1R - 126

REPORTS

DATE:

3/96

ABATEMENT PLAN

Presented to:

TEXAS-NEW MEXICO PIPE LINE COMPANY

P.O. Box 1030
Jal, New Mexico 88252

SUBSURFACE INVESTIGATION

SAUNDERS EXCAVATION
TNM # 10
S18, T19S, R37E
LEA COUNTY, NEW MEXICO

From:

ENVIRONMENTAL SPILL CONTROL, INC.

P.O. Box 5890
1203 W. Dunnam
Hobbs, New Mexico 88241
(505) 392-6167

ENVIRONMENTAL
SPILL CONTROL, INC.

NM GENERAL CONTRACTORS LIC. #55535
TX DRILLING LIC. #5005M
NM DRILLING LIC. #WD 1349

P.O. BOX 5890 ★ HOBBS, NM 88241
PHONE (505) 392-6167 ★ FAX (505) 397-5085

March 14, 1996

Mr. Tony Savole
Texas-New Mexico Pipe Line Company
P. O. Box 1030
Jal, New Mexico 88252

RE: **SUBSURFACE INVESTIGATION**
SAUNDERS EXCAVATION SITE (TNM NO. 10)
SECTION 18, T19S, R37E
LEA COUNTY, NEW MEXICO

Dear Mr. Savole,

Environmental Spill Control, Inc. (ESC) has completed a Subsurface Investigation of the site listed above. The purpose of the Subsurface Investigation was to delineate the extent and magnitude of hydrocarbon contamination within the remaining soils (not previously excavated) and ground water, if present, to assist in the development of a final site closure plan.

Previous investigations include soil boring and sampling to delineate the impacted soils, excavation operations to remove the hydrocarbon impacted soils resulting from either a recent pipeline leak or a former pit identified during the investigations, and the installation of monitor wells to assess potential groundwater impact.

The site is situated in a rural part of Lea County, New Mexico and is surrounded by unimproved pasture land. Adjacent land use is restricted to cattle ranching and crude oil production with the nearest population center (the city of Hobbs) located approximately 7 miles east of the site. The location of the site is shown on the topographic map in Appendix A.

Summary of Previous Activities

Initial Investigation and Remediation Operations

The initial site assessment was conducted by Allstate Services in June 1995 in response to the discovery of a crude oil release from a subsurface pipeline operated by Texas-New Mexico Pipe Line Company. This work included an initial subsurface investigation to assess the extent of impact resulting from the leak and excavation operations to remove the hydrocarbon impacted soils.

Soil samples collected from the impacted materials were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), the eight RCRA metals, and solid waste characteristics (ignitability, corrositivity, and reactivity) in order to characterize the impacted materials for waste classification in accordance with RCRA Subtitle C regulations. Based on the analytical results, the soil was classified as non-hazardous and clean-up operations were performed in accordance with New Mexico Oil Conservation Division (NMOCD) regulations. The excavated soils were placed on plastic and are currently staged on-site pending remediation/disposal.

During the initial assessment nine soil borings (B-1 through B-9) were advanced around the release to delineate the extent of hydrocarbon impacted soils. In addition three monitor wells (MW-1, MW-2, MW-3) were installed to determine the depth to ground water, direction of flow, and hydraulic gradient beneath the site. The monitor wells were placed in a triangular configuration around the release with monitor well MW-1 located approximately 220 feet north (upgradient) while MW-2 and MW-3 were located approximately 220 feet downgradient from the release.

Analytical results of water samples collected from the three monitor wells identified no evidence of hydrocarbon impact to the groundwater. Constituents analyzed for included benzene, toluene, eythlbenzene, and xylenes (BTEX), SVOCs and total metals.

During the excavation portion of the investigation an area exhibiting weathered hydrocarbon staining was observed along the west wall of the excavation. The area was identified as a backfilled pit that had been associated with crude oil production at the C. J. Saunders Federal Tank Battery No. 1, operated by Texaco Exploration and Production, Inc.

Pit Closure Operations

In August, 1995, Environmental Spill Control, Inc. began excavation operations as outlined in the OCD Form C-103 submitted by Texaco Exploration and Production, Inc. on August 7, 1995. The purpose of this work was to remove the hydrocarbon impacted soils associated with the former pit area in accordance with the Unlined Surface Impoundment Closure Guidelines published February 1993 by the NMOCD.

Excavation operations removed a majority of the impacted soils above an indurated sandstone layer encountered at a depth of approximately 28 feet below ground surface. The excavated soils were kept segregated from the previously excavated soils and staged on-site pending remediation/disposal. Because the exposed surface of the sandstone layer appeared fractured and exhibited evidence of hydrocarbon staining in an area approximately 85 feet long and 40 feet wide, a work plan was submitted to the NMOCD proposing to drill four soil borings in the bottom of the excavation to delineate any potential hydrocarbon impact below the sandstone layer.

After receiving approval to proceed, the soil borings (B-10 through B-13) were advanced through the sands underlying the sandstone layer to total depths of approximately 7 feet. Each boring was terminated when it encountered an indurated limestone layer immediately above the water table to prevent the creation of a potential migratory pathway for contamination of the ground water.

Analytical results of soil samples obtained from the borings identified total petroleum hydrocarbon (TPH) levels ranging from 60 ppm to 52,500 ppm in the sand layer immediately below the sandstone forming the floor of the excavation. Additional excavation operations were performed to remove these hydrocarbon impacted soils from October 11 through December 7, 1995.

Monitor well MW-4 was installed approximately 15 feet south of the excavation on October 10, 1995. The monitor well was placed directly downgradient from the deepest point of the excavation to determine if a dissolved hydrocarbon plume was present. Soil and ground water analytical results from MW-4 identified no evidence of hydrocarbon impact to the groundwater. A summary of the analytical results is presented in tables 2 through 4 in Appendix B.

Subsurface Investigation

Description of Investigation Activities

After ESC completed excavation operations to remove the impacted soils previously identified in borings B-10 through B-13, evidence of hydrocarbon staining was present on the upper surface of the indurated limestone layer forming the bottom of the excavation at a depth of approximately 36 feet below ground surface.

On December 7, 1995, eight soil borings (B-14 through B-21) were drilled in the floor of the excavation to determine if hydrocarbon contamination was present beneath the limestone layer forming the bottom of the excavation. Borings (B-14, B-15, B-16, B-18, and B-21 were drilled to total vertical depths ranging from 8 to 13 feet and encountered groundwater between 3 to 5 feet below the floor of the excavation. Borings B-17, B-19, and B-20 were placed along the northern edge of the excavation floor and drilled at a 45 degree angles to assess subsurface conditions immediately adjacent to the excavation.

Five soil borings were drilled and completed as monitor wells between December 9 and December 19, 1995 in order to further define the subsurface lithology at the site and determine if the hydrocarbon impact identified at depth could be from an upgradient source. Four of the monitor wells (MW-5 through MW-8) were placed west of monitor well MW-1 along the north and northwest sides of the excavation. Monitor well MW-9 was placed east of MW-1 and northeast of the excavation.

The borings were drilled to a depths ranging from 60 to 65 feet and converted to 2 inch PVC monitor wells. The wells contain a minimum of 25 feet of factory slotted screen with the top of the screen set 5 feet above the water table to monitor for free-floating hydrocarbons. Each well penetrates the upper 20 feet of the aquifer to provide sufficient yield for development and water sampling. The monitor well diagrams included in Appendix C provide a detailed description of well construction.

Nine additional borings were drilled on December 20, 1995 to further assess subsurface conditions in the southeast corner of the excavation (downgradient portion). Eight of these borings were drilled in the bottom of the excavation while boring No. 5 was drilled at a 45 degree angle into the east wall of the excavation. The borings were drilled to depths ranging from 7 to 18 feet using a track-mounted auger.

Between January 24 and January 30, 1996, four additional monitor wells (MW-10, MW-11, MW-12, and JC-1) were installed at the site. Monitor wells MW-10, MW-11, and MW-12 were installed to delineate the extent of hydrocarbon impact along the southeast margin of the excavation and provide additional ground water monitoring points. Monitor well JC-1 was installed approximately 1,300 feet down gradient (south) from the release site at the landowners request. The soil boring for monitor well MW-10 was drilled to a total depth of 95 feet to determine the total aquifer thickness.

The borings were completed as 2 inch PVC monitor wells. A detailed description of each wells construction is presented in Appendix C.

Site Geology

The geologic formation that outcrops in the site area is the Ogallala Formation of Tertiary age which is often covered by a thin layer of wind-deposited (eolian) dune sands of Recent age or Quaternary age alluvium. The Ogallala Formation ranges in thickness from approximately 100 to 200 feet and rests unconformably on Triassic-age sediments in the site area. Thickness of the Ogallala formation is primarily controlled by the paleotopograghy of the sub-Ogallala erosional surface with its greatest thickness attained along paleovalleys and a thinning of the formation along paleodivide areas.

The subsurface geology at the site varies both vertically and horizontally but can be divided into six general units. The upper unit consists of 5 to 10 feet of calcareous sandy clay loam overlying a 15 to 20 foot thick unit calcareous sand (caliche) containing highly fractured limestone and sandstone lenses. This caliche unit is underlain by a 1 to 3 foot thick indurated siliceous

sandstone layer. The silicious sandstone unit is highly fractured and was not present across the entire site. The unit appears to grade into a 4 to 9 foot thick sequence of thin interbedded layers of silicious sandstone, limestone and fine-grained calcareous sands in monitor wells MW-7, MW-8, and MW-9. This unit is underlain by a 2 to 16 foot thick, slightly to calcareous fine-grained sand containing scattered limestone and/ or sandstone lenses. The sand unit is underlain by a second discontinous indurated layer consisting of a 1 to 3 foot thick limestone. Fine to medium grained non-calcareous to calcareous sands containing thin limestone lenses underlie the limestone unit. Groundwater was encountered in the sand sequence below the limestone at a depth of approximately 37.5 to 40 feet below ground surface. A basal unit composed of red-brown silty clay was encountered at a depth of 63 feet in monitor well MW-9 and at a depth of 93 feet in MW-10. The well logs included in Appendix C provide a more detailed description of the subsurface conditions.

Site Hydrology

The primary source of groundwater in the site area is provided by the High Plains Aquifer. The High Plains Aquifer is composed of hydraulically connected portions of the Quaternary Alluvium and Ogallala Formation. The contact between the Tertiary-age Ogallala formation and underlying Triassic-age sediments is an erosional unconformity that slopes regionally to the southeast. The unconformity is marked by an irregular thickness of Triassic-age shales, and sands (red beds). These red beds typically represent the lower limit of usable (potable) water in the area.

Groundwater elevation maps contoured from the data obtained from five separate gauging events between September 20, 1995 and February 23, 1996 show widely varying hydraulic gradients ranging from 0.000143 to 0.003636. The calculated hydraulic gradient of 0.00641 from the September 20, 1995 is considered anomalous and represents the ponding influence from the excavation filling with water when the site received over 8 inches of rain. The apparent ground water flow direction is toward the south-southeast with the December 8, 1995 event to showing a shift in direction towards the east. Water elevation maps for each gauging event are presented in Appendix A. A summary of groundwater measurements is presented in table 1, Appendix B.

Soil borings MW-9 and MW-10 penetrated what appears to be the top of the Traissic-age red beds at a depth of 63 feet and 93 feet below ground surface, respectively. This data indicates that the saturated thickness of the aquifer ranges from approximately 20 feet near MW-9 to 50 feet in MW-10.

Soil Analytical Results

The samples obtained from the monitor well drilling operations and field screened for VOCs recorded no OVA readings greater than 1 ppm. TPH levels in the soil samples obtained from monitor wells MW-5 through MW-12 and the JC-1 ranged from less than 5 ppm to 98 ppm.

Analytical results from the soil samples collected from the soil borings drilled in the floor of the excavation (B-14 through B-21) recorded TPH concentrations ranging from 90 to 112,400 ppm in the sands above the water table. Free-floating crude oil was observed in the borings after allowing them to stand open for 15 hours.

The soil analytical results are listed on the drilling logs in Appendix C and Appendix D. The laboratory reports and chains-of-custody are include in Appendix E.

Water Analytical Results

Analytical results from samples collected by ESC from monitor wells MW-1, MW-2, and MW-3 in September 1995 recorded BTEX concentrations below method detection limits.

Analytical results from samples collected by ESC from monitor wells MW-1 through MW-9 in January 1996 recorded concentrations below New Mexico Water Quality Control Commission (NMWQCC) Human Health and Domestic Water Supply Standards with the exception of elevated chloride and the benzene levels. Chloride levels ranged from 2,500 ppm in MW-2 to 19,745 ppm in MW-3. The elevated benzene level of 0.190 ppm was measured in MW-1 which is located upgradiant from the release. All nine monitor wells were sampled for BTEX during this event. Two upgradient wells (MW-1 and MW-7) and three downgradient wells (MW-2, MW-3, and MW-4) were sampled BTEX, polynuclear aromatic hydrocarbons (PAH), total dissolved solids (TDS), major cations / anions, and heavy metals.

