory (HA) for dichlorodifluoromethane, for an adult (70-kg), is 1 mg/L (1,000 ug/L). The Lifetime HA is defined as the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects over a lifetime of exposure, with a margin of safety. Based on the data available, the concentrations of dichlorodifluoromethane detected in groundwater do not pose a health risk.

Referring to Table 4, seven (7) semi-volatile organic compounds were previously reported in groundwater samples at varying concentrations. The seven (7) semi-volatile organic compounds included acetophenone, naphthalene, 2-methylnaphthalene, 2-methylphenol, 4-methylphenol/3-methylphenol, fluorene, and anthracene. Groundwater samples collected from monitor wells MW-4A, MW-7, MW-7A, MW-8, MW-8A, MW-9, MW-9A MW-10, MW-11A and MW-12A were analyzed for semi-volatile (PAH) organic compounds. No semi-volatile organic compounds were detected above test method detection limits.

3.2.2 Dissolved Metals, Chloride and TDS Analysis

Referring to Table 5, only cadmium, chromium, selenium and silver were detected in the groundwater samples above the EPA test method detection limits. Cadmium (0.03 mg/L) was only

reported in the groundwater sample from monitor well MW-10. Selenium was reported at concentrations of 0.1 mg/L (MW-8A and MW-9A) to 0.5 mg/L (MW-8). Silver was only reported in the groundwater sample from well MW-10 (0.13 mg/L). Chromium was reported in groundwater samples from shallow monitor wells MW-7, MW-8, MW-9, MW-10 and MW-13 at concentrations ranging from 0.16 mg/L (MW-13) to 5.4 mg/L (MW-8). The chromium concentrations in shallow groundwater from these wells exceeded the WQCC standard of 0.05 mg/L, and the EPA primary drinking water standard Maximum Contaminant Level (MCL) for chromium (0.1 mg/l). The highest chromium level was reported in the groundwater samples from well MW-8 (5.4 mg/L), and exceeds the MCL of 5.0 mg/L in accordance with the TCLP procedure. The concentration of chromium in the upper part of the Ogallala aquifer is presented as Figure 8.

Referring to Figure 8, the concentration of chromium is highest in the vicinity of well MW-8 and decreases south and southeast of the Site. The migration of chromium in the upper part of the Ogallala aquifer has been influenced by pumping from the Site water well (WW-1) and two (2) water wells located southeast of the Site. However, migration of the chromium in the upper part of the Ogallala aquifer appears to be more widespread, as a result of pumping from the water wells. Groundwater is typically withdrawn from the water wells near the base of the aquifer, causing greater horizontal migration to occur in the lower part of the aquifer, and also causing vertical downward migration of the contaminants. Beyond the area of influence created by the pumping wells, the contaminants in the upper part of the aquifer continue to migrate laterally and vertically. Migration of the chromium plume towards the water wells was the result of pumping of groundwater from the wells. The groundwater potentiometric map (Figure 6) depicts the area of influence and cone of drawdown created by pumping from the water wells. The aquifer drawdown created from pumping water well WW-1 and the two (2) offsite water wells has also prevented further downgradient (southeast) migration of the chromium. However, pumping of these wells has been discontinued. Based on the groundwater sample results, the extent of the dissolved chromium plume

has been defined in the upper part of aquifer. However, levels of dissolved chromium in shallow wells MW-10 and MW-13, located south of the Site, are slightly above the WQCC standard. There are no known receptors in this area.

Groundwater samples were collected from monitor wells completed into the lower part of the Ogallala aquifer. The chromium levels reported in groundwater samples from these wells ranged from less than the test method detection limit (<0.05 mg/L) to 2.3 mg/L. The highest chromium concentration was reported in the groundwater sample from monitor well MW-8A (2.3 mg/L). Dissolved chromium was reported above the WQCC standard of 0.05 mg/L in groundwater from deep monitor wells MW-7A (0.06 mg/L), MW-8A (2.3 mg/L) and MW-9A (1.5 mg/L). Dissolved chromium was reported above the WQCC standard in groundwater from the two (2) offsite water wells. The concentrations reported in groundwater from these wells was 0.59 mg/L (Lord Water Well) and 0.16 mg/L (Rowland Trucking Co. Water Well). Figure 9 presents a isopleth map showing the distribution of dissolved chromium in the lower part of the Ogallala aquifer.

Referring to Figure 9, migration of the chromium plume in the lower part of the Ogallala aquifer has been influenced by pumping of groundwater from the water wells, as indicated by the detectable levels of chromium levels in groundwater samples from the water wells. However, the chromium plume in the lower part of the Ogallala aquifer is not quite as wide spread as in the upper part of the aquifer. As shown on the groundwater potentiometric map (Figure 6), pumping of groundwater from water well WW-1 has significantly influenced the movement of groundwater in the lower part of the Ogallala aquifer and has prevented further migration south to southeast. The groundwater potentiometric map also indicates influence from pumping the two (2) water wells located southeast of the Site. Based on the groundwater sample results, the extent of dissolved chromium in the lower part of the Ogallala aquifer was delineated.

Referring to Table 6, the results of chloride analysis of groundwater samples from the shallow monitor wells (MW-7, MW-8, MW-9, MW-10 and MW-13) reported concentrations from 520 mg/L to 1,100 mg/L (MW-13). On April 22-23, 1997, groundwater samples from wells MW-1 through MW-6 reported chloride levels from 200 mg/L (MW-1) to 1,500 mg/L (MW-6). These results suggested that elevated chloride in groundwater was the results of spills from the north sump and that the impact had not migrated off site. The data from the additional wells support the original conclusion. However, a slightly elevated chloride level was detected in the groundwater sample from off site well MW-13, suggesting that an impact to groundwater may have occurred in this area and is likely due oil and gas production in the area.

Chloride levels in the deep monitor wells were generally lower than levels reported in the shallow groundwater samples, suggesting the some stratification may be occurring with respect to chloride. However, the chloride level reported in the offsite water well owned by Rowland Trucking Company was elevated in comparison to Site monitor wells, indicating that an impact may have occurred in the vicinity of this well. This impact may be attributable to operations at Rowland Trucking Company or oil and gas production in the area.

Levels of TDS in the groundwater samples were generally higher than chloride levels, suggesting that elevated levels of anions and cations, other than chloride may be present.

3.3 Phase Separated Hydrocarbon Assessment Results

On December 18, 1997, Highlander personnel conducted a field bailout test at well MW-6 to calculate the actual formation thickness of PSH observed in the well. The apparent PSH thickness in well MW-6 was 2.78 feet. During the recovery portion of the bailout test, an inflection point was detected at approximately 18 minutes into the test. The inflection point is that point where the

measured PSH thickness in the well bore is equal to the actual formation PSH thickness. The actual formation PSH thickness was calculated to be 0.64 feet. Highlander personnel also calculated the height of the capillary fringe to be approximately 0.31 feet. Figure 10 presents a graphical presentation of the bailout test results. Figure 11 presents a detailed drawing of the bailout test results. Figure 12 presents the calculation sheet for the actual formation PSH thickness.

4.0 CONCLUSIONS

1. Regionally, the Ogallala Formation ranges in thickness from a few inches to about 300 feet. Based on Site-specific data, the Ogallala Formation ranges in thickness from about 72 feet to 116 feet. The Ogallala Formation generally thins from west to east.

2. The Ogallala Formation is underlain by the Triassic-age Chinle Formation, which consists of red to reddish-brown shale. The elevation of the top of the Chinle Formation ranges from 3342 to 3311 feet above MSL, and slopes from east to west at approximately 0.01 feet per foot..

3. Groundwater occurs in the Ogallala Formation at depths from 39.16 to 73.17 feet BGS (December 18, 1997). The depth-to-groundwater has been influenced by pumping from water well WW-1, and a domestic water well and industrial water well, located southeast of the Site. The elevation of the groundwater surface ranged from 3378.15 to 3355.61 feet above MSL. Groundwater flow has been controlled by pumping from well WW-1, which has created a cone of depression that extends away from the well, and causes groundwater to flow towards the well. The groundwater potentiometric surface has also been influenced from pumping of a domestic water well and an industrial water well located southeast of the Site. However, pumping from these two wells has been discontinued. The potentiometric

elevation measurements also indicate that the Ogallala aquifer in the Site area is under unconfined conditions and no apparent hydrologic barriers (i.e., clay, shale, etc.) are present. The elevation of the groundwater surface in the shallow and deep monitor wells are consistent and suggest that the entire saturated thickness of the Ogallala aquifer is in communication.

4. The saturated thickness of the Ogallala Formation ranged from about 33 to 66 feet, and has been influenced from pumping of water well WW-1, and the two wells located southeast of the Site. Generally, the saturated thickness of the Ogallala Formation decreases from east to west and reflects the isopach thickness of the formation.

5. Historical aerial photographs available for the area were evaluated to identify potential source(s) for the chromium impact. Aerial photographs reviewed included, a February 7, 1949 photograph (1" = 1667'), and a February 4, 1968 aerial photograph (1" = 2000'. These photographs did not provide sufficient resolution to distinguish potential source(s) for the chromium impact. Highlander personnel interviewed Texaco employees and an oblique aerial photograph to aid in assessing possible source areas. The photograph, taken in about 1951, indicated an area southwest of the cooling tower, which was devoid of vegetation. Texaco personnel also indicated that in the past (1940's-1960's), water from the cooling tower was used to irrigate the grass and trees at the Site, a common practice at that time. This practice was discontinued many years ago.

6. Soil samples were collected from hand auger and rotary drilled borings placed in the vicinity of the cooling tower, and south and southwest of the cooling tower. Barium, chromium and lead were the only metals reported in the soil samples. Barium was reported at levels from

less than the test method detection limit (<20 mg/kg) to 48 mg/kg, and were below background concentrations, which ranged from 61 mg/kg to 270 mg/kg. Lead (120 mg/kg) was only reported in one soil sample (AH-3, 0.0 – 0.5 feet BGS), and was elevated above the background, which was not reported above the test method detection limit (<10 mg/kg). The total lead concentration (120 mg/kg) is below the soil cleanup level of 500 to 1,000 mg/kg, established by EPA for residential soil cleanup at CERCLA sites. (OSWER Directive 9355.4-02, September 7, 1989). Chromium background soil samples ranged from 37mg/kg to 62 mg/kg, and the mean concentration was 49.5 mg/kg. Chromium was reported above the mean background concentration in samples from borings AH-2, 2.0 - 2.5 feet (57 mg/kg), AH-3, 0.0 - 0.5 feet (55 mg/kg), CT BH-1, 5 - 7 feet (61 mg/kg), SW BH-5, 5 - 6 feet (65 mg/kg), and SW BH-10, 5 - 7 feet (120 mg/kg). Although these levels are elevated in comparison to the mean background concentration, only the samples from borings SW BH-5 and SW BH-10 exceed the maximum background level. These levels are below the EPA Region III Risk-Based Concentrations for soil at industrial sites (5,100 mg/kg) and residential sites (390 mg/kg). Based on the soil sample analysis, chromium is present in the shallow soil in the vicinity of and south-southwest of the cooling tower. However, the chromium concentrations reported in the soil samples do not indicate that there is a significant health risk.

7. Benzene (2 ug/L) and dichlorodifluoromethane (5.0 ug/L and 12 ug/L) were the only volatile organic compounds detected in groundwater samples. Benzene was detected in the sample from well MW-9, and was below the WQCC standard of 10 ug/L. Dichlorodifluoromethane was detected in the groundwater samples from wells MW-7 and MW-8. No WQCC standard is available for dichlorodifluoromethane. However, the U.S. EPA, Region III has developed a Risk-Based Concentration for human health exposure. The Lifetime Drinking Water Health Advisory (HA) for dichlorodifluoromethane, for an adult (70-kg), is 1 mg/L (1,000

ug/L). The Lifetime HA is defined as the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects over a lifetime of exposure, with a margin of safety. Based on the data available, the concentrations of dichlorodifluoromethane detected in groundwater do not pose a health risk.

8. Seven (7) semi-volatile organic compounds were previously reported in groundwater from the existing monitor wells and water well. However, no semi-volatile organic compounds were detected above test method detection limits in groundwater samples from the new monitor wells.

9. Cadmium, chromium, selenium and silver were the only metals detected in the groundwater samples above the EPA test method detection limits. Cadmium (0.03 mg/L) was only reported in the groundwater sample from monitor well MW-10. Selenium was reported at concentrations of 0.1 mg/L (MW-8A and MW-9A) to 0.5 mg/L (MW-8). Silver was only reported in the groundwater sample from well MW-10 (0.13 mg/L). The cadmium and silver levels reported in these samples exceed the WQCC standards of 0.01 mg/L and 0.05 mg/L, respectively. Chromium was reported in groundwater samples from shallow monitor wells MW-7, MW-8, MW-9, MW-10 and MW-13 at concentrations from 0.16 mg/L (MW-13) to 5.4 mg/L (MW-8). The chromium concentrations in shallow groundwater from these wells exceeded the WQCC standard of 0.05 mg/L, and the EPA primary drinking water standard Maximum Contaminant Level (MCL) for chromium (0.1 mg/l). The highest chromium level was reported in the groundwater samples from well MW-8 (5.4 mg/L), and exceeds the MCL of 5.0 mg/L in accordance with the TCLP procedure. The migration of chromium in the upper part of the Ogallala aquifer has been influenced by pumping from the Site water well (WW-1) and two (2) water wells located southeast of the Site. The chromium levels in the upper part of the aquifer appear to be more widespread. Migration of the chromium plume

towards the water wells was the result of pumping of groundwater from the wells. The two (2) off site water wells have also prevented further downgradient (southeast) migration of the chromium. However, pumping of these wells has been discontinued. Based on the groundwater sample results, the extent of the dissolved chromium plume has been defined in the upper part of aquifer. However, levels of dissolved chromium in shallow wells MW-10 and MW-13, located south of the Site, are slightly above the WQCC standard. There are no known receptors in this area. Groundwater samples from monitor wells completed into the lower part of the Ogallala aquifer reported chromium levels from less than the test method detection limit (<0.05 mg/L) to 2.3 mg/L. The highest chromium concentration was reported in the groundwater sample from monitor well MW-8A (2.3 mg/L). Dissolved chromium was reported above the WQCC standard of 0.05 mg/L in groundwater from deep monitor wells MW-7A (0.06 mg/L), MW-8A (2.3 mg/L) and MW-9A (1.5 mg/L). Dissolved chromium was reported above the WQCC standard in groundwater from the two (2) off site water wells, which reported 0.59 mg/L (Lord Water Well) and 0.16 mg/L (Rowland Trucking Co. Water Well). Migration of the chromium plume in the lower part of the aquifer has been influenced by pumping of groundwater from the water wells. However, the chromium plume in the lower part of the Ogallala aquifer is not quite as wide spread as in the upper part of the aquifer. Pumping of water well WW-1 has significantly influenced the movement of groundwater in the lower part of the Ogallala aquifer and has prevented further migration south to southeast. Pumping of the two (2) water wells located southeast of the Site has also prevented further downgradient migration. Based on the groundwater sample results, the extent of dissolved chromium in the lower part of the Ogallala aquifer was delineated.

10. Chloride was reported from 520 to 1,100 mg/L in groundwater samples from the shallow monitor wells (MW-7, MW-8, MW-9, MW-10 and MW-13) (MW-13). Previously (April

22-23, 1997), groundwater samples from wells MW-1 through MW-6 reported chloride levels from 200 to 1,500 mg/L These results suggested that elevated chloride in groundwater was the results of spills from the north sump and that the impact had not migrated off site. The data from the additional wells support the original conclusion. However, a slightly elevated chloride level was detected in the groundwater sample from off site well MW-13, suggesting that an impact to groundwater may have occurred in this area and is likely due oil and gas production in the area. Chloride levels in the deep monitor wells were generally lower than levels reported in the shallow groundwater samples, suggesting the some stratification may be occurring with respect to chloride. However, the chloride level reported in the off site water well owned by Rowland Trucking Company was elevated in comparison to Site monitor wells, indicating that an impact may have occurred in the vicinity of this well. This impact may be attributable to operations at Rowland Trucking Company or oil and gas production in the area.

11. Levels of TDS in the groundwater samples were generally higher than chloride levels, suggesting that elevated levels of anions and cations, other than chloride may be present.

12. A PSH bailout test was conducted at well MW-6 to calculate the actual formation thickness of PSH observed in the well. The apparent PSH thickness in well MW-6 was 2.78 feet. An inflection point (point where the measured PSH thickness in the well bore is equal to the actual formation PSH thickness) was detected at approximately 18 minutes into the test. The actual formation PSH thickness was calculated to be 0.64 feet. The height of the capillary fringe was calculated to be approximately 0.31 feet.

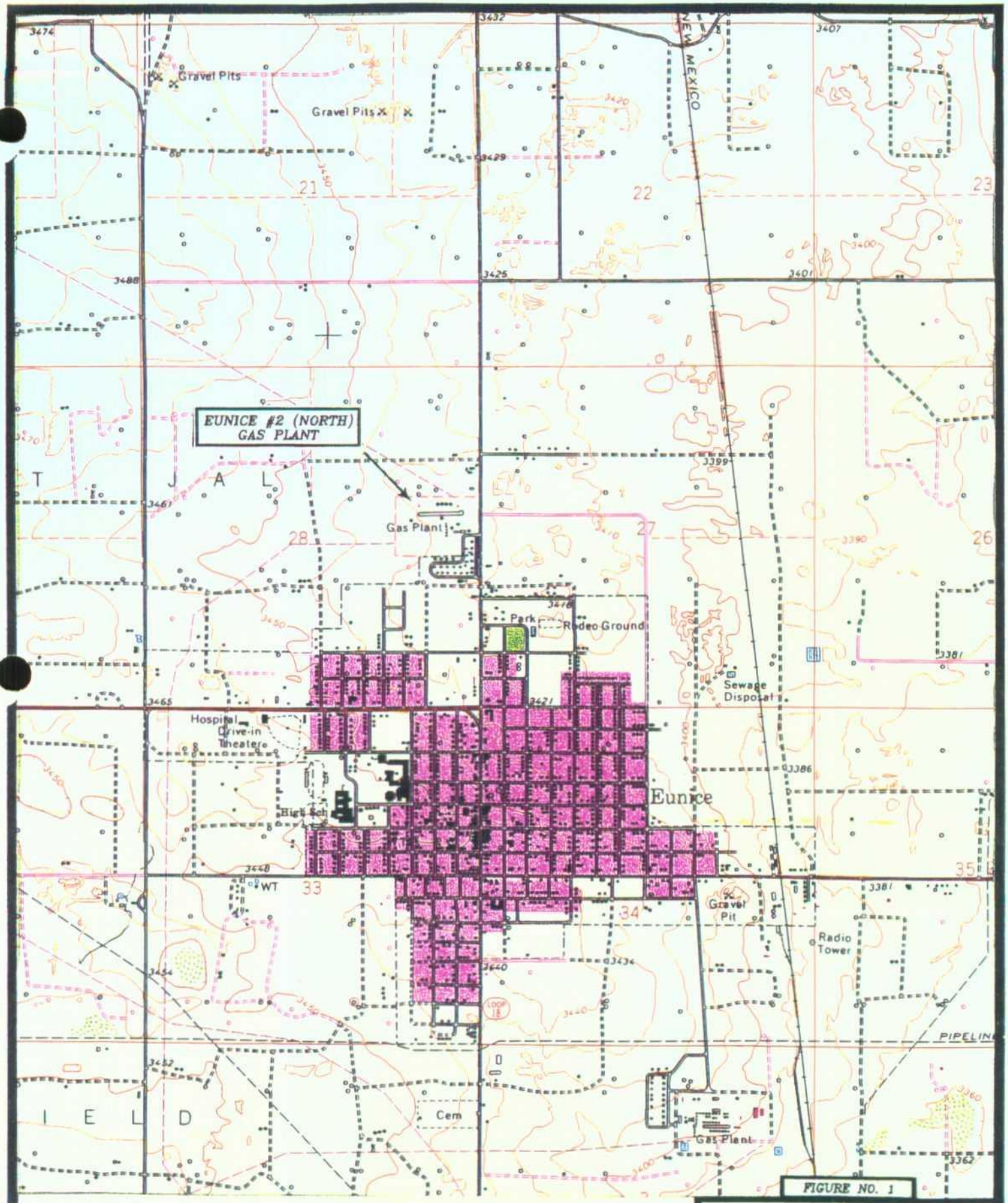


FIGURE NO. 1

LEA COUNTY, NEW MEXCIO

TEXACO
EXPLORATION & PRODUCTION

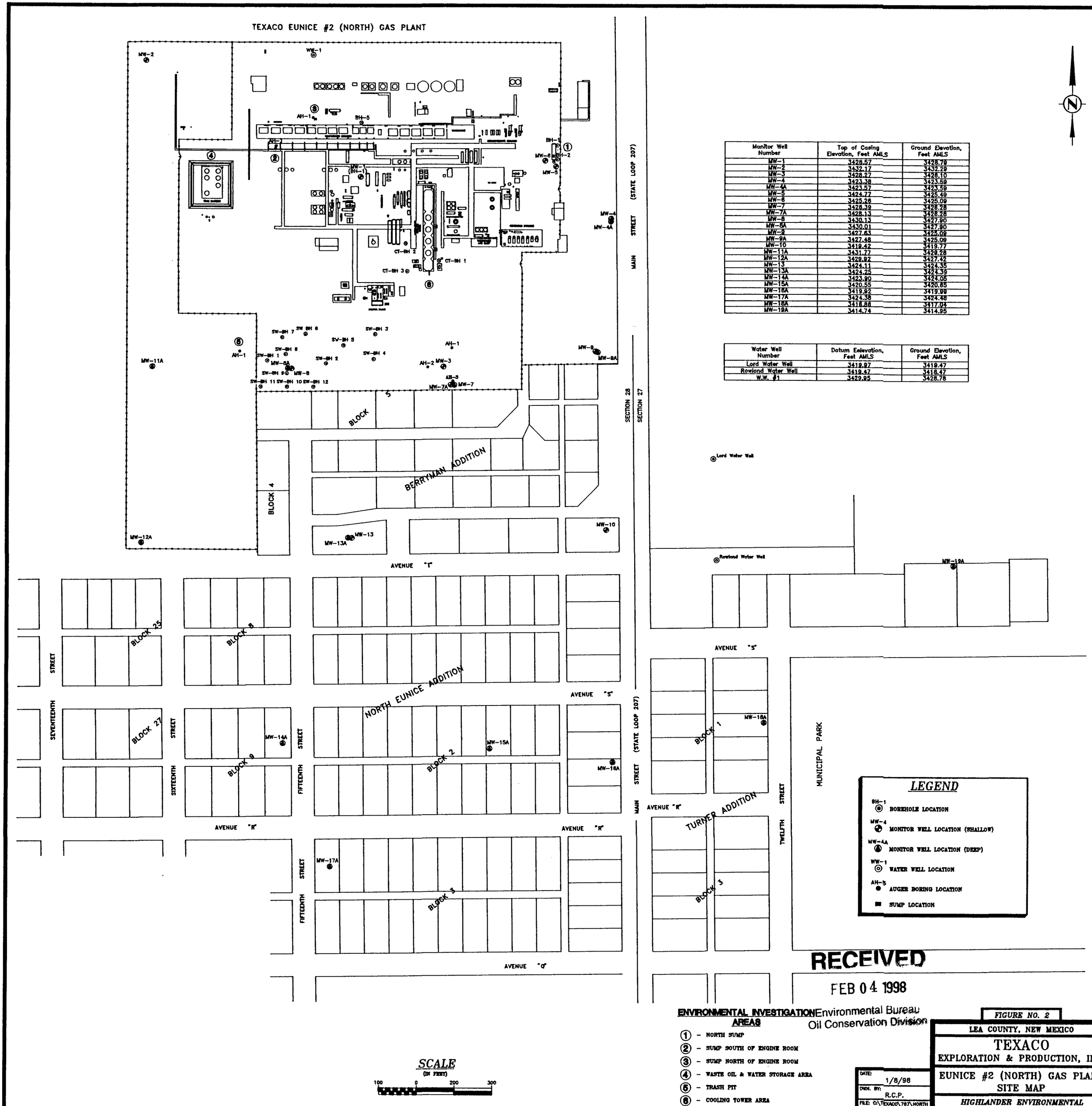
TOPOGRAPHIC MAP

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

TAKEN FROM U.S.G.S.
RATTLESNAKE CANYON, NM
7.5' QUADRANGLE

SCALE: 1"=2,000'

TEXACO EUNICE #2 (NORTH) GAS PLANT



Monitor Well Number	Top of Casing Elevation, Feet AMLS	Ground Elevation, Feet AMLS
MW-1	3428.57	3428.79
MW-2	3432.17	3432.29
MW-3	3428.27	3428.10
MW-4	3423.38	3423.59
MW-4A	3423.57	3423.59
MW-5	3424.77	3425.49
MW-6	3425.26	3425.09
MW-7	3428.39	3428.28
MW-7A	3428.13	3428.28
MW-8	3430.13	3427.90
MW-8A	3430.01	3427.90
MW-9	3427.83	3425.09
MW-9A	3427.48	3425.09
MW-10	3419.42	3419.77
MW-11A	3431.77	3428.28
MW-12A	3429.82	3427.42
MW-13	3424.11	3424.35
MW-13A	3424.25	3424.39
MW-14A	3423.90	3424.05
MW-15A	3420.55	3420.85
MW-16A	3419.92	3419.99
MW-17A	3424.38	3424.48
MW-18A	3416.86	3417.04
MW-19A	3414.74	3414.95

Water Well Number	Datum Eelevation, Feet AMLS	Ground Elevation, Feet AMLS
Lord Water Well	3419.97	3419.47
Rowland Water Well	3419.47	3418.47
W.W. #1	3429.95	3428.78

LEGEND

- BH-1 — BOREHOLE LOCATION
- MW-4 — MONITOR WELL LOCATION (SHALLOW)
- MW-4A — MONITOR WELL LOCATION (DEEP)
- WW-1 — WATER WELL LOCATION
- AH-3 — AUGER BORING LOCATION
- SUMP LOCATION

SCALE

(IN FEET)

100 0 200 300

ENVIRONMENTAL INVESTIGATION AREAS

1. NORTH SUMP
2. SUMP SOUTH OF ENGINE ROOM
3. SUMP NORTH OF ENGINE ROOM
4. WASTE OIL & WATER STORAGE AREA
5. TRASH PIT
6. COOLING TOWER AREA

RECEIVED

FEB 04 1998

Environmental Bureau
Oil Conservation Division

FIGURE NO. 2

LEA COUNTY, NEW MEXICO

TEXACO
EXPLORATION & PRODUCTION, INC.

EUNICE #2 (NORTH) GAS PLANT
SITE MAP

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

DATE: 1/8/98
DWN. BY: R.C.P.
FILE: C:\TEXACO\787\NORTH \WORKPLAN\NTH-BASE

TEXACO EUNICE #2 (NORTH) GAS PLANT

Monitor Well Number	Top of Casing Elevation, Feet AMLS	Ground Elevation, Feet AMLS
MW-1	3428.67	3428.78
MW-2	3432.17	3432.29
MW-3	3428.27	3428.10
MW-4	3423.38	3423.59
MW-4A	3423.57	3423.59
MW-5	3424.77	3425.49
MW-6	3425.26	3425.09
MW-7	3428.39	3428.28
MW-7A	3428.13	3428.28
MW-8	3430.13	3427.90
MW-8A	3430.01	3427.90
MW-9	3427.63	3425.09
MW-9A	3427.48	3425.09
MW-10	3419.42	3419.77
MW-11A	3431.77	3429.28
MW-12A	3429.92	3427.42
MW-13	3424.11	3424.35
MW-13A	3424.25	3424.39
MW-14A	3423.80	3424.05
MW-15A	3420.55	3420.65
MW-16A	3419.92	3419.99
MW-17A	3424.38	3424.48
MW-18A	3418.68	3417.04
MW-19A	3414.74	3414.95

Water Well Number	Datum Elevation, Feet AMLS	Ground Elevation, Feet AMLS
Lord Water Well	3419.97	3419.47
Rowland Water Well	3419.47	3418.47
W.W. #1	3429.95	3428.78

LEGEND

- BH-1 — BOREHOLE LOCATION
- MW-4 — MONITOR WELL LOCATION (SHALLOW)
- MW-4A 104 — MONITOR WELL LOCATION (DEEP) AND OGALLALA FORMATION THICKNESS, FEET
- WW-1 105 — WATER WELL LOCATION AND OGALLALA FORMATION THICKNESS, FEET
- AH-5 — AUGER BORING LOCATION
- SUMP LOCATION
- 100 — OGALLALA FORMATION THICKNESS, FEET

ENVIRONMENTAL INVESTIGATION AREAS

1. NORTH SUMP
2. SUMP SOUTH OF ENGINE ROOM
3. SUMP NORTH OF ENGINE ROOM
4. WASTE OIL & WATER STORAGE AREA
5. TRASH PIT
6. COOLING TOWER AREA

SCALE (IN FEET): 100 0 200 300

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FIGURE NO. 3

LEA COUNTY, NEW MEXICO

TEXACO
EXPLORATION & PRODUCTION, INC.

EUNICE #2 (NORTH) GAS PLANT
ISOPACH MAP OF
OGALLALA FORMATION THICKNESS

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

DATE: 1/8/98
DWN. BY: R.C.P.
FILE: C:\TEXACO\787\NORTH\WORKPLAN\FIG3

TEXACO EUNICE #2 (NORTH) GAS PLANT

Monitor Well Number	Top of Casing Elevation, Feet AMLS	Ground Elevation, Feet AMLS
MW-1	3428.57	3428.79
MW-2	3432.17	3432.29
MW-3	3428.27	3428.10
MW-4	3423.38	3423.59
MW-4A	3423.57	3423.59
MW-5	3424.77	3425.49
MW-6	3425.28	3425.09
MW-7	3428.39	3428.28
MW-7A	3428.13	3428.28
MW-8	3430.13	3427.90
MW-8A	3430.01	3427.90
MW-9	3427.63	3425.09
MW-9A	3427.48	3425.09
MW-10	3419.42	3419.77
MW-11A	3431.77	3429.28
MW-12A	3429.92	3427.42
MW-13	3424.11	3424.35
MW-13A	3424.25	3424.39
MW-14A	3423.90	3424.05
MW-15A	3420.55	3420.65
MW-16A	3419.92	3419.99
MW-17A	3424.38	3424.48
MW-18A	3416.88	3417.04
MW-19A	3414.74	3414.95

Water Well Number	Datum Elevation, Feet AMLS	Ground Elevation, Feet AMLS
Lord Water Well	3419.97	3419.47
Rowland Water Well	3418.47	3418.47
W.W. #1	3429.95	3428.78

LEGEND

- BH-1 — BOREHOLE LOCATION
- MW-4 — MONITOR WELL LOCATION (SHALLOW)
- MW-4A, 3319.59 — MONITOR WELL LOCATION (DEEP) AND ELEVATION OF TOP OF CHINLE FORMATION (TRIASSIC), FEET ABOVE MSL
- WW-1, 3322.78 — WATER WELL LOCATION AND CONTOUR OF ELEVATION OF TOP OF CHINLE FORMATION (TRIASSIC), FEET ABOVE MSL
- AH-5 — AUGER BORING LOCATION
- SUMP LOCATION
- 3320 — CONTOUR OF ELEVATION OF TOP OF CHINLE FORMATION (TRIASSIC), FEET ABOVE MSL

ENVIRONMENTAL INVESTIGATION AREAS

1. NORTH SUMP
2. SUMP SOUTH OF ENGINE ROOM
3. SUMP NORTH OF ENGINE ROOM
4. WASTE OIL & WATER STORAGE AREA
5. TRASH PIT
6. COOLING TOWER AREA

SCALE (IN FEET): 100 0 200 300

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FIGURE NO. 4

LEA COUNTY, NEW MEXICO

TEXACO
EXPLORATION & PRODUCTION, INC.

EUNICE #2 (NORTH) GAS PLANT
STRUCTURE CONTOUR MAP OF TOP OF CHINLE FORMATION (TRIASSIC)

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

DATE: 1/8/98
DWN. BY: R.C.P.
FILE: G:\TEXACO\787\NORTH\WORKPLAN\FIG4

TEXACO EUNICE #2 (NORTH) GAS PLANT

Monitor Well Number	Top of Casing Elevation, Feet AMLS	Ground Elevation, Feet AMLS
MW-1	3428.57	3428.79
MW-2	3432.17	3432.29
MW-3	3428.27	3428.10
MW-4	3423.38	3423.59
MW-4A	3423.57	3423.59
MW-5	3424.77	3425.49
MW-6	3425.26	3425.09
MW-7	3428.39	3426.28
MW-7A	3428.13	3426.28
MW-8	3430.13	3427.90
MW-8A	3430.01	3427.90
MW-9	3427.63	3425.09
MW-9A	3427.48	3425.09
MW-10	3419.42	3419.77
MW-11A	3431.77	3429.28
MW-12A	3429.92	3427.42
MW-13	3424.11	3424.35
MW-13A	3424.25	3424.39
MW-14A	3423.90	3424.05
MW-15A	3420.55	3420.85
MW-16A	3419.92	3419.98
MW-17A	3424.38	3424.48
MW-18A	3418.86	3417.04
MW-19A	3414.74	3414.95

Water Well Number	Datum Eelevation, Feet AMLS	Ground Elevation, Feet AMLS
Lord Water Well	3419.97	3419.47
Rowland Water Well	3418.47	3418.47
W.W. #1	3429.95	3428.78

LEGEND

- BH-1 — BOREHOLE LOCATION
- MW-4 (47.96) — MONITOR WELL LOCATION (SHALLOW) AND DEPTH TO GROUNDWATER, FEET BGS, 12/18/97
- MW-4A (48.00) — MONITOR WELL LOCATION (DEEP) AND DEPTH TO GROUNDWATER, FEET BGS, 12/18/97
- WW-1 (73.17) — WATER WELL LOCATION AND DEPTH TO GROUNDWATER, FEET BGS, 12/18/97
- AH-5 — AUGER BORING LOCATION
- SUMP LOCATION
- 55 — CONTOUR OF DEPTH TO GROUNDWATER, FEET BGS, 12/18/97

* CORRECTED FOR PRESENCE OF PSH

ENVIRONMENTAL INVESTIGATION AREAS

1. NORTH SUMP
2. SUMP SOUTH OF ENGINE ROOM
3. SUMP NORTH OF ENGINE ROOM
4. WASTE OIL & WATER STORAGE AREA
5. TRASH PIT
6. COOLING TOWER AREA

SCALE (IN FEET) 100 0 200 300

FIGURE NO. 5

LEA COUNTY, NEW MEXICO

TEXACO
EXPLORATION & PRODUCTION, INC.

EUNICE #2 (NORTH) GAS PLANT
DEPTH TO GROUNDWATER MAP
12/18/97

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

DATE: 1/8/98
DWN. BY: R.C.P.
FILE: C:\TEXACO\787\NORTH\WORKPLAN\FIG5

TEXACO EUNICE #2 (NORTH) GAS PLANT

Monitor Well Number	Top of Casing Elevation, Feet AMLS	Ground Elevation, Feet AMLS
MW-1	3428.57	3428.79
MW-2	3432.17	3432.29
MW-3	3428.27	3426.10
MW-4	3423.38	3423.59
MW-4A	3423.57	3423.59
MW-5	3424.77	3425.49
MW-6	3425.26	3425.09
MW-7	3428.39	3426.28
MW-7A	3428.13	3426.28
MW-8	3430.13	3427.90
MW-8A	3430.01	3427.90
MW-9	3427.63	3425.09
MW-9A	3427.48	3425.09
MW-10	3419.42	3419.77
MW-11A	3431.77	3429.28
MW-12A	3429.92	3427.42
MW-13	3424.11	3424.35
MW-13A	3424.25	3424.39
MW-14A	3423.90	3424.05
MW-15A	3420.55	3420.85
MW-16A	3419.92	3419.99
MW-17A	3424.38	3424.48
MW-18A	3418.86	3417.04
MW-19A	3414.74	3414.95

Water Well Number	Datum Elevation, Feet AMLS	Ground Elevation, Feet AMLS
Lord Water Well	3419.97	3419.47
Rowland Water Well	3418.47	3418.47
W.W. #1	3429.95	3428.78

LEGEND

- BH-1 — BOREHOLE LOCATION
- MW-4, 3375.63 — MONITOR WELL LOCATION (SHALLOW) AND GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION, FEET ABOVE MSL, 12/18/97
- MW-4A, 3375.59 — MONITOR WELL LOCATION (DEEP) AND GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION, FEET ABOVE MSL, 12/18/97
- WW-1, 3365.61 — WATER WELL LOCATION AND GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION, FEET ABOVE MSL, 12/18/97
- AH-5 — AUGER BORING LOCATION
- SUMP LOCATION
- (3376) — CONTOUR OF GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION, FEET ABOVE MSL, 12/18/97

* ELEVATION CORRECTED FOR PRESENCE OF PSH

ENVIRONMENTAL INVESTIGATION AREAS

1. NORTH SUMP
2. SUMP SOUTH OF ENGINE ROOM
3. SUMP NORTH OF ENGINE ROOM
4. WASTE OIL & WATER STORAGE AREA
5. TRASH PIT
6. COOLING TOWER AREA

SCALE (IN FEET): 100 0 200 300

FIGURE NO. 6

LEA COUNTY, NEW MEXICO

TEXACO
EXPLORATION & PRODUCTION, INC.

EUNICE #2 (NORTH) GAS PLANT
GROUNDWATER POTENTIOMETRIC SURFACE MAP, 12/18/97

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

DATE: 1/8/98
DWN. BY: R.C.P.
FILE: C:\TEXACO\787\NORTH\WORKPLAN\FIG6

TEXACO EUNICE #2 (NORTH) GAS PLANT

Monitor Well Number	Top of Casing Elevation, Feet AMLS	Ground Elevation, Feet AMLS
MW-1	3428.57	3428.78
MW-2	3432.17	3432.29
MW-3	3428.27	3428.10
MW-4	3423.38	3423.59
MW-4A	3423.57	3423.59
MW-5	3424.77	3425.49
MW-6	3425.26	3425.09
MW-7	3428.39	3428.28
MW-7A	3428.13	3428.28
MW-8	3430.13	3427.90
MW-8A	3430.01	3427.90
MW-9	3427.63	3425.09
MW-9A	3427.48	3425.09
MW-10	3419.42	3419.77
MW-11A	3431.77	3429.28
MW-12A	3429.92	3427.42
MW-13	3424.11	3424.35
MW-13A	3424.25	3424.39
MW-14A	3423.90	3424.05
MW-15A	3420.55	3420.65
MW-16A	3419.92	3419.89
MW-17A	3424.38	3424.48
MW-18A	3418.88	3417.04
MW-19A	3414.74	3414.95

Water Well Number	Datum Elevation, Feet AMLS	Ground Elevation, Feet AMLS
Lord Water Well	3419.97	3419.47
Rowland Water Well	3419.47	3418.47
W.W. #1	3429.95	3428.78

LEGEND

- BH-1 — BOREHOLE LOCATION
- MW-4 — MONITOR WELL LOCATION (SHALLOW)
- MW-4A 56.00 — MONITOR WELL LOCATION (DEEP) AND SATURATED THICKNESS OF OGALLALA AQUIFER, FEET, 12/18/97
- WW-1 32.83 — WATER WELL LOCATION AND SATURATED THICKNESS OF OGALLALA AQUIFER, FEET, 12/18/97
- AH-5 — AUGER BORING LOCATION
- SUMP LOCATION
- 50 — CONTOUR OF SATURATED THICKNESS OF OGALLALA AQUIFER, FEET, 12/18/97

ENVIRONMENTAL INVESTIGATION AREAS

1. NORTH SUMP
2. SUMP SOUTH OF ENGINE ROOM
3. SUMP NORTH OF ENGINE ROOM
4. WASTE OIL & WATER STORAGE AREA
5. TRASH PIT
6. COOLING TOWER AREA

SCALE (IN FEET) 100 0 200 300

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FIGURE NO. 7

LEA COUNTY, NEW MEXICO

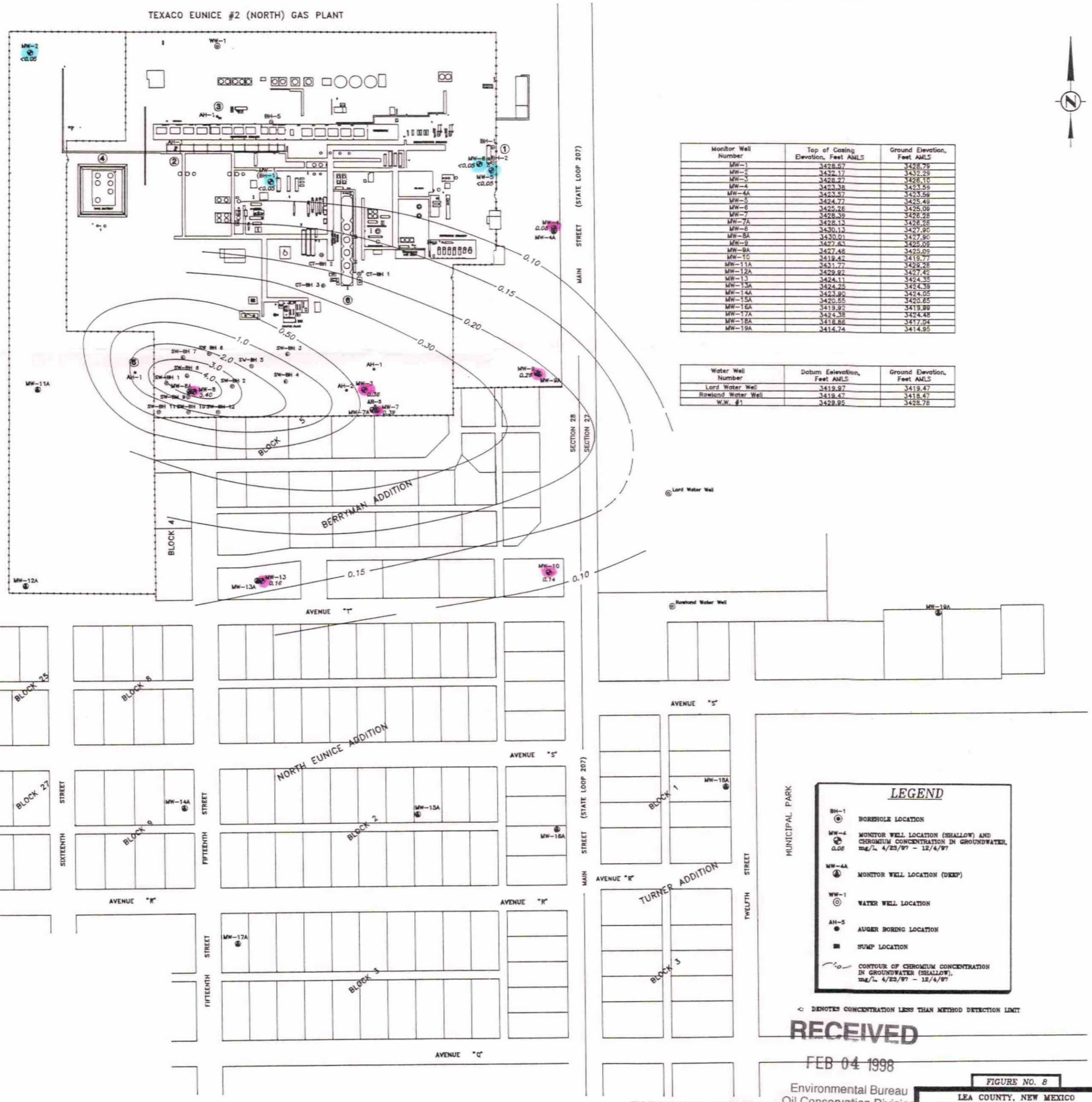
TEXACO
EXPLORATION & PRODUCTION, INC.