Analytical results from samples collected in February 1996 from monitor wells MW-10, MW-11, MW-13, and JC-1 recorded levels below NMWQCC standards for all constituents tested with the exception of elevated BTEX levels in MW-10.

A summary of the water analytical results is presented in Tables 2, 3, and 4, Appendix B. The laboratory reports and chains-of-custody are include in Appendix F.

Investigation Procedures

The soil borings were drilled using a truck-mounted air rotary drill rig with a 4 1/2 inch bit except where noted. Soil samples were obtained from the borings using a driven split spoon at selected intervals between ground surface and the top of the water table. The total depth of each boring and the sampling frequency were determined by the ESC on-site representative based on lithology and field screening results of the drill cuttings obtained during drilling.

A steam cleaner was used to clean drilling and sampling equipment. A soapy water solution and rinse were used to clean sampling equipment between samples. These procedures minimize the possibility of cross-contamination.

Drill cuttings were collected at approximately 5 foot intervals and placed in a plastic baggy. The baggy was immediately sealed and left undisturbed for 10 minutes to allow any potential VOCs

entrained in the soils to volatilize. The sample then was screened for relative amounts of volatile organic constituents with a Foxboro Model 128 Organic Vapor Analyzer (OVA).

The soil sample obtained from each sampled interval was split into two sets of soil samples. One sample was screened for relative amounts of volatile organic constituents using the head space procedure described in Unlined Surface Impoundment Closure Guidelines published by the NMOCD. Based on the OVA readings and/or visible staining, a second sample from selected intervals was analyzed for TPH levels with a General Analysis Corporation (GAC) MEGA TPH analyzer using EPA Method 418.1.

The field OVA and TPH results were used to select the samples to be submitted to the laboratory. The samples selected were submitted for BTEX analysis using EPA Method 8020 and TPH analysis using EPA Method 418.1. The samples to be submitted for laboratory analysis were placed into glass jars with teflon-lined lids and zero head space, sealed with QA/QC seals, and preserved at 4C in accordance with EPA protocol for laboratory shipment.

The monitor wells were gauged prior to sampling in order to determine depth to water, LNAPL thickness, and to calculate the volume of water in the well bore. The monitor wells were developed prior to sampling by surge bailing using a manual bailer. A minimum of three well volumes of water was removed from each well with the development bailer decontaminated between each well. The development water was stored on-site in labeled drums pending disposal.

After development ground water samples were collected from the monitoring well using a dedicated disposable bailer. The water samples were placed in sample containers provided by the laboratory, sealed with QA/QC seals, and preserved at 4C in accordance with EPA protocol for laboratory shipment.

The ground water samples were submitted to the laboratory for BTEX, polynuclear aromatic hydrocarbons (PAH), total dissolved solids (TDS), major cations / anions, and heavy metals analysis using EPA approved methods.

Summary of Investigation Findings

The vadose zone beneath the site is approximately 38 feet thick and composed of fine-grained calcareous sands (caliche) containing scattered sandstone and limestone stringers. These soils are underlain by a slightly calcareous fine-grained sand representing the Ogallala aquifer. The top of the water table is at a depth of approximately 42 feet below ground surface with ground water flow towards the south-southeast

Soil borings in the bottom of the excavation identified a plume of free-floating crude in the sand / limestone sequence above the water table. Soil screening results and TPH concentrations from the monitor wells identified no hydrocarbon impacted soils and indicate that the extent of soil contamination is confined to the excavation.

Water analytical results from the monitor wells indicate little or no dissolved hydrocarbon plume is present at the site. Water quality analysis indicates the ground water in the area contains elevated chlorides.

Environmental Spill Control, Inc. appreciates the opportunity to provide you with our professional services. If you have any questions, please do not hesitate to contact us.

Sincerely,
Environmental Spill Control, Inc.

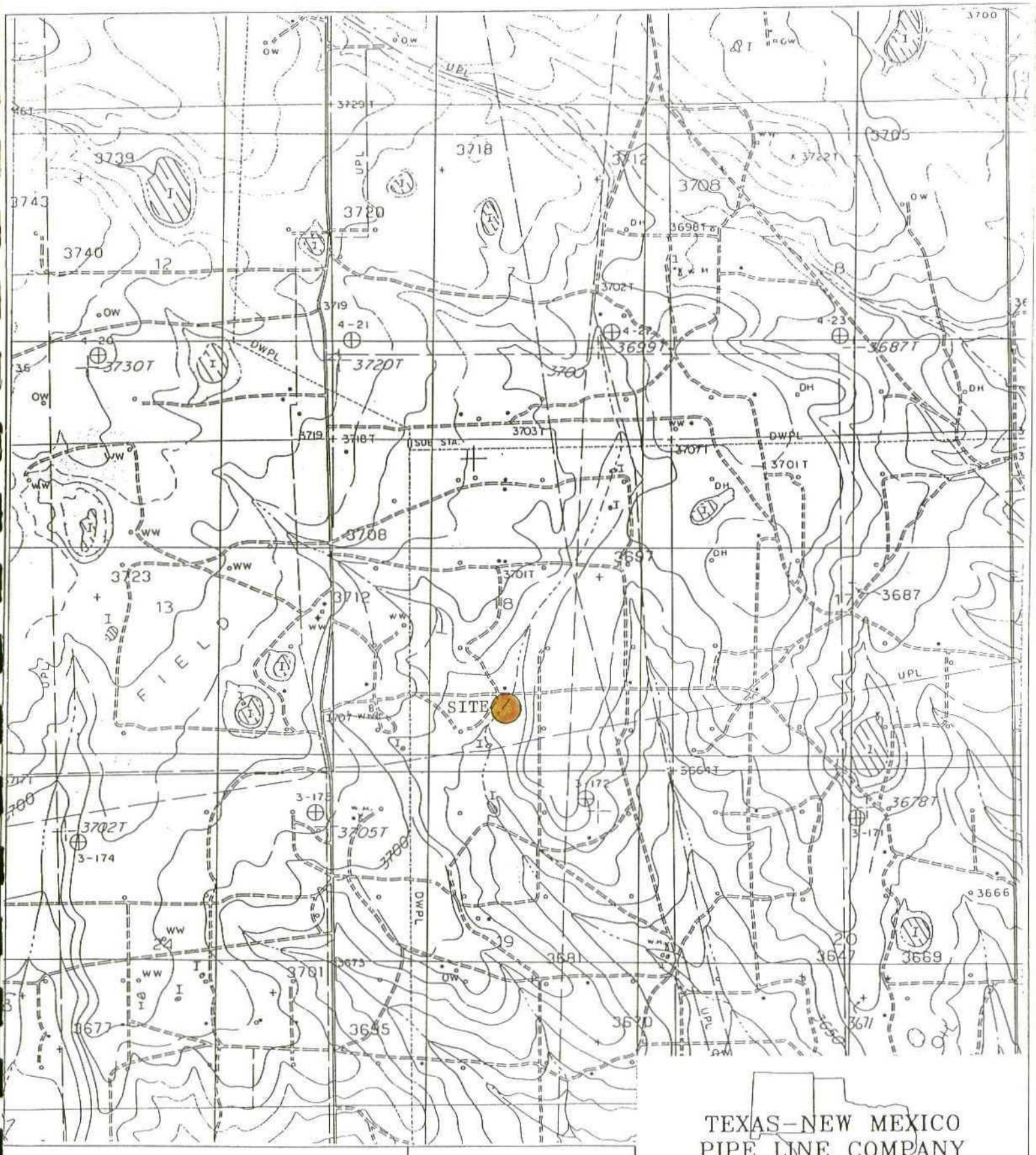
F. Wesley Root

F. Wesley Root
Division Manager Geology/Hydrology

cc. Mr. Larry Lehman, Texaco Exploration and Production
Mr. Allen Hodge, ESC

APPENDIX A

FIGURES



USGS TOPOGRAPHIC MAP

MONUMENT NORTH, QUADRANGLE
LEA Co., NEW MEXICO
PROVISIONAL EDITION 1985

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ENVIRONMENTAL
SPILL CONTROL, Inc.
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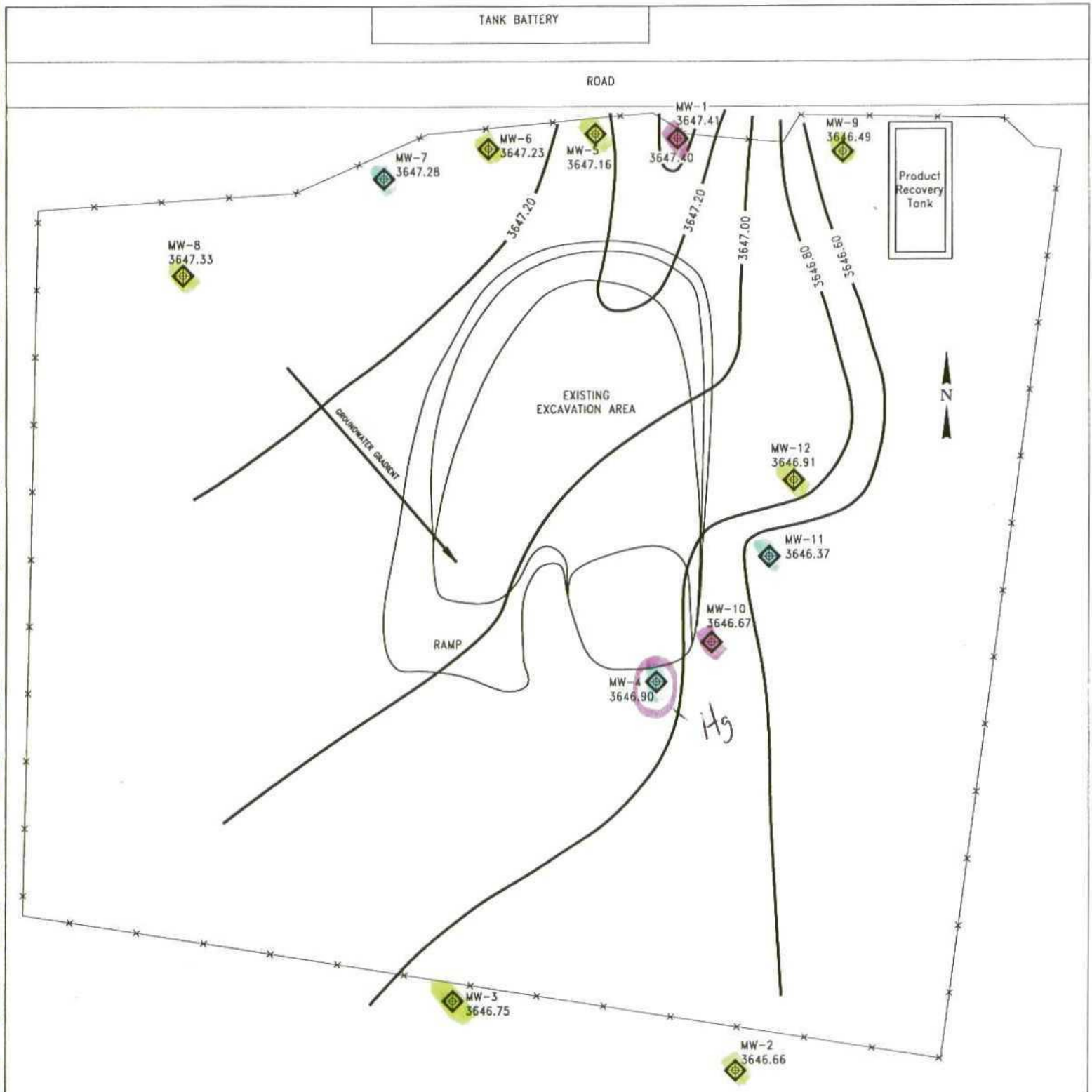
FAX (505) 397-5085

TEXAS-NEW MEXICO
PIPE LINE COMPANY

SAUNDERS EXCAVATION
CONTOUR TOPOGRAPHY
NW4/SE4 SEC 18, T19S, R37E
LEA Co., NEW MEXICO

SCALE: 1" = 2000'	JOB #
DRAWING OF	FILE:



TEXAS–NEW MEXICO
PIPE LINE COMPANY

MONITOR WELL

MONITOR WELLS GAUGED 2-23-96

CONTOUR INTERVAL = 0.20'