EUNICE #2 (NORTH) GAS PLANT
SATURATED THICKNESS MAP OF
OGALLALA AQUIFER, 12/18/97

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

DATE: 1/8/98
DWN. BY: R.C.P.
FILE: C:\TEXACO\787\NORTH\WORKPLAN\FIG7

TEXACO EUNICE #2 (NORTH) GAS PLANT



Monitor Well Number	Top of Casing Elevation, Feet AMLS	Ground Elevation, Feet AMLS
MW-1	3428.57	3428.79
MW-2	3432.17	3432.29
MW-3	3428.27	3428.10
MW-4	3423.38	3423.59
MW-4A	3423.57	3423.59
MW-5	3424.77	3425.49
MW-6	3425.26	3425.09
MW-7	3428.39	3428.28
MW-7A	3428.13	3428.28
MW-8	3430.13	3427.90
MW-8A	3430.01	3427.90
MW-9	3427.63	3425.09
MW-9A	3427.46	3425.09
MW-10	3419.42	3419.77
MW-11A	3431.77	3429.28
MW-12A	3429.82	3427.42
MW-13	3424.11	3424.35
MW-13A	3424.25	3424.38
MW-14A	3423.80	3424.05
MW-15A	3420.55	3420.85
MW-16A	3419.92	3419.89
MW-17A	3424.38	3424.48
MW-18A	3416.86	3417.04
MW-19A	3414.74	3414.95

Water Well Number	Datum Eelevation, Feet AMLS	Ground Elevation, Feet AMLS
Lord Water Well	3419.97	3419.47
Rowland Water Well	3419.47	3418.47
W.W. #1	3429.95	3428.78

LEGEND

- BH-1 ⊙ BOREHOLE LOCATION
- MW-4 ⊕ 0.08 MONITOR WELL LOCATION (SHALLOW) AND CHROMIUM CONCENTRATION IN GROUNDWATER, mg/L, 4/23/97 - 12/4/97
- MW-4A ⊕ MONITOR WELL LOCATION (DEEP)
- WW-1 ◎ WATER WELL LOCATION
- AH-5 ● AUGER BORING LOCATION
- ■ SUMP LOCATION
- 1.0 CONTOUR OF CHROMIUM CONCENTRATION IN GROUNDWATER (SHALLOW), mg/L, 4/23/97 - 12/4/97

<: DENOTES CONCENTRATION LESS THAN METHOD DETECTION LIMIT

SCALE (IN FEET)
100 0 200 300

ENVIRONMENTAL INVESTIGATION AREAS

1. NORTH SUMP
2. SUMP SOUTH OF ENGINE ROOM
3. SUMP NORTH OF ENGINE ROOM
4. WASTE OIL & WATER STORAGE AREA
5. TRASH PIT
6. COOLING TOWER AREA

FIGURE NO. 8

LEA COUNTY, NEW MEXICO

TEXACO
EXPLORATION & PRODUCTION, INC.

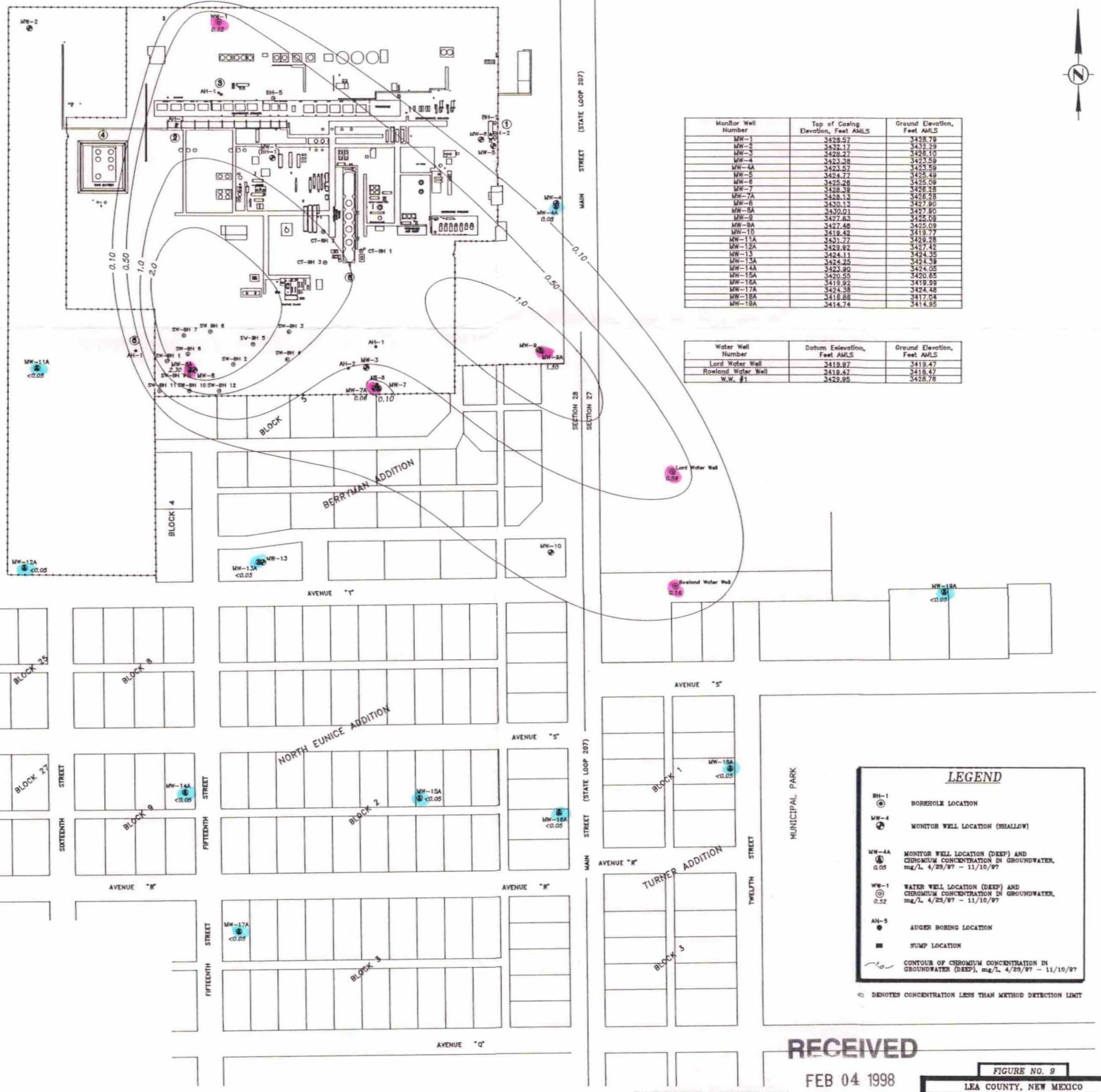
EUNICE #2 (NORTH) GAS PLANT
ISOPLETH MAP OF
CHROMIUM CONCENTRATION IN
GROUNDWATER (SHALLOW)

DATE: 1/8/98
DWN. BY: R.C.P.
FILE: G:\TEXACO\787\NORTH\WORKPLAN\FIG8

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

↑0

TEXACO EUNICE #2 (NORTH) GAS PLANT



Monitor Well Number	Top of Casing Elevation, Feet AMLS	Ground Elevation, Feet AMLS
MW-1	3428.57	3428.79
MW-2	3432.17	3432.29
MW-3	3428.27	3426.10
MW-4	3423.38	3423.59
MW-4A	3423.57	3423.59
MW-5	3424.77	3425.49
MW-6	3425.26	3425.09
MW-7	3428.39	3426.28
MW-7A	3428.13	3426.28
MW-8	3430.13	3427.90
MW-8A	3430.01	3427.80
MW-9	3427.63	3425.09
MW-9A	3427.48	3425.09
MW-10	3419.42	3419.77
MW-11A	3431.77	3428.28
MW-12A	3429.92	3427.42
MW-13	3424.11	3424.35
MW-13A	3424.25	3424.39
MW-14A	3423.90	3424.05
MW-15A	3420.55	3420.85
MW-16A	3419.92	3419.99
MW-17A	3424.38	3424.48
MW-18A	3416.86	3417.04
MW-19A	3414.74	3414.95

Water Well Number	Datum Elevation, Feet AMLS	Ground Elevation, Feet AMLS
Lord Water Well	3419.97	3419.47
Rowland Water Well	3419.47	3418.47
W.W. #1	3429.95	3428.78

LEGEND

- BH-1 — BOREHOLE LOCATION
- MW-4 — MONITOR WELL LOCATION (SHALLOW)
- MW-4A, 0.05 — MONITOR WELL LOCATION (DEEP) AND CHROMIUM CONCENTRATION IN GROUNDWATER, mg/L, 4/23/97 - 11/10/97
- MW-1, 0.52 — WATER WELL LOCATION (DEEP) AND CHROMIUM CONCENTRATION IN GROUNDWATER, mg/L, 4/23/97 - 11/10/97
- AH-5 — AUGER BORING LOCATION
- SUMP LOCATION
- 1.0 — CONTOUR OF CHROMIUM CONCENTRATION IN GROUNDWATER (DEEP), mg/L, 4/23/97 - 11/10/97

<: DENOTES CONCENTRATION LESS THAN METHOD DETECTION LIMIT

ENVIRONMENTAL INVESTIGATION AREAS

1. NORTH SUMP
2. SUMP SOUTH OF ENGINE ROOM
3. SUMP NORTH OF ENGINE ROOM
4. WASTE OIL & WATER STORAGE AREA
5. TRASH PIT
6. COOLING TOWER AREA

SCALE (IN FEET)
100 0 200 300

DATE: 1/8/98
DWN. BY: R.C.P.
FILE: G:\TEXACO\787\NORTH\WORKPLAN\FIG9

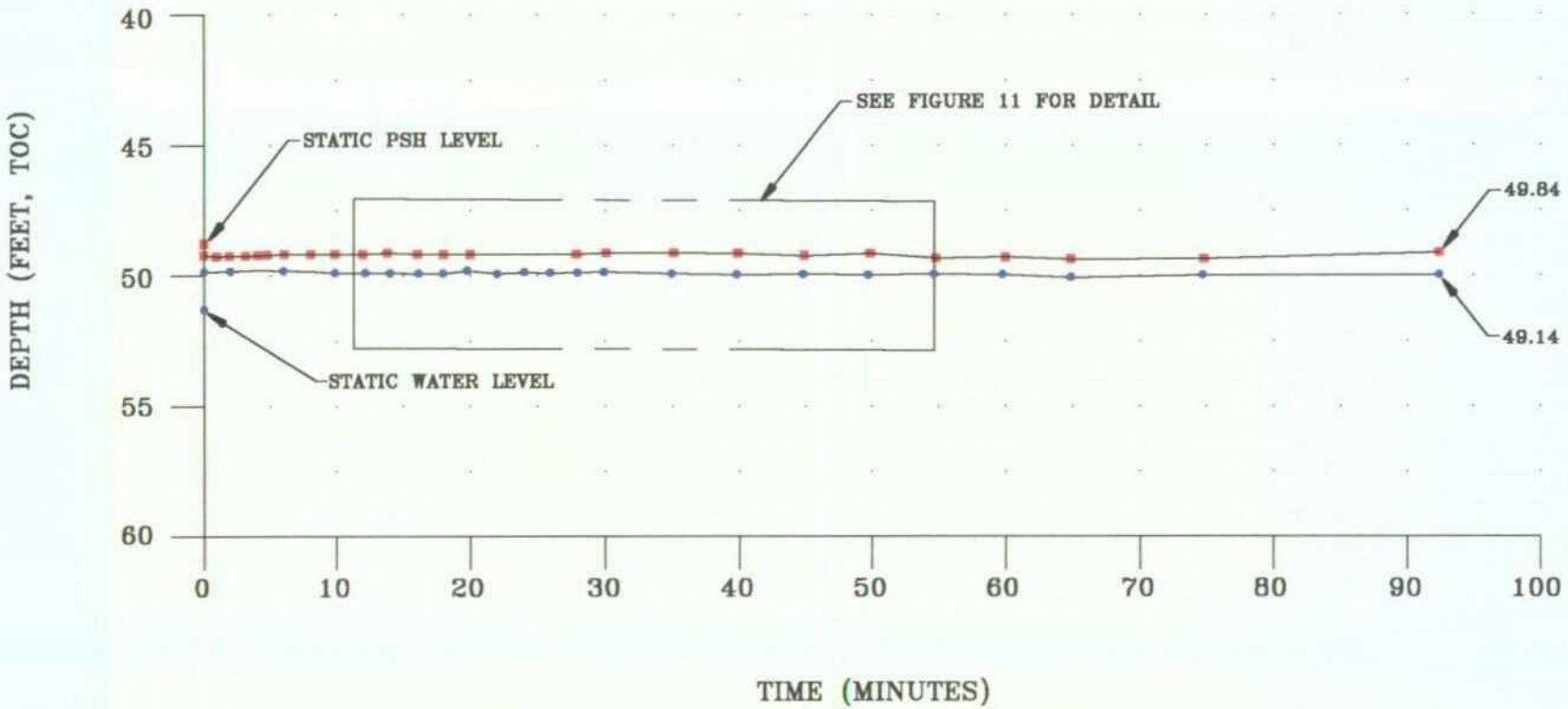
FIGURE NO. 9

LEA COUNTY, NEW MEXICO

TEXACO
EXPLORATION & PRODUCTION, INC.

EUNICE #2 (NORTH) GAS PLANT
ISOPLETH MAP OF CHROMIUM CONCENTRATION IN GROUNDWATER, (DEEP), 4/23/97 - 11/10/97

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS



LEGEND
PSH LEVEL
GROUNDWATER LEVEL

FIGURE NO. 10

LEA COUNTY, NEW MEXICO

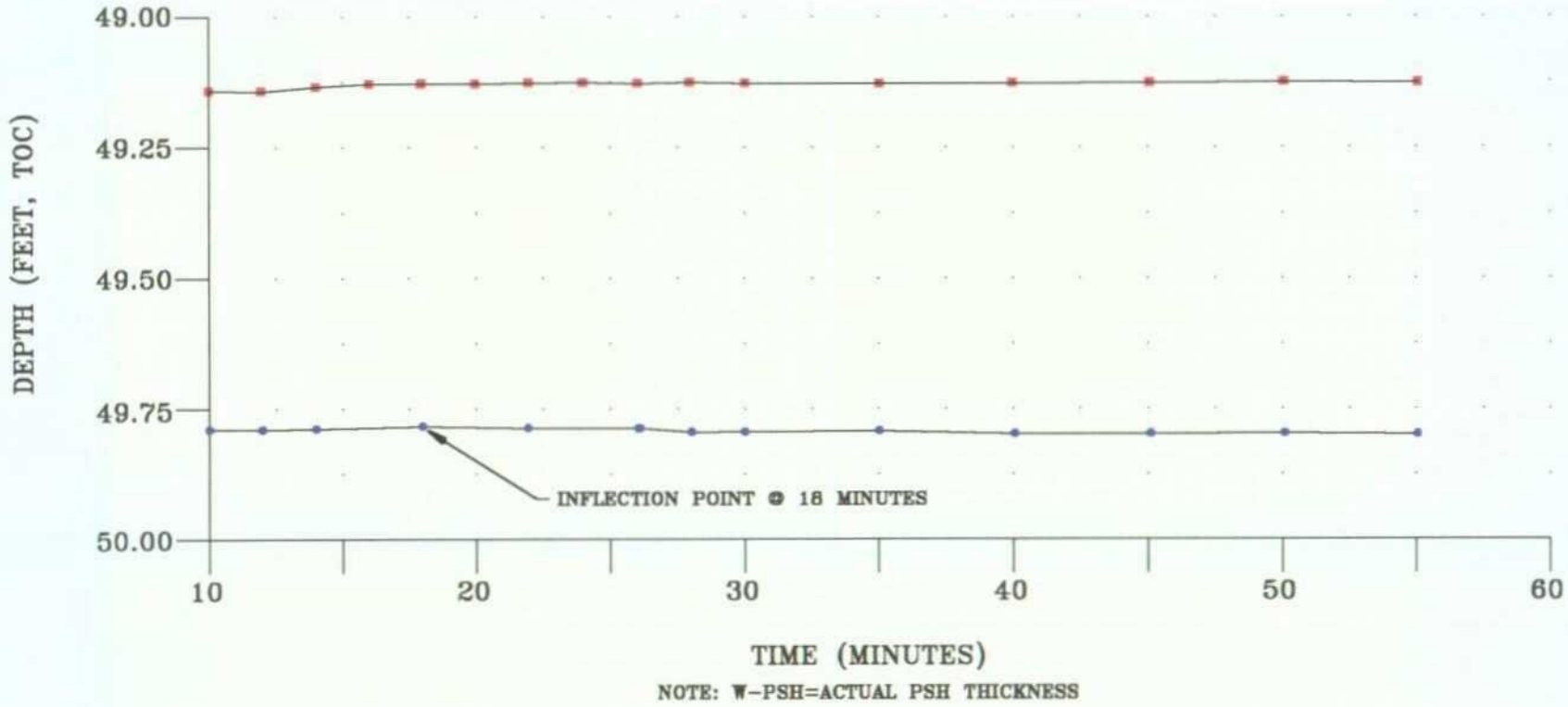
TEXACO
EXPLORATION & PRODUCTION, INC.

PSH BAILOUT
TEST RESULTS, MW-6

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

DATE: 1/8/98
DWN. BY: R.C.P.
FILE: G:\TEXACO\NEW\NORTH\PBH-1

	PSH	WATER	W-PSH	CORRECTED WATER LEVEL, FEET
INFLECTION POINT	49.78	49.14	0.64	48.66
STATIC	48.83	51.61	2.78	49.52



NOTE: W-PSH=ACTUAL PSH THICKNESS

LEGEND

- PSH LEVEL
- GROUNDWATER LEVEL

FIGURE NO. 11

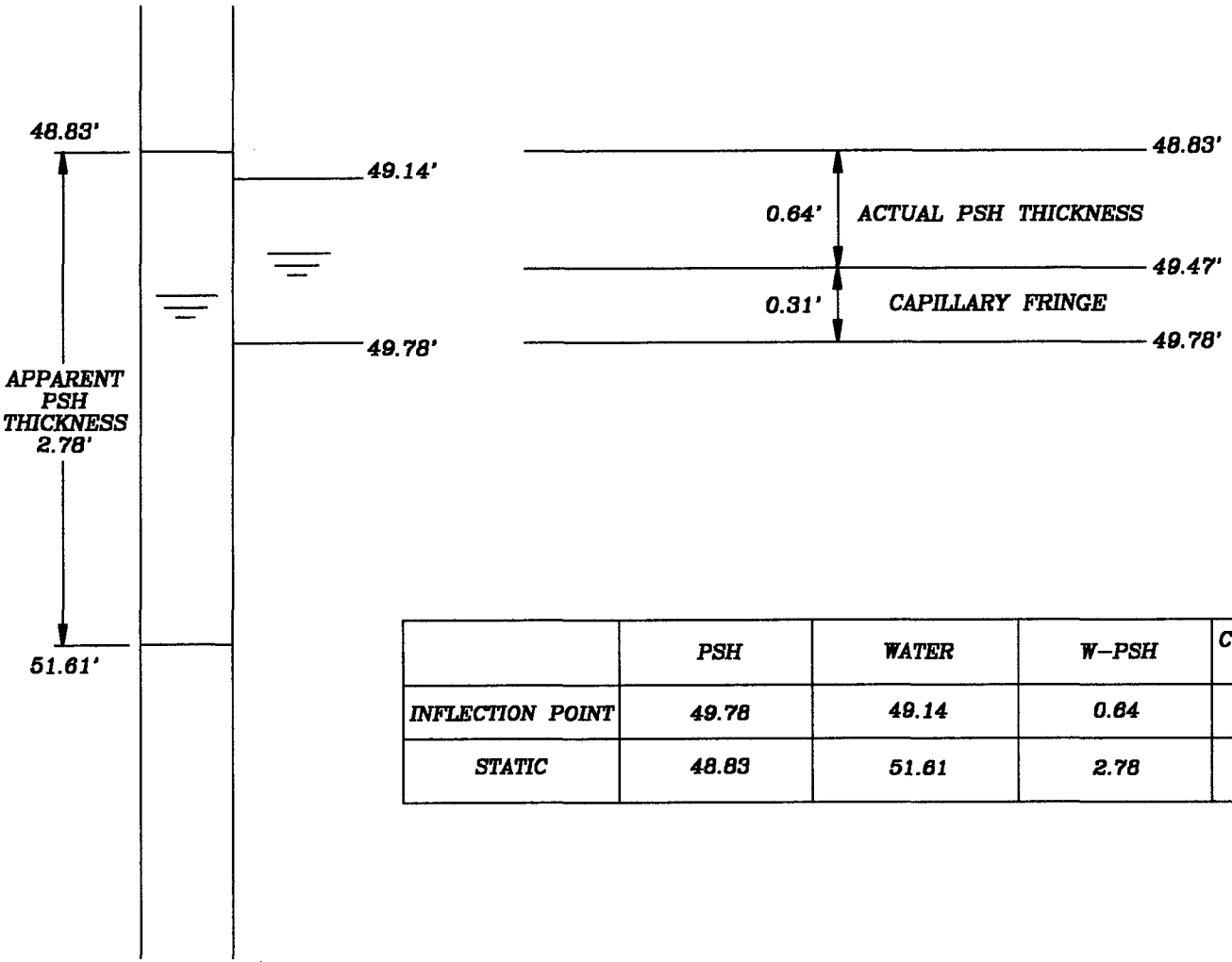
LEA COUNTY, NEW MEXICO

TEXACO
EXPLORATION & PRODUCTION, INC.

PSH BAILOUT TEST,
MW-6, DETAILS

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

DATE: 1/8/98
DWN. BY: R.C.P.
FILE:



	PSH	WATER	W–PSH	CORRECTED WATER LEVEL, FEET
INFLECTION POINT	49.78	49.14	0.64	48.66
STATIC	48.83	51.61	2.78	49.52

VERTICAL SCALE
1 INCH = 1 FOOT

NOT TO SCALE

FIGURE 12

LEA COUNTY, NEW MEXICO

TEXACO
EXPLORATION & PRODUCTION, INC.

PSH BAILOUT TEST
CALCULATION SHEET, MW–6

DATE: 1/8/98
DWN. BY: R.C.P.
FILE: C:\TEXACO\TEX\NORTH\PSH-3

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

TABLES

Table 1: Summary of Soil Boring, Monitor Well and Water Well Drilling and Completion Details
Texaco Exploration and Production, Inc., Eunice #2 (North) Gas Plant
Lea County, New Mexico

Drilling Area	Soil Boring/ Monitor Well No.	Date Drilled	Drilled Depth Feet, BGS	Ground Elev. Feet, MSL	TOC Elev. Feet, MSL	Well Diameter Inches	Well Screen Feet/BGS	Depth-to-Ground Water Feet, BGS 12/18/97
Upgradient	MW-2	3/31/97	68.00	3432.49	3432.18	4	48.00-68.00	55.62
Downgradient	MW-3	4/1/97	68.00	3426.48	3428.27	4	48.00-68.00	49.24
	MW-4	4/1/97	66.50	3423.7	3423.38	4	46.50-66.50	47.69
	MW-4A	10/21/97	104.20	3423.59	3423.57	4	94.20-104.20	48.00
	MW-7	8/18/97	66.29	3426.28	3428.39	4	46.29-66.29	49.43
	MW-7A	10/13/97	111.00	3426.28	3428.13	4	96.50-106.65	49.37
	MW-8	8/18/97	66.62	3427.9	3430.13	4	46.62-66.12	50.76
	MW-8A	10/14/97	114.00	3427.9	3430.01	4	105.50-113.40	50.81
	MW-9	8/19/97	66.66	3425.09	3427.63	4	46.66-68.00	48.98
	MW-9A	10/20/97	101.00	3425.09	3427.48	4	93.00-100.60	49.03
	MW-10	9/11/97	65.10	3419.77	3419.42	4	44.75-65.10	43.22
	MW-11A	10/15/97	116.00	3429.28	3431.77	4	107.50-115.00	51.49
	MW-12A	10/16/97	116.00	3427.42	3424.92	4	106.10-113.60	49.73
	MW-13	12/3/97	60.20	3424.35	3424.11	4	40.0-60.20	46.98
	MW-13A	10/23/97	110.00	3424.39	3424.25	4	96.30-106.44	46.84
	MW-14A	10/27/97	109.00	3424.05	3423.9	4	95.15-105.15	45.93
	MW-15A	10/28/97	103.00	3420.65	3420.55	4	92.20-102.30	42.50
	MW-16A	10/29/97	91.60	3419.99	3419.92	4	81.51-91.60	41.98
	MW-17A	10/30/97	106.00	3424.48	3424.38	4	93.50-103.60	46.05
	MW-18A	11/3/97	81.55	3417.04	3416.86	4	71.38-81.55	39.16

Notes:

1. BGS: Denotes depth in feet below ground surface.
2. MSL: Denotes elevation in feet above mean sea level.
3. *: Denotes depth-to-ground corrected from phase separated hydrocarbons, assuming specific gravity of 0.75.
4. (0.47'): Phase-separated hydrocarbon thinkess in feet.
5. -: No date available.

Table 1: Summary of Soil Boring, Monitor Well and Water Well Drilling and Completion Details
Texaco Exploration and Production, Inc., Eunice #2 (North) Gas Plant
Lea County, New Mexico

Drilling Area	Soil Boring/ Monitor Well No.	Date Drilled	Drilled Depth Feet, BGS	Ground Elev. Feet, MSL	TOC Elev. Feet, MSL	Well Diameter Inches	Well Screen Feet/BGS	Depth-to-Ground Water Feet, BGS 12/18/97
Downgradient	MW-19A	11/6/97	72.40	3414.95	3414.74	4	62.20-72.40	39.83
	Lord Water Well	3/7/63	93.00	3419.47	3419.97	6	--	44.00
	Rowland Water Well	--	--	3418.47	3419.47	6	--	43.12
Compressor	MW-1	7/22/96	68.00	3428.78	3428.59	4	48.00-68.00	52.32
Water Well	WW-1	--	100.00	3428.78	--	6	--	73.12
North Sump	BH-1	7/29/96	52.00	3424.85	--	--	--	--
	BH-2	7/29/96	52.00	3425.03	--	--	--	--
	MW-5	4/2/97	68.00	3425.06	3424.76	4	48.00-68.00	*49.52 (0.471)
	MW-6	4/2/97	68.00	3425.06	3424.25	4	48.00-68.00	*49.69 (2.78')
North Sump E.R.	AH-1	8/9/96	68.00	3428.09	--	--	--	--
South Sump E.R.	AH-1	8/9/96	8.40	3427.72	--	--	--	--
Trash Pit	AH-1	8/9/96	4.70	3426.92	--	--	--	--
Cooling Tower	CT-BH-1	11/4/97	52.00	--	--	--	--	--
	CT-BH-2	11/4/97	52.00	--	--	--	--	--
	CT-BH-3	11/5/97	52.00	--	--	--	--	--
South of Cooling Tower	AH-1	8/19/97	2.56	--	--	--	--	--
	AH-2	8/19/97	2.50	--	--	--	--	--
	AH-3	8/19/97	2.50	--	--	--	--	--

Notes:

1. BGS: Denotes depth in feet below ground surface.
2. MSL: Denotes elevation in feet above mean sea level.
3. *: Denotes depth-to-ground corrected from phase separated hydrocarbons, assuming specific gravity of 0.75.
4. (0.47'): Phase-separated hydrocarbon thinkess in feet.
5. -: No date available.

Table 1: Summary of Soil Boring, Monitor Well and Water Well Drilling and Completion Details
Texaco Exploration and Production, Inc., Eunice #2 (North) Gas Plant
Lea County, New Mexico

Drilling Area	Soil Boring/ Monitor Well No.	Date Drilled	Drilled Depth Feet, BGS	Ground Elev. Feet, MSL	TOC Elev. Feet, MSL	Well Diameter Inches	Well Screen Feet/BGS	Depth-to-Ground Water Feet, BGS 12/18/97
Southwest of Cooling Tower	SW-BH-1	11/5/97	42.00	--	--	--	--	--
	SW-BH-2	11/5/97	22.00	--	--	--	--	--
	SW-BH-3	11/7/97	32.00	--	--	--	--	--
	SW-BH-4	11/7/97	22.00	--	--	--	--	--
	SW-BH-5	11/10/97	22.00	--	--	--	--	--
	SW-BH-6	11/10/97	32.00	--	--	--	--	--
	SW-BH-7	11/10/97	42.00	--	--	--	--	--
	SW-BH-8	11/10/97	42.00	--	--	--	--	--
	SW-BH-9	11/10/97	42.00	--	--	--	--	--
	SW-BH-10	12/4/97	22.00	--	--	--	--	--
	SW-BH-11	12/4/97	27.00	--	--	--	--	--
	SW-BH-12	12/4/97	22.00	--	--	--	--	--

Notes:

1. BGS: Denotes depth in feet below ground surface.
2. MSL: Denotes elevation in feet above mean sea level.
3. *: Denotes depth-to-ground corrected from phase separated hydrocarbons, assuming specific gravity of 0.75.
4. (0.47'): Phase-separated hydrocarbon thinkess in feet.
5. -: No date available.

Table 2: Summary of Total Metals and TCLP (Chromium) Analysis of Soil Samples, Texaco Exploration and Production, Inc., Eunice #2 (North) Gas Plant Lea County, New Mexico

Investigation Area	Soil Boring Number	Sample Depth (ft)	Sample Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	TCLP-Chromium (mg/L)
Background	MW-2	10-11	3/31/97	<10	61	<5.0	<5.0	<10	<0.25	<10	<5.0	-
		20-22	3/31/97	<10	270	<5.0	<5.0	<10	<0.25	<10	<5.0	-
		30-32	3/31/97	<10	170	<5.0	37	<10	<0.25	<10	<5.0	-
		40-42	3/31/97	<10	<20	<5.0	<5.0	<10	<0.25	<10	<5.0	-
		50-52	3/31/97	<10	<20	<5.0	62	<10	<0.25	<10	<5.0	-
Compressor Building	AH-5	0-0.5	10/17/95	<20	1900	2.7	1580	64.4	<0.25	<20	<0.5	-
	AH-5-1	0-0.5	4/3/97	-	320	-	3800	-	-	-	-	-
	AH-5-1	0.5-1.0	4/3/97	-	250	-	360	-	-	-	-	-
	AH-5-1	1.5-2.0	4/3/97	-	26	-	6.2	-	-	-	-	-
	AH-5-2	0-0.5	4/3/97	-	290	-	4400	-	-	-	-	<0.05
	AH-5-3	0-0.5	4/3/97	-	92	-	430	-	-	-	-	-
	AH-5-3	1.5-2.0	4/3/97	-	21	-	6.6	-	-	-	-	-
	AH-5-3	2.7-3.3	4/3/97	-	<20	-	7.3	-	-	-	-	-
	AH-5-4	0-0.5	4/3/97	-	150	-	390	-	-	-	-	-
	AH-5-4	0.5-1.0	4/3/97	-	230	-	1500	-	-	-	-	-
	AH-5-4	2.0-2.5	4/3/97	-	<20	-	63	-	-	-	-	-
	AH-5-5	0-0.5	4/3/97	-	330	-	2900	-	-	-	-	-
	AH-5-5	1.5-2.0	4/3/97	-	<20	-	9.6	-	-	-	-	-
Cooling Tower	BH-1	5-6	11/4/97	-	-	-	6.2	-	-	-	-	-
		10-11	11/4/97	-	-	-	8.0	-	-	-	-	-
		20-22	11/4/97	-	-	-	<5.0	-	-	-	-	-
		30-32	11/4/97	-	-	-	<5.0	-	-	-	-	-
		40-42	11/4/97	-	-	-	<5.0	-	-	-	-	-
	BH-2	5-7	11/4/97	-	-	-	<5.0	-	-	-	-	-
		10-12	11/4/97	-	-	-	<5.0	-	-	-	-	-
		20-22	11/4/97	-	-	-	5.3	-	-	-	-	-
		30-32	11/4/97	-	-	-	<5.0	-	-	-	-	-
		40-42	11/4/97	-	-	-	<5.0	-	-	-	-	-

Notes: All analysis performed by Trace Analysis, Inc., Lubbock, Texas

1. ft.: Denotes sample depth interval in feet below ground surface
2. mg/kg: Denotes analyte concentration in milligrams per kilogram
3. -: No data available
4. TCLP: Analysis by Toxicity Characteristic Leaching Procedure
5. mg/L: Denotes analyte concentration in milligrams per liter
6. <: Denoted analyte concentration below test method detection limit.

Table 2: Summary of Total Metals and TCLP (Chromium) Analysis of Soil Samples, Texaco Exploration and Production, Inc., Eunice #2 (North) Gas Plant Lea County, New Mexico

Investigation Area	Soil Boring Number	Sample Depth (feet)	Sample Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	TCLP-Chromium (mg/L)
Cooling Tower	BH-3	5-7	11/5/97	-	-	-	<5.0	-	-	-	-	-
		10-12	11/5/97	-	-	-	7.4	-	-	-	-	-
		20-22	11/5/97	-	-	-	<5.0	-	-	-	-	-
		30-32	11/5/97	-	-	-	<5.0	-	-	-	-	-
		40-42	11/5/97	-	-	-	<5.0	-	-	-	-	-
South of Cooling Tower	AH-1	0.0-0.5	8/19/97	<10	28	<2.0	11	<10	<0.25	<10	<0.05	-
		2.0-2.5	8/19/97	<10	37	<2.0	20	<10	<0.25	<10	<0.05	-
	AH-2	0.0-0.5	8/19/97	<10	<20	<2.0	42	<10	<0.25	<10	<0.05	-
		2.0-2.5	8/19/97	<10	29	<2.0	57	<10	<0.25	<10	<0.05	-
	AH-3	0.0-0.5	8/19/97	<10	48	<2.0	55	120	<0.25	<10	<0.05	-
		2.0-2.5	8/19/97	<10	25	<2.0	32	<10	<0.25	<10	<0.05	-
Southwest of Cooling Tower	BH-1	5-7	11/5/97	-	-	-	61	-	-	-	-	-
		10-12	11/5/97	-	-	-	14	-	-	-	-	-
		20-22	11/5/97	-	-	-	<5.0	-	-	-	-	-
	BH-2	5-7	11/5/97	-	-	-	16	-	-	-	-	-
		10-12	11/5/97	-	-	-	15	-	-	-	-	-
		20-22	11/5/97	-	-	-	<5.0	-	-	-	-	-
	BH-3	5-7	11/7/97	-	-	-	<5.0	-	-	-	-	-
		10-12	11/7/97	-	-	-	<5.0	-	-	-	-	-
		20-22	11/7/97	-	-	-	<5.0	-	-	-	-	-
	BH-4	5-7	11/7/97	-	-	-	<5.0	-	-	-	-	-
		10-12	11/7/97	-	-	-	8.7	-	-	-	-	-
		20-22	11/7/97	-	-	-	<5.0	-	-	-	-	-
	BH-5	5-6	11/10/97	-	-	-	65	-	-	-	-	-
		10-12	11/10/97	-	-	-	<5.0	-	-	-	-	-
		20-22	11/10/97	-	-	-	<5.0	-	-	-	-	-
	BH-6	5-7	11/10/97	-	-	-	29	-	-	-	-	-
		10-12	11/10/97	-	-	-	20	-	-	-	-	-
		15-16	11/10/97	-	-	-	<5.0	-	-	-	-	-
		20-22	11/10/97	-	-	-	<5.0	-	-	-	-	-
		30-32	11/10/97	-	-	-	<5.0	-	-	-	-	-

Notes:

All analysis performed by Trace Analysis, Inc., Lubbock, Texas

1. ft.: Denotes sample depth interval in feet below ground surface
2. mg/kg: Denotes analyte concentration in milligrams per kilogram
3. -: No data available
4. TCLP: Analysis by Toxicity Characteristic Leaching Procedure
5. mg/L: Denotes analyte concentration in milligrams per liter
6. <: Denotes analyte concentration below test method detection limit

Table 2: Summary of Total Metals and TCLP (Chromium) Analysis of Soil Samples, Texaco Exploration and Production, Inc., Eunice #2 (North) Gas Plant Lea County, New Mexico

Investigation Area	Soil Boring Number	Sample Depth (feet)	Sample Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	TCLP-Chromium (mg/L)
Southwest of Cooling Tower	BH-7	5-7	11/10/97	-	-	-	23	-	-	-	-	-
		10-12	11/10/97	-	-	-	5.3	-	-	-	-	-
		15-17	11/10/97	-	-	-	<5.0	-	-	-	-	-
		20-22	11/10/97	-	-	-	<5.0	-	-	-	-	-
		25-27	11/10/97	-	-	-	<5.0	-	-	-	-	-
		30-32	11/10/97	-	-	-	<5.0	-	-	-	-	-
	BH-8	5-7	11/10/97	-	-	-	33	-	-	-	-	-
		10-12	11/10/97	-	-	-	24	-	-	-	-	-
		15-17	11/10/97	-	-	-	12	-	-	-	-	-
		20-22	11/10/97	-	-	-	9	-	-	-	-	-
		25-27	11/10/97	-	-	-	<5.0	-	-	-	-	-
		30-32	11/10/97	-	-	-	<5.0	-	-	-	-	-
	BH-9	5-7	12/4/97	-	-	-	43	-	-	-	-	-
		10-12	12/4/97	-	-	-	6.3	-	-	-	-	-
		15-17	12/4/97	-	-	-	<5.0	-	-	-	-	-
		20-22	12/4/97	-	-	-	<5.0	-	-	-	-	-
	BH-10	5-7	12/4/97	-	-	-	120	-	-	-	-	-
		10-12	12/4/97	-	-	-	7.4	-	-	-	-	-
		15-17	12/4/97	-	-	-	<5.0	-	-	-	-	-
		20-22	12/4/97	-	-	-	<5.0	-	-	-	-	-
	BH-11	5-7	12/4/97	-	-	-	11	-	-	-	-	-
		10-12	12/4/97	-	-	-	7.1	-	-	-	-	-
		15-17	12/4/97	-	-	-	<5.0	-	-	-	-	-
		20-22	12/4/97	-	-	-	<5.0	-	-	-	-	-
		25-27	12/4/97	-	-	-	6.1	-	-	-	-	-
	BH-12	5-7	12/4/97	-	-	-	<5.0	-	-	-	-	-
		10-12	12/4/97	-	-	-	<5.0	-	-	-	-	-
		15-17	12/4/97	-	-	-	<5.0	-	-	-	-	-
		20-22	12/4/97	-	-	-	<5.0	-	-	-	-	-

Notes:

All analysis performed by Trace Analysis, Inc., Lubbock, Texas

1. ft.: Denotes sample depth interval in feet below ground surface
2. mg/kg: Denotes analyte concentration in milligrams per kilogram
3. -: No data available
4. TCLP: Analysis by Toxicity Characteristic Leaching Procedure
5. mg/L: Denotes analyte concentration in milligrams per liter
6. <: Denotes analyte concentration below test method detection limit

Table 3: Summary of Volatile Organic Parameters Detected in Groundwater Samples from Monitor Wells and Water Wells
Texaco Exploration and Production, Inc., Eunice #2 (North) Gas Plant
Lea County, New Mexico

Well Number	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Dichlorodifluoromethane (ug/L)	Tetrachloroethene (ug/L)
MW-1	8/1/96	9	69	82	169	-	-
	4/23/97	11	33	75	49	98	<1
MW-2	4/22/97	<1	<1	<1	<1	<1	<1
MW-3	4/22/97	<1	<1	<1	<1	6	<1
MW-4	4/23/97	<1	<1	<1	<1	8	<1
MW-4A	10/23/97	<1	<1	<1	<1	<1	<1
MW-5	4/22/97	540	310	93	245	37	<1
MW-6	4/22/97	340	280	110	330	50	<1
MW-7	8/19/97	<1	<1	<1	<1	5	<1
MW-7A	10/22/97	<1	<1	<1	<1	<1	<1
MW-8	8/20/97	<1	<1	<1	<1	12	<1
MW-8A	10/28/97	<1	<1	<1	<1	<1	<1
MW-9	8/20/97	2	<1	<1	<1	<1	<1
MW-9A	10/23/97	<1	<1	<1	<1	<1	<1
MW-10	9/16/97	<1	<1	<1	<1	<1	<1
MW-11A	10/23/97	<1	<1	<1	<1	<1	<1
MW-12A	11/4/97	<1	<1	<1	<1	<1	<1
WW-1	6/14/96	<1	<1	<1	<1	113	<1
	4/23/97	<1	<1	<1	<1	66	<1

Note: All analysis performed by Trace Analysis, Inc., Lubbock, Texas

1. ug/L: Denotes analyte concentration in milligrams per liter
2. <: Denotes analyte concentration below test method detection limit
3. -: No data available

Table 4: **Summary of Semi-Volatile Organic Parameters Detected in Groundwater Samples from Monitor Wells and Water Wells**
Texaco Exploration and Production, Inc., Eunice #2 (North) Gas Plant
Lea County, New Mexico

Well No	Sample Date	Acetophenome (mg/L)	Naphthalene (mg/L)	2-methylnaphthalene (mg/L)	2-methylphenol (mg/L)	4-methylphenol/ 3-methylphenol (mg/L)	Fluorene (mg/L)	Anthracene (mg/L)
MW-1	4/23/97	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-2	4/22/97	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-3	4/22/97	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-4	4/23/97	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-4A	10/23/97	-	<0.001	-	-	-	<0.005	<0.005
MW-5	4/22/97	<0.050	0.12	0.022	<0.010	<0.010	<0.010	<0.010
MW-6	4/22/97	<0.005	0.016	0.026	0.004	0.002	0.002	0.002
MW-7	8/19/97	-	<0.001	-	-	-	<0.001	<0.001
MW-7A	10/22/97	-	<0.001	-	-	-	<0.005	<0.005
MW-8	8/20/97	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-8A	10/28/97	-	<0.005	-	-	-	<0.005	<0.005
MW-9	8/20/97	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-9A	10/23/97	-	<0.001	-	-	-	<0.005	<0.005
MW-10	9/16/97	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-11A	10/23/97	-	<0.001	-	-	-	<0.005	<0.005
WW-1	4/23/97	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	0.002

Note: All analysis performed by Trace Analysis, Inc., Lubbock, Texas

1. mg/L: Denotes analyte concentration in milligrams per liter
2. <: Denotes analyte concentration below test method detection limit
3. -: No data available

Table 5: Summary of Disolved Metals Analysis of Groundwater Samples from Monitor Wells and Water Wells
Texaco Exploration and Production, Inc., Eunice #2 (North) Gas Plant
Lea County, NM

Well No	Sample Date	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Chromium +6 (mg/L)	Chromium +3 (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)	Silver (mg/L)
MW-1	4/23/97	<0.10	<0.20	<0.02	<0.05	-	-	0.1	<0.001	<0.10	<0.01
MW-2	4/22/97	<0.10	<0.20	<0.02	<0.05	-	-	<0.10	<0.001	<0.10	<0.01
MW-3	4/22/97	<0.10	<0.20	<0.02	0.36	-	-	<0.10	<0.001	<0.10	<0.01
	6/11/97	<0.10	<0.10	<0.02	0.22	-	-	<0.10	<0.001	<0.10	<0.05
MW-4	4/23/97	<0.10	<0.20	<0.02	0.08	-	-	0.1	<0.001	<0.10	<0.01
	6/11/97	<0.10	<0.10	<0.02	0.08	-	-	<0.10	<0.001	<0.10	<0.05
MW-4A	10/23/97	<0.10	<0.20	<0.02	0.05	-	-	<0.10	<0.001	<0.10	<0.01
MW-5	4/22/97	<0.10	<0.20	<0.02	<0.05	-	-	<0.10	<0.001	<0.10	<0.01
MW-6	4/22/97	<0.10	0.3	<0.02	<0.05	-	-	0.1	<0.001	<0.10	<0.01
MW-7	8/19/97	<0.10	<0.20	<0.20	0.35	-	-	<0.10	<0.001	<0.10	<0.05
	8/25/97	-	-	-	0.39	-	-	-	-	-	-
MW-7A	10/22/97	<0.10	<0.20	<0.02	0.06	-	-	<0.10	<0.001	<0.10	<0.01
MW-8	8/20/97	<0.10	<0.20	<0.02	5.2	-	-	<0.10	<0.001	0.5	<0.01
	9/16/97	-	-	-	5.4	6.46	0	-	-	0.2	-
	10/28/97	-	-	-	4.6	3.31	0	-	-	-	-
MW-8A	10/28/97	<0.10	<0.20	<0.02	2.3	-	-	<0.10	<0.001	0.1	<0.01
MW-9	8/20/97	<0.10	<0.20	<0.02	0.26	-	-	<0.10	<0.001	<0.10	<0.01
	9/16/97	-	-	-	0.16	-	-	-	-	-	-
MW-9A	10/23/97	<0.10	<0.20	<0.02	1.5	-	-	<0.10	<0.001	0.1	<0.01
MW-10	9/16/97	<0.10	<0.20	0.03	0.14	-	-	<0.10	<0.001	<0.10	0.13
MW-11A	10/23/97	<0.10	<0.20	<0.02	<0.05	-	-	<0.10	<0.001	<0.10	<0.01
MW-12A	11/4/97	<0.10	<0.20	<0.02	<0.05	-	-	<0.10	<0.001	<0.10	<0.01
MW-13	12/4/97	<0.10	<0.20	<0.02	0.16	-	-	<0.10	<0.001	<0.10	<0.01
MW-13A	10/28/97	<0.10	<0.20	<0.02	<0.05	-	-	<0.10	<0.001	<0.10	<0.01
MW-14A	11/4/97	<0.10	<0.20	<0.02	<0.05	-	-	<0.10	<0.001	<0.10	<0.01
MW-15A	11/4/97	<0.10	<0.20	<0.02	<0.05	-	-	<0.10	<0.001	<0.10	<0.01
MW-16A	11/7/97	<0.10	<0.20	<0.02	<0.05	-	-	<0.10	<0.001	<0.10	<0.01
MW-17A	11/10/97	<0.10	<0.20	<0.02	<0.05	-	-	<0.10	<0.001	<0.10	<0.01
MW-18A	11/7/97	<0.10	<0.20	<0.02	<0.05	-	-	<0.10	<0.001	<0.10	<0.01
MW-19A	11/10/97	<0.10	<0.20	<0.02	<0.05	-	-	<0.10	<0.001	<0.10	<0.01
WW-1	6/14/96	<0.10	<0.20	<0.02	0.66	-	-	<0.10	<0.001	<0.1	<0.01
	8/1/96	-	-	-	0.82	-	-	-	-	-	-
	4/23/97	<0.10	<0.20	<0.02	0.52	-	-	<0.10	<0.001	<0.10	<0.01
Lord Water Well	9/29/97	<0.10	<0.10	<0.02	0.59	-	-	<0.10	<0.001	<0.10	<0.05
RTC Water Well	9/29/87	<0.10	<0.10	<0.02	0.16	-	-	<0.10	<0.001	<0.10	<0.05

Note: All analysis performed by Trace Analysis, Inc., Lubbock, Texas

1. mg/L: Denotes analyte concentration in milligrams per liter
2. <: Denotes analyte concentration below test method detection limit
3. -: No data available

Table 6: Summary of General Chemistry Analysis of Groundwater Samples from Monitor Wells and Water Wells, Texaco Exploration and Production, Inc., Eunice #2 (North) Gas Plant, Lea County, New Mexico

Well No.	Sample Date	Potassium (mg/L)	Magnesium (mg/L)	Calcium (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Sulfate (mg/L)	Alkalinity (mg/L)	Nitrate (mg/L)	TDS (mg/L)
MW-1	4/23/97	-	-	-	-	200	-	-	-	-	2000
MW-2	4/22/97	-	-	-	-	350	-	-	-	-	1200
MW-3	4/22/97	-	-	-	-	430	-	-	-	-	2000
MW-4	4/23/97	-	-	-	-	290	-	-	-	-	1600
MW-4A	10/23/97	-	-	-	-	170	-	-	-	-	790
MW-5	4/22/97	-	-	-	-	800	-	-	-	-	2800
MW-6	4/22/97	-	-	-	-	1500	-	-	-	-	3200
MW-7	8/19/97	-	-	-	-	550	-	-	-	-	2600
MW-7A	10/22/97	-	-	-	-	260	-	-	-	-	1200
MW-8A	10/28/97	-	-	-	-	13	-	-	-	-	3700
MW-9A	10/23/97	-	-	-	-	910	-	-	-	-	3600
MW-10	9/16/97	-	-	-	-	520	-	-	-	-	2400
MW-11A	10/23/97	-	-	-	-	210	-	-	-	-	940
MW-12A	11/4/97	-	-	-	-	74	-	-	-	-	480
MW-13	12/4/97	-	-	-	-	1100	-	-	-	-	4000
MW-13A	10/29/97	-	-	-	-	26	-	-	-	-	520
MW-14A	11/4/97	-	-	-	-	97	-	-	-	-	510
MW-15A	11/4/97	-	-	-	-	230	-	-	-	-	650
MW-16A	11/7/97	-	-	-	-	210	-	-	-	-	950
MW-17A	11/10/97	-	-	-	-	120	-	-	-	-	570
MW-18A	11/07/97	-	-	-	-	360	-	-	-	-	1500
MW-19A	11/10/97	-	-	-	-	480	-	-	-	-	1500
WW-1	6/14/96	12.4	142	268	393	782	2.6	-	340	10.4	-
	4/23/97	-	-	-	-	800	-	-	-	-	2600
Lord Water Well	9/29/97	-	-	-	-	480	-	-	-	-	2200
RTC Water Well	9/29/97	-	-	-	-	1100	-	-	-	-	2700

Note: All analysis performed by Trace Analysis, Inc., Lubbock, Texas

1. mg/L: Denotes analyte concentration in milligrams per liter
2. <: Denotes analyte concentration below test method detection limit
3. -: No Data Available

APPENDICES

APPENDIX A

Regulatory Correspondence

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

July 23, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-640

Mr. Robert W. Browning
Texaco Exploration and Production, Inc.
P.O. Box 3109
Midland, Texas 79702

RE: GROUND WATER DELINEATION
REQUIREMENT OF FURTHER DELINEATION/INVESTIGATION
EUNICE NORTH GAS PLANT
DISCHARGE PLAN GW-004
LEA COUNTY, NEW MEXICO

Dear Mr. Browning:

The New Mexico Oil Conservation Division (OCD) has received the Texaco Exploration and Production, Inc. (TEPI) "Final Investigation Report" dated May 27, 1997. The report was required as part of the approval of the "Comprehensive Facility Investigation Work Plan" dated February 10, 1997 as submitted by TEPI, and approved by the OCD as "Ground Water Delineation" on February 27, 1997. The purpose of the "Final Investigation Report" was to delineate and characterize the lateral and vertical extent of the groundwater contamination at the facility in a manner consistent with 20 NMAC 6.2., Subpart IV, 4106. On June 25, 1997 the OCD approved of this report subject to the following conditions:

(From the June 25, 1997 from OCD to TEPI.)

1. *TEPI will meet with the OCD on Tuesday, July 15, 1997 at 1:30 pm to discuss the findings of the "Final Investigation Report" and what options TEPI will be in the process of evaluating for "Groundwater" remediation at the site.*

2. *TEPI and OCD will establish timeliness for implementation of the remediation. The discussion will focus on submittal by TEPI for approval by the OCD of a "Groundwater Remediation" plan for the facility. This will be considered a modification to GW-004 pursuant to 20 NMAC 6.2, Subpart III, 3109. E. Upon submittal of the plan OCD will issue public notice pursuant to 20 NMAC 6.2, Subpart III, 3108 and a 30 day period for public comment will be allowed. After the 30 day comment period (if no protest from the public) OCD will either approve or disapprove of the proposed modification for "Groundwater Remediation."*

Based upon the discussion at the July 15, 1997 between OCD and TEPI it was agreed that further delineation and investigation for the facility would be required. **TEPI will therefore submit to the OCD for review by September 23, 1997 a report outlining the results of the further delineation and investigation.** The report must include a finding regarding the metals situation in the groundwater and an updated timeline for the installation of pollution prevention equipment outlined in the December 6, 1996 from Mr. R.G. Bailey titled " North Plant Work Plan." **TEPI should also consider the removal of the free phase product encountered in MW-6 and MW-5.**

If you have any questions, please contact Mr. Roger Anderson by telephone at (505) 827-7152 or Mr. William Olson at (505) 827-7154.

Sincerely,

Patricio W. Sanchez
Petroleum Engineering Specialist
Environmental Bureau - OCD

c: OCD Hobbs District Office
Mr. Mark J. Larson, Project Manager - Highlander Environmental Corp.

APPENDIX B

Lithological Soil Sample Logs

SAMPLE LOG

Boring/Well: MW-4A
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 104 feet
Date Installed: 10/21/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-10	Tan and brown, fine grain sand, some traces reddish clay at 5.0'
10-20	Fine grain sand, dense caliche and sandstone layers
20-30	Tan, fine grain sand, cemented sandstone layers, traces of white caliche
30-40	Tan, fine grain sand, loose, dense layer of cemented sandstone
40-50	Tan, fine grain sand, loose, some cemented sandstone
50-60	Tan, fine grain sand, some layers of sandstone, dense
60-70	Tan, fine grain sand, well sorted, and loose
70-80	Tan, fine grain sand, some layers of sandstone, dense at 75.0' to 76.0'
80-90	Tan, fine grain sand, some layers of red shale and sandstone, dense
90-100	Tan, fine grain sand, traces of red shale and clay
100-104	Gravel and fine grain sand, traces of brown clay
104	Redbed – clay
	TD - 104'

SAMPLE LOG

Boring/Well: MW-7/MW-7A
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 111 feet
Date Installed: 10/13/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-10	Tan and brown, fine grain sand, some traces of caliche at 7'-10'
10-20	Fine grain sand, dense caliche and sandstone layers
20-30	Tan, fine grain sand, traces of white caliche
30-40	Tan, fine grain sand, loose, dense layer of cemented sandstone at 38'-40'
40-50	Tan, fine grain sand, loose
50-60	Brown, fine grain sand, some layers of sandstone, dense
60-70	Brown, fine grain sand, well sorted, and loose
70-80	Brown, fine grain sand, some layers of sandstone, dense
80-85	Brown, fine grain sand, some layers of sandstone, dense, traces of red clay
85-90	Brown, fine grain sand, some layers of sandstone, dense
90-95	Brown, fine grain sand, some layers of sandstone, dense
95-100	Gravel and fine grain sand
100-105	80% fine grain sand, well sorted and 20% gravel
105-110	60% fine grain sand, well sorted and 20% gravel and brown clay
110-111	Redbed - clay
	TD - 111'

SAMPLE LOG

Boring/Well: MW-8/MW-8A
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 114 feet
Date Installed: 10/14/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-10	Tan and brown, fine grain sand, some traces of caliche at 7'-10'
10-20	Fine grain sand, dense caliche and sandstone layers,
20-30	Tan, fine grain sand, cemented sandstone layers, traces of white caliche
30-40	Tan, fine grain sand, loose, dense layer of cemented sandstone at 38'-40'
40-50	Tan, fine grain sand, loose, some cemented sandstone
50-60	Tan, fine grain sand, some layers of sandstone, dense
60-70	Tan, fine grain sand, well sorted, and loose
70-80	Tan, fine grain sand, some layers of sandstone, dense
80-90	Tan, fine grain sand, some layers of sandstone, dense
90-100	Tan, fine grain sand, some layers of sandstone, dense
100-110	Tan, fine grain sand, some layers of sandstone, dense
110-112	Tan, fine grain sand, layers of cemented sandstone
112-113	Gravel and fine grain sand, well sorted, some brown clay
113-114	Redbed – clay
	TD - 114'

SAMPLE LOG

Boring/Well: MW-9/MW-9A
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 100 feet
Date Installed: 10/20/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-10	Tan and brown, fine grain sand, some traces caliche
10-20	Tan fine grain sand, dense and friable caliche and sandstone
20-30	Tan, fine grain sand, cemented sandstone layers, traces of white caliche
30-40	Tan, fine grain sand, loose, dense layer of cemented sandstone
40-50	Tan, fine grain sand, loose, some cemented sandstone
50-60	Tan, fine grain sand, some layers of sandstone, dense
60-70	Tan, fine grain sand, well sorted, and loose
70-80	Tan, fine grain sand, some layers of sandstone, dense
80-90	Tan, fine grain sand, some layers of sandstone, dense at 78.0' to 79.0'
90-99	Gravel and fine grain sand, some traces of brown clay
99-100	Gravel and fine grain sand, some traces of red clay
100	Redbed – clay
	TD - 100'

SAMPLE LOG

Boring/Well: MW-10
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 65 feet
Date Installed: 9/11/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-10	Tan and brown, fine grain sand, some traces of caliche
10-20	Fine grain sand, dense caliche and sandstone layers
20-30	Tan, fine grain sand, cemented sandstone layers
30-40	Tan, fine grain sand, loose sand, dense layer of cemented sandstone
40-50	Tan, fine grain sand, loose, some cemented sandstone
50-60	Tan, fine grain sand, layers of sandstone, dense
60-65	Tan, fine grain sand, well sorted, and loose
	TD - 65'

SAMPLE LOG

Boring/Well: MW-11A
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 116 feet
Date Installed: 10/15/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-10	Tan and brown, fine grain sand, some traces reddish clay at 5.0'
10-20	Fine grain sand, dense caliche and sandstone layers
20-30	Tan, fine grain sand, cemented sandstone layers, traces of white caliche
30-40	Tan, fine grain sand, loose, dense layer of cemented sandstone at 38'-40'
40-50	Tan, fine grain sand, loose, some cemented sandstone
50-60	Tan, fine grain sand, some layers of sandstone, dense
60-70	Tan, fine grain sand, well sorted, and loose
70-80	Tan, fine grain sand, some layers of sandstone, dense
80-90	Tan, fine grain sand, some layers of sandstone, dense at 85.0'to 86.0'
90-100	Tan, fine grain sand, some traces of sandstone
100-115	Tan, fine grain sand and gravel, some traces of clay
115-116	Tan, fine grain sand and gravel
116	Redbed – clay
	TD - 116'

SAMPLE LOG

Boring/Well: MW-12A
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 116 feet
Date Installed: 10/16/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-10	Tan and brown, fine grain sand, some traces of caliche
10-20	Fine grain sand, dense caliche and sandstone layers
20-30	Tan, fine grain sand, cemented sandstone layers, traces of white caliche
30-40	Tan, fine grain sand, loose, dense layer of cemented sandstone
40-50	Tan, fine grain sand, loose, some cemented sandstone
50-60	Tan, fine grain sand, some layers of sandstone, dense
60-70	Tan, fine grain sand, well sorted, and loose
70-80	Tan, fine grain sand, some layers of sandstone, dense
80-90	Tan, fine grain sand, some layers of sandstone, dense at 85.0' to 86.0'
90-100	Tan, fine grain sand, traces of cemented sandstone layers
100-105	Tan, fine grain sand and gravel, traces of clay
105-113	Gravel and fine grain sand, traces of brown clay
113-116	Tan, fine grain sand and gravel, traces of red clay
116	Redbed – clay
	TD - 116'

SAMPLE LOG

Boring/Well: MW-13/MW-13A
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 110 feet
Date Installed: 10/23/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-10	Tan and brown, fine grain sand, some traces of caliche
10-20	Fine grain sand, dense caliche and sandstone layers
20-30	Tan, fine grain sand, cemented sandstone layers
30-40	Tan, fine grain sand, loose sand, dense layer of cemented sandstone
40-50	Tan, fine grain sand, loose, some cemented sandstone
50-60	Tan, fine grain sand, layers of sandstone, dense
60-70	Tan, fine grain sand, well sorted, and loose
70-80	Tan, fine grain sand
80-90	Tan, fine grain sand, dense layer of sandstone at 81.0'to 82.0'
90-100	Tan, fine grain sand and red shale, traces of cemented sandstone
100-105	Gravel and fine grain sand, traces of brown clay
105-110	Gravel, fine grain sand and brown clay
110	Redbed – clay
	TD - 110'

SAMPLE LOG

Boring/Well: MW-14A
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 109 feet
Date Installed: 10/27/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-10	Tan and brown, fine grain sand, some traces of caliche
10-20	Fine grain sand, dense caliche and sandstone layers
20-30	Tan, fine grain sand, cemented sandstone layers
30-40	Tan, fine grain sand, loose sand, dense layer of cemented sandstone
40-50	Tan, fine grain sand, loose
50-60	Tan, fine grain sand, layers of sandstone, dense
60-70	Tan, fine grain sand, well sorted, and loose
70-80	Tan, fine grain sand, layers of sandstone
80-90	Tan, fine grain sand, dense layer of cemented sandstone at 85.0'to 86.0'
90-100	Tan fine grain sand, red shale, cemented sandstone, and red clay at 95.0'
100-105	Gravel, fine grain sand, traces of brown clay
105-109	75% brown clay, 25% gravel and fine grain sand
109	Redbed – clay
	TD - 109'

SAMPLE LOG

Boring/Well: MW-15A
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 103 feet
Date Installed: 10/28/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-10	Tan and brown, fine grain sand, some traces of caliche
10-20	Fine grain sand, friable and dense caliche, some cemented sandstone
20-30	Tan, fine grain sand, cemented sandstone layers
30-40	Tan, fine grain sand, loose sand, dense layer of cemented sandstone
40-50	Tan, fine grain sand, loose
50-60	Tan, fine grain sand, layers of sandstone, dense
60-70	Tan, fine grain sand, well sorted, and loose
70-80	Tan, fine grain sand, layers of sandstone
80-90	Tan, fine grain sand, dense layer sandstone at 85.0'to 86.0'
90-100	Tan, fine grain sand, brown and reddish clay, gravel
100-102	Gravel, fine grain sand, traces of brown clay
102-103	50% brown clay, 50% gravel and fine grain sand
103	Redbed – clay
	TD - 103'

SAMPLE LOG

Boring/Well: MW-16A
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 91 feet
Date Installed: 10/29/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-10	Tan and brown, fine grain sand, some traces of caliche
10-20	Fine grain sand, friable and dense caliche, some cemented sandstone
20-30	Tan, fine grain sand, cemented sandstone layers
30-40	Tan, fine grain sand, loose sand, dense layer of cemented sandstone
40-50	Tan, fine grain sand, loose, cemented sandstone
50-60	Tan, fine grain sand, layers of sandstone, dense
60-70	Tan, fine grain sand, well sorted, and loose
70-85	Tan, fine grain sand, layers of sandstone
85-91	Gravel and fine grain sand, traces of brown clay
91	Redbed – clay
	TD - 91'

SAMPLE LOG

Boring/Well: MW-17A
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 106 feet
Date Installed: 10/30/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-10	Tan and brown, fine grain sand, some traces of caliche
10-20	Fine grain sand, friable and dense caliche, some cemented sandstone
20-30	Tan, fine grain sand, cemented sandstone layers
30-40	Tan, fine grain sand, loose sand, dense layer of cemented sandstone
40-50	Tan, fine grain sand, loose
50-60	Tan, fine grain sand, layers of sandstone, dense
60-70	Tan, fine grain sand, well sorted, and loose
70-80	Tan, fine grain sand, layers of sandstone
80-90	Tan, fine grain sand, dense layer sandstone at 82'
90-100	Tan, fine grain sand, brown and reddish clay
100-106	50% gravel, fine grain sand, and 50% brown clay
106	Redbed - clay
	TD - 106'

SAMPLE LOG

Boring/Well: MW-18A
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 81 feet
Date Installed: 11/3/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-10	Tan and brown, fine grain sand, some traces of caliche
10-20	Fine grain sand, friable and dense caliche, some cemented sandstone
20-30	Tan, fine grain sand, cemented sandstone layers
30-40	Tan, fine grain sand, loose sand, dense layer of cemented sandstone
40-50	Tan, fine grain sand, loose, cemented sandstone
50-60	Tan, fine grain sand, layers of sandstone, dense
60-70	Tan, fine grain sand, well sorted, and loose
70-75	Tan, fine grain sand, layers of sandstone, trace gravel at 73.0'
75-79	Gravel and fine grain sand, traces of brown clay
79-81	50% gravel and 50% brown clay
81	Redbed – clay
	TD – 81'

SAMPLE LOG

Boring/Well: MW-19A
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 81 feet
Date Installed: 11/3/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-10	Tan and brown, fine grain sand, some traces of caliche
10-20	Fine grain sand, friable and dense caliche, some cemented sandstone
20-30	Tan, fine grain sand, cemented sandstone layers
30-40	Tan, fine grain sand, loose sand, dense layer of cemented sandstone
40-50	Tan, fine grain sand, loose, cemented sandstone
50-60	Tan, fine grain sand, layers of sandstone, dense
60-63	Tan, fine grain sand, well sorted, and loose
63-65	Tan, fine grain sand, traces of gravel
65-72	Gravel and fine grain sand, traces of brown clay
72	Redbed - clay
	TD - 72'

FAX

DATE: January 28, 1998

TO: Ms. Ruth Scarborough

WITH: Scarborough Drilling, Inc.
Lamesa, Texas

FAX : (806) 872-6381

FROM: Mark J. Larson

WITH: Highlander Environmental Corp.
Midland, Texas

PAGES: 33 (Including Cover Sheet)

Ruth: Attached are the boring and monitor well construction records for the Texaco-Eunice #2 (North) Gas Plant. Please call if you have questions. Thanks, Mark!

HIGHLANDER ENVIRONMENTAL CORP.
1910 NORTH BIG SPRING STREET
MIDLAND, TEXAS 79705

If this fax is not legible please call Mark J. Larson at (915) 682-4559

SAMPLE LOG

Boring/Well: CT BH-1 (Cooling Tower Area)
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 52 feet
Date Installed: 11/4/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-5	Tan and brown, fine grain sand, some traces of caliche
5-10	Fine grain sand, dense caliche and sandstone layers
10-15	Tan, fine grain sand, cemented sandstone layers
15-20	Tan, fine grain sand, loose sand, dense layer of cemented sandstone
20-25	Tan, fine grain sand, loose, dense cemented sandstone @ 22'
25-30	Tan, fine grain sand, loose
30-35	Tan, fine grain sand, loose, damp, no staining
35-40	Tan, fine grain sand, layered cemented sandstone
40-45	Tan, fine grain sand, layered cemented sandstone
45-52	Tan, fine grain sand, loose, well sorted sand
	TD - 52'

SAMPLE LOG

Boring/Well: CT BH-2 (Cooling Tower Area)
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 52 feet
Date Installed: 11/4/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-5	Tan and brown, fine grain sand, some traces of caliche
5-10	Fine grain sand, dense caliche and sandstone layers
10-15	Tan, fine grain sand, loose
15-20	Tan, fine grain sand, loose sand, dense layer of cemented sandstone
20-25	Tan, fine grain sand, loose, dense cemented sandstone @ 23'
25-30	Tan, fine grain sand, loose
30-35	Tan, fine grain sand, loose, damp
35-40	Tan, fine grain sand, layered cemented sandstone
40-45	Tan, fine grain sand, layered cemented sandstone, dense @ 43'
45-52	Tan, fine grain sand, loose, well sorted sand, traces of caliche
	TD - 52'

SAMPLE LOG

Boring/Well: CT BH-3 (Cooling Tower Area)
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 52 feet
Date Installed: 11/5/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-5	Tan and brown, fine grain sand, some traces of caliche
5-10	Fine grain sand, dense friable caliche, trace of clay
10-15	Tan, fine grain sand, loose
15-20	Tan, fine grain sand, loose sand, dense layer of cemented sandstone @ 18'
20-25	Tan, fine grain sand, loose, dense cemented sandstone and caliche
25-30	Tan, fine grain sand, dense caliche layer
30-35	Tan, fine grain sand, loose, damp
35-40	Tan, fine grain sand, layered cemented sandstone
40-45	Tan, fine grain sand, layered cemented sandstone, dense @ 42'
45-52	Tan, fine grain sand, loose, well sorted sand, traces of caliche
	TD - 52'

SAMPLE LOG

Boring/Well: SW BH-1 (Southwest of Plant Facility)
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 42 feet
Date Installed: 11/5/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-5	Tan and brown, fine grain sand, loose
5-10	Tan, fine grain sand, loose
10-15	Tan, fine grain sand, caliche layer, friable
15-20	Tan, fine grain sand, loose sand, dense layer of cemented sandstone
20-25	Tan, fine grain sand, loose, dense cemented sandstone and trace of caliche
25-30	Tan, fine grain sand, dense caliche layer
30-35	Tan, fine grain sand, loose, damp
35-42	Tan, fine grain sand, layered cemented sandstone
	TD - 42'

SAMPLE LOG

Boring/Well: SW BH-2 (Southwest of Plant Facility)
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 22 feet
Date Installed: 11/5/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-5	Tan, fine grain sand, dense friable caliche
5-10	Tan, fine grain sand, loose, some dense friable caliche
10-15	Tan, fine grain sand, caliche layer, friable
15-20	Tan, fine grain sand, loose sand, dense layers of cemented sandstone
20-22	Tan, fine grain sand, loose sand, layers of friable sandstone
	TD - 22'

SAMPLE LOG

Boring/Well: SW BH-3 (Southwest of Plant Facility)
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 32 feet
Date Installed: 11/7/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-5	Brown, fine grain sand, loose
5-10	Tan and yellowish, fine grain sand and friable caliche
10-15	Tan, fine grain sand, caliche layer, friable
15-20	Tan, fine grain sand, loose sand
20-25	Tan, fine grain sand, loose
25-30	Tan, fine grain sand
30-32	Tan, fine grain sand, loose
	TD - 32'

SAMPLE LOG

Boring/Well: SW BH-4 (Southwest of Plant Facility)
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 22 feet
Date Installed: 11/7/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-5	Brown, fine grain sand, loose sand
5-10	Tan, fine grain sand, some dense friable caliche @ 8'
10-15	Tan, fine grain sand, caliche layer, friable
15-20	Tan, fine grain sand, loose sand, dense layers of cemented sandstone
20-22	Tan, fine grain sand, loose, traces of friable caliche
	TD - 22'

SAMPLE LOG

Boring/Well: SW BH-5 (Southwest of Plant Facility)
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 22 feet
Date Installed: 11/10/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-5	Brown and reddish, fine grain sand and clay
5-10	Tan, fine grain sand, white friable caliche
10-15	Tan, fine grain sand, caliche layer, friable
15-20	Tan, fine grain sand, loose sand
20-22	Tan, fine grain sand, loose
	TD - 22'

SAMPLE LOG

Boring/Well: SW BH-6 (Southwest of Plant Facility)
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 32 feet
Date Installed: 11/10/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-5	Brown and reddish, fine grain sand and clay
5-10	Tan, fine grain sand, white friable caliche
10-15	Tan, fine grain sand, caliche layer, friable
15-20	Tan, fine grain sand, loose sand
20-25	Tan and greenish, fine grain sand, loose
25-32	Tan, fine grain sand, loose
	TD - 32'

SAMPLE LOG

Boring/Well: SW BH-7 (Southwest of Plant Facility)
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 42 feet
Date Installed: 11/10/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-5	Brown and reddish, fine grain sand and clay
5-10	Tan, fine grain sand, white friable caliche
10-15	Tan, fine grain sand, caliche layer, friable
15-20	Tan, fine grain sand, loose sand, dense caliche layer @ 16'
20-25	Tan and greenish, fine grain sand, loose
25-30	Tan, fine grain sand, loose
30-35	Tan, fine grain sand, loose, well sorted
35-42	Tan, fine grain sand, loose
	TD - 42'

SAMPLE LOG

Boring/Well: SW BH-8 (Southwest of Plant Facility)
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 42 feet
Date Installed: 11/10/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-5	Brown and reddish, fine grain sand and clay
5-10	Tan, fine grain sand, white friable caliche
10-15	Tan, fine grain sand, caliche layer, friable
15-20	Tan, fine grain sand, loose sand, dense caliche layer @ 16'
20-25	Tan and greenish, fine grain sand, loose
25-30	Tan, fine grain sand, loose
30-35	Tan, fine grain sand, loose, well sorted
35-42	Tan, fine grain sand, loose
	TD - 42'

SAMPLE LOG

Boring/Well: SW BH-9 (Southwest of Plant Facility)
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 42 feet
Date Installed: 11/10/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-5	Brown and reddish, fine grain sand and clay
5-10	Tan, fine grain sand, white friable caliche
10-15	Tan, fine grain sand, caliche layer, friable
15-20	Tan, fine grain sand, loose sand, dense caliche layer
20-25	Tan, fine grain sand, loose
25-30	Tan, fine grain sand, loose
30-35	Tan, fine grain sand, loose, well sorted, some dense layers
35-42	Tan, fine grain sand, loose
	TD - 42'

SAMPLE LOG

Boring/Well: SW BH-10 (Southwest of Plant Facility)
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 22 feet
Date Installed: 12/4/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-5	Tan, fine grain sand, white caliche, friable
5-10	White, friable caliche, traces of fine grain sand
10-15	Tan, fine grain sand, loose, dense caliche @ 13'
15-22	Tan, fine grain sand, dense caliche layer @ 21'
	TD - 22'

SAMPLE LOG

Boring/Well: SW BH-11 (Southwest of Plant Facility)
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 27 feet
Date Installed: 12/4/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-5	Tan, fine grain sand, white caliche, friable
5-10	White, friable caliche, traces of fine grain sand
10-15	Tan, fine grain sand, loose, dense caliche @ 13'
15-20	White, caliche dense layer
20-27	Tan, fine grain sand, loose
	TD - 27'

SAMPLE LOG

Boring/Well: SW BH-12 (Southwest of Plant Facility)
Site Location: Texaco E & P Eunice (North) Gas Plant
Location: Eunice, New Mexico
Total Depth: 22 feet
Date Installed: 12/4/97

DEPTH (Ft)	SAMPLE DESCRIPTION
0-5	Tan, fine grain sand, white caliche, friable
5-10	White, friable caliche, traces of fine grain sand
10-15	Tan, fine grain sand, loose, dense caliche @ 13'
15-22	White, caliche dense layer
	TD - 22'

APPENDIX C

Analytical Laboratory Reports

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES CORP.
Attention: Mark Larson
1910 N. Big Spring Street
Midland, TX 79705

September 03, 1997
Receiving Date: 08/22/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 08/27/97
Analysis Date: 08/28/97
Sampling Date: 08/19/97
Sample Condition: I & C
Sample Received by: ML
Client Name: TEP 1
Project Name: Eunice N. Plant

TOTAL METALS (mg/kg)

TA#	Field Code	As	Se	Cd	Cr	Pb	Ag	Ba	Hg
T80187	AH-3 0.0'-0.5'	<10	<10	<2.0	55	120	<0.50	48	<0.25
T80188	AH-3 2.0'-2.5'	<10	<10	<2.0	32	<10	<0.50	25	<0.25
T80189	AH-2 0.0'-0.5'	<10	<10	<2.0	42	<10	<0.50	<20	<0.25
T80190	AH-2 2.0'-2.5'	<10	<10	<2.0	57	<10	<0.50	29	<0.25
T80191	AH-1 0.0'-0.5'	<10	<10	<2.0	11	<10	<0.50	28	<0.25
T80192	AH-1 2.0'-2.5'	<10	<10	<2.0	20	<10	<0.50	37	<0.25
QC	Quality Control	5.2	5.0	5.1	5.0	5.0	0.98	5.1	0.00525
HIGH		---	---	***9.1 91%**	---	---	---	---	---
Reporting Limit		10	10	2.0	5.0	10	0.50	20	0.25
RPD		1	6	5	7	6	3	8	0
% Extraction Accuracy		90	**70	. 84	80	**78	100	**74	100
% Instrument Accuracy		104	99	101	99	100	98	102	105

*** High is not within limits of 95%-105%.**
****NOTE: Extraction Accuracy is out of limits of 80%-120%.**

CHEMIST: As, Se, Cd, Cr, Pb, Ag, Ba: RR Hg: HC
METHODS: EPA SW 846-3051, 6010, 7471.
TOTAL METALS SPIKE: 100 mg/kg As, Se, Cd, Cr, Pb, Ba; 5.0 mg/kg Ag; 2.5 mg/kg Hg.
TOTAL METALS QC: 5.0 mg/L As, Se, Cd, Cr, Pb, Ba; 1.0 mg/L Ag; 0.005 mg/L Hg.

Director, Dr. Blair Leftwich

03 Sep 97
Date

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 1

CLIENT NAME: TEPI

SITE MANAGER: Mark Larson

PROJECT NO.: 737

PROJECT NAME: Eunice N. Plant

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
	3/14/97	13:00	S	✓		AH-3, 0.0' - 0.5'	1									✓													
	3/14/97	13:03	S	✓		AH-3, 2.0' - 2.5'	1									✓													
	3/14/97	13:07	S	✓		AH-2, 0.0' - 0.5'	1									✓													
	3/14/97	13:10	S	✓		AH-2, 2.0' - 2.5'	1									✓													
	3/14/97	13:13	S	✓		AH-1, 0.0' - 0.5'	1									✓													
	3/14/97	13:15	S	✓		AH-1, 2.0' - 2.5'	1									✓													

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Date: 3/21/97 Time: 15:30

RECEIVED BY: (Signature) Helen Shelton Date: 3/21/97 Time: 4:40 PM

SAMPLED BY: (Print & Sign) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED AIRBILL # OTHER:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: Test America
ADDRESS: 6701 Aberdeen, Ste 9
CITY: Midland STATE: Tx ZIP: 79703
CONTACT: D. Lackey PHONE: (915) 704-1291

RECEIVED BY: (Signature) DATE: TIME:

HIGHLANDER CONTACT PERSON: Mark Larson

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS:

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

L samples - HS

80187-97

441

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705
(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 1

CLIENT NAME: TEPI

SITE MANAGER: Mark Lawson

PROJECT NO.: 787

PROJECT NAME: Eunice N. Plant

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	ANALYSIS REQUEST (Circle or Specify Method No.): BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
80187	8/19/97	13:00	S		✓	AH-3, 0.0' - 0.5'	1										✓												
88	8/19/97	13:03	S		✓	AH-3, 2.0' - 2.5'	1										✓												
89	8/19/97	13:07	S		✓	AH-2, 0.0' - 0.5'	1										✓												
90	8/19/97	13:10	S		✓	AH-2, 2.0' - 2.5'	1										✓												
91	8/19/97	13:13	S		✓	AH-1, 0.0' - 0.5'	1										✓												
92	8/19/97	13:15	S		✓	AH-1, 2.0' - 2.5'	1										✓												

RELINQUISHED BY: (Signature) Date: 8/21/97 Time: 15:30
RECEIVED BY: (Signature) Helen Shelton Date: 8/21/97 Time: 4:10 PM

RELINQUISHED BY: (Signature) Helen Shelton Date: 8/21/97 Time: 8:45 PM
RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Sign) Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED
AIRBILL # 155-759-0003-4
OTHER:

RECEIVING LABORATORY: Trace
ADDRESS: 6701 Aberdeen, Ste 9
CITY: Lubbock STATE: TX ZIP: 79705
CONTACT: D. Lorey PHONE: (806) 794-1296

RECEIVED BY: (Signature)
DATE: 8-22-97 TIME: 10:15

HIGHLANDER CONTACT PERSON: Mark Lawson

Results by:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS: 1° 1577590037

Please Fill out all copies – Project Manager retains White copy – Accounting receives Pink copy – Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER ENVIRONMENTAL SERVICES
Attention: Ike Tavarez
1910 N. Big Spring St.
Midland, TX 79705

November 21, 1997
Receiving Date: 11/12/97
Sample Type: Soil
Project No: 787
Project Location: Eunice, NM

Prep Date: 11/11/97
Analysis Date: 11/18/97
Sampling Date: 11/04-05, 07, 10/97
Sample Condition: Intact & Cool
Sample Received by: VW
Client Name: Texaco E & P, Inc.
Project Name: Texaco North Eunice Gas Plant

TA#	FIELD CODE	TOTAL Cr (mg/kg)
T85036	CT BH-1 (5-6')	6.2
T85037	CT BH-1 (10-11')	8.0
T85039	CT BH-1 (20-22')	<5.0
T85041	CT BH-1 (30-32')	<5.0
T85043	CT BH-1 (40-42')	<5.0
T85046	CT BH-2 (5-7')	<5.0
T85047	CT BH-2 (10-12')	<5.0
T85049	CT BH-2 (20-22')	5.3
T85051	CT BH-2 (30-32')	<5.0
T85053	CT BH-2 (40-42')	<5.0
T85056	CT BH-3 (5-7')	<5.0
T85057	CT BH-3 (10-12')	7.4
T85059	CT BH-3 (20-22')	<5.0
T85061	CT BH-3 (30-32')	<5.0
T85063	CT BH-3 (40-42')	<5.0
T85066	SW BH-1 (5-7')	61
T85067	SW BH-1 (10-12')	14
T85069	SW BH-1 (20-22')	<5.0
T85072	SW BH-2 (5-7')	16
T85073	SW BH-2 (10-12')	15
T85075	SW BH-2 (20-22')	<5.0
T85076	SW BH-3 (5-7')	<5.0
T85077	SW BH-3 (10-12')	<5.0
T85079	SW BH-3 (20-22')	<5.0
T85081	SW BH-4 (5-7')	<5.0
T85082	SW BH-4 (10-12')	8.7
T85084	SW BH-4 (20-22')	<5.0

ANALYTICAL RESULTS FOR
HIGHLANDER ENVIRONMENTAL SERVICES
Attention: Ike Tavarez
1910 N. Big Spring St.
Midland, TX 79705

November 21, 1997
Receiving Date: 11/12/97
Sample Type: Soil
Project No: 787
Project Location: Eunice, NM

Prep Date: 11/11/97
Analysis Date: 11/18/97
Sampling Date: 11/04-05, 07, 10/97
Sample Condition: Intact & Cool
Sample Received by: VW
Client Name: Texaco E & P, Inc.
Project Name: Texaco North Eunice Gas Plant

TA#	FIELD CODE	TOTAL Cr (mg/kg)
T85085	SW BH-5 (5-6')	65
T85086	SW BH-5 (10-12')	<5.0
T85088	SW BH-5 (20-22')	<5.0
T85089	SW BH-6 (5-7')	29
T85090	SW BH-6 (10-12')	20
T85091	SW BH-6 (15-16')	<5.0
T85092	SW BH-6 (20-22')	<5.0
T85093	SW BH-6 (30-32')	<5.0
T85094	SW BH-7 (5-7')	23
T85095	SW BH-7 (10-12')	5.3
T85096	SW BH-7 (15-17')	<5.0
T85097	SW BH-7 (20-22')	<5.0
T85098	SW BH-7 (25-27')	<5.0
T85099	SW BH-7 (30-32')	<5.0
T85101	SW BH-8 (5-7')	33
T85102	SW BH-8 (10-12')	24
T85103	SW BH-8 (15-17')	12
T85104	SW BH-8 (20-22')	9.0
T85105	SW BH-8 (25-27')	<5.0
T85106	SW BH-8 (30-32')	<5.0
QC	Quality Control	5.1
REPORTING LIMIT		5.0
RPD		2
% Extraction Accuracy		91
% Instrument Accuracy		101

METHODS: EPA SW 846-3051, 6010B.
CHEMIST: RR
TOTAL Cr SPIKE: 200 mg/kg TOTAL Cr.
TOTAL Cr QC: 5.0 mg/L TOTAL Cr.

Director, Dr. Blair Leftwich

11-21-97
DATE

85036-107 150

Analysis Request and Chain of Custody Record

PAGE: 1 OF: 2

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705
(915) 682-4559 Fax (915) 682-3946

CLIENT NAME: [illegible]
SITE MANAGER: [illegible]
PROJECT NO.:
PROJECT NAME: [illegible] Gas Plant

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE
85036	11-11-97				✓	CT BH 1 (5-6')	1					
37	↓				✓	CT BH-1 (10-11')	1					
38	↓				✓	CT BH-1 (15-17')	1					
39	↓				✓	CT BH-1 (20-22')	1					
40	↓				✓	CT BH-1 (25-27')	1					
41	↓				✓	CT BH 1 (30-32')	1					
42	↓				✓	CT BH 1 (35-37')	1					
43	↓				✓	CT BH 1 (40-42')	1					
44	↓				✓	CT BH 1 (45-47')	1					
45	↓				✓	CT BH 1 (50-52')	1					

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	[illegible]
85036																		✓
37																		✓
38																		
39																		✓
40																		
41																		✓
42																		
43																		✓
44																		
45																		

RELINQUISHED BY: (Signature) [signature] Date: 11-11-97 Time: 5:00 pm
RECEIVED BY: (Signature) Helen Shelton Date: 11/11/97 Time: 5:00 pm
RELINQUISHED BY: (Signature) Helen Shelton Date: 11/11/97 Time: 4:45 PM
RECEIVED BY: (Signature) Date: Time:
RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
RECEIVING LABORATORY: [illegible]
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) Vicki Windham 13
DATE: 11-12-97 TIME: 9:15 AM

SAMPLED BY: (Print & Sign) [signature] Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS (circled) AIRBILL #
HAND DELIVERED UPS OTHER:
HIGHLANDER CONTACT PERSON: [signature]
Results by: 11-4-97
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:
MATRIX: W-Water S-Soil (circled) A-Air SL-Sludge SD-Solid O-Other
REMARKS: F 11-21-97

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

Bus 155 758 800 0 4° 10 [illegible] -HS 311.AF

150

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705
(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 2

CLIENT NAME: Enron E. P. Inc.
SITE MANAGER:
PROJECT NO.:
PROJECT NAME: Todd North Eunice Gas Plant

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	ANALYSIS REQUEST (Circle or Specify Method No.)
85046	11-9-97		S			TH 2 (5-7')							✓
47			S			TH 2 (10-12')							✓
48			S			TH 2 (15-17')							✓
49			S			TH 2 (20-22')							✓
50			S			TH 2 (25-27')							✓
51			S			TH 2 (30-32')							✓
52			S			TH 2 (35-37')							✓
53			S			TH 2 (40-42')							✓
54			S			TH 2 (45-47')							✓
55	✓		S			TH 2 (50-52')							✓

BTEX 8020/602 | MTBE 8020/602 | TPH | PAH 8270 | Total Metals Ag As Ba Cd Cr Pb Hg Se | TCLP Metals Ag As Ba Cd Cr Pd Hg Se | TCLP Volatiles | TCLP Semi Volatiles | RCI | GC.MS Vol. 8240/8260/624 | GC.MS Semi. Vol. 8270/625 | PCB's 8080/608 | Pest. 808/608 | BOD, TSS, pH, TDS, Chloride | Gamma Spec. | Alpha Beta (Air) | PLM (Asbestos)

RELINQUISHED BY: (Signature) — Date: 11-11-97 Time: 5:00 PM — RECEIVED BY: (Signature) — Date: 11/11/97 Time: 5:20 PM
RELINQUISHED BY: (Signature) Helen Shelton — Date: 11/11/97 Time: 10:45 PM — RECEIVED BY: (Signature) — Date: Time:
RELINQUISHED BY: (Signature) — Date: Time: — RECEIVED BY: (Signature) — Date: Time:

SAMPLED BY: (Print & Sign) — Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED — AIRBILL # — OTHER:

RECEIVING LABORATORY:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) Vicki Windham
DATE: 11-12-97 TIME: 9:30 Am

HIGHLANDER CONTACT PERSON:
Results by: 11/21/97
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS:

Please Fill out all copies – Project Manager retains White copy – Accounting receives Pink copy – Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

Bus 155 758 800 0 4° 10 samples - 4c

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 3 OF: 8

150

CLIENT NAME: [illegible]
SITE MANAGER: IKE Tavarez
PROJECT NO.: 187
PROJECT NAME: Texaco North Eunice Gas Plant

ANALYSIS REQUEST (Circle or Specify Method No.): BTEX 8020/602; MTBE 8020/602; TPH; PAH 8270; Total Metals Ag As Ba Cd Cr Pb Hg Se; TCLP Metals Ag As Ba Cd Cr Pd Hg Se; TCLP Volatiles; TCLP Semi Volatiles; RCI; GC.MS Vol. 8240/8260/624; GC.MS Semi. Vol. 8270/625; PCB's 8080/608; Pest. 808/608; BOD, TSS, pH, TDS, Chloride; Gamma Spec.; Alpha Beta (Air); PLM (Asbestos); [illegible]

PRESERVATIVE METHOD: HCL; HNO3; ICE; NONE

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	[illegible]
85056	11-5-97		S		✓	CT BH 3 (5-7')	1		✓
57	↓		S		✓	CT BH 3 (10-12')	1		✓
58			S		✓	CT BH 3 (15-17')	1		
59			S		✓	CT BH 3 (20-22')	1		✓ (circled)
60			S		✓	CT BH 3 ([illegible]-27')	1		
61			S		✓	CT BH 3 (30-32')	1		✓
62			S		✓	CT BH 3 ([illegible])	1		
63			S		✓	CT BH 3 (40-42')	1		✓
64			S		✓	CT BH 3 (45-47')	1		
65	↓		S		✓	CT BH 3 (50-52')	1		

RELINQUISHED BY: (Signature) [illegible] Date: 11-11-97 Time: 5:00 PM
RECEIVED BY: (Signature) Helen Shelton Date: 11/11/97 Time: 5:00 PM
RELINQUISHED BY: (Signature) Helen Shelton Date: 11/11/97 Time: 6:45 PM
RECEIVED BY: (Signature) Date: Time:
RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
RECEIVING LABORATORY: [illegible]
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) Vicki Windham
DATE: 11-12-97 TIME: 9:30 AM

SAMPLED BY: (Print & Sign) IKE Tavarez Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS (circled) AIRBILL #
HAND DELIVERED UPS OTHER:
HIGHLANDER CONTACT PERSON: IKE Tavarez
Results by: 11/24/97
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:
MATRIX: W-Water S-Soil (circled) A-Air SL-Sludge SD-Solid O-Other
REMARKS:

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

Bus 155 758 800 0 4°

10 samples - HS

150

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705
(915) 682-4559 Fax (915) 682-3946

CLIENT NAME: [illegible] E&P, Inc.
SITE MANAGER: IKE Tavarez
PROJECT NO.: 287
PROJECT NAME: IKE Tavarez

PRESERVATIVE METHOD: HCL / HNO3 / ICE / NONE

ANALYSIS REQUEST (Circle or Specify Method No.): BTEX 8020/602; MTBE 8020/602; TPH; PAH 8270; Total Metals Ag As Ba Cd Cr Pb Hg Se; TCLP Metals Ag As Ba Cd Cr Pd Hg Se; TCLP Volatiles; TCLP Semi Volatiles; RCI; GC.MS Vol. 8240/8260/624; GC.MS Semi. Vol. 8270/625; PCB's 8080/608; Pest. 808/608; BOD, TSS, pH, TDS, Chloride; Gamma Spec.; Alpha Beta (Air); PLM (Asbestos); [illegible]

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	[illegible]
85066	11-5-97		S		✓	SW BH-1 (5-7')	1		✓
67	↓		S		✓	SW BH 1 (10-12')	1		✓
68			S		✓	SW BH 1 (15-17')	1		✓
69			S		✓	SW BH-1 (20-22')	1		✓
70			S		✓	SW BH 1 (30-32')	1		✓
71			S		✓	SW BH 1 (40-42')	1		✓
72			S		✓	SW BH 2 (5-7')	1		✓
73			S		✓	SW BH 2 (10-12')	1		✓
74			S		✓	SW BH 2 (15-17')	1		✓
75	↓		S		✓	SW BH 2 (20-22')	1		✓

RELINQUISHED BY: (Signature) [signature] Date: 11-11-97 Time: 5:00 PM
RECEIVED BY: (Signature) Allen Shelton Date: 11/11/97 Time: [illegible]
SAMPLED BY: (Print & Sign) IKE Tavarez Date: Time:

RELINQUISHED BY: (Signature) Allen Shelton Date: 11/11/97 Time: 6:45 PM
RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX / BUS (circled) / HAND DELIVERED / UPS
AIRBILL #: OTHER:

RECEIVING LABORATORY: [illegible]
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) Vicki Windham
DATE: 11-12-97 TIME: 9:30 AM

HIGHLANDER CONTACT PERSON: IKE Tavarez
Results by: 11/24/97
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:
MATRIX: W-Water, S-Soil (circled), A-Air, SL-Sludge, SD-Solid, O-Other
REMARKS:

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

Bus 155 758 800 0 4°
10 samples - AS

150

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705
(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 2

CLIENT NAME: | SITE MANAGER:

PROJECT NO.: | PROJECT NAME:

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	ANALYSIS REQUEST (Circle or Specify Method No.): BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	[illegible]	
85076	11-7-97		S		X	SW BH 3 (5-7')																								✓
77	11-7-97		S		X	SW BH 3 (10-12')																								✓
78	11-7-97		S		X	SW BH 3 (15-17')																								✓
79	11-7-97		S		X	SW BH 3 (20-22')																								✓
80	11-7-97		S		X	SW BH 3 (30-32')																								✓
81	11-7-97		S		X	SW BH 4 (5-7')																								✓
82	11-7-97		S		X	SW BH 4 (10-12')																								✓
83	11-7-97		S		X	SW BH 4 (15-17')																								✓
84	11-7-97		S		X	SW BH 4 (20-22')																								✓
	11-7-97		S		X																									

RELINQUISHED BY: (Signature) [signature] Date: 11/11/97 Time: 5:00 PM
RECEIVED BY: (Signature) Helen Shelton Date: 11/11/97 Time: 6:00 PM
SAMPLED BY: (Print & Sign) IKE Tavarez Date: Time:

RELINQUISHED BY: (Signature) Helen Shelton Date: 11/11/97 Time: 6:45 PM
RECEIVED BY: (Signature) Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED AIRBILL # OTHER:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) Vicki Wyndham
DATE: 11-12-97 TIME: 9:30 AM

HIGHLANDER CONTACT PERSON: IKE Tavarez
Results by: 11/24
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid (S-Soil) SL-Sludge O-Other

REMARKS:

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

Bus 155 758 800 0 4°

9 samples - HS

150

Highlander Services Corp.