ENVIRONMENTAL
SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

SAUNDERS EXCAVATION
GROUNDWATER ELEVATION
NW4/SE4 SEC 18, T19S, R37E
LEA Co., NEW MEXICO

DATE:7-24-95	DRAWN M.F.G.	REV. DATE 3-1-96	DIV
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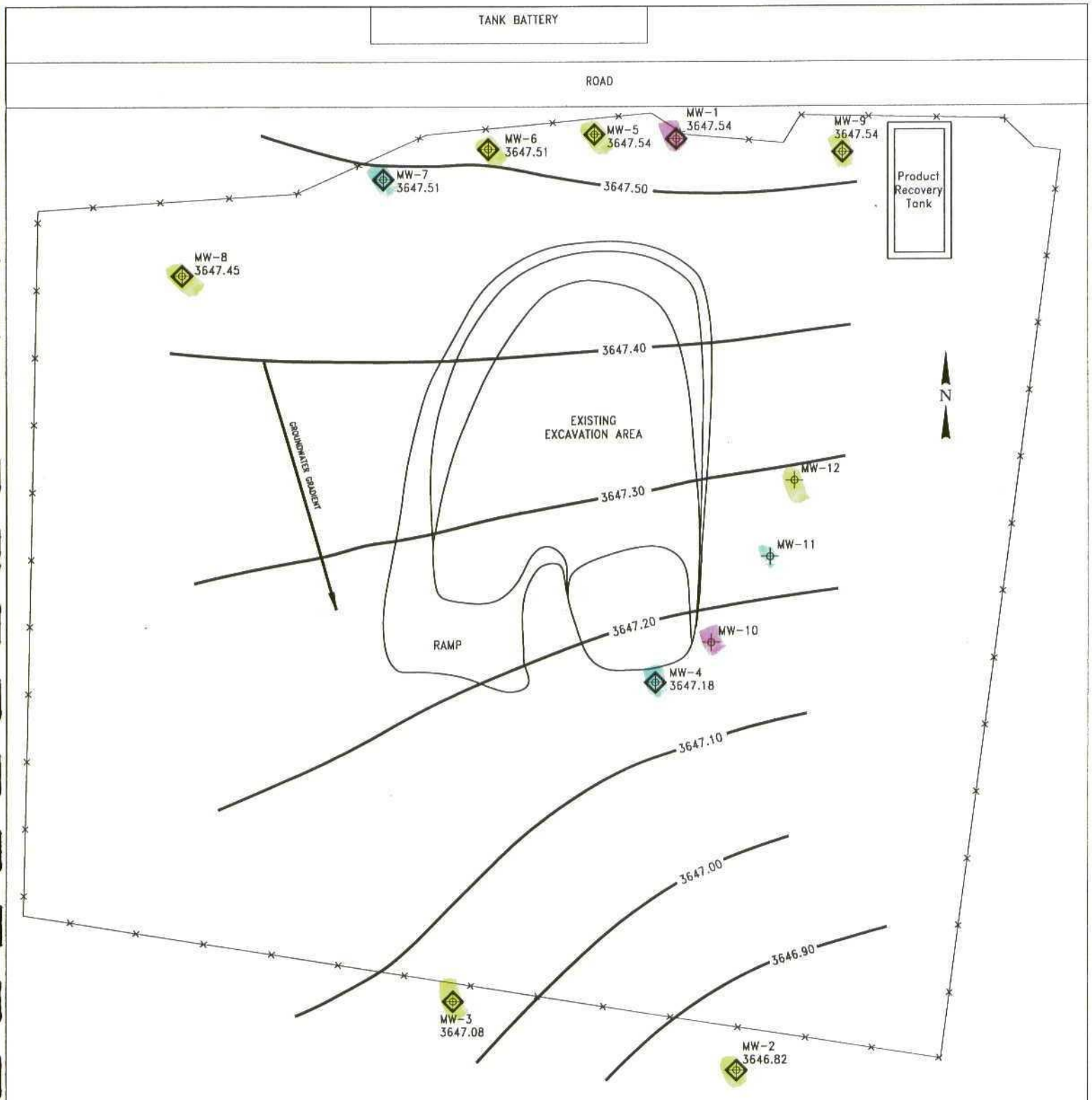


TEXAS–NEW MEXICO PIPE LINE COMPANY

MONITOR WELL

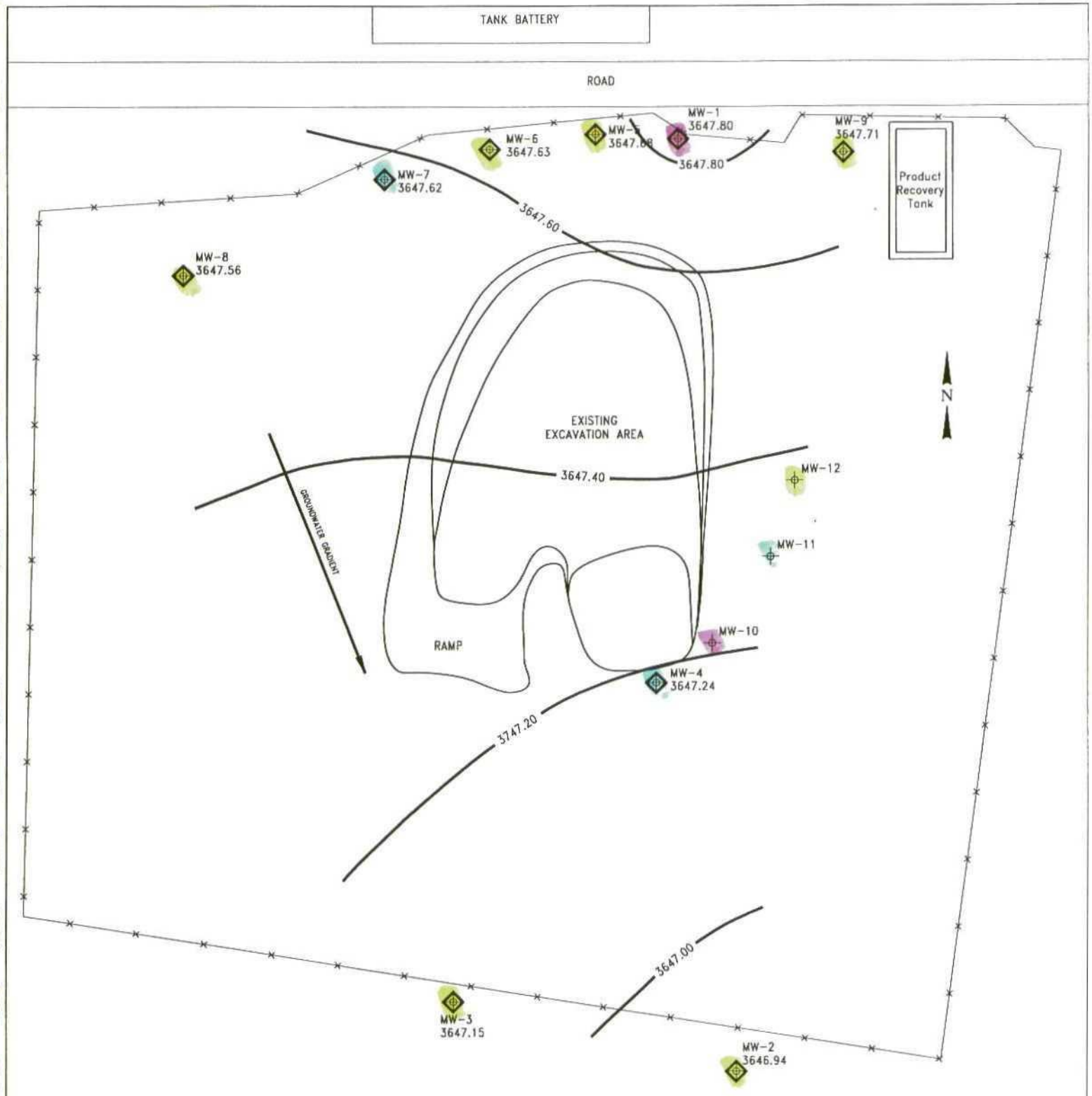
MONITOR WELLS GAUGED 1-25-96

CONTOUR INTERVAL = 0.10"

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

SAUNDERS EXCAVATION
GROUNDWATER ELEVATION
NW4/SE4 SEC 18, T19S, R37E
LEA Co., NEW MEXICO

DATE:7-24-95	DRAWN M.F.G.	REV. DATE 3-1-96	DIV
SCALE: 1" = 60'		JOB # 133	
DRAWING 1 OF 1		FILE: TEX_MEX.DWG	



TEXAS–NEW MEXICO
PIPE LINE COMPANY

MONITOR WELL

MONITOR WELLS GAUGED 1-4-96

CONTOUR INTERVAL = 0.20'

SAUNDERS EXCAVATION
GROUNDWATER ELEVATION
NW4/SE4 SEC 18, T19S, R37E
LEA Co., NEW MEXICO

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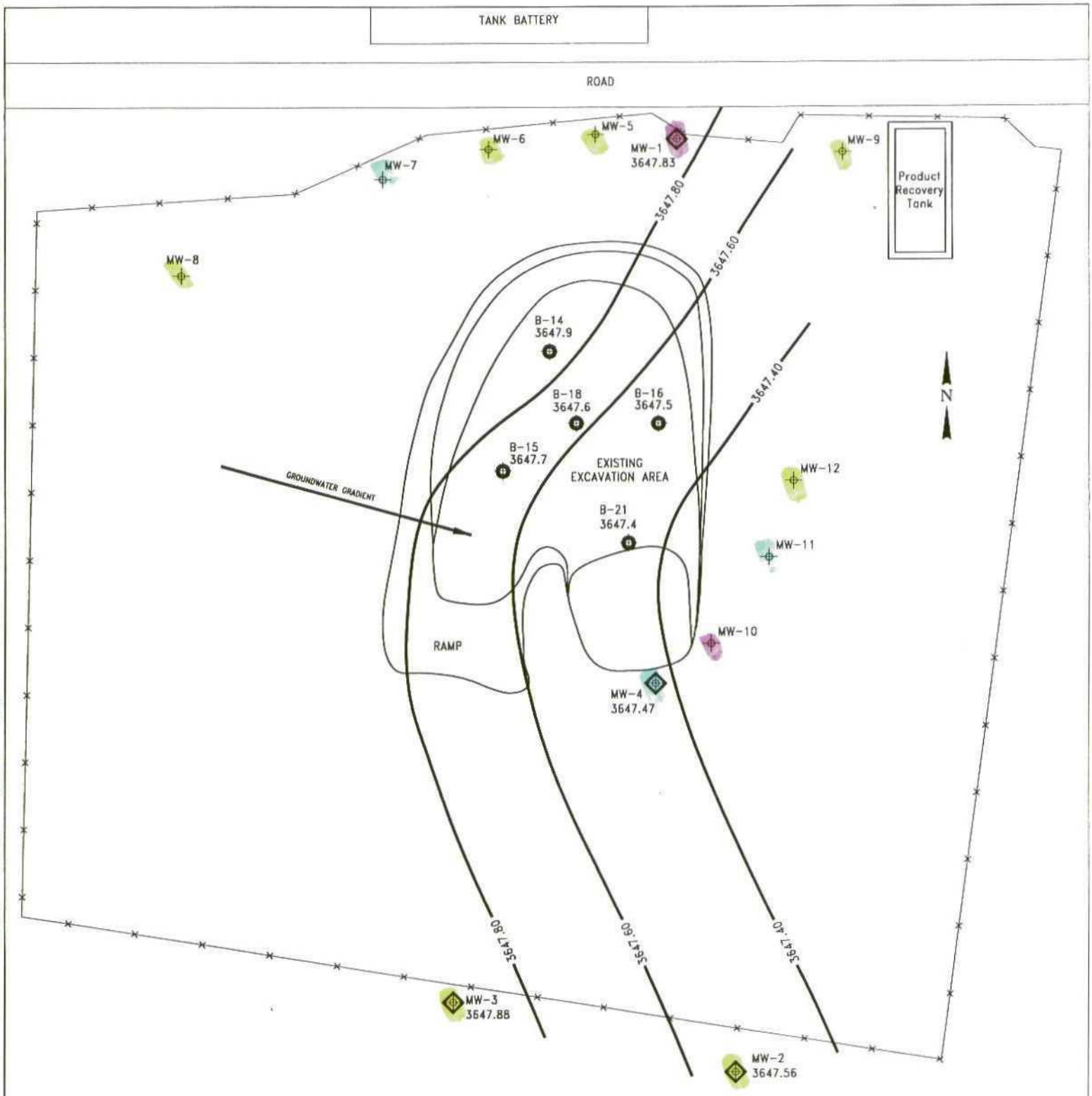
DRAWING 1 OF 1		FILE: TEX_MEX.DWG	