306 W. Wall • Suite 320 • Midland, TX 79701 • (915)682-4559

Analysis Request and Chain of Custody Record

Project No. 787 | Client/Project Texaco E&P / Texaco North Eunice Gas Plant, Lea County NM.

Field Sample No./ Identification			Date and Time	Grab	Comp	Sample Type(Liquid Sludge,Ect.)	Preservative	ANALYSIS REQUESTED
SW BH-5	(5-6')	850 85	11-10-97	X		Soil	HNA	TPH ea.
SW BH-5	(10-12')	86		X				TPH ea.
SW BH-5	(15-17')	87		X				Hold.
SW BH-5	(20-22')	88		X				TPH ea.
SW BH-6	(5-7')	89		X				TPH ea.
SW BH-6	(10-12')	90		X				TPH ea.
SW BH-6	(15-16')	91		X				TPH ea.
SW BH-6	(20-22')	92		X				TPH ea.
SW BH-6	30-32'	93						TPH ea.

Samplers: (Print)

IKE Tavarez

Relinquished by: (Signature) Ike Tavarez — Date: 11/11/97 Time: 5:00 PM

Recieved by: (Signature) Helen Skelton — Date: 11/11/97 Time: 5:00 PM

Relinquished by: (Signature) Helen Skelton — Date: 11/11/97 Time: 6:45PM

Recieved by: (Signature) Vicki Wortham B — Date: 11-12-97 Time: 9:30AM

Relinquished by: (Signature) — Date: Time:

Data Results To:
1. IKE Tavarez
2.

Results by: 11/24/97

Delivered To: Trace Lab.

Rush Charges Authorized

Yes ___ No ___

REMARKS:

Please Fill out all copies – Deliverer retains White copy for file – Lab retains Yellow copy & Return Pink copy to Highlander Services Corp. at above address

Bus 155 758 800 0

40

Highlander Services Corp.

306 W. Wall • Suite 320 • Midland, TX 79701 • (915)682-4559

Analysis Request and Chain of Custody Record

Project No. 787

Client/Project: Texaco E&P Inc / Texaco North Eunice Gas Plant, Lea County NM.

Field Sample No./ Identification		Date and Time	Grab	Comp	Sample Type (Liquid Sludge, Ect.)	Preservative	ANALYSIS REQUESTED
SW BH-7 (5-7')	85094	11-10-97	X		Soil	HA	Total C.L
SW BH-7 (10-12')	95		X				
SW BH-7 (15-17')	96		X				
SW BH-7 (20-22')	97		X				
SW BH-7 (25-27')	98		X				
SW BH-7 (30-32')	99		X				Total C.L
SW BH-7 (40-42')	85100						Hold.

Samplers: (Print)

IKE Tavarez

Results by:

Rush Charges Authorized

Yes ___ No ___

Relinquished by: (Signature) [signature] Date: 11/11/97 Time: 5:00 PM

Relinquished by: (Signature) Helen Shelton Date: 11/11/97 Time: 6:45 PM

Relinquished by: (Signature) Date: Time:

Delivered To: Trace Lab.

REMARKS:

Recieved by: (Signature) Helen Shelton Date: 11/11/97 Time: 5:00 PM

Recieved by: (Signature) Vicki Wrdsham B Date: 11-12-97 Time: 9:30 Am

Data Results To:

1. IKE Tavarez

2.

Please Fill out all copies – Deliverer retains White copy for file – Lab retains Yellow copy & Return Pink copy to Highlander Services Corp. at above address

Bus 155 758 800 0 4° A Dibbed Greyhound 7 samples - HS

150

Highlander Services Corp.

306 W. Wall · Suite 320 · Midland, TX 79701 · (915)682-4559

Analysis Request and Chain of Custody Record

Project No. 287

Client/Project: Texaco E&P Inc. / Texaco North Eunice Gas Plant, Lea County, NM.

Field Sample No./ Identification		Date and Time	Grab	Comp	Sample Type (Liquid Sludge, Ect.)	Preservative	ANALYSIS REQUESTED
SW BH-8 (5-7')	85101	11-10-97	X		Soil	NA	Total Cr
SW BH-8 (10-12')	02	↓	Y		↓	↓	↓
SW BH-8 (15-17')	03	↓	X		↓	↓	↓
SW BH-8 (20-22')	04	↓	Y		↓	↓	↓
SW BH-8 (25-27')	05	↓	Y		↓	↓	↓
SW BH-8 (30-32')	06	↓	X		↓	↓	Total Cr.
SW BH-8 (40-42')	07	↓	X		↓	↓	Hold.

Samplers: (Print) Ike Tavarez

Relinquished by: (Signature) Ike Tavarez — Date: 11/11/97 Time: 5:00 PM

Recieved by: (Signature) Helen Shelton — Date: 11/11/97 Time: 5:00 PM

Relinquished by: (Signature) Helen Shelton — Date: 11/11/97 Time: 6:45 PM

Recieved by: (Signature) Vicki Windham B — Date: 11-11-97 Time: 9:30 am

Relinquished by: (Signature) — Date: Time:

Data Results To:
1. Ike Tavarez
2.

Results by: ____

Rush Charges Authorized Yes ____ No ____

Delivered To: Trace Lab.

REMARKS:

Please Fill out all copies – Deliverer retains White copy for file – Lab retains Yellow copy & Return Pink copy to Highlander Services Corp. at above address

Bus 155 758 800 0 Midland Greyhound 7 samples - HS

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
HIGHLANDER ENVIRONMENTAL SERVICES
Attention: Ike Tavarez
1910 N. Big Spring St.
Midland, TX 79705

December 10, 1997
Receiving Date: 12/06/97
Sample Type: Soil
Project No: 787
Project Location: Eunice, NM

Prep Date: 12/08/97
Analysis Date: 12/09/97
Sampling Date: 12/04/97
Sample Condition: Intact & Cool
Sample Received by: VW
Client/Project: Texaco E & P, Inc.
Texaco North Eunice Gas Plant, NM

TA#	FIELD CODE	TOTAL Cr (mg/kg)
T86712	SW BH-9 (5-7')	43
T86713	SW BH-9 (10-12')	6.3
T86714	SW BH-9 (15-17')	<5.0
T86715	SW BH-9 (20-22')	<5.0
T86716	SW BH-9 (25-27')	<5.0
T86717	SW BH-9 (30-32')	5.8
T86718	SW BH-9 (40-42')	<5.0
T86719	SW BH-10 (5-7')	120
T86720	SW BH-10 (10-12')	7.4
T86721	SW BH-10 (15-17')	<5.0
T86722	SW BH-10 (20-22')	<5.0
T86723	SW BH-11 (5-7')	11
T86724	SW BH-11 (10-12')	7.1
T86725	SW BH-11 (15-17')	<5.0
T86726	SW BH-11 (20-22')	<5.0
T86727	SW BH-11 (25-27')	6.1
T86728	SW BH-12 (5-7')	<5.0
T86729	SW BH-12 (10-12')	<5.0
T86730	SW BH-12 (15-17')	<5.0
T86731	SW BH-12 (20-22')	<5.0
QC	Quality Control	5.2
REPORTING LIMIT		5.0
RPD		7
% Extraction Accuracy		92
% Instrument Accuracy		103

METHODS: EPA SW 846-3051, 6010B.
CHEMIST: RR
TOTAL Cr SPIKE: 150 mg/kg TOTAL Cr.
TOTAL Cr QC: 5.0 mg/L TOTAL Cr.

Director, Dr. Blair Leftwich

12-10-97
DATE

86712-31

119

Highlander Services Corp.

306 W. Wall • Suite 320 • Midland, TX 79701 • (915)682-4559

Analysis Request and Chain of Custody Record

Project No. 727

Client/Project: Texaco E&P Inc / Texaco North Eunice Gas Plant, NM.

Field Sample No./ Identification		Date and Time	Grab	Comp	Sample Type(Liquid Sludge,Ect.)	Preser-vative	ANALYSIS REQUESTED
SW BH-9 (5-7)	86712	12/4/97	Y		Soil	ice	Total CR
SW BH-9 (10-12')	13	↓	Y		↓	↓	Total CR
SW BH-9 (15-17')	14	↓	Y		↓	↓	Total CR
SW BH-9 (20-22')	15	↓	Y		↓	↓	Total CR
SW BH-9 (25-27)	16	↓	Y		↓	↓	Total CR
SW BH-9 (30-32')	17	↓	Y		↓	↓	Total CR
SW BH-9 (40-42')	18	↓	Y		↓	↓	Total CR
SW BH-10 (5-7')	19	↓	X		↓	↓	Total CR
SW BH-10 (10-12')	20	↓	Y		↓	↓	Total CR
SW BH-10 (15-17')	21	↓	Y		↓	↓	Total CR

Samplers: (Print) Mike Tavarez	Relinquished by: (Signature) [signature]	Date: 12/5/97 Time: 1:36	Recieved by: (Signature) Helen Shelton	Date: 12/5/97 Time: 1:36 PM
	Relinquished by: (Signature) Helen Shelton	Date: 12/5/97 Time: 3:00 PM	Recieved by: (Signature) Vicki Wyndham	Date: 12-6-97 Time: 11:30 am
	Relinquished by: (Signature)	Date: Time:	Data Results To: 1. Mike Tavarez	
Results by: ASAP	Delivered To: Texaco.		2.	
Rush Charges Authorized Yes ✓ No ___	REMARKS:			

Please Fill out all copies – Deliverer retains White copy for file – Lab retains Yellow copy & Return Pink copy to Highlander Services Corp. at above address

Shipped Greyhound 155 758 814 2 10 samples - HS 4° [illegible]

#18

Highlander Services Corp.

306 W. Wall • Suite 320 • Midland, TX 79701 • (915)682-4559

Analysis Request and Chain of Custody Record

Page 2 of 2

Project No. 78

Client/Project: Texaco E & P Inc. / Texaco North Eunice Gas Plant, NM.

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Type (Liquid Sludge, Ect.)	Preservative	ANALYSIS REQUESTED
SW BH-10 (20-22') 86722	12/4/97	X		Soil	Ice	Total Cr.
SW BH-11 (5-7') 23	↓	X		↓	↓	Total Cr.
SW BH-11 (10-12') 24	↓	X		↓	↓	Total Cr.
SW BH-11 (15-17') 25	↓	X		↓	↓	Total Cr.
SW BH-11 (20-22') 26	↓	X		↓	↓	Total Cr.
SW BH-11 (25-27') 27	↓	X		↓	↓	Total Cr.
SW BH-12 (5-7') 28	↓	X		↓	↓	Total Cr.
SW BH-12 (10-12') 29	↓	X		↓	↓	Total Cr.
SW BH-12 (15-17') 30	↓	X		↓	↓	Total Cr.
SW BH-12 (20-22') 31		X				Total Cr.

Samplers: (Print) Ike Tavarez

Relinquished by: (Signature) [signature] Date: 12/5/97 Time: 1:34

Recieved by: (Signature) Helen Shelton Date: 12/5/97 Time: 1:36 PM

Relinquished by: (Signature) Helen Shelton Date: 12/5/97 Time: 3:00 PM

Recieved by: (Signature) Vicki Wyndham Date: 12-6-97 Time: 11:30 AM

Relinquished by: (Signature) Date: Time:

Data Results To:
1. Ike Tavarez
2.

Results by: ASAP

Rush Charges Authorized Yes ✓ No ___

Delivered To: Trace.

REMARKS:

Please Fill out all copies – Deliverer retains White copy for file – Lab retains Yellow copy & Return Pink copy to Highlander Services Corp. at above address

Shipped Greyhound 155 758 8142 10 samples – HC

TRACEANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES CORP.
Attention: Ike Tavarez
1910 N. Big Spring Street
Midland, TX 79705

July 11, 1997
Receiving Date: 06/13/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Extraction Date: 06/30/97
Analysis Date: 06/30/97
Sampling Date: 06/11/97
Sample Condition: I & C
Sample Received by: JH
Project Name: Texaco N. Gas Plant

DISSOLVED METALS (mg/L)

TA#	Field Code	As	Se	Cr	Cd	Pb	Ag	Ba	Hg
T75327	MW-3	<0.10	<0.10	0.22	<0.02	<0.10	<0.05	<0.10	<0.001
T75328	MW-4	<0.10	<0.10	0.08	<0.02	<0.10	<0.05	<0.10	<0.001
QC	Quality Control	0.102	5.3	0.011	5.2	0.028	0.0096	5.2	0.0049
Reporting Limit		0.10	0.10	0.05	0.02	0.10	0.05	0.10	0.001
RPD		5	1	0	0	4	1	0	2
% Extraction Accuracy		100	108	100	100	110	94	100	98
% Instrument Accuracy		102	104	105	106	104	96	104	99

METHODS: EPA SW 846-3005, 6010, 7470.
CHEMIST: As, Se, Cd, Cr, Pb, Ag, Ba: RR Hg: HC
DISSOLVED METALS SPIKE: 0.005 mg/L Hg; 0.100 mg/L As; 2.0 mg/L Se, Cd, Ba; 0.01 mg/L Cr; 0.025 mg/L Pb; 0.001 mg/L Ag.
DISSOLVED METALS QC: 0.005 mg/L Hg; 0.100 mg/L As; 5.0 mg/L Se, Cd, Ba; 0.01 mg/L Cr; 0.025 mg/L Pb; 0.001 mg/L Ag.

Director, Dr. Blair Leftwich

7-11-97
Date

Highlander Services Corp.

306 W. Wall • Suite 320 • Midland, TX 79701 • (915)682-4559

Analysis Request and Chain of Custody Record

Project No. 787

Client/Project: Texaco North Gas Plant, Eunice, NM.

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Type(Liquid Sludge,Ect.)	Preservative	ANALYSIS REQUESTED
MW-3	6/11/97 1:25 pm		✓	water	HNO_3/Ice	Dissolved metals
MW-4	6/11/97 3:10pm		✓	water	HNO_3/Ice	Dissolved metals

Samplers: (Print)

VIJAY KURKI

IKE TAVAREZ

Results by: _____

Rush Charges Authorized

Yes ___ No ___

Relinquished by: (Signature) Vijay Kurki — Date: 6/12/97 Time: 2:15pm

Relinquished by: (Signature) — Date: Time:

Relinquished by: (Signature) — Date: Time:

Delivered To:

REMARKS: samples were field filtered.

Recieved by: (Signature) Kenneth Winkler — Date: 6/12/97 Time: 2:15pm

Recieved by: (Signature) — Date: Time:

Data Results To:

1.

2.

Please Fill out all copies – Deliverer retains White copy for file – Lab retains Yellow copy & Return Pink copy to Highlander Services Corp. at above address

25327-28

212

Highlander Services Corp.

306 W. Wall • Suite 320 • Midland, TX 79701 • (915)682-4559

Analysis Request and Chain of Custody Record

Page 1 of 1

Project No.	Client/Project
787	Texaco North Gas Plant, Eunice, NM.

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Type(Liquid Sludge,Ect.)	Preser-vative	ANALYSIS REQUESTED cr Pb Ag Hg As Se Cd Ba
MW-3	6/11/97 1:25 pm	1	✓	Water	HNO_3/Ice	Dissolved metals 75328
MW-4	6/11/97 3:10Pm		✓	Water	HNO_3/Ice	Dissolved metals 28

Samplers: (Print)	Relinquished by: (Signature)	Date / Time	Recieved by: (Signature)	Date / Time
VIJAY KURKI	Vijay Kurki	Date: 6/12/97 Time: 2:15pm		Date: Time: 2:15pm
IKE TAVAREZ	Relinquished by: (Signature)	Date: Time:	Recieved by: (Signature)	Date: 6/13/97 Time: 9:20A
Results by:	Relinquished by: (Signature)	Date: 6/12/97 Time: 6:30pm	Data Results to: 1.	5°/5°/5°C
Rush Charges Authorized Yes ___ No ___	Delivered To:		2.	
	REMARKS: Samples were field filtered.			

Please Fill out all copies – Deliverer retains White copy for file – Lab retains Yellow copy & Return Pink copy to Highlander Services Corp. at above address

Shipped Greyhound (6/12/97 @ 6:30pm)

11,114 S

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES CORP.
Attention: Mark Larson
1910 N. Big Spring Street
Midland, TX 79705

September 05, 1997
Receiving Date: 08/20/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 08/19/97
Analysis Date: 08/20/97
Sampling Date: 08/19/97
Sample Condition: I & C
Sample Received by: JH
Client Name: Texaco E & P
Project Name: Eunice N. Plant

DISSOLVED METALS (mg/L)

TA#	Field Code	As	Se	Cd	Cr	Pb	Ag	Ba	Hg
T80034	MW-7	<0.10	<0.10	<0.02	0.35	<0.10	<0.05	<0.20	<0.001
QC	Quality Control	5.1	5.0	5.2	5.0	4.9	0.97	4.9	0.0052
Reporting Limit		0.10	0.10	0.02	0.05	0.10	0.05	0.20	0.001
RPD		5	2	2	1	2	1	2	0
% Extraction Accuracy		105	98	99	96	94	91	94	108
% Instrument Accuracy		102	99	104	99	98	97	98	104

METHODS: EPA SW 846-3005, 6010, 7470.
CHEMIST: As, Se, Cd, Cr, Pb, Ag, Ba: RR Hg: HC
DISSOLVED METALS SPIKE: 2.0 mg/L As, Se, Cd, Cr, Pb, Ba; 1.0 mg/L Ag; 0.005 mg/L Hg.
DISSOLVED METALS QC: 5.0 mg/L As, Se, Cd, Cr, Pb, Ba; 1.0 mg/L Ag; 0.005 mg/L Hg.

Director, Dr. Blair Leftwich

9-5-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

September 05, 1997
Receiving Date: 08/20/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 08/25/97
Analysis Date: 08/25/97
Sampling Date: 08/19/97
Sample Condition: Intact & Cool
Sample Received by: JH
Client Name: Texaco E & P
Project Name: Eunice N. Plant

TA#	FIELD CODE	TDS (mg/L)	CHLORIDE (mg/L)
T80034	MW-7	2,600	550
QC	Quality Control	---	498
Reporting Limit		---	0.5
RPD		3	3
% Extraction Accuracy		---	115
% Instrument Accuracy		---	101

METHODS: EPA 160.1; SM 4500 Cl-B.
CHEMIST: TDS: RC CHLORIDE: JS
CHLORIDE SPIKE: 10,000 mg/L CHLORIDE.
CHLORIDE QC: 500 mg/L CHLORIDE.

Director, Dr. Blair Leftwich

9-5-97
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

September 05, 1997
Receiving Date: 08/20/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 08/29/97
Analysis Date: 08/29/97
Sampling Date: 08/19/97
Sample Condition: Intact & Cool
Sample Received by: JH
Client Name: Texaco E & P
Project Name: Eunice N. Plant

FIELD CODE: MW-7
TA #: T80034

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	5.0	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	5
Carbon disulfide	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	ND	1
2-Butanone	ND	50
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	ND	1
Benzene	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
4-Methyl-2-pentanone	ND	50
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	50

HIGHLANDER SERVICES
Project No: 787
Project Location: Eunice, NM
Project Name: Eunice N. Plant
Client Name: Texaco E & P
FIELD CODE: MW-7
TA #: T80034

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	ND	5
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2

SURROGATES	**% RECOVERY**
Dibromofluoromethane	96
Toluene-d8	102
4-Bromofluorobenzene	98

ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.
CHEMIST: RW

Director, Dr. Blair Leftwich

9-5-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Highlander Environmental Services
Attention: Mark Larson
1910 N. Big Spring St.
Midland TX 79705

Date: Sep 04, 1997
Date Rec: 8/20/97
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

Lab Receiving # : 9708000386
Sampling Date: 8/19/97
Sample Condition: Intact and Cool
Sample Received By: JH

PAH in Water (mg/L)	Reporting Limit	T80034 MW-7	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	77	5	39	96
Acenapthylene	0.001	ND	77	0	53	96
Acenaphthene	0.001	ND	79	2	49	99
Fluorene	0.001	ND	82	2	53	103
Phenanthrene	0.001	ND	79	3	72	99
Anthracene	0.001	ND	76	2	62	95
Fluoranthene	0.001	ND	80	4	71	100
Pyrene	0.001	ND	76	5	65	95
Benzo[a]anthracene	0.001	ND	79	3	66	99
Chrysene	0.001	ND	81	2	61	101
Benzo[b]fluoranthene	0.001	ND	86	15	61	108
Benzo[k]fluoranthene	0.001	ND	74	1	74	93
Benzo[a]pyrene	0.001	ND	80	3	64	100
Indeno[1,2,3-cd]pyrene	0.001	ND	72	2	45	90
Dibenz[a,h]anthracene	0.001	ND	72	5	39	90
Benzo[g,h,i]perylene	0.001	ND	70	2	44	88

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	75
2-Fluorobiphenyl SURR	66
Terphenyl-d14 SURR	108

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
PAH	EPA 3510	8/21/97	EPA 8270	8/28/97	RP/HW	80 ea	100 ea

Director, Dr. Blair Leftwich

9-4-97
Date

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 1

CLIENT NAME: Texaco E+P

SITE MANAGER: Mark Larson

PROJECT NO.: 787

PROJECT NAME: Eunice N. Plant

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se (Dissolved)	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. (8240/8260/624)	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
	8/19/97	12:15	W			MW-7	6	Y	✓	✓	✓				✓	✓						✓				✓			

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Mark Larson Date: 8/19/97 Time: 16:50

RECEIVED BY: (Signature) Date: 8/19/97 Time: 5:10 PM

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: Trace Analysis

ADDRESS: 6701 Aberdeen, Ste 9

CITY: Lubbock STATE: Tx ZIP: 79424

CONTACT: Dan Lobey PHONE: (806) 794-1296

RECEIVED BY: (Signature) DATE: TIME:

SAMPLED BY: (Print & Sign) Date: Time:

SAMPLE SHIPPED BY: (Circle)
FEDEX BUS AIRBILL #
HAND DELIVERED UPS OTHER:

HIGHLANDER CONTACT PERSON: Mark Larson

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS: Head Notes on 8/20/96

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

80034 — 888 386

PAGE: 1 OF: 1

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705
(915) 682-4559 Fax (915) 682-3946

ANALYSIS REQUEST (Circle or Specify Method No.)

CLIENT NAME: [illegible] E & P
SITE MANAGER: Mark Larson
PROJECT NO.: 787
PROJECT NAME: Eunice N. Plant

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
80034	7/19/97	12:15	W			MW-7	6	Y	✓	✓	✓					✓	✓					✓				✓			
80034																													

RELINQUISHED BY: (Signature) Mark Larson Date: [illegible] Time: 12:50
RECEIVED BY: (Signature) [illegible] Date: [illegible] Time: [illegible]
SAMPLED BY: (Print & Sign) Date: Time:

RELINQUISHED BY: (Signature) Helen Shelton Date: 8/19/97 Time: 4:00 PM
RECEIVED BY: (Signature) Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS (circled) UPS HAND DELIVERED AIRBILL # 155-259-041-9 OTHER:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
HIGHLANDER CONTACT PERSON: Mark Larson
Results by:

RECEIVING LABORATORY: [illegible]
ADDRESS: [illegible]
CITY: Lubbock STATE: TX ZIP: 79424
CONTACT: [illegible] PHONE: (806) 794-1296
RECEIVED BY: (Signature) [illegible]
DATE: 8/20/97 TIME: 9:45A C/T

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:
MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other
REMARKS: [illegible]

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

Bus · 155 759 041 9 - cooler - 3°
6 samples
727 AB

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

September 5, 1997
Receiving Date: 08/26/97
Sample Type: Water
Project No: 787
Project Location: Eunice N. Plant

Prep Date: 08/26/97
Analysis Date: 09/04/97
Sampling Date: 08/25/97
Sample Condition: Intact & Cool
Sample Received by: JH
Client/Project: TEP 1

TA#	FIELD CODE	DISSOLVED Cr (mg/L)
T80366	MW-7	0.39
QC	Quality Control	5.0
METHOD BLANK		<0.05
Reporting Limit		0.05
RPD		1
% Extraction Accuracy		94
% Instrument Accuracy		99

METHODS: EPA SW 846-3015, 6010.
CHEMIST: RR
TOTAL Cr SPIKE: 2.0 mg/L Cr.
TOTAL Cr QC: 5.0 mg/L Cr.

Director, Dr. Blair Leftwich

9-5-97
DATE

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 1

CLIENT NAME: TEPI &. SITE MANAGER: Mark Lowe

PROJECT NO.: 737 PROJECT NAME: Eunice N. Plant

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
	3/25/97	09:15		1		MW-7	1	Y		✓	✓					✓	✓												

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Date: 3/25/97 Time: 13:30 RECEIVED BY: (Signature) Helen Shelton Date: 3/25/97 Time: 3:00 PM

SAMPLED BY: (Print & Sign) Mark Lowe Date: 3/25/97 Time: 09:15

RELINQUISHED BY: (Signature) Date: Time: RECEIVED BY: (Signature) Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED AIRBILL # OTHER:

RELINQUISHED BY: (Signature) Date: Time: RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: Trace RECEIVED BY: (Signature)

ADDRESS: CITY: STATE: ZIP: CONTACT: PHONE: DATE: TIME:

HIGHLANDER CONTACT PERSON: Mark Lowe

Results by:

RUSH Charges Authorized: (Yes) No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS: Received Cr

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

1 sample - HS

80366

501

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 1

CLIENT NAME: TEPI &

SITE MANAGER: Mark Lee

PROJECT NO.: 787

PROJECT NAME: Eunice N. Plant

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
80366	8/24/97	01:50	W		✓	MW-7	1	Y		✓	✓					✓	✓												

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Date: 8/25/97 Time: 13:30

RECEIVED BY: (Signature) Helen Shelton Date: 8/25/97 Time: 3:00 PM

SAMPLED BY: (Print & Sign) Mark Lee Date: 8/24/97 Time: 01:15

RELINQUISHED BY: (Signature) Helen Shelton Date: 8/25/97 Time: 9:15 PM

RECEIVED BY: (Signature) Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX HAND DELIVERED BUS UPS AIRBILL # OTHER: 65-759-004-5

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: Inno

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature) 3°C

DATE: 8/26/97 TIME: 9:35A CT

HIGHLANDER CONTACT PERSON: Mark Lee

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS: Received @ 238A/H

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

1 Double 11.5 DP

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 1

CLIENT NAME: TEPI & SITE MANAGER: Mark Lan

PROJECT NO.: 787 PROJECT NAME: Eunice N. Plant

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
	8/25/97	09:15	W		G	MW-7	1	Y		✓	✓					✓	✓												

RELINQUISHED BY: (Signature) Date: 8/25/97 Time: 13:30

RECEIVED BY: (Signature) Helen Shelton Date: 8/25/97 Time: 1:00 PM

SAMPLED BY: (Print & Sign) Mark Lan Date: 8/25/97 Time: 09:15

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED AIRBILL # OTHER:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: Trace

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

HIGHLANDER CONTACT PERSON: Mark Lan

Results by:

RUSH Charges Authorized: (Yes) No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS: Resolved Cr

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

1 Manuals - HS

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES CORP.
Attention: Mark Larson
1910 N. Big Spring Street
Midland, TX 79705

September 11, 1997
Receiving Date: 08/22/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Extraction Date: 09/01/97
Analysis Date: 09/01/97
Sampling Date: 08/20/97
Sample Condition: I & C
Sample Received by: ML
Project Name: TEP 1

DISSOLVED METALS (mg/L)

TA#	Field Code	As	Se	Cr	Cd	Pb	Ag	Ba	Hg
T80202	MW-8	<0.10	0.5	5.2	<0.02	<0.10	<0.01	<0.20	<0.001
T80203	MW-9	<0.10	<0.10	0.26	<0.02	<0.10	<0.01	<0.20	<0.001
QC	Quality Control	5.0	4.8	5.0	5.0	4.9	0.97	4.9	0.0052
HIGH		---	---	---	***9.0 90%**	---	---	---	---
Reporting Limit		0.10	0.10	0.05	0.02	0.10	0.01	0.20	0.001
RPD		1	1	1	1	2	1	1	0
% Extraction Accuracy		118	92	94	95	95	**67	91	108
% Instrument Accuracy		99	96	99	100	98	97	97	104

***NOTE: High is out of limits of 95-105%.**
****NOTE: Extraction Accuracy is out of limits of 80-120%.**

METHODS: EPA SW 846-3005, 6010, 7470.
CHEMIST: As, Se, Cd, Cr, Pb, Ag, Ba: RR Hg: HC
DISSOLVED METALS SPIKE: 0.005 mg/L Hg; 2.0 mg/L As, Se, Cd, Cr, Pb, Ba; 1.0 mg/L Ag.
DISSOLVED METALS QC: 0.005 mg/L Hg; 5.0 mg/L As, Se, Cd, Cr, Pb, Ba; 1.0 mg/L Ag.

Director, Dr. Blair Leftwich

9-11-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

September 04, 1997
Receiving Date: 08/22/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 08/27/97
Analysis Date: 08/27/97
Sampling Date: 08/20/97
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: Eunice N. Plant
Client Name: TEP 1

FIELD CODE: MW-8
TA #: T80202

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	12	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	5
Carbon disulfide	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	ND	1
2-Butanone	ND	50
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	ND	1
Benzene	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
4-Methyl-2-pentanone	ND	50
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	50

HIGHLANDER SERVICES
Project No: 787
Project Location: Eunice, NM
Project Name: Eunice N. Plant
Client Name: TEP 1
FIELD CODE: MW-8
TA #: T80202

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	ND	5
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2

SURROGATES	**% RECOVERY**
Dibromofluoromethane	99
Toluene-d8	98
4-Bromofluorobenzene	99

ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.
CHEMIST: RW

Director, Dr. Blair Leftwich

04 Sep 97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

September 04, 1997
Receiving Date: 08/22/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 08/27/97
Analysis Date: 08/27/97
Sampling Date: 08/20/97
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: Eunice N. Plant
Client Name: TEP 1

FIELD CODE: MW-9
TA #: T80203

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	5
Carbon disulfide	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	ND	1
2-Butanone	ND	50
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	ND	1
Benzene	2	1
Carbon Tetrachloride	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
4-Methyl-2-pentanone	ND	50
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	50

HIGHLANDER SERVICES
Project No: 787
Project Location: Eunice, NM
Project Name: Eunice N. Plant
Client Name: TEP 1
FIELD CODE: MW-9
TA #: T80203

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	ND	5
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2

SURROGATES	**% RECOVERY**
Dibromofluoromethane	97
Toluene-d8	100
4-Bromofluorobenzene	99

ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.
CHEMIST: RW

Director, Dr. Blair Leftwich

04 Sept 97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Highlander Environmental Services

Attention: Mark Larson
1910 N. Big Spring St.
Midland TX 79705

Date: Sep 10, 1997
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

Lab Receiving # : 9708000445
Date Rec: 8/22/97
Sampling Date: 8/20/97
Sample Condition: Intact and Cool
Sample Received By: ML

T80202 MW-8

8270 compounds in Water (mg/L)	Method Blank	Reporting Limit	Result
n-Nitrosodimethylamine	ND	0.001	ND
2-Picoline	ND	0.001	ND
Methyl methanesulfonate	ND	0.001	ND
Ethyl methanesulfonate	ND	0.001	ND
Phenol	ND	0.001	ND
Aniline	ND	0.005	ND
bis(2-Chloroethyl)ether	ND	0.005	ND
2-Chlorophenol	ND	0.005	ND
1,3-Dichlorobenzene	ND	0.001	ND
1,4-Dichlorobenzene	ND	0.001	ND
Benzyl alcohol	ND	0.005	ND
1,2-Dichlorobenzene	ND	0.001	ND
2-Methylphenol	ND	0.001	ND
bis(2-Chloroisopropyl)ether	ND	0.005	ND
4-Methylphenol/3-Methylphenol	ND	0.001	ND
Acetophenone	ND	0.005	ND
n-Nitroso-di-n-propylamine	ND	0.001	ND
[illegible]achloroethane	ND	0.001	ND
[illegible]robenzene	ND	0.001	ND
n-Nitrosopiperidine	ND	0.005	ND
Isophorone	ND	0.005	ND
2-Nitrophenol	ND	0.005	ND
2,4-Dimethylphenol	ND	0.005	ND
bis(2-Chloroethoxy)methane	ND	0.001	ND
Benzoic acid	ND	0.01	ND
2,4-Dichlorophenol	ND	0.005	ND
1,2,4-Trichlorobenzene	ND	0.001	ND
a,a-Dimethylphenethylamine	ND	0.01	ND
Naphthalene	ND	0.001	ND
4-Chloroaniline	ND	0.005	ND
2,6-Dichlorophenol	ND	0.005	ND
Hexachlorobutadiene	ND	0.001	ND
n-Nitroso-di-n-butylamine	ND	0.005	ND
4-Chloro-3-methylphenol	ND	0.005	ND
2-Methylnaphthalene	ND	0.001	ND
1,2,4,5-Tetrachlorobenzene	ND	0.001	ND
Hexachlorocyclopentadiene	ND	0.005	ND
2,4,6-Trichlorophenol	ND	0.005	ND
2,4,5-Trichlorophenol	ND	0.005	ND
2-Chloronaphthalene	ND	0.001	ND
1-Chloronaphthalene	ND	0.001	ND
2-Nitroaniline	ND	0.005	ND
Dimethylphthalate	ND	0.001	ND
Acenaphthylene	ND	0.001	ND
2,6-Dinitrotoluene	ND	0.001	ND
3-Nitroaniline	ND	0.005	ND

ANALYTICAL RESULTS FOR
Highlander Environmental Services
Attention: Mark Larson
1910 N. Big Spring St.
Midland TX 79705

Lab Receiving # : 9708000445
Date: Sep 10, 1997
Date Rec: 8/22/97
Project: 787
Sampling Date: 8/20/97
Proj Name: Texaco
Sample Condition: Intact and Cool
Proj Loc: Texaco North Eunice Gas Plant, NM
Sample Received By: ML

T80202 MW-8

8270 compounds in Water (mg/L)	Method Blank	Reporting Limit	Result
Acenaphthene	ND	0.001	ND
2,4-Dinitrophenol	ND	0.025	ND
Dibenzofuran	ND	0.005	ND
Pentachlorobenzene	ND	0.001	ND
4-Nitrophenol	ND	0.005	ND
1-Naphthylamine	ND	0.005	ND
2,4-Dinitrotoluene	ND	0.001	ND
2-Naphthylamine	ND	0.005	ND
2,3,4,6-Tetrachlorophenol	ND	0.005	ND
Fluorene	ND	0.001	ND
Diethylphthalate	ND	0.001	ND
4-Chlorophenyl-phenylether	ND	0.001	ND
4-Nitroaniline	ND	0.005	ND
4,6-Dinitro-2-methylphenol	ND	0.005	ND
n-Nitrosodiphenylamine/Diphenylamine	ND	0.001	ND
Diphenylhydrazine	ND	0.005	ND
4-Bromophenyl-phenylether	ND	0.001	ND
[redacted]acetin	ND	0.005	ND
Hexachlorobenzene	ND	0.001	ND
4-Aminobiphenyl	ND	0.005	ND
Pentachlorophenol	ND	0.005	ND
Pentachloronitrobenzene	ND	0.005	ND
Pronamide	ND	0.001	ND
Phenanthrene	ND	0.001	ND
Anthracene	ND	0.001	ND
Di-n-butylphthalate	ND	0.001	ND
Fluoranthene	ND	0.001	ND
Benzidine	ND	0.01	ND
Pyrene	ND	0.001	ND
p-Dimethylaminoazobenzene	ND	0.001	ND
Butylbenzylphthalate	ND	0.001	ND
Benzo(a)anthracene	ND	0.001	ND
3,3-Dichlorobenzidine	ND	0.001	ND
Chrysene	ND	0.001	ND
bis(2-Ethylhexyl)phthalate	ND	0.005	ND
Di-n-octylphthalate	ND	0.001	ND
Benzo(b)fluoranthene	ND	0.001	ND
7,12-Dimethylbenzo(a)anthracene	ND	0.001	ND
Benzo(k)fluoranthene	ND	0.001	ND
Benzo(a)pyrene	ND	0.001	ND
3-Methylcholanthrene	ND	0.001	ND
Dibenzo(a,j)acridine	ND	0.001	ND
Indeno(1,2,3-cd)pyrene	ND	0.001	ND
Dibenz(a,h)anthracene	ND	0.001	ND
Benzo(g,h,i)perylene	ND	0.001	ND

[redacted]D = Not Detected

ANALYTICAL RESULTS FOR
Highlander Environmental Services
Attention: Mark Larson
1910 N. Big Spring St.
Midland TX 79705

Lab Receiving # : 9708000445
Date Rec: 8/22/97
Sampling Date: 8/20/97
Sample Condition: Intact and Cool
Sample Received By: ML

Date: Sep 10, 1997
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

T80202 MW-8

8270 Quality Control	QC	%IA	RPD	%EA
Phenol	79	79	14	45
2-Chlorophenol			0	56
1,4-Dichlorobenzene	82	82	10	65
n-Nitroso-di-n-propylamine			3	67
2-Nitrophenol	76	76		
2,4-Dichlorophenol	83	83		
1,2,4-Trichlorobenzene			13	52
Hexachlorobutadiene	84	84		
4-Chloro-3-methylphenol	83	83	20	83
2,4,6-Trichlorophenol	67	67		
Acenaphthene	84	84	1	79
4-Nitrophenol			2	56
2,4-Dinitrotoluene			1	80
n-Nitrosodiphenylamine/Diphenylamine	84	84		
Pentachlorophenol	75	75	13	82
Fluoranthene	82	82		
Pyrene			10	70
Di-n-octylphthalate	73	73		
Benzo(a)pyrene	82	82		

Surrogate Recovery

	% RECOVERY		% RECOVERY
2-Fluorophenol SURR	38	2-Fluorobiphenyl SURR	49
phenol-d6 SURR	44	2,4,6-Tribromophenol SURR	60
Nitrobenzene-d5 SURR	84	Terphenyl-d14 SURR	66

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
8270		8/26/97	EPA 8270	9/3/97	RP/HW	100 ea	100 ea

BS

Director, Dr. Blair Leftwich

9-10-97

Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Highlander Environmental Services
Attention: Mark Larson
1910 N. Big Spring St.
Midland TX 79705

Date: Sep 10, 1997
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

Lab Receiving # : 9708000445
Date Rec: 8/22/97
Sampling Date: 8/20/97
Sample Condition: Intact and Cool
Sample Received By: ML

T80203 MW-9

8270 compounds in Water (mg/L)	Method Blank	Reporting Limit	Result
n-Nitrosodimethylamine	ND	0.001	ND
2-Picoline	ND	0.001	ND
Methyl methanesulfonate	ND	0.001	ND
Ethyl methanesulfonate	ND	0.001	ND
Phenol	ND	0.001	ND
Aniline	ND	0.005	ND
bis(2-Chloroethyl)ether	ND	0.005	ND
2-Chlorophenol	ND	0.005	ND
1,3-Dichlorobenzene	ND	0.001	ND
1,4-Dichlorobenzene	ND	0.001	ND
Benzyl alcohol	ND	0.005	ND
1,2-Dichlorobenzene	ND	0.001	ND
2-Methylphenol	ND	0.001	ND
bis(2-Chloroisopropyl)ether	ND	0.005	ND
4-Methylphenol/3-Methylphenol	ND	0.001	ND
Acetophenone	ND	0.005	ND
n-Nitroso-di-n-propylamine	ND	0.001	ND
Hexachloroethane	ND	0.001	ND
Nitrobenzene	ND	0.001	ND
n-Nitrosopiperidine	ND	0.005	ND
Isophorone	ND	0.005	ND
2-Nitrophenol	ND	0.005	ND
2,4-Dimethylphenol	ND	0.005	ND
bis(2-Chloroethoxy)methane	ND	0.001	ND
Benzoic acid	ND	0.01	ND
2,4-Dichlorophenol	ND	0.005	ND
1,2,4-Trichlorobenzene	ND	0.001	ND
a,a-Dimethylphenethylamine	ND	0.01	ND
Naphthalene	ND	0.001	ND
4-Chloroaniline	ND	0.005	ND
2,6-Dichlorophenol	ND	0.005	ND
Hexachlorobutadiene	ND	0.001	ND
n-Nitroso-di-n-butylamine	ND	0.005	ND
4-Chloro-3-methylphenol	ND	0.005	ND
2-Methylnaphthalene	ND	0.001	ND
1,2,4,5-Tetrachlorobenzene	ND	0.001	ND
Hexachlorocyclopentadiene	ND	0.005	ND
2,4,6-Trichlorophenol	ND	0.005	ND
2,4,5-Trichlorophenol	ND	0.005	ND
2-Chloronaphthalene	ND	0.001	ND
1-Chloronaphthalene	ND	0.001	ND
2-Nitroaniline	ND	0.005	ND
Dimethylphthalate	ND	0.001	ND
Acenaphthylene	ND	0.001	ND
2,6-Dinitrotoluene	ND	0.001	ND
3-Nitroaniline	ND	0.005	ND

ANALYTICAL RESULTS FOR
Highlander Environmental Services
Attention: Mark Larson
1910 N. Big Spring St.
Midland TX 79705

Lab Receiving # : 9708000445
Date: Sep 10, 1997
Date Rec: 8/22/97
Project: 787
Sampling Date: 8/20/97
Proj Name: Texaco
Sample Condition: Intact and Cool
Proj Loc: Texaco North Eunice Gas Plant, NM
Sample Received By: ML

T80203 MW-9

8270 compounds in Water (mg/L)	Method Blank	Reporting Limit	Result
Acenaphthene	ND	0.001	ND
2,4-Dinitrophenol	ND	0.025	ND
Dibenzofuran	ND	0.005	ND
Pentachlorobenzene	ND	0.001	ND
4-Nitrophenol	ND	0.005	ND
1-Naphthylamine	ND	0.005	ND
2,4-Dinitrotoluene	ND	0.001	ND
2-Naphthylamine	ND	0.005	ND
2,3,4,6-Tetrachlorophenol	ND	0.005	ND
Fluorene	ND	0.001	ND
Diethylphthalate	ND	0.001	ND
4-Chlorophenyl-phenylether	ND	0.001	ND
4-Nitroaniline	ND	0.005	ND
4,6-Dinitro-2-methylphenol	ND	0.005	ND
n-Nitrosodiphenylamine/Diphenylamine	ND	0.001	ND
Diphenylhydrazine	ND	0.005	ND
4-Bromophenyl-phenylether	ND	0.001	ND
Phenacetin	ND	0.005	ND
Hexachlorobenzene	ND	0.001	ND
4-Aminobiphenyl	ND	0.005	ND
Pentachlorophenol	ND	0.005	ND
Pentachloronitrobenzene	ND	0.005	ND
Pronamide	ND	0.001	ND
Phenanthrene	ND	0.001	ND
Anthracene	ND	0.001	ND
Di-n-butylphthalate	ND	0.001	ND
Fluoranthene	ND	0.001	ND
Benzidine	ND	0.01	ND
Pyrene	ND	0.001	ND
p-Dimethylaminoazobenzene	ND	0.001	ND
Butylbenzylphthalate	ND	0.001	ND
Benzo(a)anthracene	ND	0.001	ND
3,3-Dichlorobenzidine	ND	0.001	ND
Chrysene	ND	0.001	ND
bis(2-Ethylhexyl)phthalate	ND	0.005	ND
Di-n-octylphthalate	ND	0.001	ND
Benzo(b)fluoranthene	ND	0.001	ND
7,12-Dimethylbenzo(a)anthracene	ND	0.001	ND
Benzo(k)fluoranthene	ND	0.001	ND
Benzo(a)pyrene	ND	0.001	ND
3-Methylcholanthrene	ND	0.001	ND
Dibenzo(a,j)acridine	ND	0.001	ND
Indeno(1,2,3-cd)pyrene	ND	0.001	ND
Dibenz(a,h)anthracene	ND	0.001	ND
Benzo(g,h,i)perylene	ND	0.001	ND

ND = Not Detected

ANALYTICAL RESULTS FOR
Highlander Environmental Services
Attention: Mark Larson
1910 N. Big Spring St.
Midland TX 79705

Lab Receiving # : 9708000445
Date Rec: 8/22/97
Sampling Date: 8/20/97
Sample Condition: Intact and Cool
Sample Received By: ML

Date: Sep 10, 1997
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

T80203 MW-9

8270 Quality Control	QC	%IA	RPD	%EA
Phenol	79	79	14	45
2-Chlorophenol			0	56
1,4-Dichlorobenzene	82	82	10	65
n-Nitroso-di-n-propylamine			3	67
2-Nitrophenol	76	76		
2,4-Dichlorophenol	83	83		
1,2,4-Trichlorobenzene			13	52
Hexachlorobutadiene	84	84		
4-Chloro-3-methylphenol	83	83	20	83
2,4,6-Trichlorophenol	67	67		
Acenaphthene	84	84	1	79
4-Nitrophenol			2	56
2,4-Dinitrotoluene			1	80
n-Nitrosodiphenylamine/Diphenylamine	84	84		
Pentachlorophenol	75	75	13	82
Fluoranthene	82	82		
Pyrene			10	70
Di-n-octylphthalate	73	73		
Benzo(a)pyrene	82	82		

Surrogate Recovery

	% RECOVERY		% RECOVERY
2-Fluorophenol SURR	46	2-Fluorobiphenyl SURR	63
phenol-d6 SURR	48	2,4,6-Tribromophenol SURR	69
Nitrobenzene-d5 SURR	97	Terphenyl-d14 SURR	79

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
8270		8/26/97	EPA 8270	9/3/97	RP/HW	100 ea	100 ea

Director, Dr. Blair Leftwich

9-10-97
Date

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 1

CLIENT NAME: TEPI

SITE MANAGER: Mark Larson

PROJECT NO.: 78 7

PROJECT NAME: Eunice N. Plant

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
	8/20/97	15:00	W	X		MW-8	6		X		X	
	8/20/97	13:45	W		X	MW-9	6		X		X	

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8020/602	MTBE 8020/602	TPH	PAH (8270)	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. (8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
			X	X					X							
			X	X					X							

RELINQUISHED BY: (Signature) Mark Larson Date: 8/21/97 Time: 16:30

RECEIVED BY: (Signature) Helen Skelton Date: 8/21/97 Time: 4:45 PM

SAMPLED BY: (Print & Sign) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED AIRBILL # OTHER:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: Trace

ADDRESS: 5614 Dawson

CITY: Lubbock STATE: TX ZIP: 79424

CONTACT: D. Lowry PHONE: (806) 794-1296

RECEIVED BY: (Signature)

DATE: TIME:

HIGHLANDER CONTACT PERSON: Mark Larson

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS: Filter Metals samples for dissolved analysis

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

12 samples - HS

80202-3

445

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF:

CLIENT NAME: TEPI

SITE MANAGER: Mark Larson

PROJECT NO.: 787

PROJECT NAME: Eunice N. Plant

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
80202	8/20/97	15:00	W	-	✓	MW-8	6		✓		✓					✓	✓					✓							
203	8/20/97	13:45	W		✓	MW-9	6		✓		✓					✓	✓					✓							

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature)	Date/Time	RECEIVED BY: (Signature)	Date/Time
Mark Larson	Date: 8/21/97 Time: 16:30	Helen Shelton	Date: 8/21/97 Time: 4:45 PM
Helen Shelton	Date: 8/21/97 Time: 8:45 PM		Date: Time:
	Date: Time:		Date: Time:

SAMPLED BY: (Print & Sign) Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX HAND DELIVERED BUS UPS AIRBILL # OTHER: 155-759-003-4

RECEIVING LABORATORY: Trace
ADDRESS: 6701 Aberdeen
CITY: Lubbock STATE: TX ZIP: 79424
CONTACT: K. LaRue PHONE: (806) 794-1296

RECEIVED BY: (Signature) Mark
DATE: 8-22-97 TIME: 11:00

HIGHLANDER CONTACT PERSON: 3rd M Mark Larson

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS: Filter Metals samples for dissolved analysis

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

5 samples - HS

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Ike Tavarez
1910 N. Big Spring St.
Midland, TX 79705

September 24, 1997
Receiving Date: 09/18/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 09/23/97
Analysis Date: 09/23/97
Sampling Date: 09/16/97
Sample Condition: Intact & Cool
Sample Received by: JH
Client Name: Texaco E & P
Project Name: Texaco North Eunice Gas Plant

TA#	FIELD CODE	DISSOLVED Se (mg/L)	DISSOLVED Cr (mg/L)
T81831	MW-8	0.2	5.4
QC	Quality Control	4.9	4.9
METHOD BLANK		---	**0.05**
Reporting Limit		0.1	0.05
RPD		1	1
% Extraction Accuracy		90	95
% Instrument Accuracy		97	98

METHODS: EPA SW 846-3015, 6010.
CHEMIST: RR
TOTAL Se SPIKE: 2.0 mg/L TOTAL Se.
TOTAL Se QC: 5.0 mg/L TOTAL Se.
TOTAL Cr SPIKE: 2.0 mg/L TOTAL Cr.
TOTAL Cr QC: 5.0 mg/L TOTAL Cr.

Director, Dr. Blair Leftwich

9-24-97
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
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ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Ike Tavarez
1910 N. Big Spring St.
Midland, TX 79705

September 24, 1997
Receiving Date: 09/18/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 09/23/97
Analysis Date: 09/23/97
Sampling Date: 09/16/97
Sample Condition: Intact & Cool
Sample Received by: JH
Client Name: Texaco E & P
Project Name: Texaco North Eunice Gas Plant

TA#	FIELD CODE	DISSOLVED Cr (mg/L)
T81832	MW-9	0.16
QC	Quality Control	4.9
Reporting Limit		0.05
RPD		1
% Extraction Accuracy		95
% Instrument Accuracy		98

METHODS: EPA SW 846-3015, 6010.
CHEMIST: RR
TOTAL Cr SPIKE: 2.0 mg/L TOTAL Cr.
TOTAL Cr QC: 5.0 mg/L TOTAL Cr.

Director, Dr. Blair Leftwich

9-24-97
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES CORP.
Attention: Ike Tavarez
1910 N. Big Spring Street
Midland, TX 79705

September 26, 1997
Receiving Date: 09/18/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 09/23/97
Analysis Date: 09/23/97
Sampling Date: 09/16/97
Sample Condition: I & C
Sample Received by: JH
Client Name: Texaco E & P
Project Name: Texaco North Eunice Gas Plant

DISSOLVED METALS (mg/L)

TA#	Field Code	As	Se	Cd	Cr	Pb	Ag	Ba	Hg
T81833	MW-10	<0.10	<0.10	0.03	0.14	<0.10	0.13	<0.20	<0.001
QC	Quality Control	4.9	4.9	5.1	4.9	4.9	0.99	5.0	0.0049
HIGH		***9.0 90%**	---	---	---	---	---	---	---
Reporting Limit		0.10	0.10	0.01	0.05	0.10	0.05	0.20	0.001
RPD		1	1	1	1	1	**24	1	2
% Extraction Accuracy		113	90	110	95	113	***76	93	103
% Instrument Accuracy		98	97	102	98	98	99	99	98

*** High is not within limits of 95%-105%.**
****NOTE: RPD is out of limits of <20.**
*****NOTE: Extraction Accuracy is out of limits of 80%-120%.**
CHEMIST: As, Se, Cd, Cr, Pb, Ag, Ba: RR Hg: HC
METHODS: EPA SW 846-3005, 6010, 7470.
DISSOLVED METALS SPIKE: 2.0 mg/L As, Se, Cd, Cr, Pb, Ba; 1.0 mg/L Ag; 0.005 mg/L Hg.
DISSOLVED METALS QC: 5.0 mg/L As, Se, Cd, Cr, Pb, Ba; 1.0 mg/L Ag; 0.005 mg/L Hg.

BL

Director, Dr. Blair Leftwich

9-26-97

Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
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FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Ike Tavarez
1910 N. Big Spring St.
Midland, TX 79705

September 24, 1997
Receiving Date: 09/18/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 09/20/97
Analysis Date: 09/20/97
Sampling Date: 09/16/97
Sample Condition: Intact & Cool
Sample Received by: JH
Client Name: Texaco E & P
Project Name: Texaco North Eunice Gas Plant

TA#	FIELD CODE	TDS (mg/L)
T81833	MW-10	2,400
QC	Quality Control	---
RPD		2

METHODS: EPA 160.1.
CHEMIST: JS

Director, Dr. Blair Leftwich

9-24-97
DATE

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Lubbock, Texas 79424
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ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Ike Tavarez
1910 N. Big Spring St.
Midland, TX 79705

September 29, 1997
Receiving Date: 09/18/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 09/26/97
Analysis Date: 09/26/97
Sampling Date: 09/16/97
Sample Condition: Intact & Cool
Sample Received by: JH
Client Name: Texaco E & P
Project Name: Texaco North Eunice Gas Plant

TA#	FIELD CODE	CHLORIDE (mg/L)
T81833	MW-10	520
QC	Quality Control	23
REPORTING LIMIT		100
RPD		8
% Extraction Accuracy		87
% Instrument Accuracy		90

METHODS: EPA 300.0.
CHEMIST: RC
CHLORIDE SPIKE: 25 mg/L CHLORIDE.
CHLORIDE QC: 22 mg/L CHLORIDE.

Director, Dr. Blair Leftwich

9-29-97
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
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ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

September 24, 1997
Receiving Date: 09/18/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 09/19/97
Analysis Date: 09/19/97
Sampling Date: 09/16/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Texaco North Eunice
Client Name: Texaco E & P Gas Plant

FIELD CODE: MW-10
TA #: T81833

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	5
Carbon disulfide	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	ND	1
2-Butanone	ND	50
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	ND	1
Benzene	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
4-Methyl-2-pentanone	ND	50
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	50

HIGHLANDER SERVICES
Project No: 787
Project Location: Eunice, NM
Project Name: Texaco North Eunice Gas Plant
Client Name: Texaco E & P
FIELD CODE: MW-10
TA #: T81833

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	ND	5
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2

SURROGATES	**% RECOVERY**
Dibromofluoromethane	94
Toluene-d8	96
4-Bromofluorobenzene	94

ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.
CHEMIST: RW

Director, Dr. Blair Leftwich

9-24-97
Date

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ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES CORP.
Attention: Ike Tavarez
1910 N. Big Spring
Midland, TX 79705

September 26, 1997
Receiving Date: 09/18/97
Sample Type: Water
Sampling Date: 09/16/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project No: 787
Proj. Name: Texaco North Eunice Gas Plant
Project Location: Eunice, NM
Extraction Date: 09/22/97
Analysis Date: 09/24/97

TA # T81833
Field Code: MW-10

EPA 8270	Reporting Limit	Concentration (mg/L)	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	0.001	ND				
2-Picoline	0.001	ND				
Methyl methanesulfonate	0.001	ND				
Ethyl methanesulfonate	0.001	ND				
Phenol	0.001	ND	74	8	52	93
Aniline	0.005	ND				
bis(2-Chloroethyl)ether	0.005	ND				
2-Chlorophenol	0.005	ND		5	70	
1,3-Dichlorobenzene	0.001	ND				
1,4-Dichlorobenzene	0.001	ND	74	2	61	93
Benzyl alcohol	0.005	ND				
1,2-Dichlorobenzene	0.001	ND				
Methylphenol	0.001	ND				
bis(2-chloroisopropyl)ether	0.005	ND				
4-Methylphenol/3-Methylphenol	0.001	ND				
Acetophenone	0.005	ND				
n-Nitrosodi-n-propylamine	0.001	ND		9	51	
Hexachloroethane	0.001	ND				
Nitrobenzene	0.001	ND				
N-Nitrosopiperidine	0.005	ND				
Isophorone	0.005	ND				
2-Nitrophenol	0.005	ND	79			99
2,4-Dimethylphenol	0.005	ND				
bis(2-Chloroethoxy)methane	0.001	ND				
Benzoic acid	0.01	ND				
2,4-Dichlorophenol	0.005	ND	79			99
1,2,4-Trichlorobenzene	0.001	ND		6	62	
a,a-Dimethylphenethylamine	0.01	ND				
Naphthalene	0.001	ND				

HIGHLANDER SERVICES CORP.
Project No: 787
Project Location: Eunice, NM
Project Name: Texaco North Eunice Gas Plant

TA# T81833
[redacted]LD CODE: MW-10

EPA 8270	Reporting Limit	Concentration (mg/L)	QC	RPD	%EA	%IA
4-Chloroaniline	0.005	ND				
2,6-Dichlorophenol	0.005	ND				
Hexachlorobutadiene	0.001	ND	75			94
N-Nitroso-di-n-butylamine	0.005	ND				
4-Chloro-3-methylphenol	0.005	ND	81	11	72	101
2-Methylnaphthalene	0.001	ND				
1,2,4,5-Tetrachlorobenzene	0.001	ND				
Hexachlorocyclopentadiene	0.005	ND				
2,4,6-Trichlorophenol	0.005	ND	79			99
2,4,5-Trichlorophenol	0.005	ND				
2-Chloronaphthalene	0.001	ND				
1-Chloronaphthalene	0.001	ND				
2-Nitroaniline	0.005	ND				
Dimethylphthalate	0.001	ND				
Acenaphthylene	0.001	ND				
2,6-Dinitrotoluene	0.001	ND				
3-Nitroaniline	0.005	ND				
[redacted]aphthene	0.001	ND	75	19	81	94
2,4-Dinitrophenol	0.025	ND				
Dibenzofuran	0.005	ND				
Pentachlorobenzene	0.001	ND				
4-Nitrophenol	0.005	ND		17	42	
1-Napthylamine	0.005	ND				
2,4-Dinitrotoluene	0.001	ND		10	76	
2-Napthylamine	0.005	ND				
2,3,4,6-Tetrachlorophenol	0.005	ND				
Fluorene	0.001	ND				
Diethylphthalate	0.001	ND				
4-Chlorophenyl-phenylether	0.001	ND				
4-Nitroaniline	0.005	ND				
4,6-Dinitro-2-methylphenol	0.005	ND				
n-Nitrosodiphenylamine & Diphenylamine	0.001	ND	68			85
Diphenylhydrazine	0.005	ND				

HIGHLANDER SERVICES CORP.
Project No: 787
Project Location: Eunice, NM
Project Name: Texaco North Eunice Gas Plant

T81833
FIELD CODE: MW-10

EPA 8270	Reporting Limit	Concentration (mg/L)	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	0.001	ND				
Phenacetin	0.005	ND				
Hexachlorobenzene	0.001	ND				
4-Aminobiphenyl	0.005	ND				
Pentachlorophenol	0.005	ND	81	12	75	101
Pentachloronitrobenzene	0.005	ND				
Pronamide	0.001	ND				
Phenanthrene	0.001	ND				
Anthracene	0.001	ND				
Di-n-butylphthalate	0.001	ND				
Fluoranthene	0.001	ND	78			98
Benzidine	0.01	ND				
Pyrene	0.001	ND		5	92	
[redacted]methylaminoazobenzene	0.001	ND				
Butylbenzylphthalate	0.001	ND				
Benzo[a]anthracene	0.001	ND				
3,3-Dichlorobenzidine	0.001	ND				
Chrysene	0.001	ND				
bis(2-Ethylhexyl)phthalate	0.005	ND				
Di-n-octlphthalate	0.001	ND	69			86
Benzo[b]fluoranthene	0.001	ND				
7,12-Dimethylbenz(a)anthracene	0.001	ND				
Benzo[k]fluoranthene	0.001	ND				
Benzo[a]pyrene	0.001	ND	82			103
3-Methylcholanthrene	0.001	ND				
Dibenzo(a,j)acridine	0.001	ND				
Indeno[1,2,3-cd]pyrene	0.001	ND				
Dibenz[a,h]anthracene	0.001	ND				
Benzo[g,h,i]perylene	0.001	ND				

HIGHLANDER SERVICES CORP.
Project No: 787
Project Location: Eunice, NM
Project Name: Texaco North Eunice Gas Plant

TA #T81833
Field Code: MW-10

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	74
Phenol-d6 SURR	58
trobenzene-d5 SURR	74
2-Fluorobiphenyl SURR	70
2,4,6-Tribromophenol SURR	61
Terphenyl-d14 SURR	95

METHODS: EPA SW 846-3550, 8270.
CHEMIST: RP/HW

Director, Dr. Blair Leftwich

9-26-97
Date

81831-33

305

Analysis Request and Chain of Custody Record

PAGE: 1 OF: 1

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705
(915) 682-4559 Fax (915) 682-3946

CLIENT NAME: [illegible]

SITE MANAGER: M. Tavarez

PROJECT NO.: 187

PROJECT NAME: Texaco North Eunice Gas Plant

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	TDS	Total Cr	Total Se
81831	9/16/97		W		✓	MW-8	1			✓	✓																				✓	✓
32	9/16/97		W		✓	MW-9	1			✓	✓																				✓	
33	9/16/97		W		✓	MW-10	6	✓	✓	✓	✓						✓					✓	✓							✓		

RELINQUISHED BY: (Signature) [illegible] Date: 9/17/97 Time: [illegible]

RECEIVED BY: (Signature) [illegible] Date: 9/17/97 Time: [illegible] PM

SAMPLED BY: (Print & Sign) M. Tavarez / [illegible] Date: Time:

RELINQUISHED BY: (Signature) Allen Shelton Date: 9/17/97 Time: 6:30 PM

RECEIVED BY: (Signature) Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX HAND DELIVERED (BUS) UPS AIRBILL # 155-759-016-6 OTHER:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

HIGHLANDER CONTACT PERSON: M. Tavarez

Results by:

RECEIVING LABORATORY:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature) [signature] DATE: 9/18/97 TIME: 9:35A

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: (W-Water) A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS: (Rush) Total metals Total Cr & Se

9-24 9-26 9-27

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

2 samples - H.S. 2101AT

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/28/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 10/29/97
Analysis Date: 10/30/97
Sampling Date: 10/22-23/97
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco

DISSOLVED METALS (mg/L)

TA#	Field Code	As	Se	Cd	Cr	Pb	Ag	Ba	Hg
T84137	MW-7A	<0.10	<0.10	<0.02	0.06	<0.10	<0.01	<0.20	<0.001
T84138	MW-9A	<0.10	0.1	<0.02	1.5	<0.10	<0.01	<0.20	<0.001
T84139	MW-4A	<0.10	<0.10	<0.02	0.05	<0.10	<0.01	<0.20	<0.001
T84140	MW-11A	<0.10	<0.10	<0.02	<0.05	<0.10	<0.01	<0.20	<0.001
QC	Quality Control	4.8	5.0	5.3	5.1	5.0	0.92	5.0	0.005
Reporting Limit		0.10	0.10	0.02	0.05	0.10	0.01	0.20	0.001
RPD		7	4	0	2	0	*(LCS) 0	0	0
% Extraction Accuracy		75	120	85	80	80	*(LCS) 92	90	116
% Instrument Accuracy		95	99	105	101	100	92	100	107

***NOTE: LCS and LCSD is used because of matrix interference in sample.**

CHEMIST: As, Se, Cd, Cr, Pb, Ag, Ba: RR Hg: JT
METHODS: EPA SW 846-3005, 6010B, 7470.
TOTAL METALS SPIKE: 2.0 mg/L As, Se, Cd, Cr, Pb, Ba; 0.25 mg/L Ag; 0.005 mg/L Hg.
TOTAL METALS QC: 5.0 mg/L As. Se. Cd. Cr. Pb, Ba; 1.0 mg/L Ag; 0.005 mg/L Hg.

Director, Dr. Blair Leftwich

11-12-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/28/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 10/28/97
Analysis Date: 10/28/97
Sampling Date: 10/22-23/97
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco

TA#	FIELD CODE	TDS (mg/L)	CHLORIDE (mg/L)
T84137	MW-7A	1,200	260
T84138	MW-9A	3,600	910
T84139	MW-4A	790	170
T84140	MW-11A	940	210
QC	Quality Control	---	24
Reporting Limit		---	10
RPD		2	7
% Extraction Accuracy		---	99
% Instrument Accuracy		---	97

METHODS: EPA 160.1, 300.0.
CHEMIST: TDS: JS CHLORIDE: RC
CHLORIDE SPIKE: 25 mg/L CHLORIDE.
CHLORIDE QC: 24 mg/L CHLORIDE.

11-12-97

Director, Dr. Blair Leftwich — DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
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FAX 806•794•1298

ANALYTICAL RESULTS FOR
Highlander Environmental Services

Attention: Mark Larson
1910 N. Big Spring St.
Midland TX 79705

Date: Nov 03, 1997
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

Lab Receiving # : 9710000465
Date Rec: 10/28/97
Sampling Date: 10/22/97
Sample Condition: Intact and Cool
Sample Received By: VW

T84137 MW-7A

8240 compounds in Water (ug/L)	Method Blank	Reporting Limit	Result
Dichlorodifluoromethane	ND	1	ND
Chloromethane	ND	1	ND
Vinyl chloride	ND	1	ND
Bromoethane	ND	5	ND
Chloroethane	ND	1	ND
Trichlorofluoromethane	ND	1	ND
1,1-Dichloroethene	ND	1	ND
Iodomethane	ND	5	ND
Carbon disulfide	ND	1	ND
Methylene chloride	ND	5	ND
trans-1,2-Dichloroethene	ND	1	ND
1,1-Dichloroethane	ND	1	ND
Vinyl acetate	ND	1	ND
2-Butanone	ND	50	ND
Chloroform	ND	1	ND
1,1,1-Trichloroethane	ND	1	ND
-Dichloroethane	ND	1	ND
Benzene	ND	1	ND
Carbon Tetrachloride	ND	1	ND
1,2-Dichloropropane	ND	1	ND
Trichloroethene	ND	1	ND
Bromodichloroethane	ND	1	ND
cis-1,3-Dichloropropene	ND	1	ND
4-Methyl-2-pentanone	ND	50	ND
trans-1,3-Dichloropropene	ND	1	ND
Toluene	ND	1	ND
1,1,2-Trichloroethane	ND	1	ND
2-Hexanone	ND	50	ND
Dibromochloromethane	ND	1	ND
Tetrachloroethane	ND	1	ND
Chlorobenzene	ND	1	ND
Ethylbenzene	ND	1	ND
m _p-Xylene	ND	1	ND
Bromoform	ND	1	ND
Styrene	ND	1	ND
o-Xylene	ND	1	ND
1,1,2,2-Tetrachloroethane	ND	1	ND
trans 1,4-Dichloro-2-butene	ND	5	ND
cis 1,4-Dichloro-2-butene	ND	5	ND
1,4-Dichlorobenzene	ND	2	ND
1,3-Dichlorobenzene	ND	2	ND
1,2-Dichlorobenzene	ND	2	ND

ND = Not Detected

ANALYTICAL RESULTS FOR
Highlander Environmental Services

Attention: Mark Larson
1910 N. Big Spring St.
Midland TX 79705

Date: Nov 03, 1997
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

Lab Receiving # : 9710000465
Date Rec: 10/28/97
Sampling Date: 10/22/97
Sample Condition: Intact and Cool
Sample Received By: VW

T84137 MW-7A

8240 Quality Control	QC	% IA	RPD	% EA
Vinyl Chloride	93	93		
1,1-Dichloroethene	101	101	3	79
Chloroform	101	101		
Benzene			0	101
1,2-Dichloropropane	102	102		
Trichloroethene			0	101
Toluene	100	100	1	102
Chlorobenzene	99	99	1	103
Ethylbenzene	98	98		

	% RECOVERY
Dibromofluoromethane SURR	93
Toluene-d8 SURR	95
4-Bromofluorobenzene SURR	90

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (ug/L)	SPIKE: (ug/L)
8240	EPA 5030	10/29/97	EPA 8260	10/29/97	RW	100 ea	100 ea

Director, Dr. Blair Leftwich

11-3-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Highlander Environmental Services
Attention: Mark Larson
1910 N. Big Spring St.
Midland TX 79705

Date: Nov 03, 1997
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

Lab Receiving # : 9710000465
Date Rec: 10/28/97
Sampling Date: 10/23/97
Sample Condition: Intact and Cool
Sample Received By: VW

T84138 MW-9A

8240 compounds in Water (ug/L)	Method Blank	Reporting Limit	Result
Dichlorodifluoromethane	ND	1	ND
Chloromethane	ND	1	ND
Vinyl chloride	ND	1	ND
Bromoethane	ND	5	ND
Chloroethane	ND	1	ND
Trichlorofluoromethane	ND	1	ND
1,1-Dichloroethene	ND	1	ND
Iodomethane	ND	5	ND
Carbon disulfide	ND	1	ND
Methylene chloride	ND	5	ND
trans-1,2-Dichloroethene	ND	1	ND
1,1-Dichloroethane	ND	1	ND
Vinyl acetate	ND	1	ND
2-Butanone	ND	50	ND
Chloroform	ND	1	ND
1,1,1-Trichloroethane	ND	1	ND
[illegible]Dichloroethane	ND	1	ND
Benzene	ND	1	ND
Carbon Tetrachloride	ND	1	ND
1,2-Dichloropropane	ND	1	ND
Trichloroethene	ND	1	ND
Bromodichloroethane	ND	1	ND
cis-1,3-Dichloropropene	ND	1	ND
4-Methyl-2-pentanone	ND	50	ND
trans-1,3-Dichloropropene	ND	1	ND
Toluene	ND	1	ND
1,1,2-Trichloroethane	ND	1	ND
2-Hexanone	ND	50	ND
Dibromochloromethane	ND	1	ND
Tetrachloroethane	ND	1	ND
Chlorobenzene	ND	1	ND
Ethylbenzene	ND	1	ND
m _p-Xylene	ND	1	ND
Bromoform	ND	1	ND
Styrene	ND	1	ND
o-Xylene	ND	1	ND
1,1,2,2-Tetrachloroethane	ND	1	ND
trans 1,4-Dichloro-2-butene	ND	5	ND
cis 1,4-Dichloro-2-butene	ND	5	ND
1,4-Dichlorobenzene	ND	2	ND
1,3-Dichlorobenzene	ND	2	ND
1,2-Dichlorobenzene	ND	2	ND

ND = Not Detected

ANALYTICAL RESULTS FOR
Highlander Environmental Services
Attention: Mark Larson
1910 N. Big Spring St.
Midland TX 79705

Lab Receiving # : 9710000465
Date Rec: 10/28/97
Sampling Date: 10/23/97
Sample Condition: Intact and Cool
Sample Received By: VW

Date: Nov 03, 1997
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

T84138 MW-9A

8240 Quality Control	QC	% IA	RPD	% EA
Vinyl Chloride	93	93		
1,1-Dichloroethene	101	101	3	79
Chloroform	101	101		
Benzene			0	101
1,2-Dichloropropane	102	102		
Trichloroethene			0	101
Toluene	100	100	1	102
Chlorobenzene	99	99	1	103
Ethylbenzene	98	98		

	% RECOVERY
Dibromofluoromethane SURR	93
Toluene-d8 SURR	95
4-Bromofluorobenzene SURR	90

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (ug/L)	SPIKE: (ug/L)
8240	EPA 5030	10/29/97	EPA 8260	10/29/97	RW	100 ea	100 ea

Director, Dr. Blair Leftwich

11-3-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Highlander Environmental Services

Attention: Mark Larson
1910 N. Big Spring St.
Midland TX 79705

Date: Nov 03, 1997
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

Lab Receiving # : 9710000465
Date Rec: 10/28/97
Sampling Date: 10/23/97
Sample Condition: Intact and Cool
Sample Received By: VW

T84139 **MW-4A**

8240 compounds in Water (ug/L)	Method Blank	Reporting Limit	Result
Dichlorodifluoromethane	ND	1	ND
Chloromethane	ND	1	ND
Vinyl chloride	ND	1	ND
Bromoethane	ND	5	ND
Chloroethane	ND	1	ND
Trichlorofluoromethane	ND	1	ND
1,1-Dichloroethene	ND	1	ND
Iodomethane	ND	5	ND
Carbon disulfide	ND	1	ND
Methylene chloride	ND	5	ND
trans-1,2-Dichloroethene	ND	1	ND
1,1-Dichloroethane	ND	1	ND
Vinyl acetate	ND	1	ND
2-Butanone	ND	50	ND
Chloroform	ND	1	ND
1,1,1-Trichloroethane	ND	1	ND
-Dichloroethane	ND	1	ND
Benzene	ND	1	ND
Carbon Tetrachloride	ND	1	ND
1,2-Dichloropropane	ND	1	ND
Trichloroethene	ND	1	ND
Bromodichloroethane	ND	1	ND
cis-1,3-Dichloropropene	ND	1	ND
4-Methyl-2-pentanone	ND	50	ND
trans-1,3-Dichloropropene	ND	1	ND
Toluene	ND	1	ND
1,1,2-Trichloroethane	ND	1	ND
2-Hexanone	ND	50	ND
Dibromochloromethane	ND	1	ND
Tetrachloroethane	ND	1	ND
Chlorobenzene	ND	1	ND
Ethylbenzene	ND	1	ND
m _p-Xylene	ND	1	ND
Bromoform	ND	1	ND
Styrene	ND	1	ND
o-Xylene	ND	1	ND
1,1,2,2-Tetrachloroethane	ND	1	ND
trans 1,4-Dichloro-2-butene	ND	5	ND
cis 1,4-Dichloro-2-butene	ND	5	ND
1,4-Dichlorobenzene	ND	2	ND
1,3-Dichlorobenzene	ND	2	ND
1,2-Dichlorobenzene	ND	2	ND

ND = Not Detected

ANALYTICAL RESULTS FOR
Highlander Environmental Services

Attention: Mark Larson
1910 N. Big Spring St.
Midland TX 79705

Date: Nov 03, 1997
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

Lab Receiving # : 9710000465
Date Rec: 10/28/97
Sampling Date: 10/23/97
Sample Condition: Intact and Cool
Sample Received By: VW

T84139 **MW-4A**

8240 Quality Control	QC	% IA	RPD	% EA
Vinyl Chloride	93	93		
1,1-Dichloroethene	101	101	3	79
Chloroform	101	101	0	101
Benzene	102	102	0	101
1,2-Dichloropropane	100	100	1	102
Trichloroethene	99	99	1	103
Toluene	98	98		
Chlorobenzene				
Ethylbenzene				

	% RECOVERY
Dibromofluoromethane SURR	94
Toluene-d8 SURR	94
4-Bromofluorobenzene SURR	90

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (ug/L)	SPIKE: (ug/L)
8240	EPA 5030	10/29/97	EPA 8260	10/29/97	RW	100 ea	100 ea

Director, Dr. Blair Leftwich

11-3-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Highlander Environmental Services
Attention: Mark Larson
1910 N. Big Spring St.
Midland TX 79705

Date: Nov 03, 1997
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

Lab Receiving # : 9710000465
Date Rec: 10/28/97
Sampling Date: 10/23/97
Sample Condition: Intact and Cool
Sample Received By: VW

T84140 MW-11A

8240 compounds in Water (ug/L)	Method Blank	Reporting Limit	Result
Dichlorodifluoromethane	ND	1	ND
Chloromethane	ND	1	ND
Vinyl chloride	ND	1	ND
Bromoethane	ND	5	ND
Chloroethane	ND	1	ND
Trichlorofluoromethane	ND	1	ND
1,1-Dichloroethene	ND	1	ND
Iodomethane	ND	5	ND
Carbon disulfide	ND	1	ND
Methylene chloride	ND	5	ND
trans-1,2-Dichloroethene	ND	1	ND
1,1-Dichloroethane	ND	1	ND
Vinyl acetate	ND	1	ND
2-Butanone	ND	50	ND
Chloroform	ND	1	ND
1,1,1-Trichloroethane	ND	1	ND
1,2-Dichloroethane	ND	1	ND
Benzene	ND	1	ND
Carbon Tetrachloride	ND	1	ND
1,2-Dichloropropane	ND	1	ND
Trichloroethene	ND	1	ND
Bromodichloroethane	ND	1	ND
cis-1,3-Dichloropropene	ND	1	ND
4-Methyl-2-pentanone	ND	50	ND
trans-1,3-Dichloropropene	ND	1	ND
Toluene	ND	1	ND
1,1,2-Trichloroethane	ND	1	ND
2-Hexanone	ND	50	ND
Dibromochloromethane	ND	1	ND
Tetrachloroethane	ND	1	ND
Chlorobenzene	ND	1	ND
Ethylbenzene	ND	1	ND
m _p-Xylene	ND	1	ND
Bromoform	ND	1	ND
Styrene	ND	1	ND
o-Xylene	ND	1	ND
1,1,2,2-Tetrachloroethane	ND	1	ND
trans 1,4-Dichloro-2-butene	ND	5	ND
cis 1,4-Dichloro-2-butene	ND	5	ND
1,4-Dichlorobenzene	ND	2	ND
1,3-Dichlorobenzene	ND	2	ND
1,2-Dichlorobenzene	ND	2	ND

ND = Not Detected

ANALYTICAL RESULTS FOR
Highlander Environmental Services
Attention: Mark Larson
1910 N. Big Spring St.
Midland TX 79705

Lab Receiving # : 9710000465
Date Rec: 10/28/97
Sampling Date: 10/23/97
Sample Condition: Intact and Cool
Sample Received By: VW

Date: Nov 03, 1997
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

T84140 MW-11A

8240 Quality Control	QC	% IA	RPD	% EA
Vinyl Chloride	93	93		
1,1-Dichloroethene	101	101	3	79
Chloroform	101	101		
Benzene			0	101
1,2-Dichloropropane	102	102		
Trichloroethene			0	101
Toluene	100	100	1	102
Chlorobenzene	99	99	1	103
Ethylbenzene	98	98		

	% RECOVERY
Dibromofluoromethane SURR	93
Toluene-d8 SURR	94
4-Bromofluorobenzene SURR	90

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (ug/L)	SPIKE: (ug/L)
8240	EPA 5030	10/29/97	EPA 8260	10/29/97	RW	100 ea	100 ea

Director, Dr. Blair Leftwich

11-3-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/28/97
Sample Type: Water
Project No: 787
Proj. Loc.: Eunice, NM
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco
Sampling Date: 10/22/97
Sample Condition: I & C
Sample Received by: VW
Extraction Date: 10/30/97
Analysis Date: 11/07/97

PAH Reporting T84137

8270 Compounds (mg/L)	Limit	MW-7A	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	87	18	62	109
Acenaphthylene	0.005	ND	83	*21	62	104
Acenaphthene	0.005	ND	85	*23	64	106
Fluorene	0.005	ND	76	17	64	95
Phenanthrene	0.005	ND	94	5	100	118
Anthracene	0.005	ND	93	3	95	116
Fluoranthene	0.005	ND	81	10	86	101
Pyrene	0.005	ND	74	6	109	93
Benzo[a]anthracene	0.005	ND	90	13	89	113
Chrysene	0.005	ND	86	14	116	108
Benzo[b]fluoranthene	0.005	ND	76	*25	63	94
Benzo[k]fluoranthene	0.005	ND	82	18	78	103
Benzo[a]pyrene	0.005	ND	89	19	80	111
Indeno[1,2,3-cd]pyrene	0.005	ND	91	19	87	114
Dibenz[a,h]anthracene	0.005	ND	84	20	99	105
Benzo[g,h,i]perylene	0.005	ND	89	18	81	111

ND = Not Detected

SURROGATES	% RECOVERY
Nitrobenzene-d5 SURR	50
2-Fluorobiphenyl SURR	46
Terphenyl-d14 SURR	67

*NOTE: RPD out of standard range.
METHODS: EPA SW 846-8270, 3510.
CHEMIST: RP/HW

Director, Dr. Blair Leftwich

11-12-97
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/28/97
Sample Type: Water
Project No: 787
Proj. Loc.: Eunice, NM
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco
Sampling Date: 10/23/97
Sample Condition: I & C
Sample Received by: VW
Extraction Date: 10/30/97
Analysis Date: 11/07/97

PAH Reporting T84138

8270 Compounds (mg/L)	Limit	MW-9A	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	87	18	62	109
Acenaphthylene	0.005	ND	83	*21	62	104
Acenaphthene	0.005	ND	85	*23	64	106
Fluorene	0.005	ND	76	17	64	95
Phenanthrene	0.005	ND	94	5	100	118
Anthracene	0.005	ND	93	3	95	116
Fluoranthene	0.005	ND	81	10	86	101
Pyrene	0.005	ND	74	6	109	93
Benzo[a]anthracene	0.005	ND	90	13	89	113
Chrysene	0.005	ND	86	14	116	108
Benzo[b]fluoranthene	0.005	ND	76	*25	63	94
Benzo[k]fluoranthene	0.005	ND	82	18	78	103
Benzo[a]pyrene	0.005	ND	89	19	80	111
Indeno[1,2,3-cd]pyrene	0.005	ND	91	19	87	114
Dibenz[a,h]anthracene	0.005	ND	84	20	99	105
Benzo[g,h,i]perylene	0.005	ND	89	18	81	111

ND = Not Detected

SURROGATES	% RECOVERY
Nitrobenzene-d5 SURR	54
2-Fluorobiphenyl SURR	53
Terphenyl-d14 SURR	81

*NOTE: RPD out of standard range.
METHODS: EPA SW 846-8270, 3510.
CHEMIST: RP/HW

BS

Director, Dr. Blair Leftwich

11-12-97

DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/28/97
Sample Type: Water
Project No: 787
Proj. Loc.: Eunice, NM
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco
Sampling Date: 10/23/97
Sample Condition: I & C
Sample Received by: VW
Extraction Date: 10/30/97
Analysis Date: 11/07/97

PAH Reporting T84139

8270 Compounds (mg/L)	Limit	MW-4A	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	87	18	62	109
Acenaphthylene	0.005	ND	83	*21	62	104
Acenaphthene	0.005	ND	85	*23	64	106
Fluorene	0.005	ND	76	17	64	95
Phenanthrene	0.005	ND	94	5	100	118
Anthracene	0.005	ND	93	3	95	116
Fluoranthene	0.005	ND	81	10	86	101
Pyrene	0.005	ND	74	6	109	93
Benzo[a]anthracene	0.005	ND	90	13	89	113
Chrysene	0.005	ND	86	14	116	108
Benzo[b]fluoranthene	0.005	ND	76	*25	63	94
Benzo[k]fluoranthene	0.005	ND	82	18	78	103
Benzo[a]pyrene	0.005	ND	89	19	80	111
Indeno[1,2,3-cd]pyrene	0.005	ND	91	19	87	114
Dibenz[a,h]anthracene	0.005	ND	84	20	99	105
Benzo[g,h,i]perylene	0.005	ND	89	18	81	111

ND = Not Detected

SURROGATES	% RECOVERY
Nitrobenzene-d5 SURR	56
2-Fluorobiphenyl SURR	55
Terphenyl-d14 SURR	90

*NOTE: RPD out of standard range.
METHODS: EPA SW 846-8270, 3510.
CHEMIST: RP/HW

Director, Dr. Blair Leftwich

11-12-97
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/28/97
Sample Type: Water
Project No: 787
Proj. Loc.: Eunice, NM
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco
Sampling Date: 10/23/97
Sample Condition: I & C
Sample Received by: VW
Extraction Date: 10/30/97
Analysis Date: 11/07/97

PAH	Reporting	T84140				
8270 Compounds (mg/L)	Limit	MW-11A	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	87	18	62	109
Acenaphthylene	0.005	ND	83	*21	62	104
Acenaphthene	0.005	ND	85	*23	64	106
Fluorene	0.005	ND	76	17	64	95
Phenanthrene	0.005	ND	94	5	100	118
Anthracene	0.005	ND	93	3	95	116
Fluoranthene	0.005	ND	81	10	86	101
Pyrene	0.005	ND	74	6	109	93
Benzo[a]anthracene	0.005	ND	90	13	89	113
Chrysene	0.005	ND	86	14	116	108
Benzo[b]fluoranthene	0.005	ND	76	*25	63	94
Benzo[k]fluoranthene	0.005	ND	82	18	78	103
Benzo[a]pyrene	0.005	ND	89	19	80	111
Indeno[1,2,3-cd]pyrene	0.005	ND	91	19	87	114
Dibenz[a,h]anthracene	0.005	ND	84	20	99	105
Benzo[g,h,i]perylene	0.005	ND	89	18	81	111

ND = Not Detected

SURROGATES	% RECOVERY
Nitrobenzene-d5 SURR	55
2-Fluorobiphenyl SURR	58
Terphenyl-d14 SURR	100

*NOTE: RPD out of standard range.
METHODS: EPA SW 846-8270, 3510.
CHEMIST: RP/HW

Director, Dr. Blair Leftwich

11-12-97
DATE

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

CLIENT NAME: Texaco

SITE MANAGER: Mark Larson

PROJECT NO.: 787

PROJECT NAME: Texaco North Gas Plant Eunice

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, (TDS), Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
	10/22/97	14:40	W	✓		MW-7A	1	Y		✓							✓												
	10/22/97	14:40	W	✓		MW-7A	1	N				✓				✓													
	10/22/97	14:40	W	✓		MW-7A	2	N	✓													✓							
	10/22/97	14:40	W	✓		MW-7A	1	N				✓														✓			
	10/23/97	9:20	W	✓		MW-9A	1	Y		✓							✓												
	10/23/97	9:20	W	✓		MW-9A	1	N				✓				✓													
	10/23/97	9:20	W	✓		MW-9A	2	N	✓													✓							
	10/23/97	9:20	W	✓		MW-9A	1	N				✓														✓			

RELINQUISHED BY: (Signature) Vijay Kurki — Date: 10/27/97 Time: 2:00 pm

RECEIVED BY: (Signature) Helen Shelton — Date: 10/27/97 Time: 2:00 pm

RELINQUISHED BY: (Signature) — Date: Time:

RECEIVED BY: (Signature) — Date: Time:

RELINQUISHED BY: (Signature) — Date: Time:

RECEIVED BY: (Signature) — Date: Time:

RECEIVING LABORATORY: Trace Analysis Inc.
ADDRESS:
CITY: Lubbock STATE: Tx ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature)
DATE: TIME:

SAMPLED BY: (Print & Sign) Mark Larson, Vijay Kurki — Date: 10/27/97 Time:

SAMPLE SHIPPED BY: (Circle)
FEDEX (BUS) UPS
HAND DELIVERED
AIRBILL #
OTHER:

HIGHLANDER CONTACT PERSON: Mark Larson

Results by: Nov 10, 1997

RUSH Charges Authorized: Yes (No)

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: (W-Water) A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS: Total dissolved metal samples were field filtered.