ENVIRONMENTAL
SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085



BORINGS WERE DRILLED IN THE FLOOR OF THE EXCAVATION

MONITOR WELL

MONITOR WELLS GAUGED 12-8-95

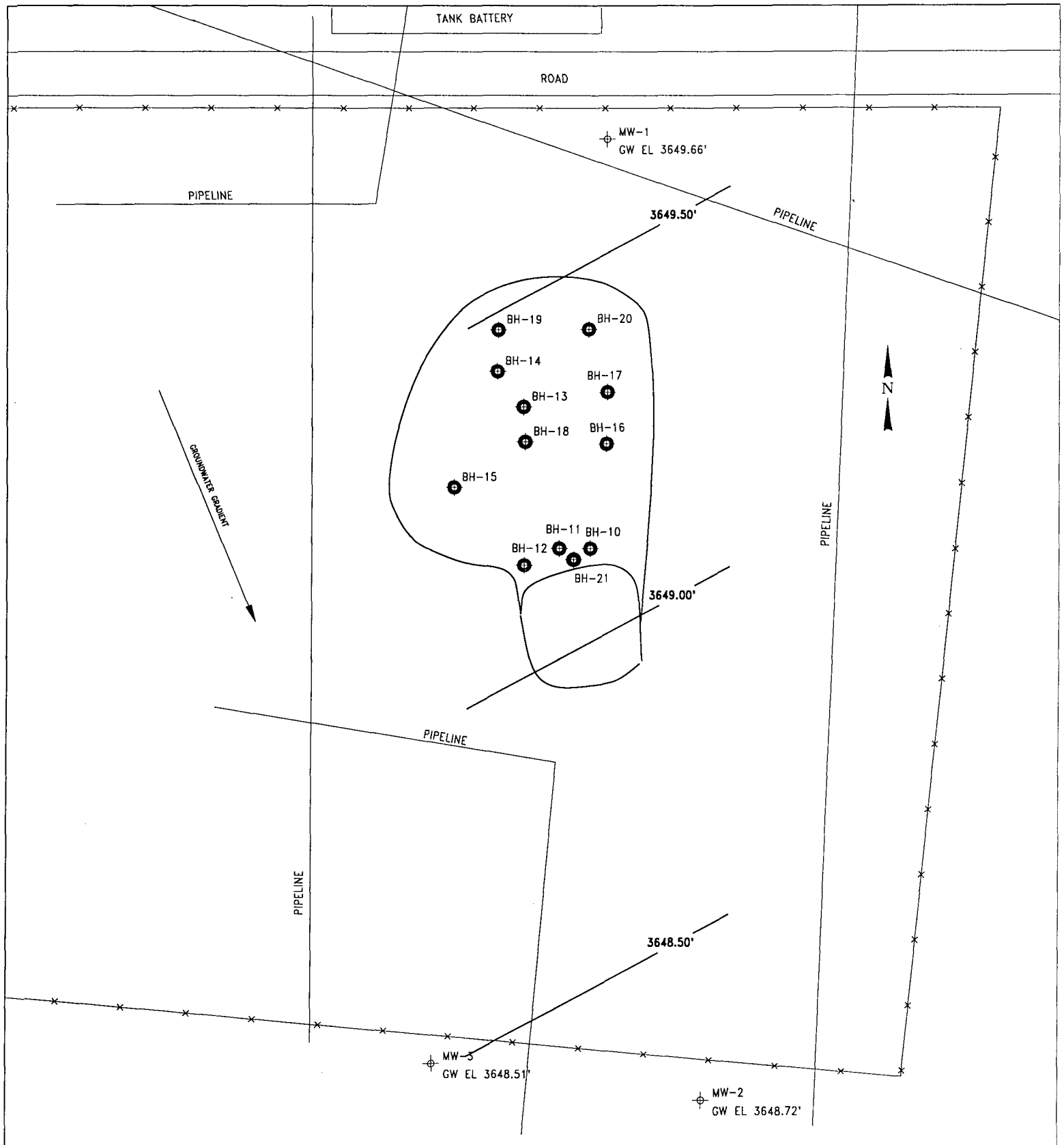
CONTOUR INTERVAL = 0.20'

TEXAS-NEW MEXICO
PIPE LINE COMPANY

SAUNDERS EXCAVATION
GROUNDWATER ELEVATION
NW4/SE4 SEC 18, T19S, R37E
LEA Co., NEW MEXICO

DATE:7-24-95	DRAWN M.F.G.	REV. DATE 3-1-96	DIV
SCALE: 1" = 60'		JOB #	133
DRAWING 1 OF 1		FILE:	TEX_MEX.DWG

ENVIRONMENTAL
SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085



BORING LOCATION

MONITOR WELL

GROUNDWATER ELEVATION MEASURED ON 10-3-95

CONTOUR INTERVAL = 0.50 FEET

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

TEXACO Inc.

SAUNDERS EXCAVATION
GROUNDWATER ELEVATION
NW4/SE4 SEC 18, T19S, R37E
LEA Co., NEW MEXICO

DATE:7-24-95	DRAWN M.F.G.	REV. DATE 1-8-96	DIV
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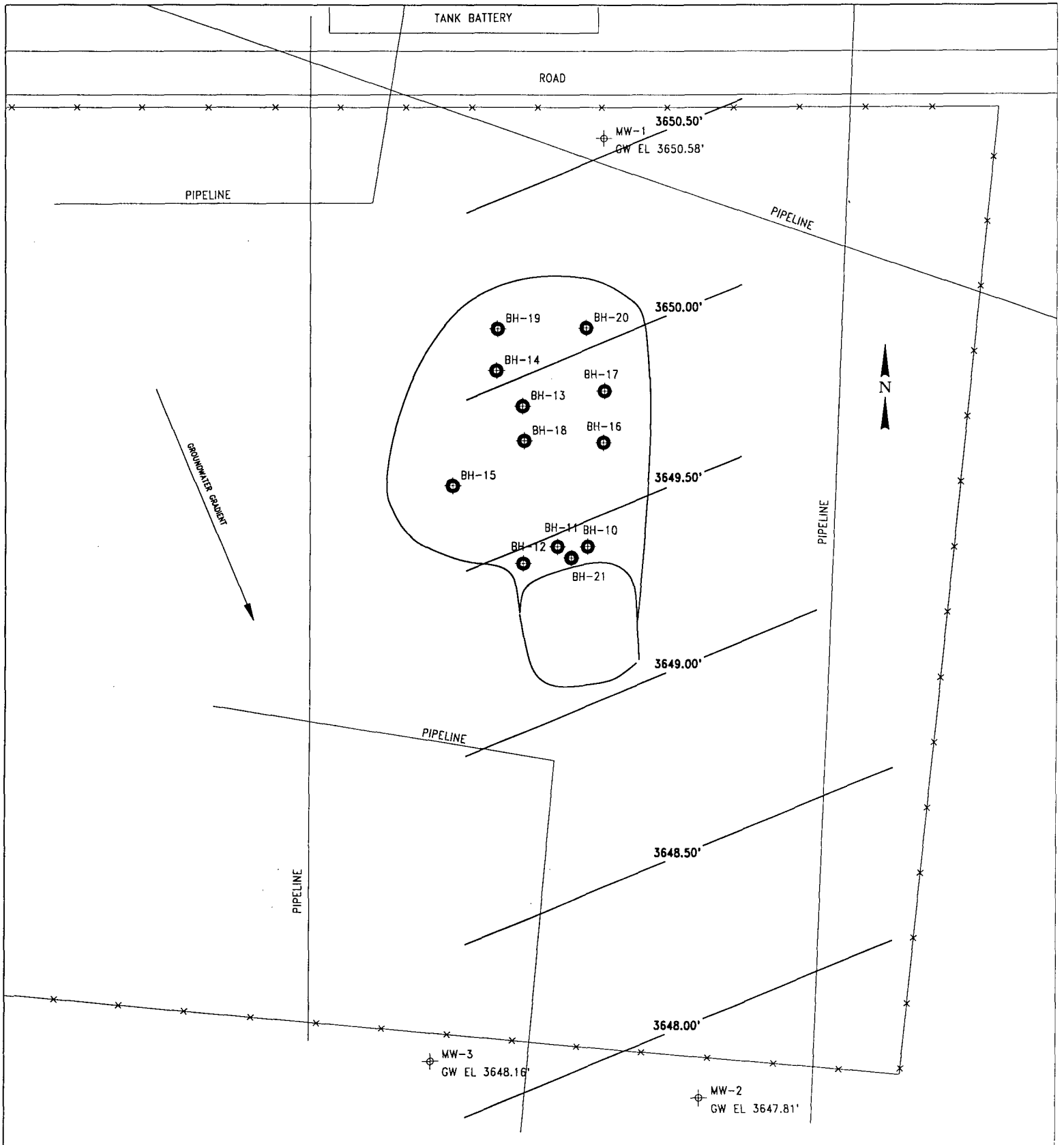


BORING LOCATION

MONITOR WELL

GROUNDWATER ELEVATION MEASURED ON 9-20-95

CONTOUR INTERVAL = 0.50 FEET

ENVIRONMENTAL
SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

TEXACO Inc.

SAUNDERS EXCAVATION
GROUNDWATER ELEVATION
NW4/SE4 SEC 18, T19S, R37E
LEA Co., NEW MEXICO

DATE:7-24-95	DRAWN M.F.G.	REV. DATE 1-8-96	DIV
SCALE: 1" = 60'		JOB # 133	
DRAWING 2 OF 5		FILE: SAUNDERS.DWG	

APPENDIX B

TABLES

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS
SAUNDERS EXCAVATION

Well Name	Date Gauged	Depth to Water*	Water Elevation**	Casing Elevation**	Surface Elevation**	LNAPL Thickness
MW-1	09/20/95	39.86	3650.58	3690.44	3687.7	0.00
MW-1	09/22/95	39.62	3650.82	3690.44	3687.7	0.00
MW-1	10/03/95	40.78	3649.66	3690.44	3687.7	0.00
MW-1	10/17/95	41.27	3649.17	3690.44	3687.7	0.00
MW-1	12/08/95	42.61	3647.83	3690.44	3687.7	0.00
MW-1	01/04/96	42.50	3647.94	3690.44	3687.7	0.00
MW-1	01/25/96	42.90	3647.54	3690.44	3687.7	0.00
MW-1	01/31/96	42.98	3647.46	3690.44	3687.7	0.00
MW-1	02/23/96	43.03	3647.41	3690.44	3687.7	0.00
MW-2	09/20/95	40.42	3647.81	3688.23	3685.5	0.00
MW-2	09/22/95	40.26	3647.97	3688.23	3685.5	0.00
MW-2	10/03/95	40.01	3648.22	3688.23	3685.5	0.00
MW-2	12/08/95	40.67	3647.56	3688.23	3685.5	0.00
MW-2	01/04/96	41.29	3646.94	3688.23	3685.5	0.00
MW-2	01/25/96	41.41	3646.82	3688.23	3685.5	0.00
MW-2	01/31/96	41.49	3646.74	3688.23	3685.5	0.00
MW-2	02/23/96	41.57	3646.66	3688.23	3685.5	0.00
MW-3	09/20/95	39.87	3648.16	3688.03	3685.3	0.00
MW-3	09/22/95	39.71	3648.32	3688.03	3685.3	0.00
MW-3	10/03/95	39.52	3648.51	3688.03	3685.3	0.00
MW-3	12/08/95	40.15	3647.88	3688.03	3685.3	0.00
MW-3	01/04/96	40.88	3647.15	3688.03	3685.3	0.00
MW-3	01/25/96	40.95	3647.08	3688.03	3685.3	0.00
MW-3	02/23/96	41.28	3646.75	3688.03	3685.3	0.00
MW-4	12/08/95	40.60	3647.47	3688.07	3685.7	0.00
MW-4	01/04/96	40.83	3647.24	3688.07	3685.7	0.00
MW-4	01/25/96	40.89	3647.18	3688.07	3685.7	0.00
MW-4	02/23/96	41.17	3646.90	3688.07	3685.7	0.00
MW-5	01/04/96	43.60	3647.68	3691.28	3688.4	0.00
MW-5	01/25/96	43.74	3647.54	3691.28	3688.4	0.00
MW-5	02/23/96	44.12	3647.16	3691.28	3688.4	0.00
MW-6	01/04/96	44.18	3647.63	3691.81	3688.7	0.00
MW-6	01/25/96	44.30	3647.51	3691.81	3688.7	0.00
MW-6	02/23/96	44.58	3647.23	3691.81	3688.7	0.00

* Well casings are marked to provide consistent reference points for gauging operations.

** Calculated from survey plat performed by Basin Surveys on June 28, 1995 and February 8, 1996.

Correction equation for the water elevation suppression effect caused by the presence of LNAPLs.

Corrected water elevation = Elevation - (Depth to water - (Specific gravity * LNAPL thickness))

where specific gravity = 0.82 for crude oil (measured).

All measurements are in feet.