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 2

CLIENT NAME: T[illegible]

SITE MANAGER: Mark [illegible]

PROJECT NO.: 7[illegible]7

PROJECT NAME: T[illegible] North Gas Plant Coil

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
84137	[illegible]	14:40	W	✓		MW-7A	1	Y		✓		
			W	✓		MW-7A	2	N				✓
			W	✓		MW-7A	2	N	✓			
			W	✓		MW-7A	1	N				✓
84138	[illegible]	[illegible]	W	✓		[illegible]-9A	1	Y		✓		
			W	✓		MW-9A	2	N				✓
			W	✓		MW-9A	2	N	✓			
			W	✓		MW-9A	1	N		a		✓

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8020/602
MTBE 8020/602
TRH
PAH 8270
Total Metals Ag As Ba Cd Cr Pb Hg Se
TCLP Metals Ag As Ba Cd Cr Pd Hg Se
TCLP Volatiles
TCLP Semi Volatiles
RCI
GC.MS Vol. 8240/8260/824
GC.MS Semi. Vol. 8270/625
PCB's 8080/608
Pest. 808/608
BOD, TSS, pH, (TDS) Chloride
Gamma Spec.
Alpha Beta (Air)
PLM (Asbestos)

Parker

RELINQUISHED BY: (Signature) Date: [illegible] Time: [illegible]
RECEIVED BY: (Signature) Helen Shelton Date: [illegible] Time: [illegible]
SAMPLED BY: (Print & Sign) [illegible] Date: [illegible] Time: [illegible]

RELINQUISHED BY: (Signature) Helen Shelton Date: 10/27/97 Time: 6:45 PM
RECEIVED BY: (Signature) Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX HAND DELIVERED BUS UPS AIRBILL # 155-758-791-1 OTHER:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
HIGHLANDER CONTACT PERSON:

RECEIVING LABORATORY: [illegible]
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) Vicki Windham 10/28/97 9:50AM
DATE: TIME:

Results by: 11/10/1997
RUSH Charges Authorized: Yes (No)

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: (W-Water) S-Soil A-Air SL-Sludge SD-Solid O-Other

REMARKS:

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

10 samples - H.C

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

CLIENT NAME: Texaco

SITE MANAGER: Mark Larson

PROJECT NO.: 787

PROJECT NAME: Texaco North Gas Plant, Eunice

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
	10/25/97	14:20	W	✓		MW-4A	1	Y		✓							✓												
	10/25/97	14:20	W	✓		MW-4A	1	N				✓				✓													
	10/25/97	14:20	W	✓		MW-4A	2	N	✓													✓							
	10/25/97	14:20	W	✓		MW-4A	1	N				✓														✓			
	10/25/97	15:20	W	✓		MW-11A	1	Y		✓							✓												
	10/25/97	15:20	W	✓		MW-11A	1	N				✓				✓													
	10/25/97	15:15	W	✓		MW-11A	1	N	✓													✓							
	10/25/97	15:15	W	✓		MW-11A	1	N				✓														✓			

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature)	Date: 10/27/97 Time: 2:00 pm	RECEIVED BY: (Signature) Helen Shelton	Date: 10/27/97 Time: 2:00PM	SAMPLED BY: (Print & Sign) Mark Larson, Vijay Kurki	Date: 10/27/97 Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:	SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED	AIRBILL # OTHER:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:		

RECEIVING LABORATORY:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature)
DATE: TIME:

HIGHLANDER CONTACT PERSON: Mark Larson

Results by: Nov. 10, 1997
RUSH Charges Authorized: Yes (No)

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: (W-Water) S-Soil A-Air SL-Sludge SD-Solid O-Other

REMARKS: Total dissolved metal samples were field filtered.

Please Fill out all copies – Project Manager retains White copy – Accounting receives Pink copy – Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

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Analysis Request and Chain of Custody Record

PAGE: ____ OF: ____

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705
(915) 682-4559 Fax (915) 682-3946

CLIENT NAME: [illegible]

SITE MANAGER: [illegible]

PROJECT NO.: [illegible]

PROJECT NAME: [illegible]

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH (8270)	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. (8240)/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, (TDS, Chloride)	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
84139	[illegible]	[illegible]	[illegible]	✓		[illegible]	1	Y		✓							✓												
	[illegible]	[illegible]	[illegible]	✓		[illegible]	2	N				✓				✓													
	[illegible]	[illegible]	[illegible]	✓		[illegible]	2	N	✓													✓							
	[illegible]	[illegible]	[illegible]	✓		[illegible]	1	N				✓														✓			
84140	[illegible]	[illegible]	[illegible]	✓		[illegible]	1	Y		✓							✓												
	[illegible]	[illegible]	[illegible]	✓		[illegible]	1	N				✓				✓													
	[illegible]	[illegible]	[illegible]	✓		[illegible]	2	N	✓													✓							
	[illegible]	[illegible]	[illegible]	✓		[illegible]	1	N				✓														✓			

RELINQUISHED BY: (Signature) [illegible] Date: [illegible] Time: ____

RECEIVED BY: (Signature) Helen Shelton Date: 10/27/97 Time: 2:00 PM

RELINQUISHED BY: (Signature) Helen Shelton Date: 10/27/97 Time: 6:45 PM

RECEIVED BY: (Signature) ____ Date: ____ Time: ____

RELINQUISHED BY: (Signature) ____ Date: ____ Time: ____

RECEIVED BY: (Signature) ____ Date: ____ Time: ____

RECEIVING LABORATORY: ____
ADDRESS: ____
CITY: ____ STATE: ____ ZIP: ____
CONTACT: ____ PHONE: ____

RECEIVED BY: (Signature) Vicki Windham
DATE: 10/28/97 TIME: 9:50 AM

SAMPLED BY: (Print & Sign) [illegible] Date: ____ Time: ____

SAMPLE SHIPPED BY: (Circle) FEDEX, (BUS), UPS, HAND DELIVERED — AIRBILL # 155-758-791-1 OTHER: ____

HIGHLANDER CONTACT PERSON: [illegible]

Results by: [illegible] 10, 1997
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: ____

MATRIX: (W-Water) S-Soil A-Air SL-Sludge SD-Solid O-Other

REMARKS: [illegible]

Please Fill out all copies – Project Manager retains White copy – Accounting receives Pink copy – Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

a [illegible] 2° 201A G

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/29/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 10/29/97
Analysis Date: 10/30/97
Sampling Date: 10/28/97
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco

DISSOLVED METALS (mg/L)

TA#	Field Code	As	Se	Cd	Cr	Pb	Ag	Ba	Hg
T84206	MW-8A	<0.10	0.1	<0.02	2.3	<0.10	<0.01	<0.20	<0.001
T84208	MW-13A	<0.10	<0.10	<0.02	<0.05	<0.10	<0.01	<0.20	<0.001
QC	Quality Control	4.8	5.0	5.3	5.1	5.0	0.92	5.0	0.005
Reporting Limit		0.10	0.10	0.02	0.05	0.10	0.01	0.20	0.001
RPD		7	4	0	2	0	*(LCS) 0	0	0
% Extraction Accuracy		75	120	85	80	80	*(LCS) 92	90	104
% Instrument Accuracy		95	99	105	101	100	92	100	104

***NOTE: LCS and LCSD is used because of matrix interference in sample.**

CHEMIST: As, Se, Cd, Cr, Pb, Ag, Ba: RR Hg: JT
METHODS: EPA SW 846-3005, 6010B, 7470.
DISSOLVED METALS SPIKE: 2.0 mg/L As, Se, Cd, Cr, Pb, Ba; 0.25 mg/L Ag; 0.005 mg/L Hg.
DISSOLVED METALS QC: 5.0 mg/L As. Se. Cd. Cr. Pb, Ba; 1.0 mg/L Ag; 0.005 mg/L Hg.

Director, Dr. Blair Leftwich

11-12-97
Date

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/29/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 10/29/97
Analysis Date: 10/29/97
Sampling Date: 10/28/97
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco

TA#	FIELD CODE	TDS (mg/L)	CHLORIDE (mg/L)	Cr+6 (mg/L)	Cr+3 (mg/L)
T84205	MW-8	NR	NR	6.46	0
T84206	MW-8A	3,700	13	3.31	0
T84207	Equipment Blank	NR	NR	<0.1	<0.05
T84208	MW-13A	520	26	NR	NR
QC	Quality Control	---	24	1.08	---
Reporting Limit		---	10	0.1	---
RPD		16	10	2	---
% Extraction Accuracy		---	97	101	---
% Instrument Accuracy		---	95	109	---

NR = NOT RUN

METHODS: EPA 160.1, 300.0, 218.4.
CHEMIST: TDS/Cr+6: JS CHLORIDE: RC Cr+3: RR/JS
CHLORIDE SPIKE: 25 mg/L CHLORIDE.
CHLORIDE QC: 23 mg/L CHLORIDE.
Cr+6 SPIKE AND QC: 1.0 mg/L Cr+6.

Director, Dr. Blair Leftwich

11-12-97
DATE

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/29/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 10/29/97
Analysis Date: 11/07/97
Sampling Date: 10/28/97
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco

TA#	FIELD CODE	DISSOLVED Cr (mg/L)
T84205	MW-8	4.6
T84207	Equipment Blank	<0.05
QC	Quality Control	5.1
Reporting Limit		0.05
RPD		2
% Extraction Accuracy		80
% Instrument Accuracy		101

METHODS: EPA SW 846-3005, 6010B.
CHEMIST: RR
DISSOLVED Cr SPIKE: 2.0 mg/L Cr.
DISSOLVED Cr QC: 5.0 mg/L Cr.

Director, Dr. Blair Leftwich

11-12-97
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/29/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 11/03/97
Analysis Date: 11/03/97
Sampling Date: 10/28/97
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco

FIELD CODE: MW-8A
TA #: T84206

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	5
Carbon disulfide	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	ND	1
2-Butanone	ND	50
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	ND	1
Benzene	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
4-Methyl-2-pentanone	ND	50
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	50

HIGHLANDER SERVICES
Project Location: Eunice, NM
Project Name: Texaco North Gas Plant, Eunice, NM
Project No: 787
Client Name: Texaco

FIELD CODE: MW-8A
TA #: T84206

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	ND	5
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2

SURROGATES	**% RECOVERY**
Dibromofluoromethane	94
Toluene-d8	92
4-Bromofluorobenzene	93

ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.
CHEMIST: RW

Director, Dr. Blair Leftwich

11-12-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larosn
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/29/97
Sample Type: Water
Project No: 787
Proj. Loc.: Eunice, NM
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco
Sampling Date: 10/28/97
Sample Condition: I & C
Sample Received by: VW
Extraction Date: 10/30/97
Analysis Date: 11/07/97

PAH	Reporting	T84206				
8270 Compounds (mg/L)	Limit*	MW-8A	QC	RPD	%EA	%IA
Naphthalene	0.005	ND	87	18	62	109
Acenaphthylene	0.005	ND	83	**21	62	104
Acenaphthene	0.005	ND	85	**23	64	106
Fluorene	0.005	ND	76	17	64	95
Phenanthrene	0.005	ND	94	5	100	118
Anthracene	0.005	ND	93	3	95	116
Fluoranthene	0.005	ND	81	10	86	101
Pyrene	0.005	ND	74	6	109	93
Benzo[a]anthracene	0.005	ND	90	13	89	113
Chrysene	0.005	ND	86	14	116	108
Benzo[b]fluoranthene	0.005	ND	76	**25	63	94
Benzo[k]fluoranthene	0.005	ND	82	18	78	103
Benzo[a]pyrene	0.005	ND	89	19	80	111
Indeno[1,2,3-cd]pyrene	0.005	ND	91	19	87	114
Dibenz[a,h]anthracene	0.005	ND	84	20	99	105
Benzo[g,h,i]perylene	0.005	ND	89	18	81	111

ND = Not Detected

SURROGATES	% RECOVERY
Nitrobenzene-d5 SURR	67
2-Fluorobiphenyl SURR	72
Terphenyl-d14 SURR	97

*NOTE: Elevate reporting limit due to matrix effect.

**NOTE: RPD out of standard range.

METHODS: EPA SW 846-8270, 3510.

CHEMIST: RP/HW

Director, Dr. Blair Leftwich

11-12-97
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/29/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 10/29/97
Analysis Date: 10/30/97
Sampling Date: 10/28/97
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco

DISSOLVED METALS (mg/L)

TA#	Field Code	As	Se	Cd	Cr	Pb	Ag	Ba	Hg
T84206	MW-8A	<0.10	0.1	<0.02	2.3	<0.10	<0.01	<0.20	<0.001
T84208	MW-13A	<0.10	<0.10	<0.02	<0.05	<0.10	<0.01	<0.20	<0.001
QC	Quality Control	4.8	5.0	5.3	5.1	5.0	0.92	5.0	0.005
Reporting Limit		0.10	0.10	0.02	0.05	0.10	0.01	0.20	0.001
RPD		7	4	0	2	0	*(LCS) 0	0	0
% Extraction Accuracy		75	120	85	80	80	*(LCS) 92	90	104
% Instrument Accuracy		95	99	105	101	100	92	100	104

***NOTE: LCS and LCSD is used because of matrix interference in sample.**

CHEMIST: As, Se, Cd, Cr, Pb, Ag, Ba: RR Hg: JT
METHODS: EPA SW 846-3005, 6010B, 7470.
DISSOLVED METALS SPIKE: 2.0 mg/L As, Se, Cd, Cr, Pb, Ba; 0.25 mg/L Ag; 0.005 mg/L Hg.
DISSOLVED METALS QC: 5.0 mg/L As. Se. Cd. Cr. Pb, Ba; 1.0 mg/L Ag; 0.005 mg/L Hg.

Director, Dr. Blair Leftwich

11-12-97
Date

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/29/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 10/29/97
Analysis Date: 10/29/97
Sampling Date: 10/28/97
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco

TA#	FIELD CODE	TDS (mg/L)	CHLORIDE (mg/L)	Cr+6 (mg/L)	Cr+3 (mg/L)
T84205	MW-8	NR	NR	6.46	0
T84206	MW-8A	3,700	13	3.31	0
T84207	Equipment Blank	NR	NR	<0.1	<0.05
T84208	MW-13A	520	26	NR	NR
QC	Quality Control	---	24	1.08	---
Reporting Limit		---	10	0.1	---
RPD		16	10	2	---
% Extraction Accuracy		---	97	101	---
% Instrument Accuracy		---	95	109	---

NR = NOT RUN

METHODS: EPA 160.1, 300.0, 218.4.
CHEMIST: TDS/Cr+6: JS CHLORIDE: RC Cr+3: RR/JS
CHLORIDE SPIKE: 25 mg/L CHLORIDE.
CHLORIDE QC: 23 mg/L CHLORIDE.
Cr+6 SPIKE AND QC: 1.0 mg/L Cr+6.

Director, Dr. Blair Leftwich

11-12-97
DATE

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/29/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 10/29/97
Analysis Date: 11/07/97
Sampling Date: 10/28/97
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco

TA#	FIELD CODE	DISSOLVED Cr (mg/L)
T84205	MW-8	4.6
T84207	Equipment Blank	<0.05
QC	Quality Control	5.1
Reporting Limit		0.05
RPD		2
% Extraction Accuracy		80
% Instrument Accuracy		101

METHODS: EPA SW 846-3005, 6010B.
CHEMIST: RR
DISSOLVED Cr SPIKE: 2.0 mg/L Cr.
DISSOLVED Cr QC: 5.0 mg/L Cr.

Director, Dr. Blair Leftwich

11-12-97
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/29/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 11/03/97
Analysis Date: 11/03/97
Sampling Date: 10/28/97
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco

FIELD CODE: MW-8A
TA #: T84206

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	5
Carbon disulfide	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	ND	1
2-Butanone	ND	50
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	ND	1
Benzene	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
4-Methyl-2-pentanone	ND	50
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	50

HIGHLANDER SERVICES
Project Location: Eunice, NM
Project Name: Texaco North Gas Plant, Eunice, NM
Project No: 787
Client Name: Texaco

FIELD CODE: MW-8A
TA #: T84206

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	ND	5
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2

SURROGATES	**% RECOVERY**
Dibromofluoromethane	94
Toluene-d8	92
4-Bromofluorobenzene	93

ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.
CHEMIST: RW

Director, Dr. Blair Leftwich

11-12-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larosn
1910 N. Big Spring St.
Midland, TX 79705

November 12, 1997
Receiving Date: 10/29/97
Sample Type: Water
Project No: 787
Proj. Loc.: Eunice, NM
Project Name: Texaco North Gas Plant, Eunice, NM
Client Name: Texaco
Sampling Date: 10/28/97
Sample Condition: I & C
Sample Received by: VW
Extraction Date: 10/30/97
Analysis Date: 11/07/97

PAH Reporting T84206

8270 Compounds (mg/L)	Limit*	MW-8A	QC	RPD	%EA	%IA
Naphthalene	0.005	ND	87	18	62	109
Acenaphthylene	0.005	ND	83	**21	62	104
Acenaphthene	0.005	ND	85	**23	64	106
Fluorene	0.005	ND	76	17	64	95
Phenanthrene	0.005	ND	94	5	100	118
Anthracene	0.005	ND	93	3	95	116
Fluoranthene	0.005	ND	81	10	86	101
Pyrene	0.005	ND	74	6	109	93
Benzo[a]anthracene	0.005	ND	90	13	89	113
Chrysene	0.005	ND	86	14	116	108
Benzo[b]fluoranthene	0.005	ND	76	**25	63	94
Benzo[k]fluoranthene	0.005	ND	82	18	78	103
Benzo[a]pyrene	0.005	ND	89	19	80	111
Indeno[1,2,3-cd]pyrene	0.005	ND	91	19	87	114
Dibenz[a,h]anthracene	0.005	ND	84	20	99	105
Benzo[g,h,i]perylene	0.005	ND	89	18	81	111

ND = Not Detected

SURROGATES	% RECOVERY
Nitrobenzene-d5 SURR	67
2-Fluorobiphenyl SURR	72
Terphenyl-d14 SURR	97

*NOTE: Elevate reporting limit due to matrix effect.

**NOTE: RPD out of standard range.

METHODS: EPA SW 846-8270, 3510.

CHEMIST: RP/HW

Director, Dr. Blair Leftwich

11-12-97
DATE

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

CLIENT NAME: Texaco
SITE MANAGER: Mark Larson
PROJECT NO.: 787
PROJECT NAME: Texaco North Gas Plant, Eunice

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Hexavalent Cr *	Trivalent Cr *
	10/28/97	1:15	W	✓		MW-8	2	Y		✓							✓														
	10/28/97		W	✓		MW-8	1	Y				✓																		✓	✓
	10/28/97	3:00	W	✓		MW-8A	1	Y		✓							✓														
	10/28/97	3:00	W	✓		MW-8A	1	Y				✓																		✓	✓
	10/28/97	3:00	W	✓		MW-8A	2	N			✓	✓				✓															
	10/28/97	3:00	W	✓		MW-8A	2	N	✓													✓									
	10/28/97	3:00	W	✓		MW-8A	1	N				✓														✓					
	10/28/97	2:05	W	✓		Equipment Blank	2	N		✓							✓														
	10/28/97	2:05	W	✓		Equipment Blank	1	N				✓																		✓	✓

RELINQUISHED BY: (Signature) Vijay Kurki — Date: 10/28/97 Time: 5:45 PM
RECEIVED BY: (Signature) Helen Ketton — Date: 10/28/97 Time: 5:45 PM
SAMPLED BY: (Print & Sign) Vijay Kurki, Lynn Weld — Date: 10/28/97 Time: 5:45 pm

RELINQUISHED BY: (Signature) — Date: — Time:
RECEIVED BY: (Signature) — Date: — Time:
SAMPLE SHIPPED BY: (circle) FEDEX HAND DELIVERED BUS UPS — AIRBILL # — OTHER:

RELINQUISHED BY: (Signature) — Date: — Time:
RECEIVED BY: (Signature) — Date: — Time:

RECEIVING LABORATORY: Trace Analysis
ADDRESS:
CITY: Lubbock STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:

HIGHLANDER CONTACT PERSON: Mark Larson

Results by:
RUSH Charges Authorized: Yes (No)

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: (W-Water) A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS: Hexavalent + Trivalent - 24 hr. holding time

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

84205-8

480

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 2

CLIENT NAME: Texaco

SITE MANAGER: Mark Larson

PROJECT NO.: 727

PROJECT NAME: Texaco North Cross Plant Fun

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
84205	10/28/97	11:15	W	✓		MW-8	2	Y		✓		
			W	✓		MW-8	1	Y				✓
84206	10/28/97	13:00	W	✓		MW-8A	1	Y		✓		
		13:00	W	✓		MW-8A	1	Y				✓
			W	✓		MW-8A	2	N			✓	✓
			W	✓		MW-8A	2	N	✓			
			W	✓		MW-8A	1	N				✓
84207	10/28/97		W	✓		Equipment Blank	2	N		✓		
			W	✓		Equipment Blank	1	N				✓

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd (Cr) Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. (8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, (Chloride)	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Hexavalent Cr	Total Cr
				✓														
																	✓	✓
				✓ (Total 8)														
																	✓	✓
			✓															
									✓									
													✓					
				✓														
																	✓	✓

RELINQUISHED BY: (Signature) — Date: 10/28/97 Time: 5:45pm
RECEIVED BY: (Signature) — Date: 10/28/97 Time: 5:45 PM

RELINQUISHED BY: (Signature) Helen Shelton — Date: 10/28/97 Time: 6:45 PM
RECEIVED BY: (Signature) — Date: Time:

RELINQUISHED BY: (Signature) — Date: Time:
RECEIVED BY: (Signature) — Date: Time:

SAMPLED BY: (Print & Sign) — Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL # 155-758-7792-2 — OTHER:

RECEIVING LABORATORY:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature) Vida Wordham B
DATE: 10/29/97 TIME: 9:15 am

HIGHLANDER CONTACT PERSON:

Results by:

RUSH Charges Authorized: Yes (No)

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: (W-Water) S-Soil A-Air SL-Sludge SD-Solid O-Other

REMARKS: Hexavalent + Trivalent Cr to be run on time

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

11 samples - HS

4°

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.
1910 N. Big Spring St.
Midland, Texas 79705
(915) 682-4559 Fax (915) 682-3946

CLIENT NAME: Texaco
SITE MANAGER: Mark Larson
PROJECT NO.: 787
PROJECT NAME: Texaco North Gas Plant, Eunice

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, (TDS), (Chloride)	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
	10/28/97	9:45	W	✓		MW-13A	1	Y		✓							✓												
	10/28/97	9:45	W	✓		MW-13A	1	N				✓														✓			

RELINQUISHED BY: (Signature) Vijay Kurki Date: 10/28/97 Time: 5:45 pm
RECEIVED BY: (Signature) [signature] Date: 10/28/97 Time: 5:45 PM

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: Trace Analysis
ADDRESS:
CITY: Lubbock STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:

SAMPLED BY: (Print & Sign) Vijay Kurki, Lynn Wall Date: 10/28/97 Time: 5:45 pm
SAMPLE SHIPPED BY: (Circle) FEDEX BUS (circled) AIRBILL # HAND DELIVERED UPS OTHER:

HIGHLANDER CONTACT PERSON: Mark Larson
Results by:
RUSH Charges Authorized: Yes No (circled)

SAMPLE CONDITION WHEN RECEIVED:
MATRIX: W-Water (circled) A-Air SD-Solid S-Soil SL-Sludge O-Other
REMARKS:

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

480

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 2 OF: 2

CLIENT NAME: —

SITE MANAGER: Mark Larson

PROJECT NO.: 1

PROJECT NAME: [illegible]

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
84208	10/28/97	[illegible]	W	✓		MW-13A	1	Y		✓							✓												
	10/28/97	[illegible]	W	✓		MW-13A	1	N				✓														✓			

RELINQUISHED BY: (Signature) — Date: 10/28/97 Time: [illegible]

RECEIVED BY: (Signature) — Date: 10/28/97 Time: [illegible] PM

SAMPLED BY: (Print & Sign) — Date: — Time: —

RELINQUISHED BY: (Signature) Helen Shelton — Date: 10/28/97 Time: 6:45 PM

RECEIVED BY: (Signature) — Date: — Time: —

SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED OTHER: — AIRBILL # 155-758-7792-2

RELINQUISHED BY: (Signature) — Date: — Time: —

RECEIVED BY: (Signature) — Date: — Time: —

RECEIVING LABORATORY: —
ADDRESS: —
CITY: — STATE: — ZIP: —
CONTACT: — PHONE: —

RECEIVED BY: (Signature) Vicki Windham
DATE: 10/29/97 TIME: 9:15 Am

HIGHLANDER CONTACT PERSON: MAIL

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS:

Please Fill out all copies – Project Manager retains White copy – Accounting receives Pink copy – Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

2 samples – HS

4°

302AE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES CORPORATION
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 17, 1997
Receiving Date: 11/06/97
Sample Type: Water
Project No: 787
Project Location: NA

Extraction Date: 11/06/97
Analysis Date: 11/10/97
Sampling Date: 11/04/97
Sample Condition: Intact & Cool
Sample Received by: VW
Client Name: Texaco
Project Name: Texaco North Gas Plant

DISSOLVED METALS (mg/L)

TA#	Field Code	As	Se	Cd	Cr	Pb	Ag	Ba	Hg
T84794	MW-12A	<0.10	<0.10	<0.02	<0.05	<0.10	<0.01	<0.20	<0.001
T84795	MW-14A	<0.10	<0.10	<0.02	<0.05	<0.10	<0.01	<0.20	<0.001
T84796	MW-15A	<0.10	<0.10	<0.02	<0.05	<0.10	<0.01	<0.20	<0.001
QC	Quality Control	5.4	5.1	5.3	5.1	5.0	1.0	4.8	0.0052
Reporting Limit		0.10	0.10	0.02	0.05	0.10	0.01	0.20	0.001
RPD		1	1	1	1	1	6	1	0
% Extraction Accuracy		111	105	98	98	93	110	99	102
% Instrument Accuracy		107	101	105	102	99	104	96	104

CHEMIST: As, Se, Cd, Cr, Pb, Ag, Ba: RR Hg: HC
METHODS: EPA SW 846-3005, 6010B, 7470.
DISSOLVED METALS SPIKE: 2.0 mg/L As, Se, Cd, Cr, Pb, Ba; 0.25 mg/L Ag; 0.005 mg/L Hg.
DISSOLVED METALS QC: 5.0 mg/L As. Se. Cd. Cr. Pb, Ba; 1.0 mg/L Ag; 0.005 mg/L Hg.

Director, Dr. Blair Leftwich

11-17-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER ENVIRONMENTAL SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 17, 1997
Receiving Date: 11/06/97
Sample Type: Water
Project No: 787
Project Location: NA

Prep Date: 11/10/97
Analysis Date: 11/10/97
Sampling Date: 11/04/97
Sample Condition: Intact & Cool
Sample Received by: VW
Client Name: Texaco
Project Name: Texaco North Gas Plant

TA#	FIELD CODE	TDS (mg/L)	CHLORIDE (mg/L)
T84794	MW-12A	480	74
T84795	MW-14A	510	97
T84796	MW-15A	650	230
QC	Quality Control	---	24
REPORTING LIMIT		---	10
RPD		2	3
% Extraction Accuracy		---	102
% Instrument Accuracy		---	97

METHODS: EPA 160.1, 300.0.
CHEMIST: TDS: JS CHLORIDE: RC
CHLORIDE SPIKE: 25 mg/L CHLORIDE.
CHLORIDE QC: 25 mg/L CHLORIDE.

Director, Dr. Blair Leftwich

11-17-97
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Highlander Environmental Services
Attention: Mark Larson
1910 N. Big Spirng St.
Midland TX 79705

Date: Nov 17, 1997
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

Lab Receiving # : 9711000063
Date Rec: 11/6/97
Sampling Date: 11/4/97
Sample Condition: Intact and Cool
Sample Received By: VW

T84794 MW-12A

8240 compounds in Water (ug/L)	Method Blank	Reporting Limit	Result
Dichlorodifluoromethane	ND	1	ND
Chloromethane	ND	1	ND
Vinyl chloride	ND	1	ND
Bromoethane	ND	5	ND
Chloroethane	ND	1	ND
Trichlorofluoromethane	ND	1	ND
1,1-Dichloroethene	ND	1	ND
Iodomethane	ND	5	ND
Carbon disulfide	ND	1	ND
Methylene chloride	ND	5	ND
trans-1,2-Dichloroethene	ND	1	ND
1,1-Dichloroethane	ND	1	ND
Vinyl acetate	ND	1	ND
2-Butanone	ND	50	ND
Chloroform	ND	1	ND
1,1,1-Trichloroethane	ND	1	ND
1,2-Dichloroethane	ND	1	ND
Benzene	ND	1	ND
Carbon Tetrachloride	ND	1	ND
1,2-Dichloropropane	ND	1	ND
Trichloroethene	ND	1	ND
Bromodichloroethane	ND	1	ND
cis-1,3-Dichloropropene	ND	1	ND
4-Methyl-2-pentanone	ND	50	ND
trans-1,3-Dichloropropene	ND	1	ND
Toluene	ND	1	ND
1,1,2-Trichloroethane	ND	1	ND
2-Hexanone	ND	50	ND
Dibromochloromethane	ND	1	ND
Tetrachloroethane	ND	1	ND
Chlorobenzene	ND	1	ND
Ethylbenzene	ND	1	ND
m _p-Xylene	ND	1	ND
Bromoform	ND	1	ND
Styrene	ND	1	ND
o-Xylene	ND	1	ND
1,1,2,2-Tetrachloroethane	ND	1	ND
trans 1,4-Dichloro-2-butene	ND	5	ND
cis 1,4-Dichloro-2-butene	ND	5	ND
1,4-Dichlorobenzene	ND	2	ND
1,3-Dichlorobenzene	ND	2	ND
1,2-Dichlorobenzene	ND	2	ND

ND = Not Detected

ANALYTICAL RESULTS FOR
Highlander Environmental Services

Attention: Mark Larson
1910 N. Big Spirng St.
Midland TX 79705

Lab Receiving # : 9711000063
Date Rec: 11/6/97
Sampling Date: 11/4/97
Sample Condition: Intact and Cool
Sample Received By: VW

Date: Nov 17, 1997
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

T84794 MW-12A

8240 Quality Control	QC	% IA	RPD	% EA
Vinyl Chloride	102	102		
1,1-Dichloroethene	99	99	4	78
Chloroform	97	97		
Benzene			7	93
1,2-Dichloropropane	100	100		
Trichloroethene			8	93
Toluene	100	100	7	96
Chlorobenzene	102	102	6	93
Ethylbenzene	100	100		

	% RECOVERY
Dibromofluoromethane SURR	94
Toluene-d8 SURR	94
4-Bromofluorobenzene SURR	94

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (ug/L)	SPIKE: (ug/L)
8240	EPA 5030	11/6/97	EPA 8260	11/6/97	RP	100 ea	100 ea

Director, Dr. Blair Leftwich

11-17-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Highlander Environmental Services
Attention: Mark Larson
1910 N. Big Spirng St.
Midland TX 79705

Date: Nov 13, 1997
Date Rec: 11/6/97
Project: 787
Proj Name: Texaco
Proj Loc: Texaco North Eunice Gas Plant, NM

Lab Receiving # : 9711000063
Sampling Date: 11/4/97
Sample Condition: Intact and Cool
Sample Received By: VW

PAH in Water (mg/L)	Reporting Limit	T84794 MW-12A	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	92	9	81	115
Acenapthylene	0.001	ND	83	8	82	104
Acenaphthene	0.001	ND	86	5	80	108
Fluorene	0.001	ND	78	7	76	98
Phenanthrene	0.001	ND	94	7	94	118
Anthracene	0.001	ND	90	6	97	113
Fluoranthene	0.001	ND	80	11	77	100
Pyrene	0.001	ND	90	3	100	113
Benzo[a]anthracene	0.001	ND	94	13	87	118
Chrysene	0.001	ND	90	14	114	113
Benzo[b]fluoranthene	0.001	ND	74	8	76	93
Benzo[k]fluoranthene	0.001	ND	87	19	111	109
Benzo[a]pyrene	0.001	ND	88	16	93	110
[illegible]no[1,2,3-cd]pyrene	0.001	ND	89	25	98	111
Dibenz[a,h]anthracene	0.001	ND	90	24	107	113
Benzo[g,h,i]perylene	0.001	ND	88	27	93	110

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	48
2-Fluorobiphenyl SURR	61
Terphenyl-d14 SURR	97

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
PAH	EPA 3510	11/6/97	EPA 8270	11/10/97	RP/HW	80 ea	100 ea

Director, Dr. Blair Leftwich

11-13-97
Date

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF:

CLIENT NAME: Texaco

SITE MANAGER: Mark Larson

PROJECT NO.: 757

PROJECT NAME: Texaco North Gas Plant

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
	11/4/97	4:00 pm	W	✓		MW-12A	2	N			✓	
	11/4/97	4:00 pm	W	✓		MW-12A	1	Y		✓	✓	
	11/4/97	4:00 pm	W	✓		MW-12A	2	N	✓		✓	
	11/4/97	4:00 pm	W	✓		MW-12A	1	N			✓	
	11/4/97	4:35	W	✓		MW-14A	1	Y		✓	✓	
	11/4/97	4:35	W	✓		MW-14A	1	N			✓	
	11/4/97	5:00	W	✓		MW-15A	1	Y		✓	✓	
	11/4/97	5:00	W	✓		MW-15A	1	N			✓	

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se (Dissolved)	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/825	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, (TDS) Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
			✓	✓									✓			
				✓					✓							
													✓			
				✓												
				✓									✓			
				✓												
													✓			

RELINQUISHED BY: (Signature) Vijay Kurki — Date: 11/5/97 Time: 2:15 pm

RECEIVED BY: (Signature) Helen Ketter — Date: 11/5/97 Time: 2:15 PM

SAMPLED BY: (Print & Sign) Vijay Kurki, Robert McNeill — Date: 11/5/97 Time:

RELINQUISHED BY: (Signature) — Date: Time:

RECEIVED BY: (Signature) — Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED AIRBILL # OTHER:

RELINQUISHED BY: (Signature) — Date: Time:

RECEIVED BY: (Signature) — Date: Time:

RECEIVING LABORATORY: Trace

ADDRESS:

CITY: Lubbock STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

HIGHLANDER CONTACT PERSON: Mark Larson / Vijay Kurki

Results by:

RUSH Charges Authorized: Yes (No)

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: (W-Water) A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS:

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

10 Sample -HS

84794-qq

63

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 1

CLIENT NAME: [illegible]

SITE MANAGER: Mark [illegible]

PROJECT NO.: 17

PROJECT NAME: [illegible] Plant

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
84794	11/4/97	4:00p	W	✓		MW-12A	2	N			✓	
	11/4/97	[illegible]	W	✓		MW-12A	1	(Y)		✓	✓	
	11/4/97	4:10p	W	✓		MW-12A	2	N	✓		✓	
	11/4/97	4:10p	W	✓		MW-12A	1	N			✓	
95	11/4/97	4:[illegible]	W	✓		MW-14A	1	(Y)		✓	✓	
	11/4/97	4:35	W	✓		MW-14A	1	N			✓	
96	11/4/97	5:00	W	✓		MW-15A	1	Y		✓	✓	
	11/4/97	5:00	W	✓		MW-15A	1	N			✓	

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. (8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, (TDS) (Chloride)	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
				✓												
									✓							
													✓			
				✓												
													✓			
				✓												
													✓			

RELINQUISHED BY: (Signature) [illegible] Date: 11/5/97 Time: [illegible]

RELINQUISHED BY: (Signature) Allen Hatton Date: 11/5/97 Time: 6:00 PM

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) [illegible] Date: 11/6/97 Time: 9:15 am

RECEIVED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Sign) [illegible] Date: [illegible] Time:

SAMPLE SHIPPED BY: (Circle)
FEDEX BUS AIRBILL #
HAND DELIVERED UPS OTHER:

RECEIVING LABORATORY: [illegible]
ADDRESS:
CITY: [illegible] STATE: TX ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature) Pat Woodham
DATE: 11-6-97 TIME: 9:45 AM

HIGHLANDER CONTACT PERSON: Mark [illegible]

Results by:

RUSH Charges Authorized: Yes (No)

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: (W-Water) S-Soil A-Air SL-Sludge SD-Solid O-Other

REMARKS:

11-17

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

Bud 155 758 798 8 4°

3104E

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES CORP.
Attention: Mark Larson
1910 N. Big Spring Street
Midland, TX 79705

November 21, 1997
Receiving Date: 11/12/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM
San Antc

Prep Date: 11/11/97
Analysis Date: 11/13/97
Sampling Date: 11/07, 10/97
Sample Condition: I & C
Sample Received by: VW
Client Name: Texaco
Project Name: N. Plant, Eunice, NM

DISSOLVED METALS (mg/L)

TA#	Field Code	As	Se	Cd	Cr	Pb	Ag	Ba	Hg
T85108	MW-16A	<0.10	<0.10	<0.02	<0.05	<0.10	<0.01	<0.20	<0.001
T85109	MW-17A	<0.10	<0.10	<0.02	<0.05	<0.10	<0.01	<0.20	<0.001
T85110	MW-18A	<0.10	<0.10	<0.02	<0.05	<0.10	<0.01	<0.20	<0.001
T85111	MW-19A	<0.10	<0.10	<0.02	<0.05	<0.10	<0.01	<0.20	<0.001
QC	Quality Control	5.1	5.0	5.2	5.1	5.1	1.0	5.1	0.00475
Reporting Limit		0.10	0.10	0.02	0.05	0.10	0.01	0.20	0.001
RPD		5	0	0	1	1	0	20	0
% Extraction Accuracy		98	122	104	112	105	106	114	105
% Instrument Accuracy		97	101	99	103	101	101	100	101

CHEMIST: As, Se, Cd, Cr, Pb, Ag, Ba: RR Hg: HC
METHODS: EPA SW 846-3005, 6010B, 7470.
DISSOLVED METALS SPIKE: 2.0 mg/L As, Se, Cd, Cr, Pb, Ba; 0.5 mg/L Ag; 0.005 mg/L Hg.
DISSOLVED METALS QC: 5.0 mg/L As, Se, Cd, Cr, Pb, Ba; 1.0 mg/L Ag; 0.005 mg/L Hg.

BL

Director, Dr. Blair Leftwich

11-21-97

Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER ENVIRONMENTAL SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

November 25, 1997
Receiving Date: 11/12/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 11/17/97
Analysis Date: 11/17/97
Sampling Date: 11/07, 10/97
Sample Condition: Intact & Cool
Sample Received by: VW
Client Name: Texaco
Project Name: N. Plant, Eunice, NM

TA#	FIELD CODE	TDS (mg/L)	CHLORIDE (mg/L)
T85108	MW-16A	950	210
T85109	MW-17A	570	120
T85110	MW-18A	1,500	360
T85111	MW-19A	1,500	480
QC	Quality Control	---	25
REPORTING LIMIT		---	25
RPD		5	5
% Extraction Accuracy		---	96
% Instrument Accuracy		---	99

METHODS: EPA 160.1, 300.0.
CHEMIST: CHLORIDE: RC TDS: JS
CHLORIDE SPIKE: 25 mg/L CHLORIDE.
CHLORIDE QC: 25 mg/L CHLORIDE.

Director, Dr. Blair Leftwich

11-25-97
DATE

Analysis Request and Chain of Custody Record

PAGE: 1 OF: 1

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

CLIENT NAME: Texaco

SITE MANAGER: Mark Larson

PROJECT NO.: 787

PROJECT NAME: N. Plant, Eunice, NM.

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
	11/7/97	11:20	W			MW-16A	1	Y		X	X	
	11/7/97	11:20	W			MW-16A	1	N			X	
	11/10/97	3:45	W			MW-17A	1	Y		X	X	
	11/10/97	3:45	W			MW-17A	1	N			X	
	11/7/97	4:30	W			MW-18A	1	Y		X	X	
	11/7/97	4:30	W			MW-18A	1	N			X	
	11/10/97	12:00	W			MW-19A	1	Y		X	X	
	11/10/97	12:00	W			MW-19A	1	N			X	

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270 Selected	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
				X									X			
													X			
				X												
													X			
				X												
													X			
				X												
													X			

RELINQUISHED BY: (Signature) John C. Ward Date: 11/11/97 Time: 5:00pm

RECEIVED BY: (Signature) Helen Shelton Date: 11/11/97 Time: 5:00 PM

SAMPLED BY: (Print & Sign) John Ward Date: Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED AIRBILL # OTHER:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: Trace Analysis

ADDRESS:

CITY: Lubbock STATE: Tx ZIP:

CONTACT: PHONE: 806-794-1296

RECEIVED BY: (Signature) DATE: TIME:

HIGHLANDER CONTACT PERSON: Mark Larson

Results by: 11/24/97

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: (W-Water) S-Soil A-Air SL-Sludge SD-Solid O-Other

REMARKS: Please FAX results.