TABLE 1 (continued)
SUMMARY OF GROUNDWATER MEASUREMENTS
SAUNDERS EXCAVATION

Well Name	Date Gauged	Depth to Water*	Water Elevation**	Casing Elevation**	Surface Elevation**	LNAPL Thickness
MW-7	01/04/96	43.86	3647.62	3691.48	3689.0	0.00
MW-7	01/25/96	43.97	3647.51	3691.48	3689.0	0.00
MW-7	02/23/96	44.20	3647.28	3691.48	3689.0	0.00
MW-8	01/04/96	44.47	3647.56	3692.03	3689.4	0.00
MW-8	01/25/96	44.58	3647.45	3692.03	3689.4	0.00
MW-8	02/23/96	44.70	3647.33	3692.03	3689.4	0.00
MW-9	01/04/96	42.59	3647.71	3690.30	3687.5	0.00
MW-9	01/25/96	42.76	3647.54	3690.30	3687.5	0.00
MW-9	02/23/96	43.81	3646.49	3690.30	3687.5	0.00
MW-10	01/31/95	41.62	3646.71	3688.33	3685.6	0.00
MW-10	02/23/96	41.66	3646.67	3688.33	3685.6	0.00
MW-11	01/31/95	42.71	3646.40	3689.11	3686.3	0.00
MW-11	02/23/96	42.74	3646.37	3689.11	3686.3	0.00
MW-12	01/31/95	42.17	3646.99	3689.16	3687.1	0.00
MW-12	02/23/96	42.25	3646.91	3689.16	3687.1	0.00
JC-1	01/31/96	32.43	3647.68	3680.11	3677.5	0.00
JC-1	02/23/96	32.58	3647.53	3680.11	3677.5	0.00
BH-14	12/08/95	2.4	3647.9		3650.3	<0.05
BH-15	12/08/95	6.0	3647.7		3653.7	<0.05
BH-16	12/08/95	3.0	3648.5		3651.5	<0.05
BH-18	12/08/95	3.5	3647.6		3651.1	<0.05
BH-21	12/08/95	7.5	3647.5		3655.0	<0.05

* Well casings are marked to provide consistent reference points for gauging operations.

** Calculated from survey plat performed by Basin Surveys on June 28, 1995 and February 8, 1996.

Correction equation for the water elevation suppression effect caused by the presence of LNAPLs.

Corrected water elevation = Elevation - (Depth to water - (Specific gravity * LNAPL thickness))

where specific gravity = 0.82 for crude oil (measured).

All measurements are in feet.

TABLE 2
SUMMARY OF WATER SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (VOCs)
SAUNDERS EXCAVATION (TNM No. 10)

Well Name	Date Sampled	Benzene (ppm)	Toluene (ppm)	Ethylbenz (ppm)	Xylenes (ppm)	Total BTEX (ppm)
NMWQCC Standards		0.010	0.750	0.750	0.620	N/A
MW-1	09/23/95	<0.001	<0.001	<0.001	<0.001	<0.001
MW-1	01/08/96	0.190	<0.001	0.025	<0.001	0.215
MW-2	09/22/95	<0.001	<0.001	<0.001	<0.001	<0.001
MW-2	01/08/96	<0.001	<0.001	<0.001	0.006	0.006
MW-3	09/22/95	<0.001	<0.001	<0.001	<0.001	<0.001
MW-3	01/08/96	<0.001	0.027	<0.001	<0.001	0.027
MW-4	10/17/95	<0.001	<0.001	<0.001	<0.001	<0.001
MW-4	01/08/96	<0.001	<0.001	<0.001	<0.001	<0.001
MW-5	01/10/96	0.005	<0.001	<0.001	0.084	0.089
MW-6	01/10/96	0.003	<0.001	<0.001	0.008	0.011
MW-7	01/08/96	<0.001	<0.001	<0.001	<0.001	<0.001
MW-8	01/10/96	<0.001	<0.001	<0.001	0.011	0.011
MW-9	01/10/96	<0.001	<0.001	0.016	0.022	0.038
MW-10	02/06/96	0.290	1.237	2.529	2.360	6.416
MW-11	02/06/96	<0.001	<0.001	<0.001	<0.001	<0.001
MW-12	02/06/96	<0.001	<0.001	<0.001	0.004	0.004
JC-1	02/06/96	<0.001	<0.001	<0.001	<0.001	<0.001

Analysis was performed by Cardinal Laboratories in Hobbs, New Mexico.

Benzene, toluene, eythlbenzene, and xylene (BTEX)analyses were conducted using EPA Method 8020.

All results are reported in parts per million (ppm).

TABLE 3
SUMMARY OF WATER SAMPLE ANALYTICAL RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)
SAUNDERS EXCAVATION (TNM No. 10)

Well Name	Date Sampled	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene
NMWQCC	Standards	Total naphthalene plus monomethylnaphthalenes < or = 0.03 ppm							
MW-1	01/08/96	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-2	01/08/96	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-3	01/08/96	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-4	01/08/96	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
MW-7	01/08/96	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

Analysis was performed by Cardinal Laboratories in Hobbs, New Mexico.

Polynuclear aromatic hydrocarbon (PAH)analyses were conducted using EPA Method SW 846-8270 / EPA Method 625.

All results are reported in parts per million (ppm).

TABLE 3 (continued)
SUMMARY OF WATER SAMPLE ANALYTICAL RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)
SAUNDERS EXCAVATION (TNM No. 10)

Well Name	Date Sampled	Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (k) fluoranthen	Benzo (a) pyrene	Bibenzo (a, h) anthracene	benzo (g, h, i) perylene	Indeno (1,2 pyrene
NMWQCC	Standards	Total naphthalene plus monomethylnaphthalenes < or = 0.03 ppm							
MW-1	01/08/96	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-2	01/08/96	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-3	01/08/96	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-4	01/08/96	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.016
MW-7	01/08/96	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

Analysis was performed by Cardinal Laboratories in Hobbs, New Mexico.

Polynuclear aromatic hydrocarbon (PAH)analyses were conducted using EPA Method SW 846-8270 / EPA Method 625.

All results are reported in parts per million (ppm).

TABLE 4
SUMMARY OF WATER SAMPLE ANALYTICAL RESULTS
WATER QUALITY DATA
SAUNDERS EXCAVATION (TNM No. 10)

Well Name	Date Sampled	Silver (Ag)	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Mercury (Hg)	Lead (Pb)	Selenium (Se)	Carbonate (CO3)	Bicarbonate (HCO3)
NMWQCC	Standards	0.050	0.100	1.000	0.010	0.050	0.002	0.050	0.050	N/A	N/A
MW-1	01/08/96	<0.01	0.005	0.107	<0.005	<0.005	<0.002	<0.05	<0.005	N/A	193
MW-2	01/08/96	<0.01	0.005	0.150	<0.005	<0.005	<0.002	<0.02	<0.005	N/A	200
MW-3	01/08/96	<0.01	<0.005	0.147	<0.005	<0.005	<0.002	<0.05	<0.005	N/A	245
MW-4	01/08/96	<0.01	0.006	0.132	<0.005	<0.005	0.003	<0.05	<0.005	N/A	149
MW-7	01/08/96	<0.01	<0.005	0.147	<0.005	<0.005	<0.005	<0.05	<0.005	N/A	506
MW-10	02/29/96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	201
JC-1	02/29/96	<0.01	<0.02	1.46	<0.02	0.09	<0.001	<0.02	<0.02	N/A	235

Analysis was performed by Cardinal Laboratories in Hobbs, New Mexico.

Metal analyses were conducted using EPA Methods 6010, 7060, 6010, 7191, or 7740.

All results are reported in parts per million (ppm).

TABLE 4 (continued)
SUMMARY OF WATER SAMPLE ANALYTICAL RESULTS
WATER QUALITY DATA
SAUNDERS EXCAVATION (TNM No. 10)

Well Name	Date Sampled	pH	Calcium (Ca)	Chloride (Cl)	Sulfate (SO4)	Nitrate (NO3)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	TDS	Conductivity
NMWQCC	Standards	6 to 9	N/A	250	600	10	N/A	N/A	N/A	10,000	N/A
MW-1	01/08/96	7.58	45.6	3,200	73.9	2.17	5.9	76.3	8.19	396	400
MW-2	01/08/96	7.61	45.5	2,500	62.3	2.14	5.1	19.2	6.37	395	340
MW-3	01/08/96	7.44	88.3	19,745	123	1.53	12.7	40.2	15.27	553	450
MW-4	01/08/96	7.63	45.7	17,500	26.3	0.18	5.1	19.3	6.11	222	200
MW-7	01/08/96	7.08	110.6	2,800	77.3	3.36	22.9	60.3	25.32	806	700
MW-10	02/29/96	N/A	176.3	24	199	N/A	25.8	43.5	N/A	636	450
JC-1	02/29/96	N/A	504.1	38	171	N/A	31.7	46.3	N/A	748	470

Analysis was performed by Cardinal Laboratories in Hobbs, New Mexico.

Analyses were conducted using EPA Methods 150.1 - pH, 6010 - major cation/anions, 325.3 - chloride, 375.4 - sulfate, and 160.1 - total dissolved solids (TDS).

All results are reported in parts per million (ppm).

TABLE 4
SUMMARY OF WATER SAMPLE ANALYTICAL RESULTS
WATER QUALITY DATA
SAUNDERS EXCAVATION (TNM No. 10)

Well Name	Date Sampled	Silver (Ag)	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Mercury (Hg)	Lead (Pb)	Selenium (Se)	Carbonate (CO3)	Bicarbonate (HCO3)
NMWQCC	Standards	0.050	0.100	1.000	0.010	0.050	0.002	0.050	0.050	0.050	0.100
MW-1	01/08/96	<0.01	0.005	0.107	<0.005	<0.005	<0.002	<0.05	<0.005	0	193
MW-2	01/08/96	<0.01	0.005	0.150	<0.005	<0.005	<0.002	<0.02	<0.005	0	200
MW-3	01/08/96	<0.01	<0.005	0.147	<0.005	<0.005	<0.002	<0.05	<0.005	0	245
MW-4	01/08/96	<0.01	0.006	0.132	<0.005	<0.005	0.003	<0.05	<0.005	0	149
MW-7	01/08/96	<0.01	<0.005	0.147	<0.005	<0.005	<0.002	<0.05	<0.005	0	506

Analysis was performed by Cardinal Laboratories in Hobbs, New Mexico.

Metal analyses were conducted using EPA Methods 6010, 7060, 6010, 7191, or 7740.

All results are reported in parts per million (ppm).

TABLE 4 (continued)
SUMMARY OF WATER SAMPLE ANALYTICAL RESULTS
WATER QUALITY DATA
SAUNDERS EXCAVATION (TNM No. 10)

Well Name	Date Sampled	pH	Calcium (Ca)	Chloride (Cl)	Sulfate (SO4)	Nitrate (NO3)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	TDS	Conductivity
NMWQCC	Standards	6 to 9	1.000	0.010	0.050	0.002	0.050	0.050	0.050	0.050	0.050
MW-1	01/08/96	7.58	45.6	3,200	73.9	2.17	5.9	76.3	76.3	76.3	76.3
MW-2	01/08/96	7.61	45.5	2,500	62.3	2.14	5.1	19.2	19.2	19.2	19.2
MW-3	01/08/96	7.44	88.3	19,745	123	1.53	12.7	40.2	40.2	40.2	40.2
MW-4	01/08/96	7.63	45.7	17,500	26.3	0.18	5.1	19.3	19.3	19.3	19.3
MW-7	01/08/96	7.08	110.6	2,800	77.3	3.36	22.9	60.3	60.3	60.3	60.3

Analysis was performed by Cardinal Laboratories in Hobbs, New Mexico.

Analyses were conducted using EPA Methods 150.1 - pH, 6010 - major cation/anions, 325.3 - chloride, 375.4 - sulfate, and 160.1 - total dissolved solids (TDS).

All results are reported in parts per million (ppm).

APPENDIX C

WELL LOGS

Company Drilled for: Texaco USA.

Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

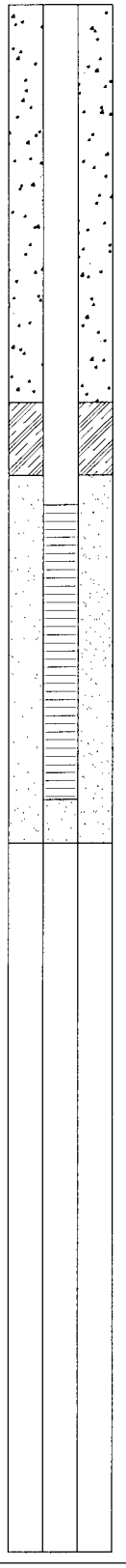
Drilling Log

Well/Bore Number:	Date Drilled:	Driller:	Logged By:
MW-4	10-4-95	AH/JT	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	57 Feet	54 Feet	34 Feet	20 Feet

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch	2 Inch	2 Inch	0.02 Inch	Sch 40 PVC

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Ground Surface			
	Gray-brown silty, clayey, loam			
5		Split Spoon	<1	
	White calcareous fine-grained sand (caliche)	Cuttings	<1	
10		Split Spoon	<1	. TPH 20 ppm
	Light gray indurated limestone	Cuttings	<1	
15	White calcareous fine-grained sand (caliche)	Core Barrel	<1	
	Light brown calcareous sand containing thin limestone lenses (caliche)	Cuttings	<1	
20		Core Barrel	<1	. TPH 10 ppm
	Light brown slightly calcareous fine-grained sand (SM) containing limestone lenses	Cuttings	<1	
25		Core Barrel	<1	* TPH 50.2 ppm * BTEX <0.001 ppm
		Cuttings	<1	
30		Split Spoon	<1	. TPH 12 ppm
	Red-brown slighty calcareous fine to medium grained sand (SM) containing thin siltly calcareous lenses	Cuttings	<1	
35		Split Spoon	<1	* TPH 42.1 ppm * BTEX <0.001 ppm
40				△ Static water level
		Split Spoon	<1	. Water on Split Spoon
45				
50				
55				
60	Bottom of Boring @ 57'			
65				
70				
75				
80				
85				
90				
95				
100				
105				



* Laboratory Analysis

Non-Shrinking Grout

Bentonite

Sand

Casing

Screen

Company Drilled for: Texaco USA.

Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

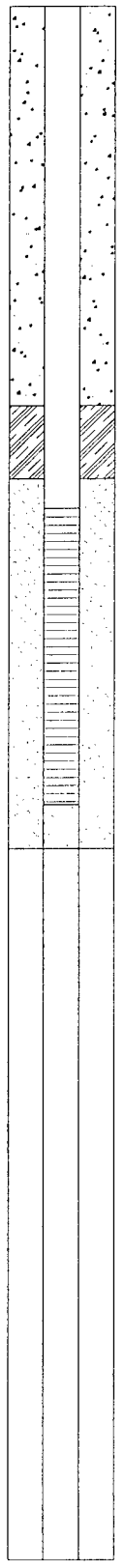
Drilling Log

Well/Bore Number:	Date Drilled:	Driller:	Logged By:
MW-4	10-4-95	AH/JT	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	57 Feet	54 Feet	34 Feet	20 Feet

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch	2 Inch	2 Inch	0.02 Inch	Sch 40 PVC

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Ground Surface			
	Gray-brown silty, clayey, loam			
5		Split Spoon	<1	
	White calcareous fine-grained sand (caliche)	Cuttings	<1	
10		Split Spoon	<1	. TPH 20 ppm
	Light gray indurated limestone	Cuttings	<1	
15	White calcareous fine-grained sand (caliche)	Core Barrel	<1	
	Light brown calcareous sand containing thin limestone lenses (caliche)	Cuttings	<1	
20		Core Barrel	<1	. TPH 10 ppm
	Light brown slightly calcareous fine-grained sand (SM) containing limestone lenses	Cuttings	<1	
25		Core Barrel	<1	* TPH 50.2 ppm * BTEX <0.001 ppm
		Cuttings	<1	
30		Split Spoon	<1	. TPH 12 ppm
	Red-brown slighty calcareous fine to medium grained sand (SM) containing thin siltly calcareous lenses	Cuttings	<1	
35		Split Spoon	<1	* TPH 42.1 ppm * BTEX <0.001 ppm
40				▵ Static water level
		Split Spoon	<1	. Water on Split Spoon
45				
50				
55				
60	Bottom of Boring @ 57'			
65				
70				
75				
80				
85				
90				
95				
100				
105				



* Laboratory Analysis

Non-Shrinking Grout

Bentonite

Sand

Casing

Screen

Company Drilled for: Texaco USA.					
Location: Saunders Excavation TNM #10 Sec. 18, T19S, R37E Lea Co., New Mexico					
Depth: 54 Feet	Bore Size: 6 Inch	Casing Size: 2 Inch	Casing Elevation: 3688.07 Feet	Screen Size: 0.02 Inch	Top of Water Elevation: 3647.47 Feet

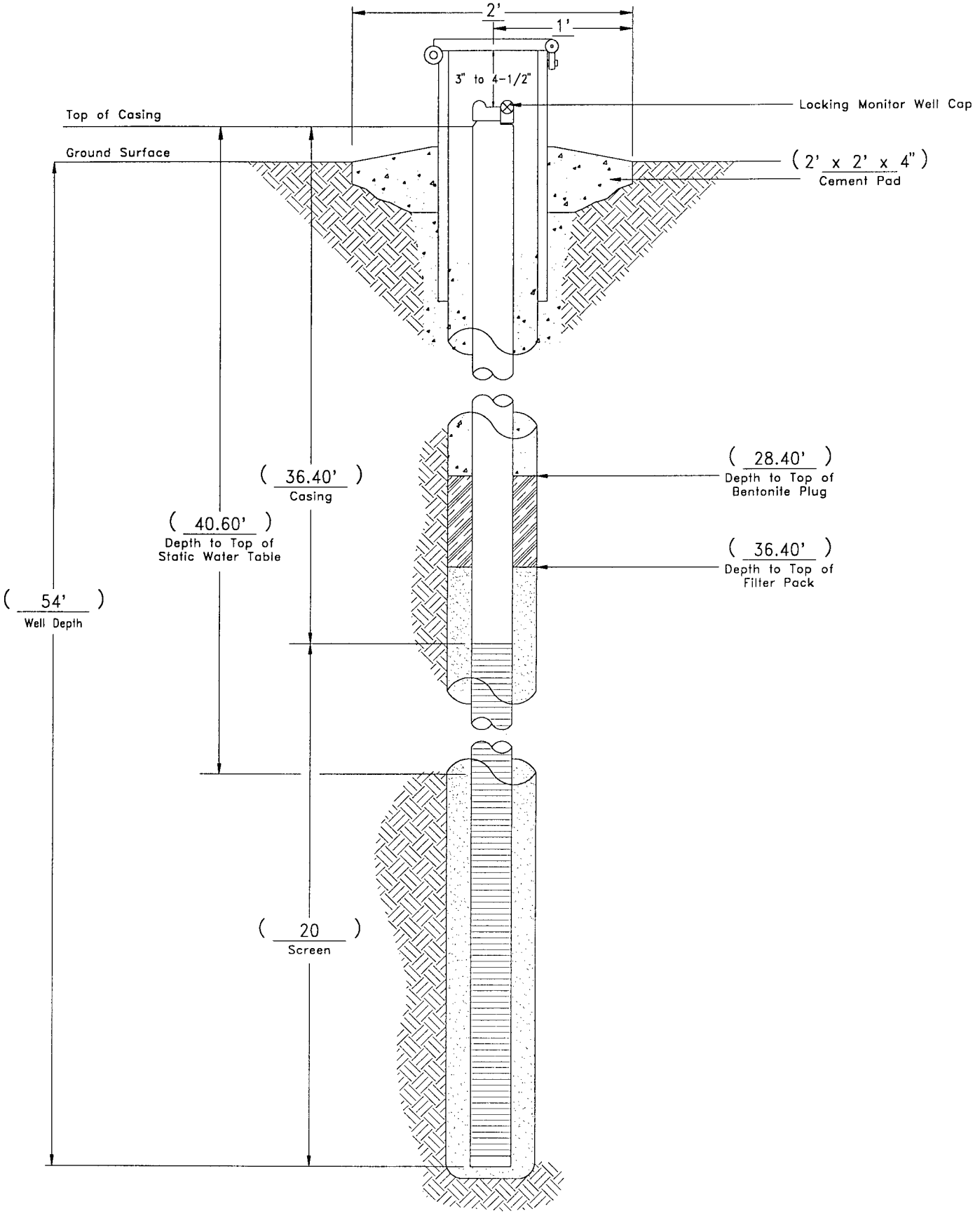
ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Monument Type Monitor Well Diagram

Job Number:

Installation Date: 10-4-95

Monitor Well Number: MW-4



Company Drilled for: Texaco USA.

Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

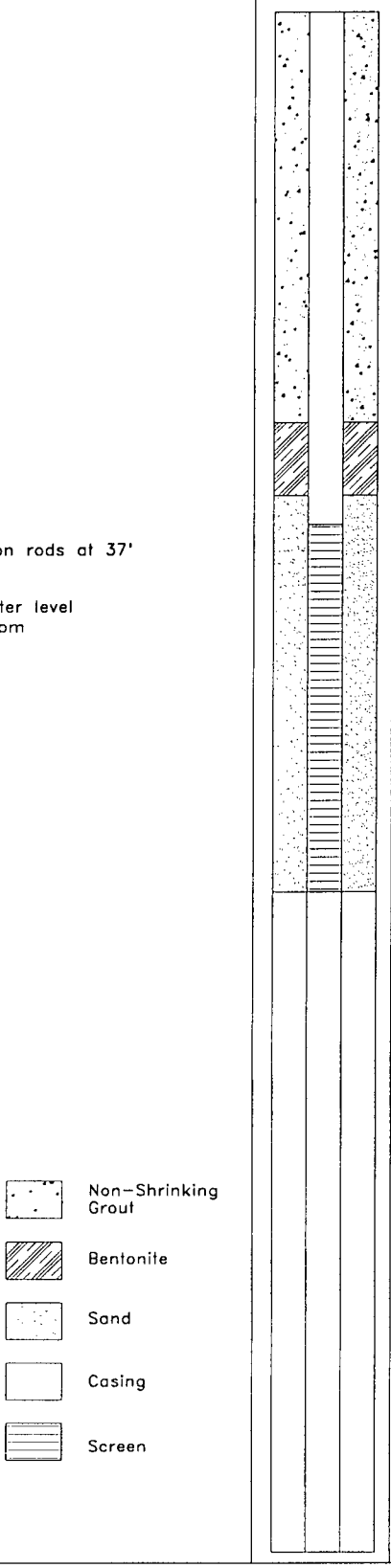
Drilling Log

Well/Bore Number:	Date Drilled:	Driller:	Logged By:
MW-5	12-9-95	AH	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	60 Feet	60 Feet	35 Feet	25 Feet

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch	2 Inch	2 Inch	0.02 Inch	Sch 40 PVC

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Ground Surface			
	Brown silty loam			
5		Split Spoon	<1	
	Gray and white calcareous fine-grained sand (caliche)			
10		Split Spoon	<1	
15	Light gray indurated limestone	Split Spoon	<1	
	White calcareous fine-grained sand (caliche)			
20	Light brown calcareous sand (caliche) containing indurated sandstone lenses	Split Spoon	<1	
25		Split Spoon	<1	
30	Light brown calcareous fine-grained sand (caliche)	Split Spoon	<1	
35	Brown silty, slightly calcareous, medium-grained sand (SM)	Split Spoon	<1	. Moisture on rods at 37'
40	Indurated limestone layer	No Recovery		▵ Static water level
		Split Spoon	<1	. TPH 12 ppm
45	Red-brown slighty calcareous fine to medium grained sand (SM) containing thin siltly calcareous lenses			
50				
55				
60		Split Spoon	<1	
	Bottom of Boring @ 60'			
65				
70				
75				
80				
85				
90				
95				
100				
105				



Company Drilled for:
Texaco USA.