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

85108-11

151

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705
(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 1

CLIENT NAME:

SITE MANAGER:

PROJECT NO.:

PROJECT NAME:

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
85108			W				1	Y		X	X						X												
			W				1	N			X															X			
9			W				1	Y		X	X						X												
			W				1	N			X															X			
10			W				1	Y		X	X						X												
			W				1	N			X															X			
11			W				1	Y		X	X						X												
			W				1	N			X															X			

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Helen Shelton Date: 11/11/97 Time: 6:45 PM

RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Sign) Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED AIRBILL # OTHER:

RECEIVING LABORATORY:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature) Vicki Wyndham
DATE: 11-12-97 TIME: 9:30 AM

HIGHLANDER CONTACT PERSON: (M)

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS:

11-24

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

Bus 155 758 800 0

4°

8 samples - HS

3 1/2 AG

TRACEANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

December 19, 1997
Receiving Date: 12/06/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 12/08/97
Analysis Date: 12/09/97
Sampling Date: 12/04/97
Sample Condition: Intact & Cool
Sample Received by: VW
Client Name: Texaco
Project Name: Eunice N. Gas Plant

DISSOLVED METALS (mg/L)

TA#	Field Code	As	Se	Cd	Cr	Pb	Ag	Ba	Hg
T86695	MW-13	<0.10	<0.10	<0.02	0.16	<0.10	<0.01	<0.20	<0.001
QC	Quality Control	5.1	5.3	5.4	5.3	5.3	1.1	5.5	0.0049
Reporting Limit		0.10	0.10	0.02	0.05	0.10	0.01	0.20	0.001
RPD		3	1	1	0	0	4	0	0
% Extraction Accuracy		91	104	104	90	94	70	97	88
% Instrument Accuracy		102	106	108	105	105	105	109	98

CHEMIST: As, Se, Cd, Cr, Pb, Ag, Ba: RR Hg: HC
METHODS: EPA SW 846-3005, 6010B, 7470.
DISSOLVED METALS SPIKE: 2.0 mg/L As, Se, Cd, Cr, Pb, Ba; 1.0 mg/L Ag; 0.005 mg/L Hg.
DISSOLVED METALS QC: 5.0 mg/L As. Se. Cd. Cr. Pb, Ba; 1.0 mg/L Ag; 0.005 mg/L Hg.

Director, Dr. Blair Leftwich

12-19-97
Date

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
HIGHLANDER ENVIRONMENTAL SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

December 19, 1997
Receiving Date: 12/06/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 12/07/97
Analysis Date: 12/07/97
Sampling Date: 12/04/97
Sample Condition: Intact & Cool
Sample Received by: VW
Client Name: Texaco
Project Name: Eunice N. Gas Plant

TA#	FIELD CODE	TDS (mg/L)	CHLORIDE (mg/L)
T86695	MW-13	4,000	1,100
QC	Quality Control	---	24
REPORTING LIMIT		---	20
RPD		1	0
% Extraction Accuracy		---	97
% Instrument Accuracy		99	96

METHODS: EPA 160.1, 300.0.
CHEMIST: TDS: JS CHLORIDE: RC
CHLORIDE SPIKE: 25 mg/L CHLORIDE.
CHLORIDE QC: 24 mg/L CHLORIDE.

Director, Dr. Blair Leftwich

12-19-97
DATE

86695

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 1

CLIENT NAME: Texaco | SITE MANAGER: M. Lawson

PROJECT NO.: 787 | PROJECT NAME: Eunice N. Gas Plant

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, (TDS) Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
86695	12/04/97	10:40	W			MW-13	2	Y	✓		✓					✓									✓				

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) — Date: 12/05/97 Time: 11:10 — RECEIVED BY: (Signature) Helen Shelton — Date: 12/5/97 Time: 11:10 AM

SAMPLED BY: (Print & Sign) — Date: 12/04/97 Time: 10:40

RELINQUISHED BY: (Signature) Helen Shelton — Date: 12/5/97 Time: 3:00 PM — RECEIVED BY: (Signature) — Date: — Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED — AIRBILL # — OTHER:

RELINQUISHED BY: (Signature) — Date: — Time: — RECEIVED BY: (Signature) — Date: — Time:

RECEIVING LABORATORY: Trace Analysis
ADDRESS: 6701 Aberdeen
CITY: Lubbock STATE: TX ZIP: 79424
CONTACT: D. Lobey PHONE: (806) 794-1296

RECEIVED BY: (Signature) Vicki Windham
DATE: 12-6-97 TIME: 11:30 am

HIGHLANDER CONTACT PERSON: Mark Lawson

Results by: 12/12/97

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: (W-Water) A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS:

Please Fill out all copies - Laboratory retains yellow copy - Return original copy to Highlander Enviromentalist Corp. - Project Manager retains pink copy - Accounting receives Gold copy.

11

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES CORP.
Attention: Mark Larson
1910 N. Big Spring Street
Midland, TX 79705

October 02, 1997
Receiving Date: 09/30/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 09/30/97
Analysis Date: 10/01/97
Sampling Date: 09/29/97
Sample Condition: I & C
Sample Received by: JH
Client Name: Texaco E & P, Inc.
Project Name: Texaco/Texaco North Eunice Gas Plant, NM

DISSOLVED METALS (mg/L)

TA#	Field Code	As	Se	Cr	Cd	Pb	Ag	Ba	Hg
T82381	Lord Water Well	<0.10	<0.10	0.59	<0.02	<0.10	<0.05	<0.10	<0.001
QC	Quality Control	1.1	1.0	1.1	1.1	1.1	1.0	1.0	0.0053
Reporting Limit		0.10	0.10	0.05	0.02	0.10	0.05	0.10	0.001
RPD		4	0	4	4	4	9	0	6
% Extraction Accuracy		110	105	110	110	110	86	105	101
% Instrument Accuracy		105	100	105	105	105	100	100	106

CHEMIST: As, Se, Cd, Cr, Pb, Ag, Ba: RR Hg: HC
METHODS: EPA SW 846-3015, 6010, 7470.
TOTAL METALS SPIKE: 2.0 mg/L Ase, Se, Cd, Cr, Pb, Ba; 1.0 mg/L Ag; 0.005 mg/L Hg.
TOTAL METALS QC: 1.0 mg/L As, Se, Cd, Cr, Pb, Ba, Ag; 0.005 mg/L Hg.

Director, Dr. Blair Leftwich

10-2-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

October 02, 1997
Receiving Date: 09/30/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 09/30/97
Analysis Date: 09/30/97
Sampling Date: 09/29/97
Sample Condition: Intact & Cool
Sample Received by: JH
Client Name: Texaco E & P, Inc.
Project Name: Texaco/Texaco North
Eunice Gas Plant, NM

TA#	FIELD CODE	TDS (mg/L)	CHLORIDE (mg/L)
T82381	Lord Water Well	2,200	480
QC	Quality Control	---	24
Reporting Limit		---	10
RPD		1	12
% Extraction Accuracy		---	100
% Instrument Accuracy		---	95

METHODS: EPA 160.1, 300.0.
CHEMIST: TDS: RC CHLORIDE: JS
CHLORIDE SPIKE: 25 mg/L CHLORIDE.
CHLORIDE QC: 24 mg/L CHLORIDE.

BB

Director, Dr. Blair Leftwich

10-2-97

DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES CORP.
Attention: Mark Larson
1910 N. Big Spring Street
Midland, TX 79705

October 02, 1997
Receiving Date: 09/30/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 09/30/97
Analysis Date: 10/01/97
Sampling Date: 09/29/97
Sample Condition: I & C
Sample Received by: JH
Client Name: Texaco E & P, Inc.
Project Name: Texaco/Texaco North Eunice Gas Plant, NM

DISSOLVED METALS (mg/L)

TA#	Field Code	As	Se	Cr	Cd	Pb	Ag	Ba	Hg
T82380	RTC Water Well	<0.10	<0.10	0.16	<0.02	<0.10	<0.05	<0.10	<0.001
QC	Quality Control	1.1	1.0	1.1	1.1	1.1	1.0	1.0	0.0053
Reporting Limit		0.10	0.10	0.05	0.02	0.10	0.05	0.10	0.001
RPD		4	0	4	4	4	9	0	6
% Extraction Accuracy		110	105	110	110	110	86	105	101
% Instrument Accuracy		105	100	105	105	105	100	100	106

CHEMIST: As, Se, Cd, Cr, Pb, Ag, Ba: RR Hg: HC
METHODS: EPA SW 846-3015, 6010, 7470.
TOTAL METALS SPIKE: 2.0 mg/L Ase, Se, Cd, Cr, Pb, Ba; 1.0 mg/L Ag; 0.005 mg/L Hg.
TOTAL METALS QC: 1.0 mg/L As, Se, Cd, Cr, Pb, Ba, Ag; 0.005 mg/L Hg.

Director, Dr. Blair Leftwich

10-2-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES
Attention: Mark Larson
1910 N. Big Spring St.
Midland, TX 79705

October 02, 1997
Receiving Date: 09/30/97
Sample Type: Water
Project No: 787
Project Location: Eunice, NM

Prep Date: 09/30/97
Analysis Date: 09/30/97
Sampling Date: 09/29/97
Sample Condition: Intact & Cool
Sample Received by: JH
Client Name: Texaco E & P, Inc.
Project Name: Texaco/Texaco North
Eunice Gas Plant, NM

TA#	FIELD CODE	TDS (mg/L)	CHLORIDE (mg/L)
T82380	RTC Water Well	2,700	1,100
QC	Quality Control	---	24
Reporting Limit		---	10
RPD		1	12
% Extraction Accuracy		---	100
% Instrument Accuracy		---	95

METHODS: EPA 160.1, 300.0.
CHEMIST: TDS: RC CHLORIDE: JS
CHLORIDE SPIKE: 25 mg/L CHLORIDE.
CHLORIDE QC: 24 mg/L CHLORIDE.

Director, Dr. Blair Leftwich

10-2-97
DATE

82380 81

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705
(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 1

CLIENT NAME:

SITE MANAGER:

PROJECT NO.:

PROJECT NAME:

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	ANALYSIS REQUEST (Circle or Specify Method No.): BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)		
82380			W														✓														
81			W														✓														

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: 9/29/97 Time: 4:51

SAMPLED BY: (Print & Sign) Date: Time:

RELINQUISHED BY: (Signature) Helen Shelton Date: 9/29/97 Time: 6:30 PM

RECEIVED BY: (Signature) Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED AIRBILL # 155759032 OTHER:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

HIGHLANDER CONTACT PERSON:

Results by: 10/6

RECEIVING LABORATORY:

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: 9/30/97 TIME: 930A

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS: * RUSH * Thurs - Oct 2 1997

Please Fill out all copies - Project Manager retains White copy - Accounting receives Pink copy - Lab retains Yellow copy Return Gold copy to Highlander Environmental Corp.

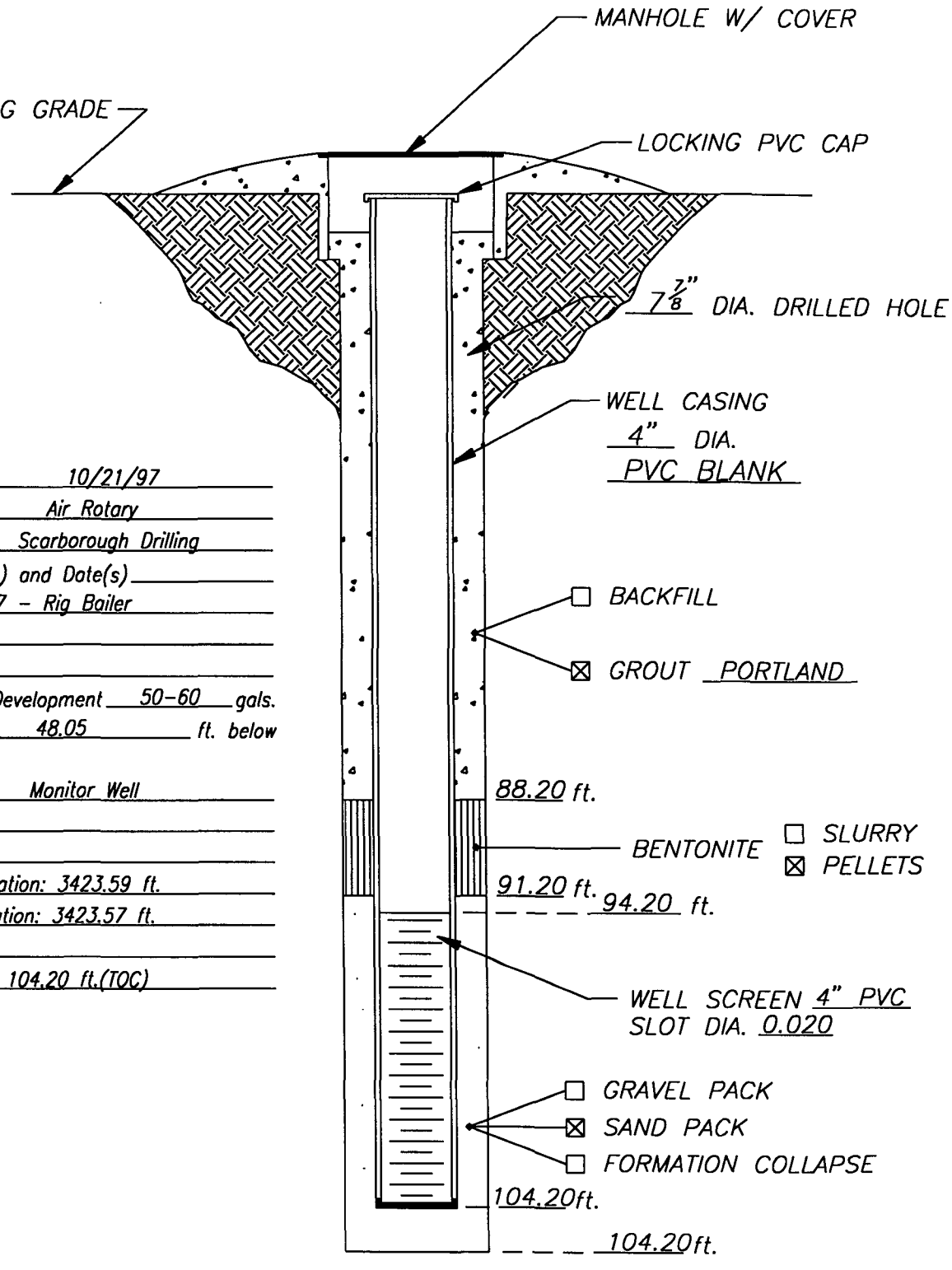
11 samples - HS

273AE

APPENDIX D

Monitor Well Installation Records

WELL CONSTRUCTION LOG



Installation Date(s) 10/21/97
Drilling Method Air Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
10/22/97 - Rig Bailer

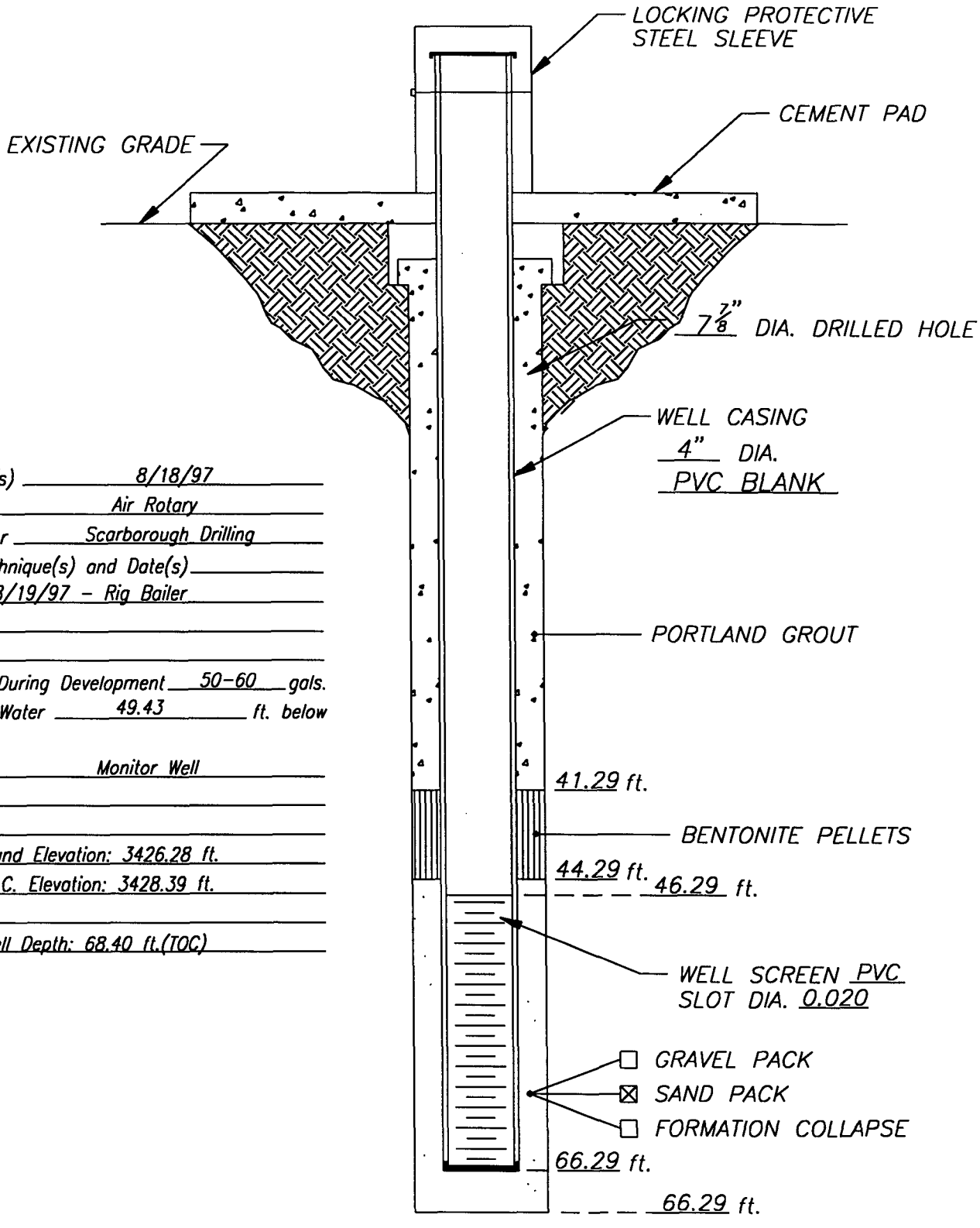
Water Removed During Development 50-60 gals.
Static Depth to Water 48.05 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3423.59 ft.
T.O.C. Elevation: 3423.57 ft.

Well Depth: 104.20 ft.(TOC)

D[illegible]: 12/5/97	CLIENT: Texaco Exploration & Production, Inc.	WELL NO.
Highlander Environmental	PROJECT: Eunice #1 (North) Plant	MW-4A
	LOCATION: Lea County, New Mexico	

WELL CONSTRUCTION LOG



Installation Date(s) 8/18/97
Drilling Method Air Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
8/19/97 - Rig Bailer

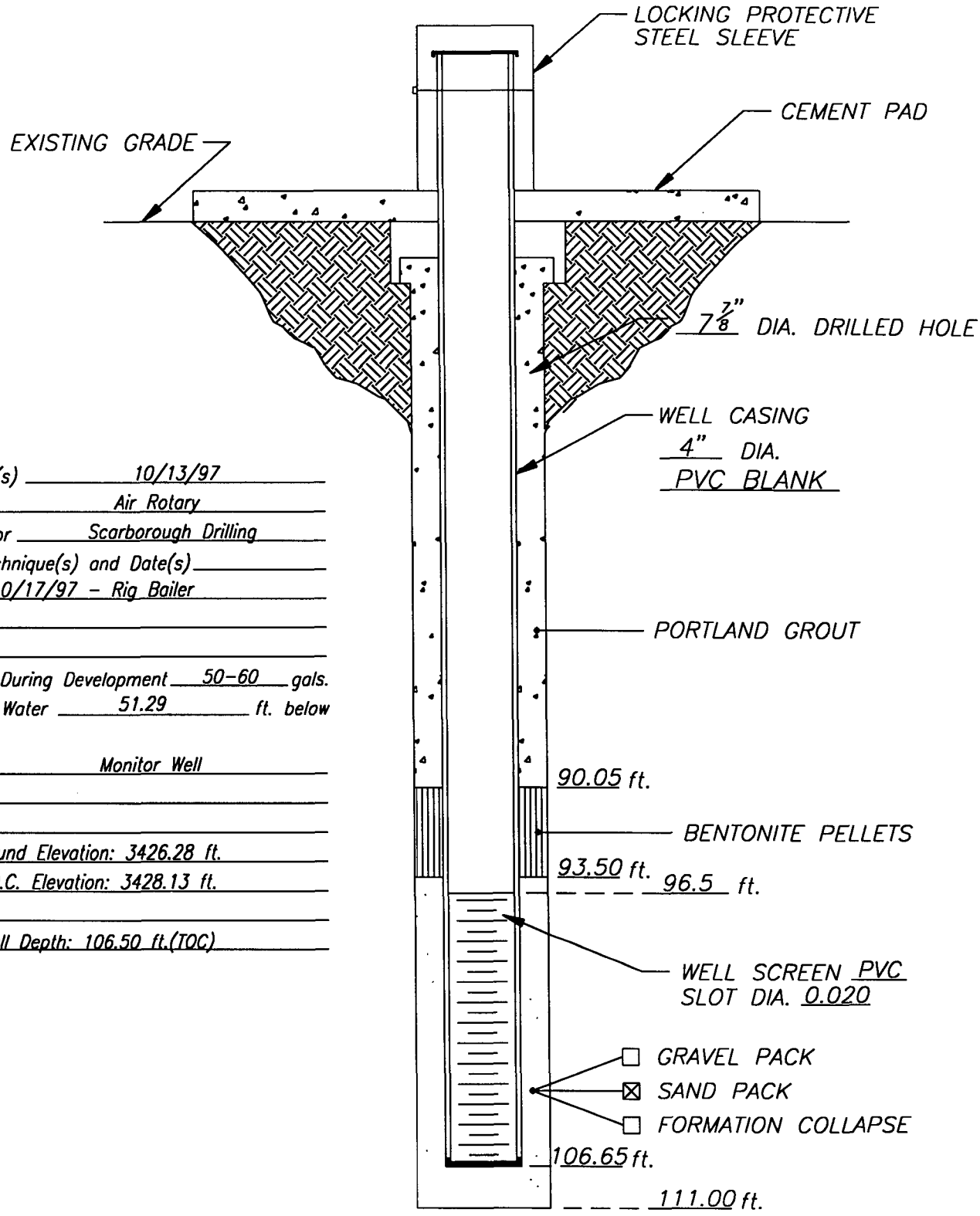
Water Removed During Development 50-60 gals.
Static Depth to Water 49.43 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3426.28 ft.
T.O.C. Elevation: 3428.39 ft.

Well Depth: 68.40 ft.(TOC)

DATE: 8/18/97	CLIENT: Texaco Exploration & Production, Inc.	WELL NO.
Highlander Environmental	PROJECT: Eunice #1 (North) Plant	MW-7
	LOCATION: Lea County, New Mexico	

WELL CONSTRUCTION LOG



Installation Date(s) 10/13/97
Drilling Method Air Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
10/17/97 - Rig Bailer

Water Removed During Development 50-60 gals.
Static Depth to Water 51.29 ft. below Ground Level
Well Purpose Monitor Well

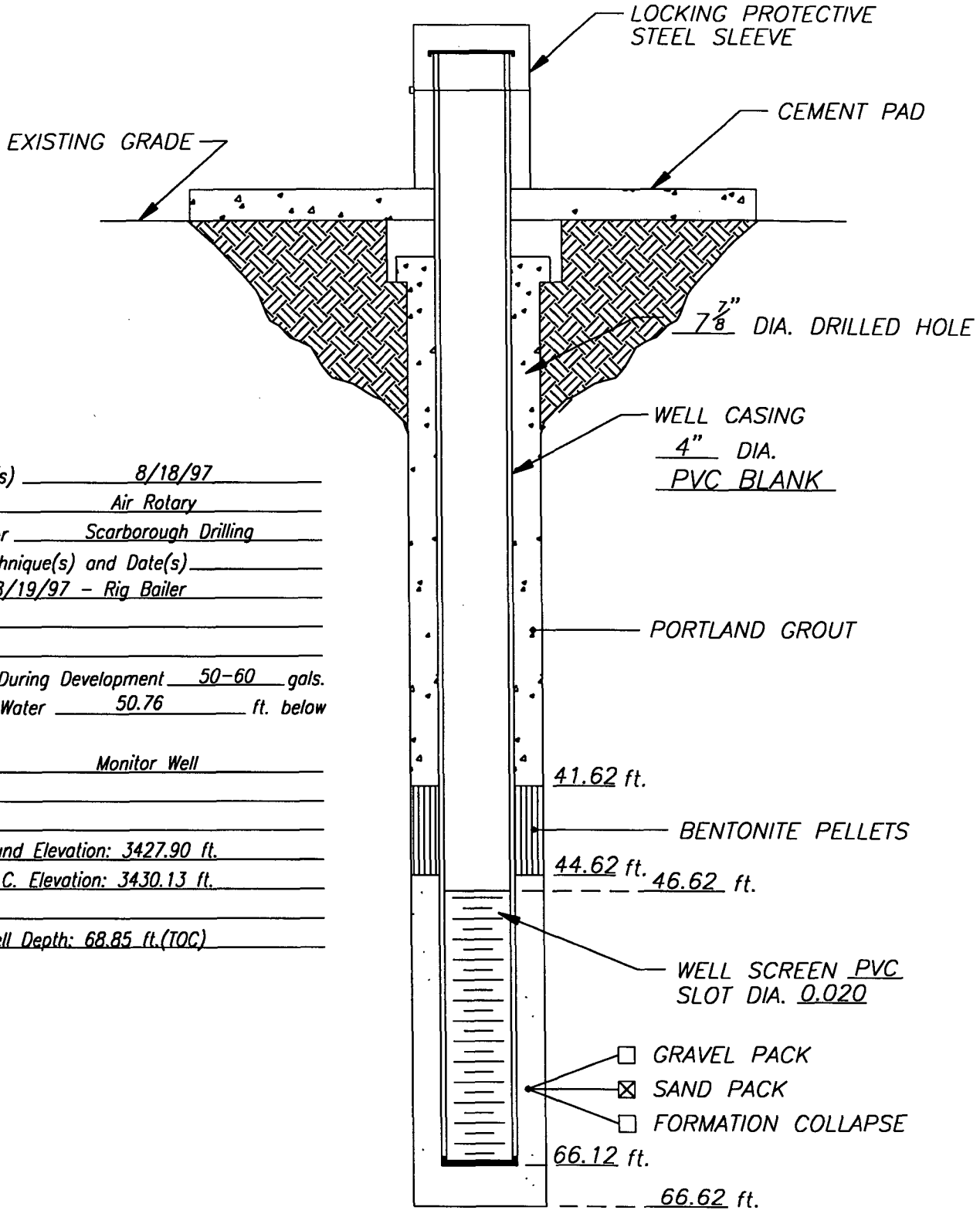
Remarks
Ground Elevation: 3426.28 ft.
T.O.C. Elevation: 3428.13 ft.

Well Depth: 106.50 ft.(TOC)

DATE: 12/5/97	CLIENT: Texaco Exploration & Production, Inc. PROJECT: Eunice #1 (North) Plant LOCATION: Lea County, New Mexico	WELL NO. MW-7A

Highlander Environmental

WELL CONSTRUCTION LOG



Installation Date(s) 8/18/97
Drilling Method Air Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
8/19/97 - Rig Bailer

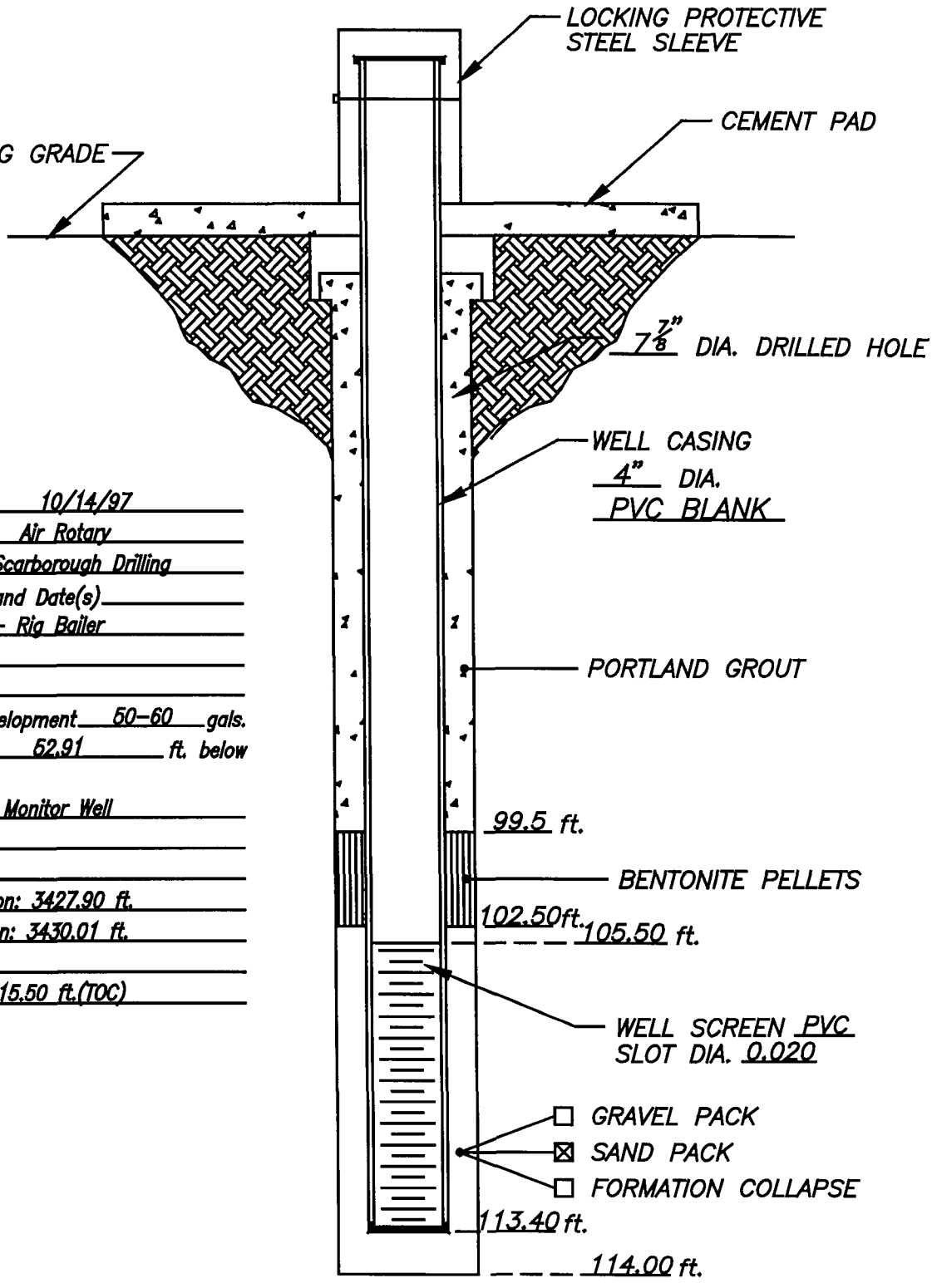
Water Removed During Development 50-60 gals.
Static Depth to Water 50.76 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3427.90 ft.
T.O.C. Elevation: 3430.13 ft.

Well Depth: 68.85 ft.(TOC)

DATE: 8/18/97	CLIENT: Texaco Exploration & Production, Inc. PROJECT: Eunice #1 (North) Plant LOCATION: Lea County, New Mexico	WELL NO. MW-8
Highlander Environmental		

WELL CONSTRUCTION LOG



Installation Date(s) 10/14/97
Drilling Method Air Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
10/17/97 – Rig Bailer

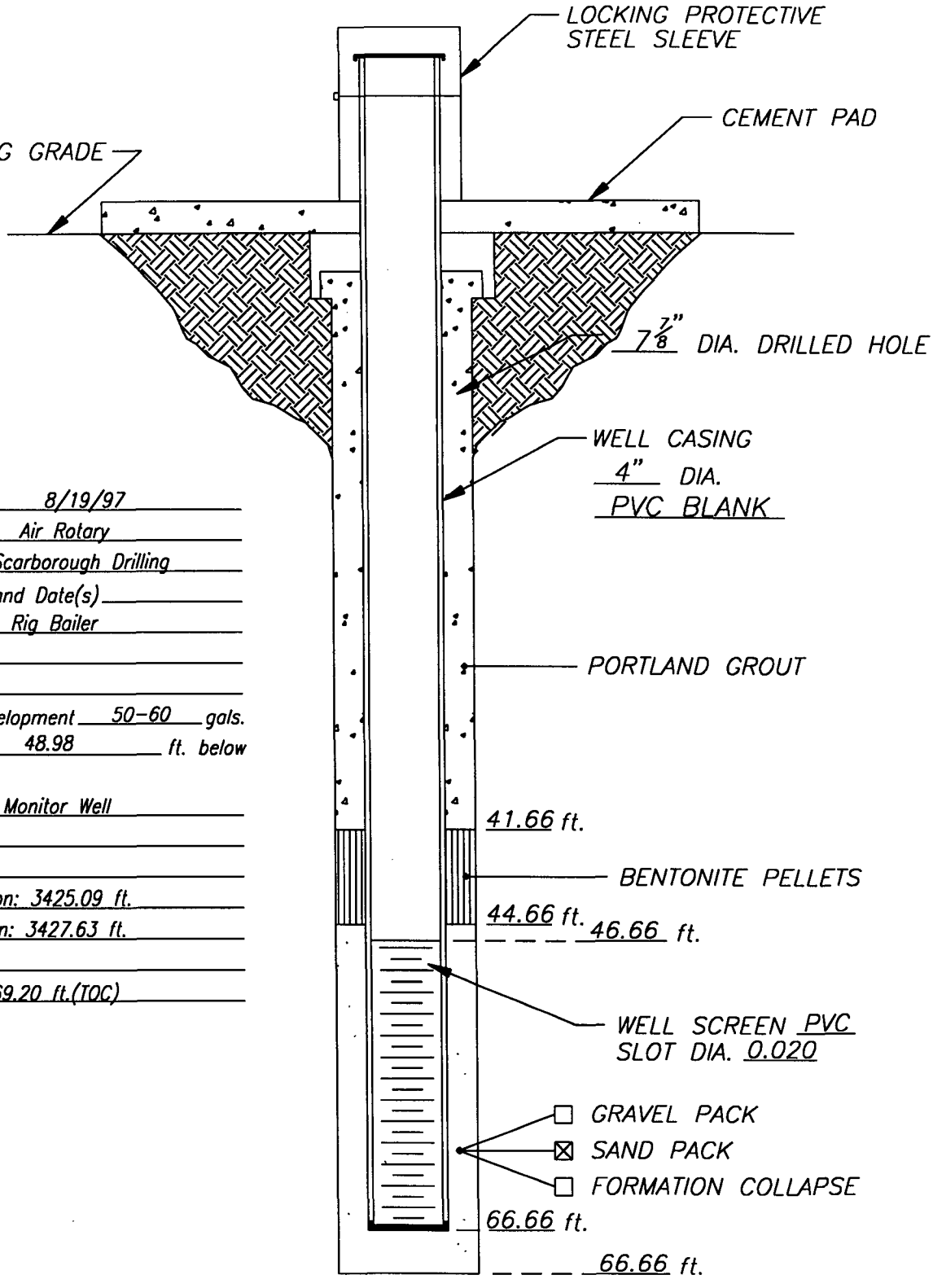
Water Removed During Development 50–60 gals.
Static Depth to Water 62.91 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3427.90 ft.
T.O.C. Elevation: 3430.01 ft.

Well Depth: 115.50 ft.(TOC)

DATE: 12/5/97	CLIENT: Texaco Exploration & Production, Inc.	WELL NO.
Highlander Environmental	PROJECT: Eunice #1 (North) Plant	MW–8A
	LOCATION: Lea County, New Mexico	

WELL CONSTRUCTION LOG



Installation Date(s) 8/19/97
Drilling Method Air Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
8/19/97 - Rig Bailer

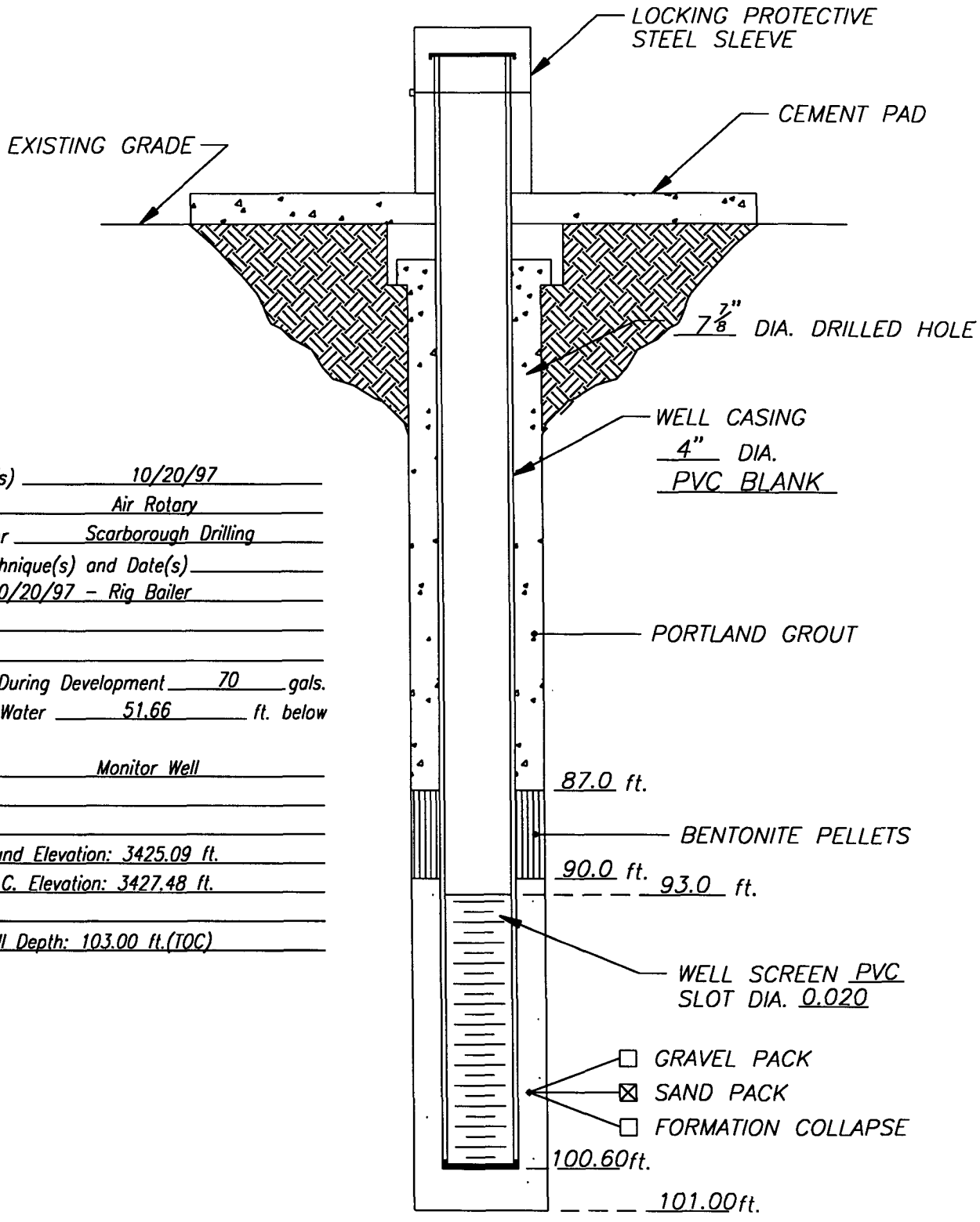
Water Removed During Development 50-60 gals.
Static Depth to Water 48.98 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3425.09 ft.
T.O.C. Elevation: 3427.63 ft.

Well Depth: 69.20 ft.(TOC)

DATE	CLIENT	WELL NO.
8/19/97	Texaco Exploration & Production, Inc.	MW-9
Highlander Environmental	PROJECT: Eunice #1 (North) Plant	
	LOCATION: Lea County, New Mexico	

WELL CONSTRUCTION LOG



Installation Date(s) 10/20/97
Drilling Method Air Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
10/20/97 - Rig Bailer

Water Removed During Development 70 gals.
Static Depth to Water 51.66 ft. below Ground Level
Well Purpose Monitor Well

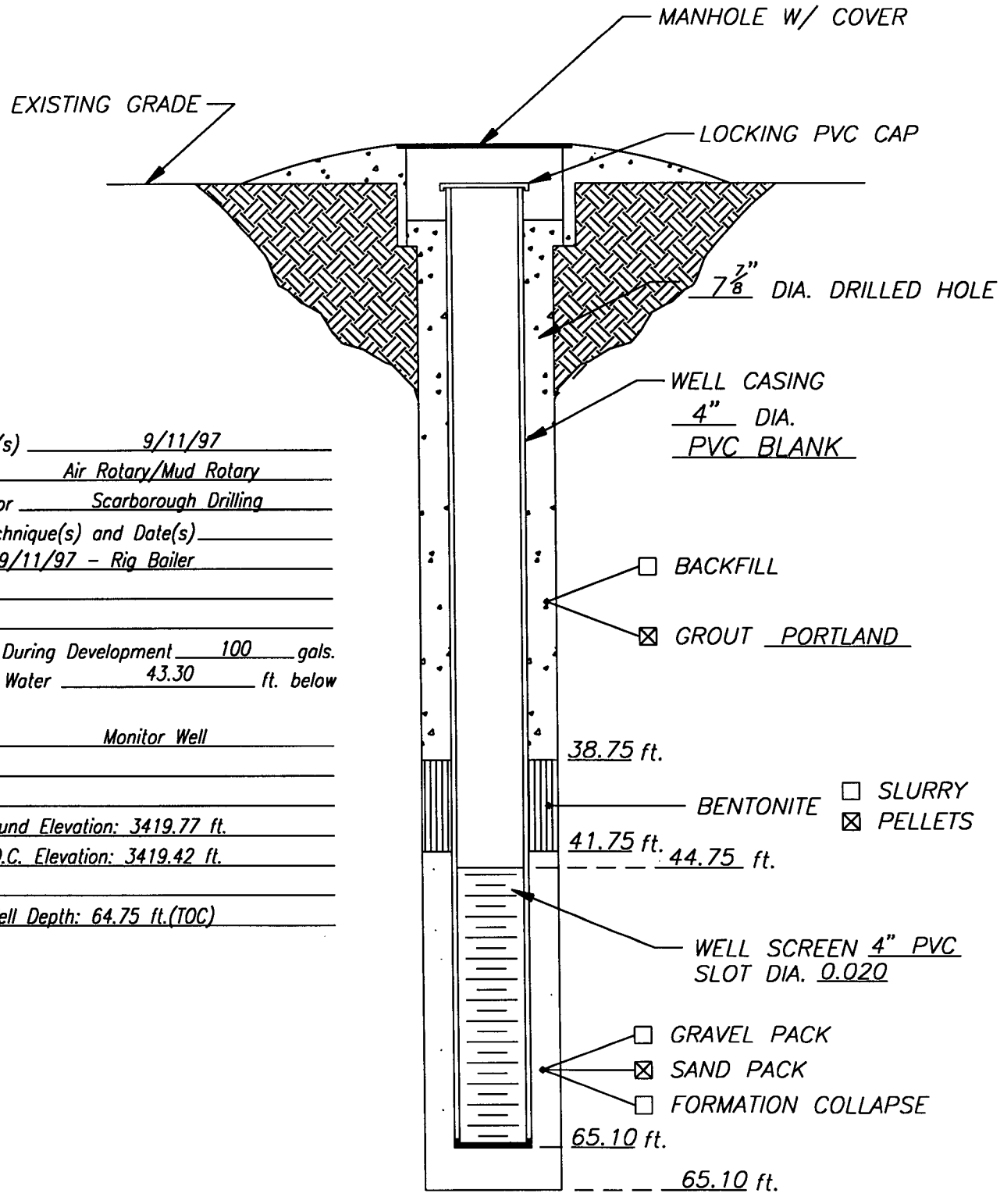
Remarks
Ground Elevation: 3425.09 ft.
T.O.C. Elevation: 3427.48 ft.

Well Depth: 103.00 ft.(TOC)

DATE: 12/5/97	CLIENT: Texaco Exploration & Production, Inc. PROJECT: Eunice #1 (North) Plant LOCATION: Lea County, New Mexico	WELL NO. MW-9A

Highlander Environmental

WELL CONSTRUCTION LOG



Installation Date(s) 9/11/97
Drilling Method Air Rotary/Mud Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
9/11/97 - Rig Bailer

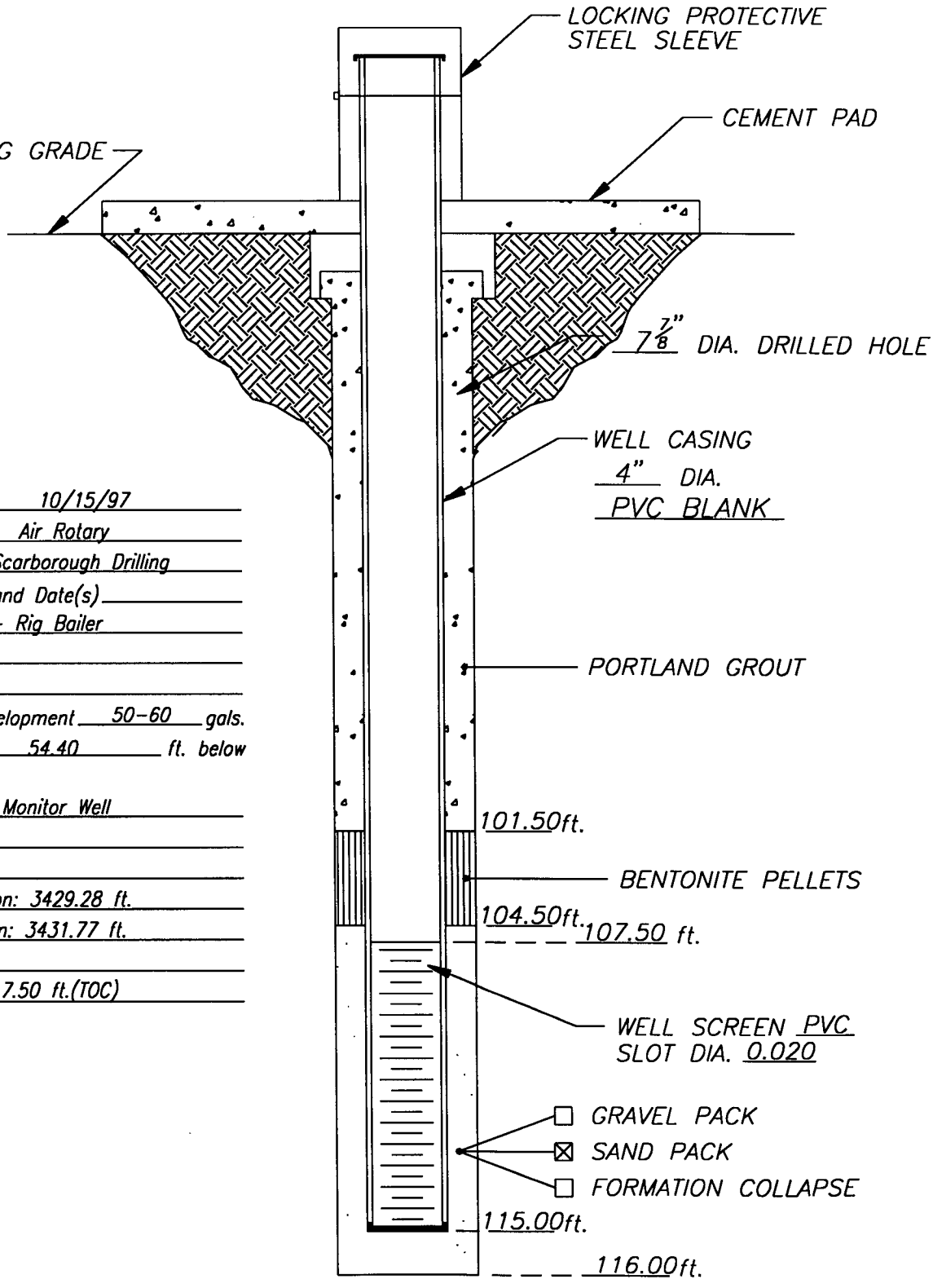
Water Removed During Development 100 gals.
Static Depth to Water 43.30 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3419.77 ft.
T.O.C. Elevation: 3419.42 ft.

Well Depth: 64.75 ft.(TOC)

DATE: 12/5/97	CLIENT: Texaco Exploration & Production, Inc.	WELL NO.
Highlander Environmental	PROJECT: Eunice #1 (North) Plant	MW-10
	LOCATION: Lea County, New Mexico	

WELL CONSTRUCTION LOG



Installation Date(s) 10/15/97
Drilling Method Air Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
10/17/97 - Rig Bailer

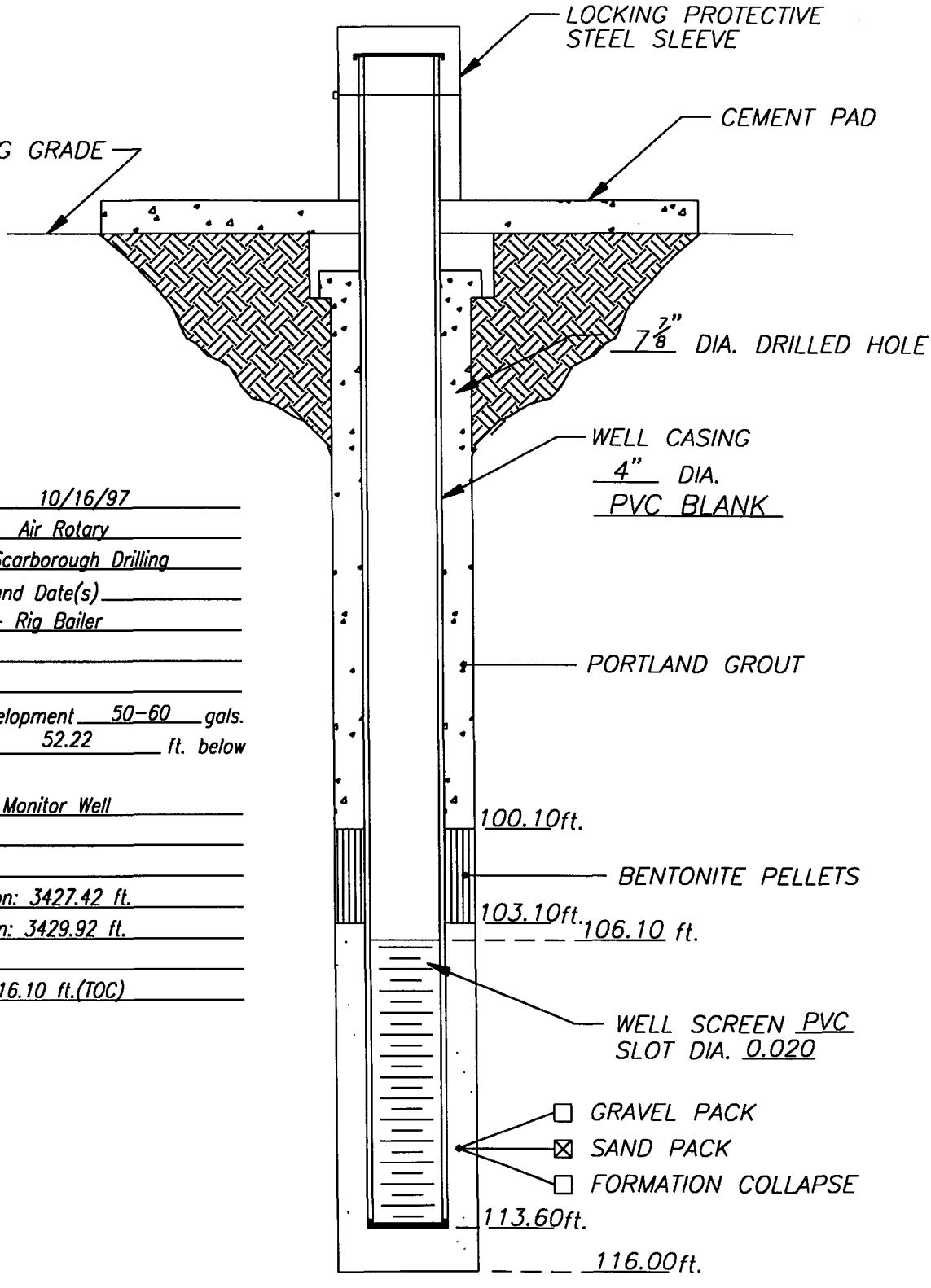
Water Removed During Development 50-60 gals.
Static Depth to Water 54.40 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3429.28 ft.
T.O.C. Elevation: 3431.77 ft.

Well Depth: 117.50 ft.(TOC)

D[illegible] 12/5/97	CLIENT: Texaco Exploration & Production, Inc.	WELL NO.
Highlander Environmental	PROJECT: Eunice #1 (North) Plant	MW-11A
	LOCATION: Lea County, New Mexico	

WELL CONSTRUCTION LOG



Installation Date(s) 10/16/97
Drilling Method Air Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
10/17/97 – Rig Bailer

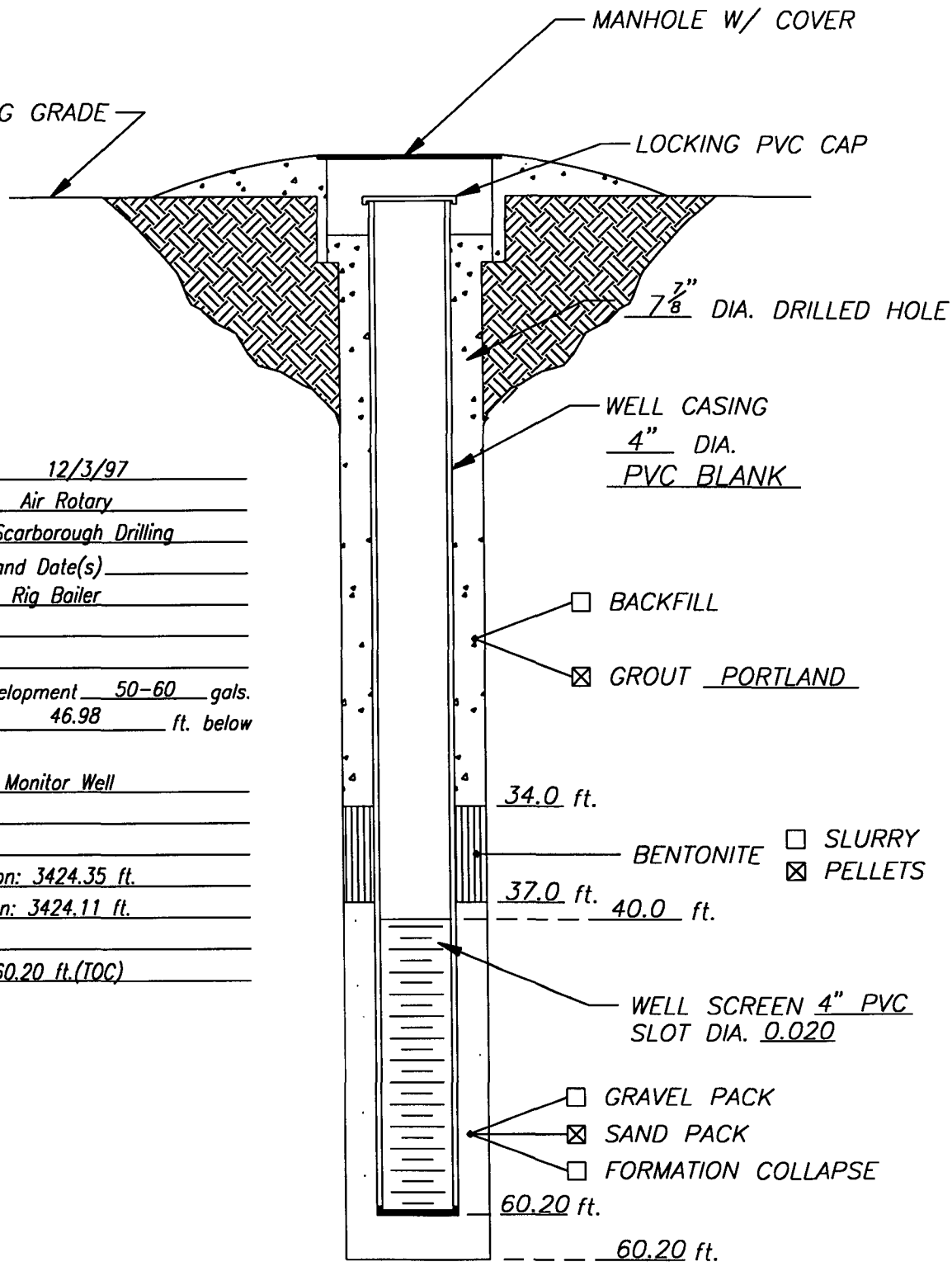
Water Removed During Development 50–60 gals.
Static Depth to Water 52.22 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3427.42 ft.
T.O.C. Elevation: 3429.92 ft.

Well Depth: 116.10 ft.(TOC)

DATE: 12/5/97	CLIENT: Texaco Exploration & Production, Inc.	WELL NO.
Highlander Environmental	PROJECT: Eunice #1 (North) Plant	MW–12A
	LOCATION: Lea County, New Mexico	

WELL CONSTRUCTION LOG



Installation Date(s) 12/3/97
Drilling Method Air Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
12/3/97 - Rig Bailer

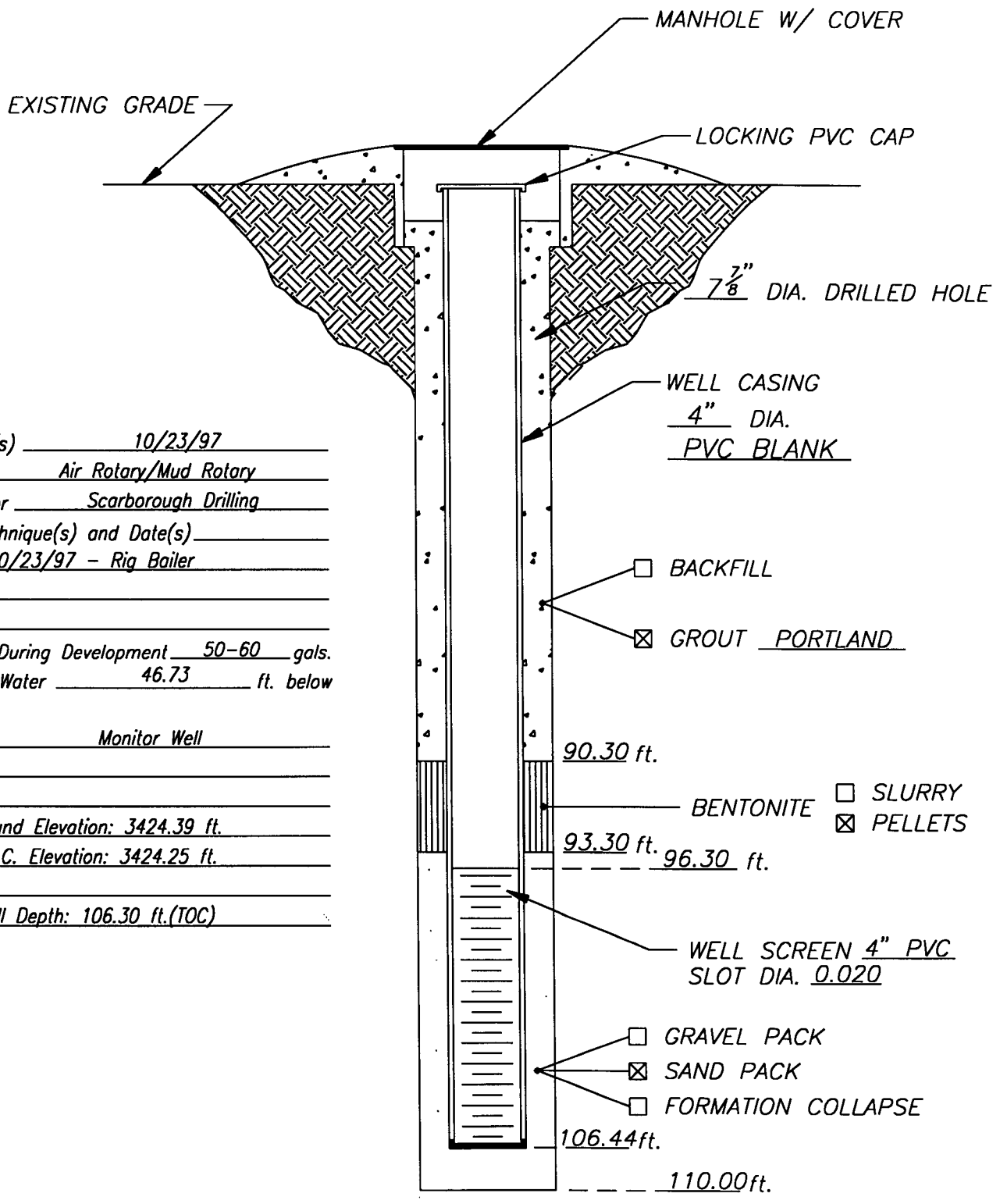
Water Removed During Development 50-60 gals.
Static Depth to Water 46.98 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3424.35 ft.
T.O.C. Elevation: 3424.11 ft.

Well Depth: 60.20 ft.(TOC)

DATE: 12/9/97	CLIENT: Texaco Exploration & Production, Inc.	WELL NO.
Highlander Environmental	PROJECT: Eunice #1 (North) Plant	MW-13
	LOCATION: Lea County, New Mexico	

WELL CONSTRUCTION LOG



Installation Date(s) 10/23/97
Drilling Method Air Rotary/Mud Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
10/23/97 - Rig Bailer

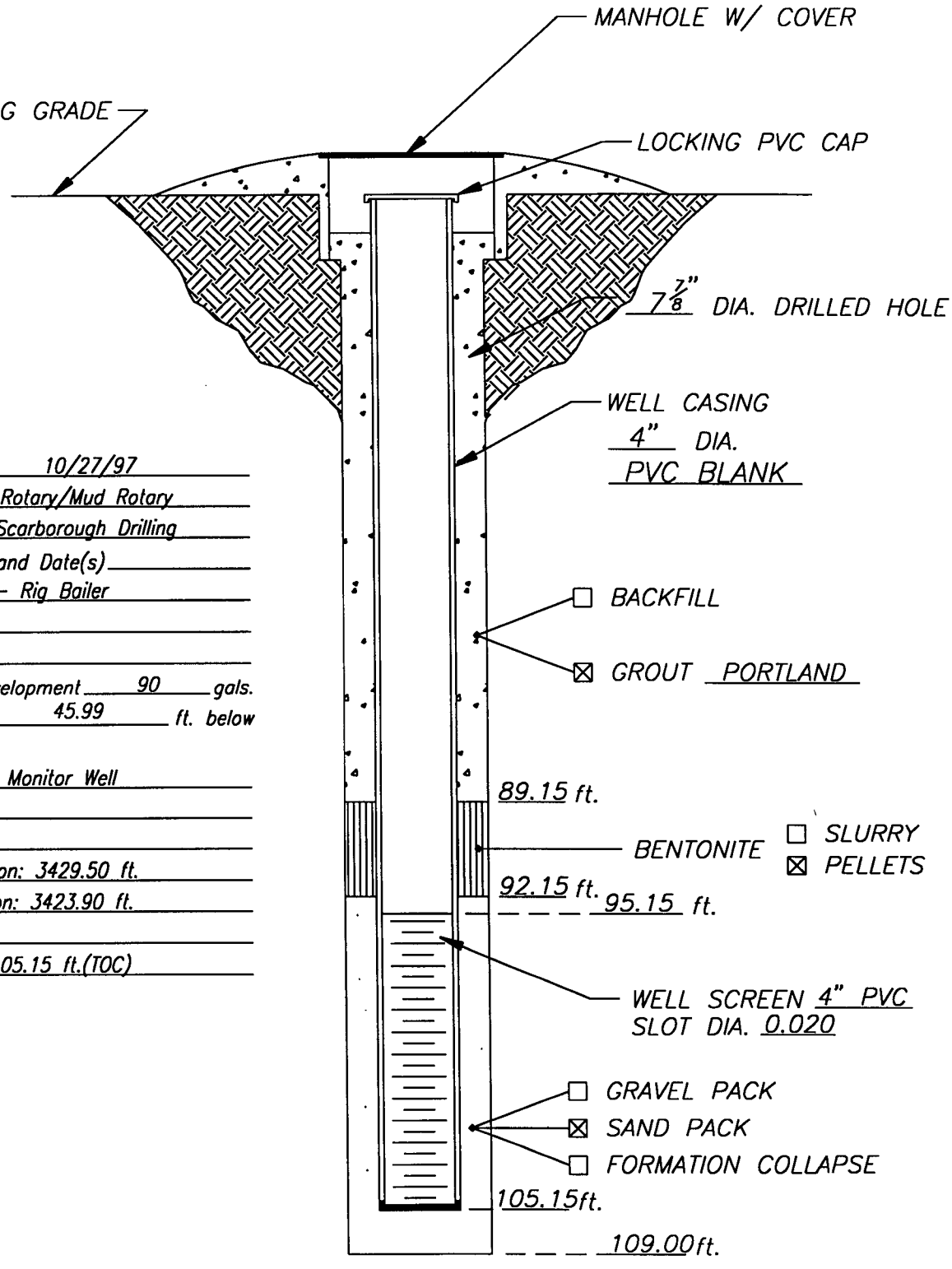
Water Removed During Development 50-60 gals.
Static Depth to Water 46.73 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3424.39 ft.
T.O.C. Elevation: 3424.25 ft.

Well Depth: 106.30 ft.(TOC)

DATE: 12/5/97	CLIENT: Texaco Exploration & Production, Inc.	WELL NO.
Highlander Environmental	PROJECT: Eunice #1 (North) Plant	MW-13A
	LOCATION: Lea County, New Mexico	

WELL CONSTRUCTION LOG



Installation Date(s) 10/27/97
Drilling Method Air Rotary/Mud Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
10/27/97 - Rig Bailer

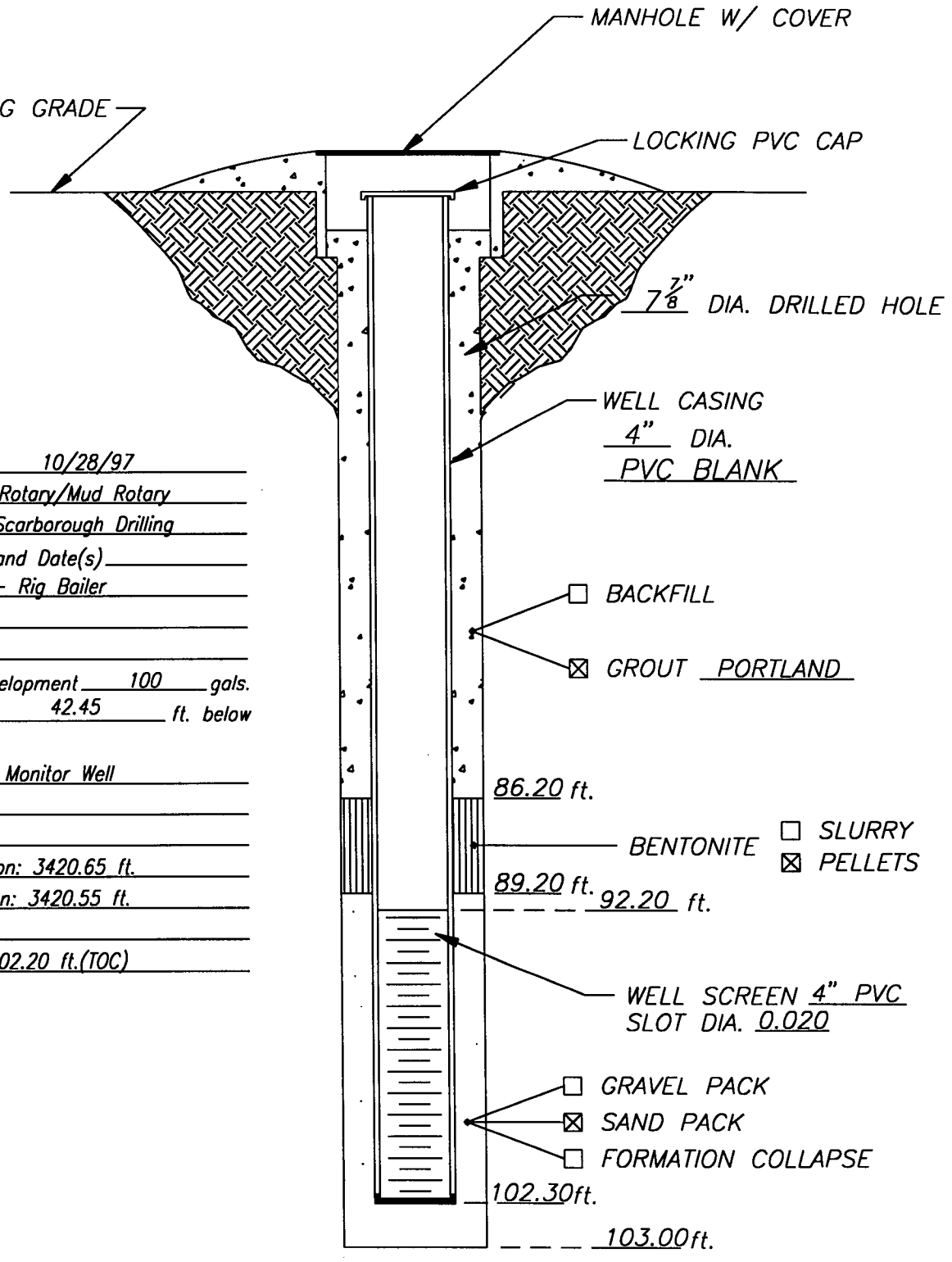
Water Removed During Development 90 gals.
Static Depth to Water 45.99 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3429.50 ft.
T.O.C. Elevation: 3423.90 ft.

Well Depth: 105.15 ft.(TOC)

D[illegible]: 12/5/97	CLIENT: Texaco Exploration & Production, Inc.	WELL NO.
Highlander Environmental	PROJECT: Eunice #1 (North) Plant	MW-14A
	LOCATION: Lea County, New Mexico	

WELL CONSTRUCTION LOG



Installation Date(s) 10/28/97
Drilling Method Air Rotary/Mud Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
10/28/97 - Rig Bailer

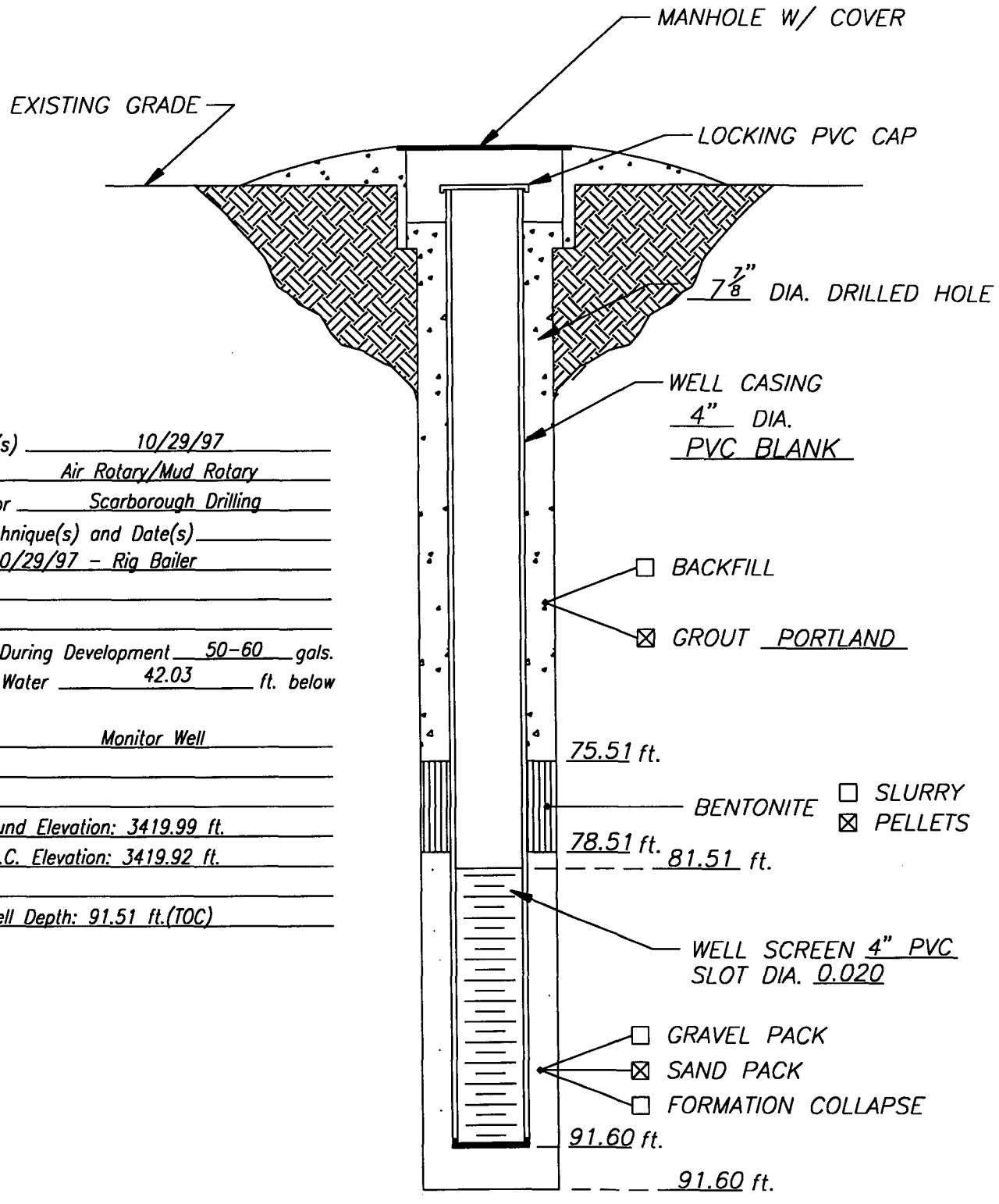
Water Removed During Development 100 gals.
Static Depth to Water 42.45 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3420.65 ft.
T.O.C. Elevation: 3420.55 ft.

Well Depth: 102.20 ft.(TOC)

D[illegible]: 12/5/97	CLIENT: Texaco Exploration & Production, Inc.	WELL NO.
Highlander Environmental	PROJECT: Eunice #1 (North) Plant	MW-15A
	LOCATION: Lea County, New Mexico	

WELL CONSTRUCTION LOG



Installation Date(s) 10/29/97
Drilling Method Air Rotary/Mud Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
10/29/97 - Rig Bailer

Water Removed During Development 50-60 gals.
Static Depth to Water 42.03 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3419.99 ft.
T.O.C. Elevation: 3419.92 ft.

Well Depth: 91.51 ft.(TOC)

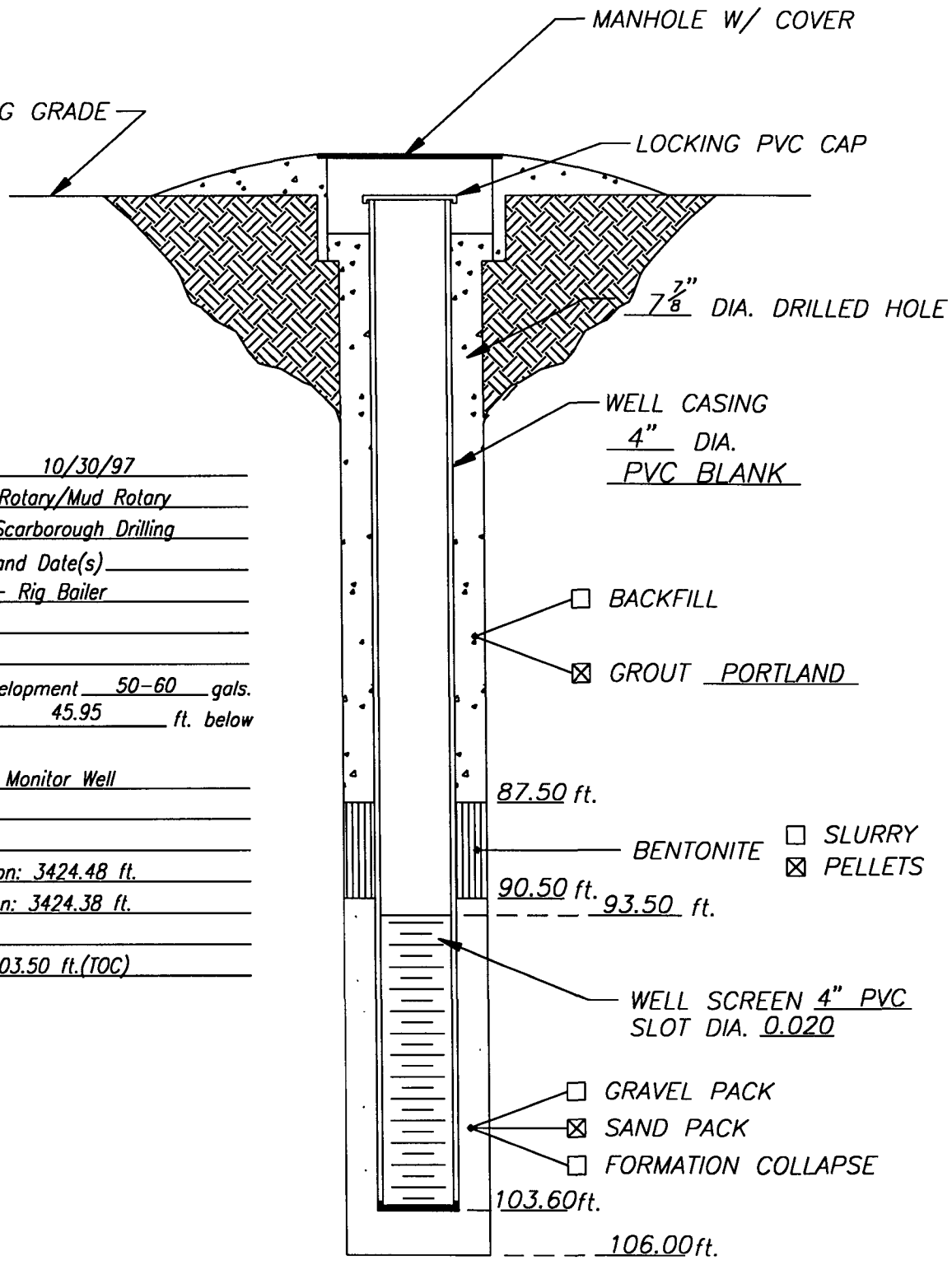
DATE: 12/5/97

Highlander Environmental

CLIENT: Texaco Exploration & Production, Inc.
PROJECT: Eunice #1 (North) Plant
LOCATION: Lea County, New Mexico

WELL NO.
MW-16A

WELL CONSTRUCTION LOG



Installation Date(s) 10/30/97
Drilling Method Air Rotary/Mud Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
10/30/97 - Rig Bailer

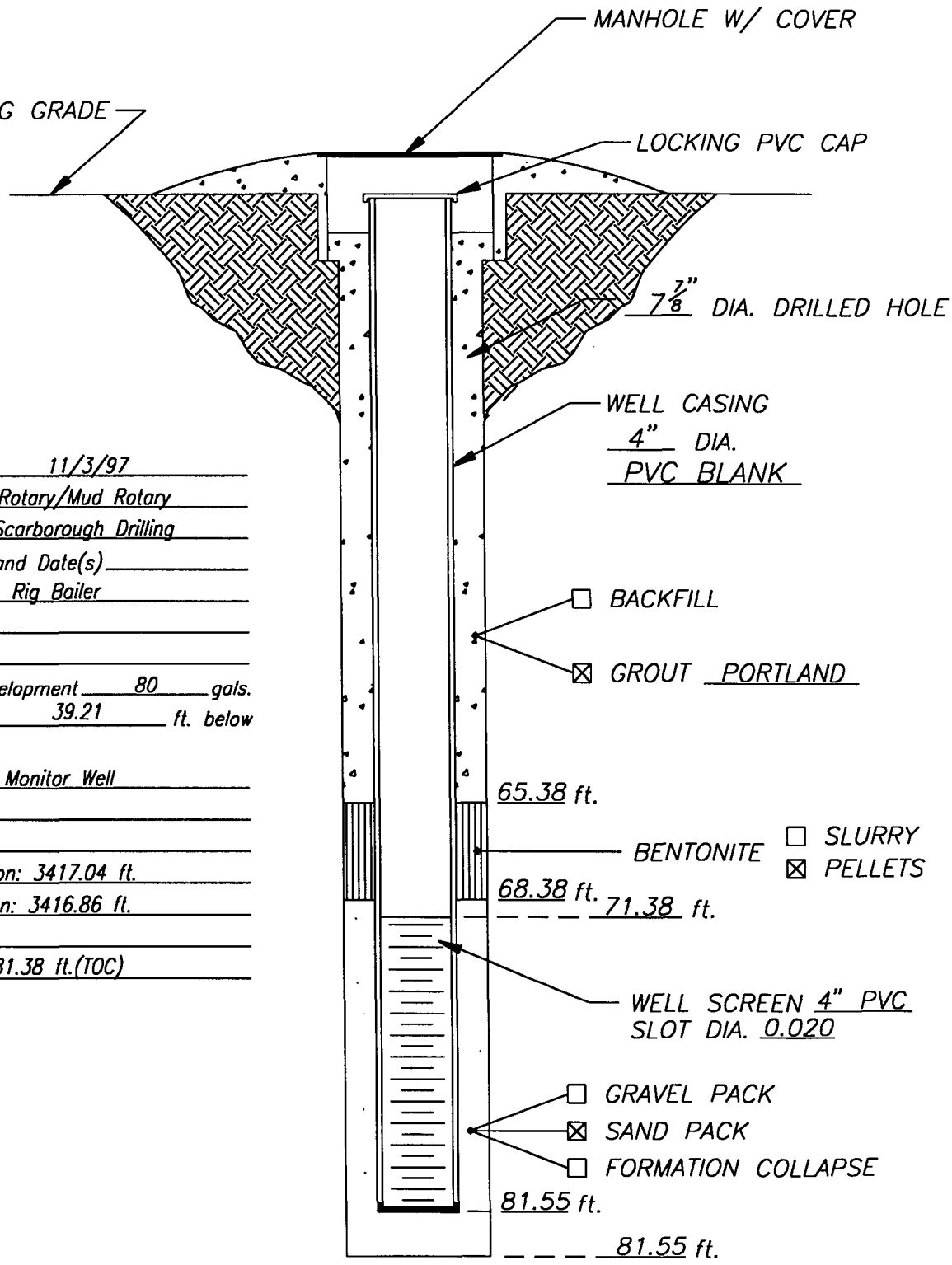
Water Removed During Development 50-60 gals.
Static Depth to Water 45.95 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3424.48 ft.
T.O.C. Elevation: 3424.38 ft.

Well Depth: 103.50 ft.(TOC)

D[illegible]: 12/5/97	CLIENT: Texaco Exploration & Production, Inc.	WELL NO.
Highlander Environmental	PROJECT: Eunice #1 (North) Plant	MW-17A
	LOCATION: Lea County, New Mexico	

WELL CONSTRUCTION LOG



Installation Date(s) 11/3/97
Drilling Method Air Rotary/Mud Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
11/3/97 - Rig Bailer

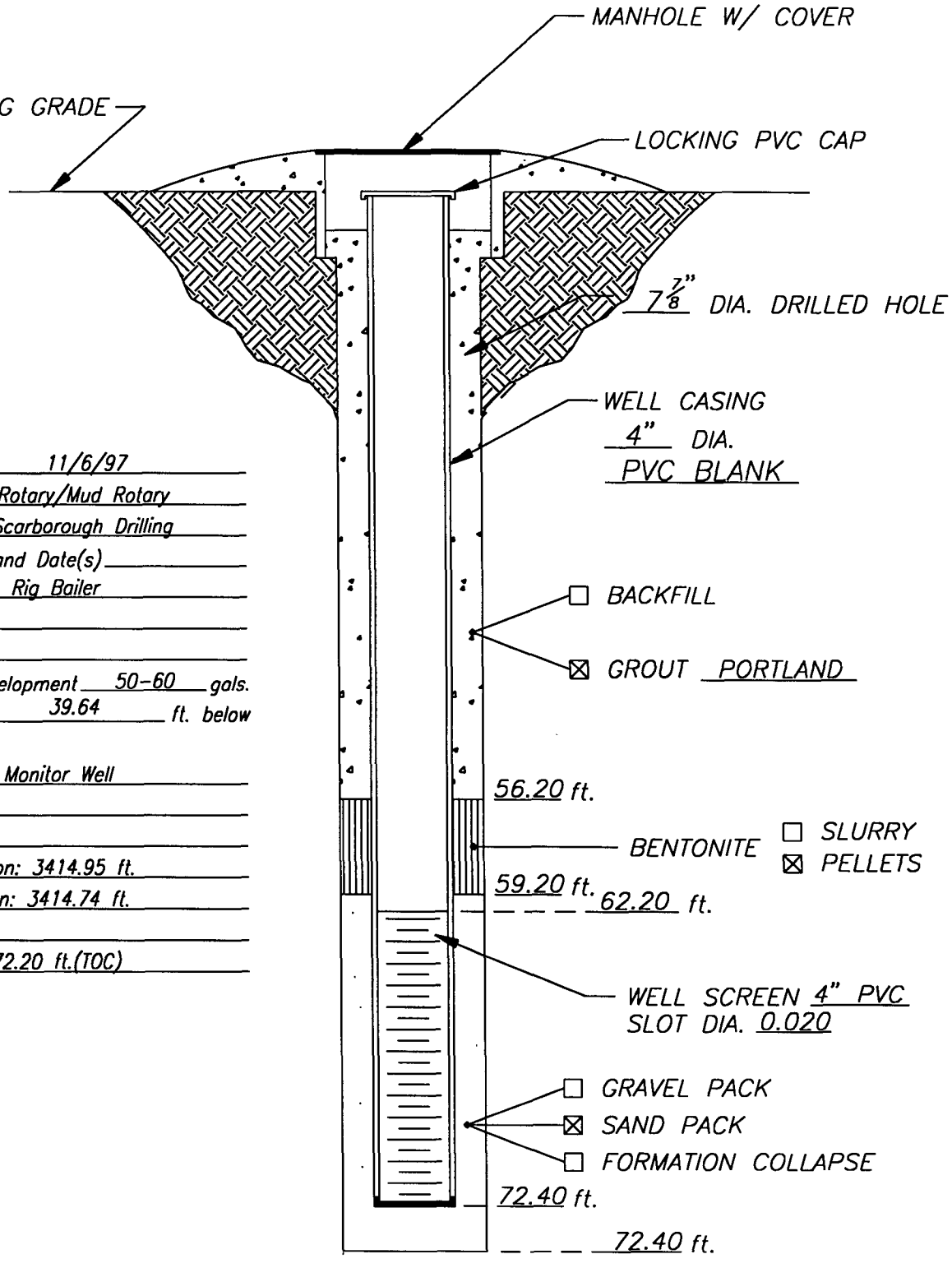
Water Removed During Development 80 gals.
Static Depth to Water 39.21 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3417.04 ft.
T.O.C. Elevation: 3416.86 ft.

Well Depth: 81.38 ft.(TOC)

DATE: 12/5/97	CLIENT: Texaco Exploration & Production, Inc.	WELL NO.
Highlander Environmental	PROJECT: Eunice #1 (North) Plant	MW-18A
	LOCATION: Lea County, New Mexico	

WELL CONSTRUCTION LOG



Installation Date(s) 11/6/97
Drilling Method Air Rotary/Mud Rotary
Drilling Contractor Scarborough Drilling
Development Technique(s) and Date(s)
11/6/97 - Rig Bailer

Water Removed During Development 50-60 gals.
Static Depth to Water 39.64 ft. below Ground Level
Well Purpose Monitor Well

Remarks
Ground Elevation: 3414.95 ft.
T.O.C. Elevation: 3414.74 ft.

Well Depth: 72.20 ft.(TOC)

DATE: 12/5/97	CLIENT: Texaco Exploration & Production, Inc.	WELL NO.
Highlander Environmental	PROJECT: Eunice #1 (North) Plant	MW-19A
	LOCATION: Lea County, New Mexico	