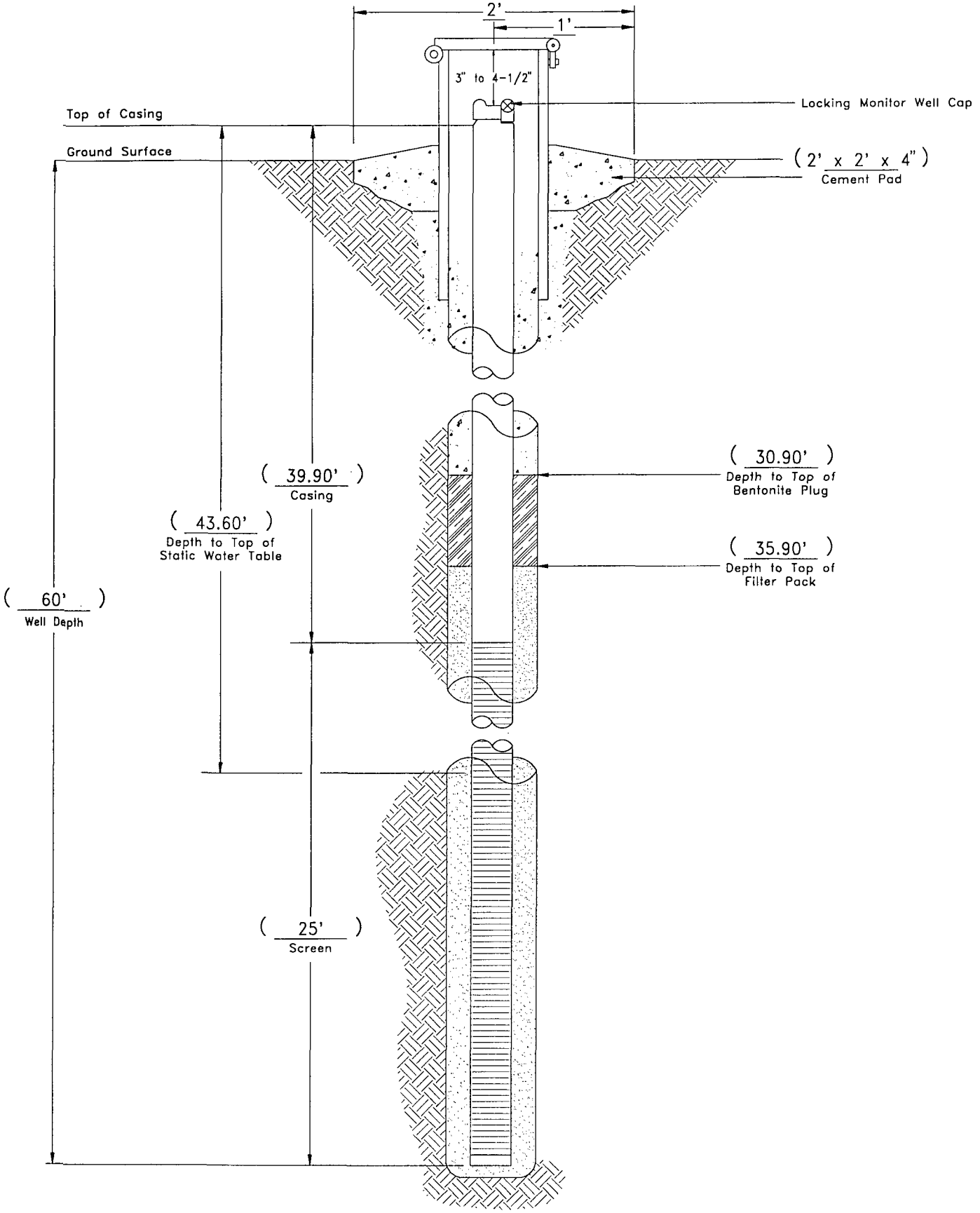
Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL
SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Monument Type Monitor Well Diagram

Job Number:	Installation Date:	Monitor Well Number:
	12-9-95	MW-5

Depth:	Bore Size:	Casing Size:	Casing Elevation:	Screen Size:	Top of Water Elevation:
60 Feet	6 Inch	2 Inch	3691.28 Feet	0.02 Inch	3647.68 Feet



Company Drilled for: Texaco USA.

Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

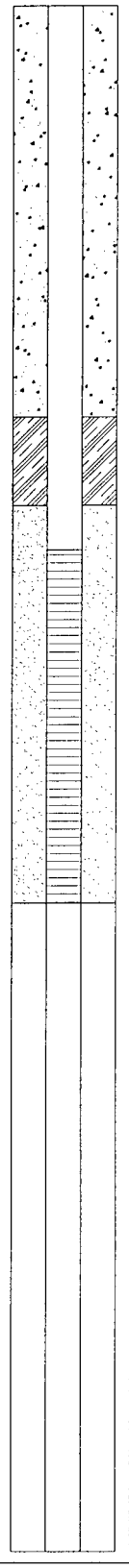
Well/Bore Number:	Date Drilled:	Driller:	Logged By:
MW-6	12-11-95	AH	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	61 Feet	61 Feet	36 Feet	25 Feet

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch	2 Inch	2 Inch	0.02 Inch	Sch 40 PVC

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Ground Surface			
	Gray-brown silty loam			
5	Brown fine-grained silty sand (SM)	Split Spoon	<1	
10		Split Spoon	<1	
	Gray calcareous fine-grained sand (caliche)			
15		Split Spoon	<1	
	Light gray indurated limestone			
20		Split Spoon	<1	. TPH <5 ppm
	Light brown calcareous sand (caliche) containing thin gray limestone lenses			
25		Split Spoon	<1	
30	Red-brown silicious sandstone	Split Spoon	<1	
	Red-brown slighty calcareous fine to medium grained sand (SM), containing thin siltly calcareous lenses			
35		Split Spoon	<1	. Water on Split Spoon . TPH <5 ppm
40		Split Spoon	<1	▵ Static water level
45				
50				
55				
60				
	Bottom of Boring @ 61'			
65				
70				
75				
80				
85				
90				
95				
100				
105				

Well Design



Non-Shrinking Grout
Bentonite
Sand
Casing
Screen

Company Drilled for:
Texaco USA.

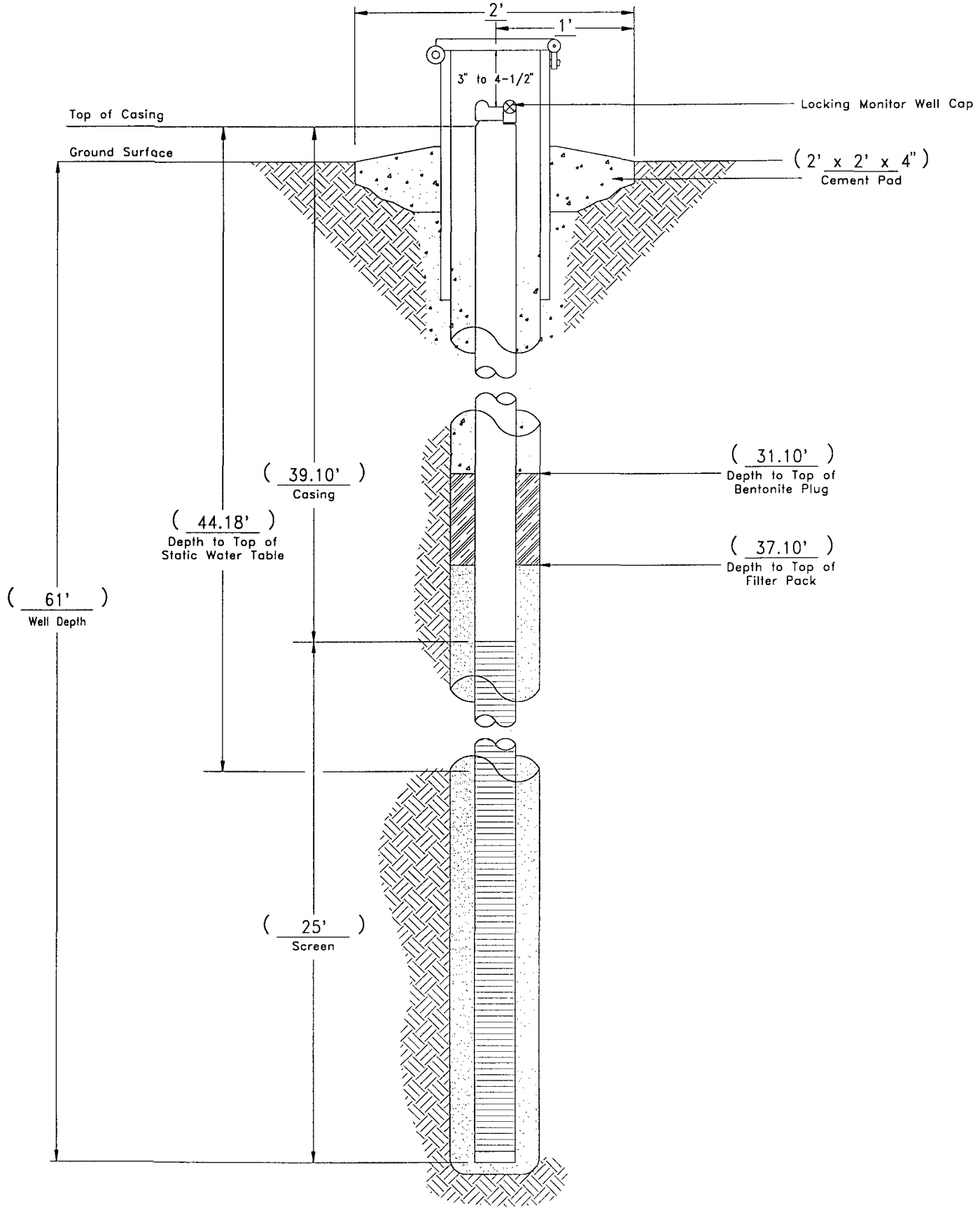
Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL
SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Monument Type Monitor Well Diagram

Job Number:	Installation Date:	Monitor Well Number:
	12-11-95	MW-6

Depth:	Bore Size:	Casing Size:	Casing Elevation:	Screen Size:	Top of Water Elevation:
61 Feet	6 Inch	2 Inch	3691.81 Feet	0.02 Inch	3647.63 Feet



Company Drilled for: Texaco USA.

Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

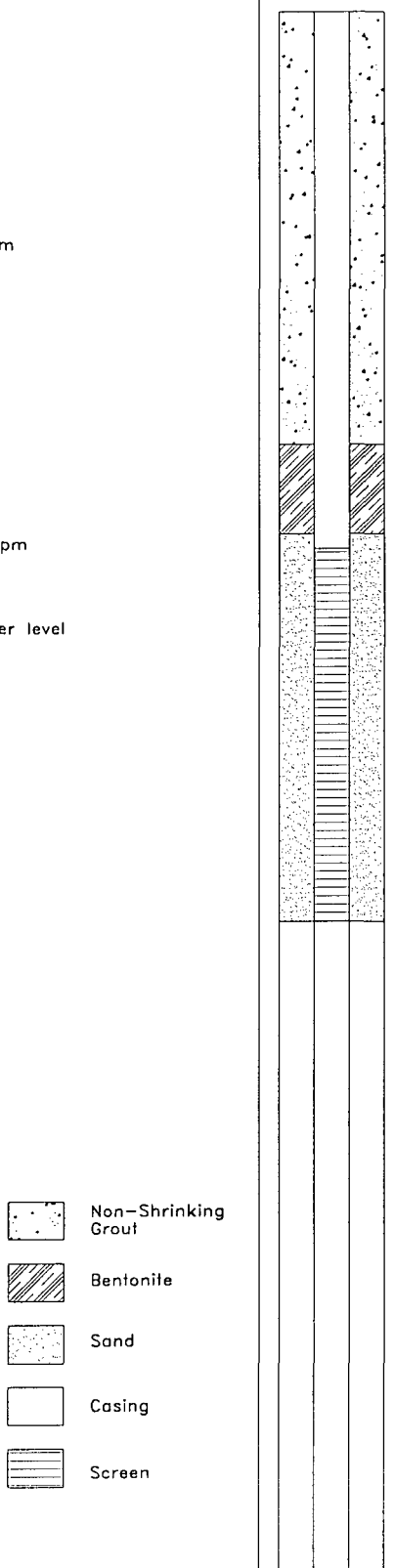
Well/Bore Number:	Date Drilled:	Driller:	Logged By:
MW-7	12-15-95	AH	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	61 Feet	61 Feet	36 Feet	25 Feet

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch	2 Inch	2 Inch	0.02 Inch	Sch 40 PVC

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Ground Surface			
	Gray-brown silty loam, becomes calcareous at base	Split Spoon	<1	
10	White and gray fine-grained calcareous sand (caliche)	Cuttings	<1	
15		Split Spoon	<1	. TPH 7 ppm
20	Interbedded thin layers of brown indurated silicious sandstone and gray limestone	Cuttings	<1	
25	Light brown calcareous fine-grained sand (caliche)	Cuttings	<1	
30	Red-brown calcareous sand (caliche)	Split Spoon	<1	
35	Light brown fine-grained calcareous sand (caliche)	Split Spoon	<1	. TPH <5 ppm
40	Red-brown fine to medium grained sand (SM) containing thin calcareous sand lenses	Split Spoon	<1	▵ Static water level
60	Bottom of Boring @ 61'			

Well Design



Depth: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105

Company Drilled for: Texaco USA.

Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

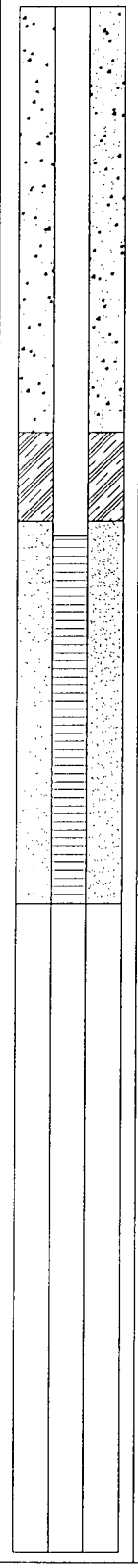
Well/Bore Number:	Date Drilled:	Driller:	Logged By:
MW-7	12-15-95	AH	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	61 Feet	61 Feet	36 Feet	25 Feet

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch	2 Inch	2 Inch	0.02 Inch	Sch 40 PVC

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Ground Surface			
5	Gray-brown silty loam, becomes calcareous at base	Split Spoon	<1	
10	White and gray fine-grained calcareous sand (caliche)	Cuttings	<1	
15		Split Spoon	<1	. TPH 7 ppm
20	Interbedded thin layers of brown indrated silicious sandstone and gray limestone	Cuttings	<1	
25	Light brown calcareous fine-grained sand (caliche)	Cuttings	<1	
30	Red-brown calcareous sand (caliche)	Split Spoon	<1	
35	Light brown fine-grained calcareous sand (caliche)	Split Spoon	<1	. TPH <5 ppm
40	Red-brown fine to medium grained sand (SM) containing thin calcareous sand lenses	Split Spoon	<1	▵ Static water level
60				
65	Bottom of Boring @ 61'			
105				

Well Design



Non-Shrinking Grout
Bentonite
Sand
Casing
Screen

Company Drilled for: Texaco USA.					
Location: Saunders Excavation TNM #10 Sec. 18, T19S, R37E Lea Co., New Mexico					
Depth: 61 Feet	Bore Size: 6 Inch	Casing Size: 2 Inch	Casing Elevation: 3691.48 Feet	Screen Size: 0.02 Inch	Top of Water Elevation: 3647.62 Feet

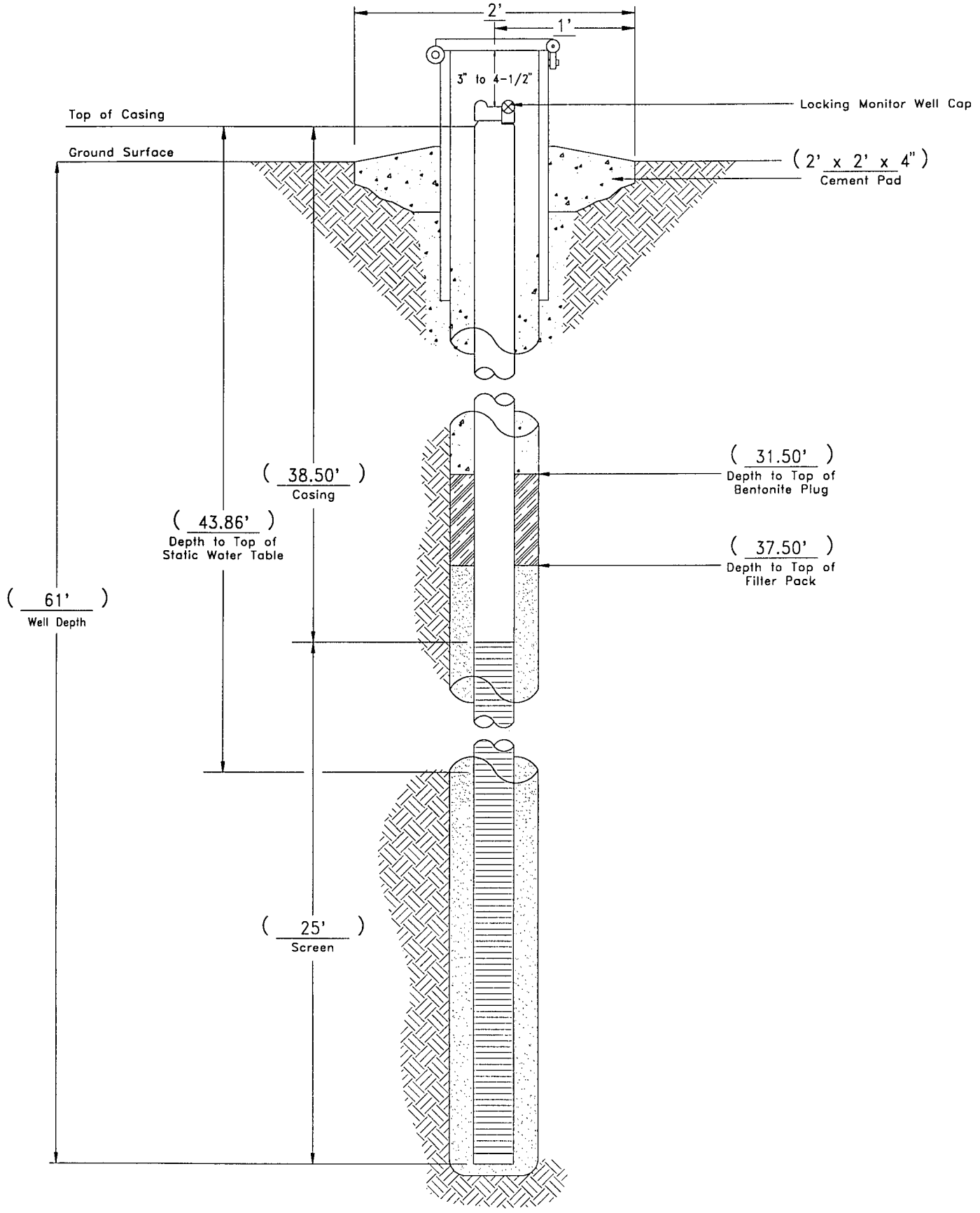
ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Monument Type Monitor Well Diagram

Job Number:

Installation Date: 12-15-95

Monitor Well Number: MW-7



Company Drilled for: Texaco USA.

Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

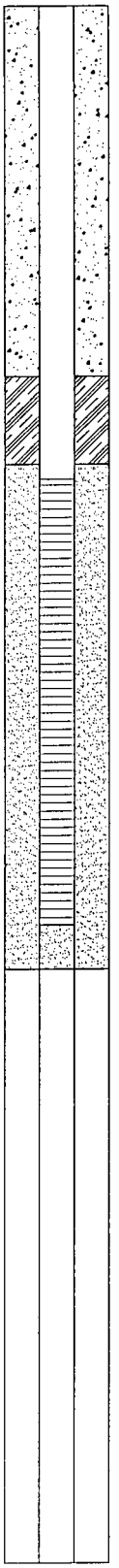
Well/Bore Number:	Date Drilled:	Driller:	Logged By:
MW-8	12-16-95	AH	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	65 Feet	62 Feet	32 Feet	25 Feet

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch	2 Inch	2 Inch	0.02 Inch	Sch 40 PVC

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Ground Surface			
	Gray-brown silty loam			
5		Split Spoon	<1	
	Light gray silty, fine-grained calcareous sand (caliche)			
10		Cuttings	<1	
15	Interbedded thin layers of brown indurated silicious sandstone gray limestone and brown fine-grained calcareous sand (caliche)	Split Spoon	<1	
20		Cuttings	<1	
25		Split Spoon	<1	
	Light brown calcareous sand (caliche)			
30		Cuttings	<1	
35	Red-brown fine-grained calcareous sand (caliche)	Split Spoon	<1	
40	Red-brown fine to medium grained sand (SM) containing thin calcareous sand lenses	Split Spoon	<1	▵ Static water level
45				
50				
55				
60				
65	Bottom of Boring @ 65'			
70				
75				
80				
85				
90				
95				
100				
105				

Well Design



Non-Shrinking Grout
Bentonite
Sand
Casing
Screen

Company Drilled for: Texaco USA.

Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

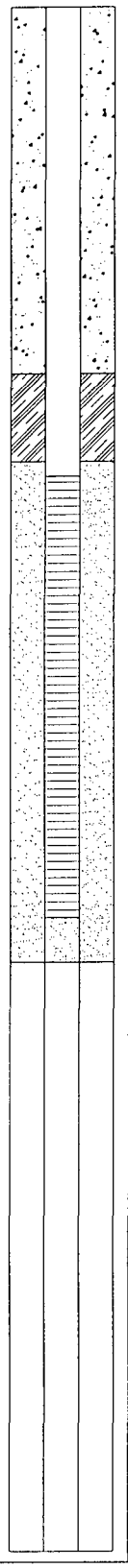
Well/Bore Number:	Date Drilled:	Driller:	Logged By:
MW-8	12-16-95	AH	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	65 Feet	62 Feet	32 Feet	25 Feet

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch	2 Inch	2 Inch	0.02 Inch	Sch 40 PVC

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Ground Surface			
	Gray-brown silty loam			
5		Split Spoon	<1	
	Light gray silty, fine-grained calcareous sand (caliche)			
10		Cuttings	<1	
15	Interbedded thin layers of brown indrated silicious sandstone gray limestone and brown fine-grained calcareous sand (caliche)	Split Spoon	<1	
20		Cuttings	<1	
25		Split Spoon	<1	
	Light brown calcareous sand (caliche)			
30		Cuttings	<1	
35	Red-brown fine-grained calcareous sand (caliche)	Split Spoon	<1	
40	Red-brown fine to medium grained sand (SM) containing thin calcareous sand lenses	Split Spoon	<1	▵ Static water level
45				
50				
55				
60				
65	Bottom of Boring @ 65'			
70				
75				
80				
85				
90				
95				
100				
105				

Well Design



Non-Shrinking Grout
Bentonite
Sand
Casing
Screen

Company Drilled for:
Texaco USA.

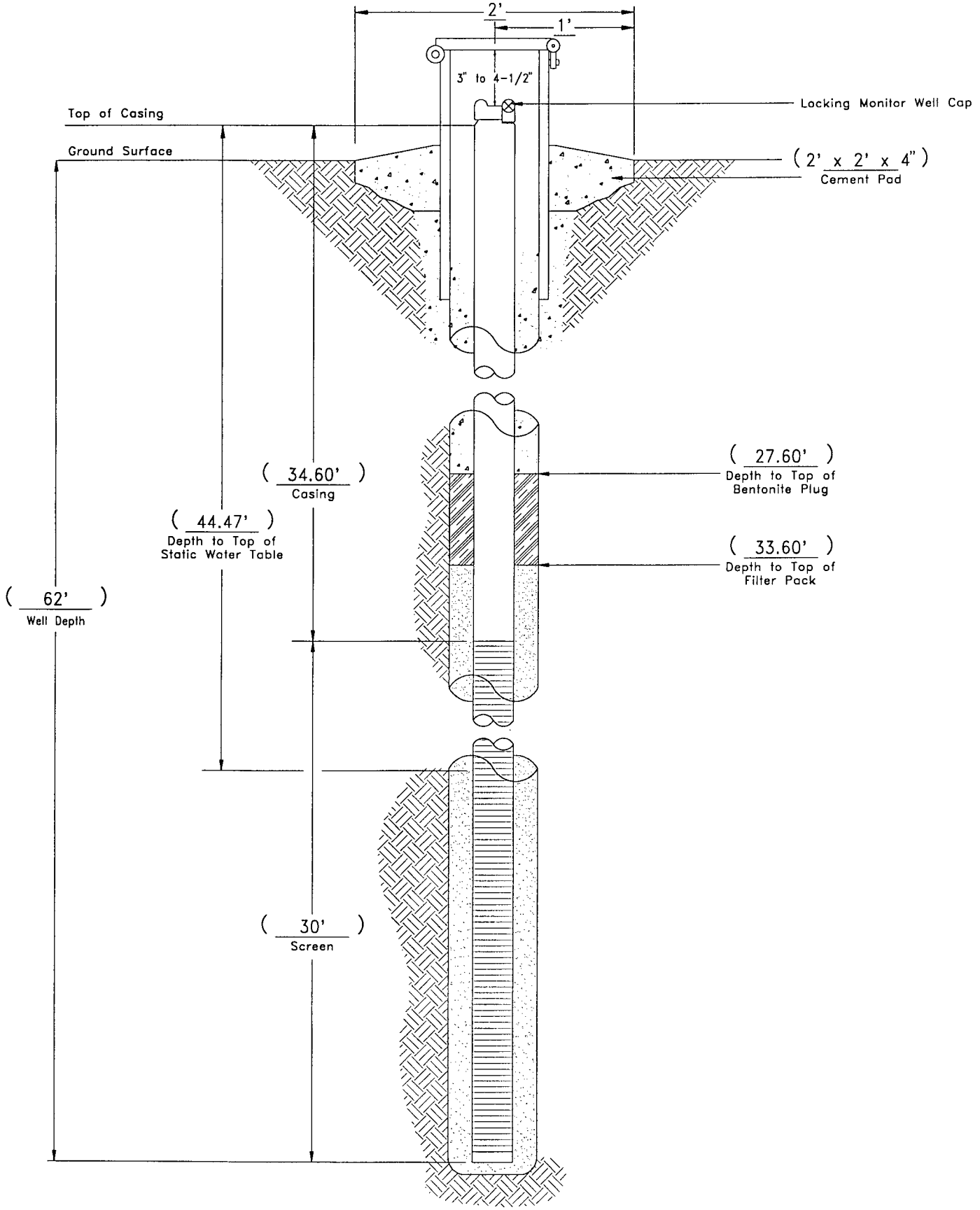
Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Monument Type Monitor Well Diagram

Job Number:	Installation Date:	Monitor Well Number:
	12-16-95	MW-8

Depth:	Bore Size:	Casing Size:	Casing Elevation:	Screen Size:	Top of Water Elevation:
62 Feet	6 Inch	2 Inch	3692.03 Feet	0.02 Inch	3647.56 Feet



Company Drilled for: Texaco USA.

Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

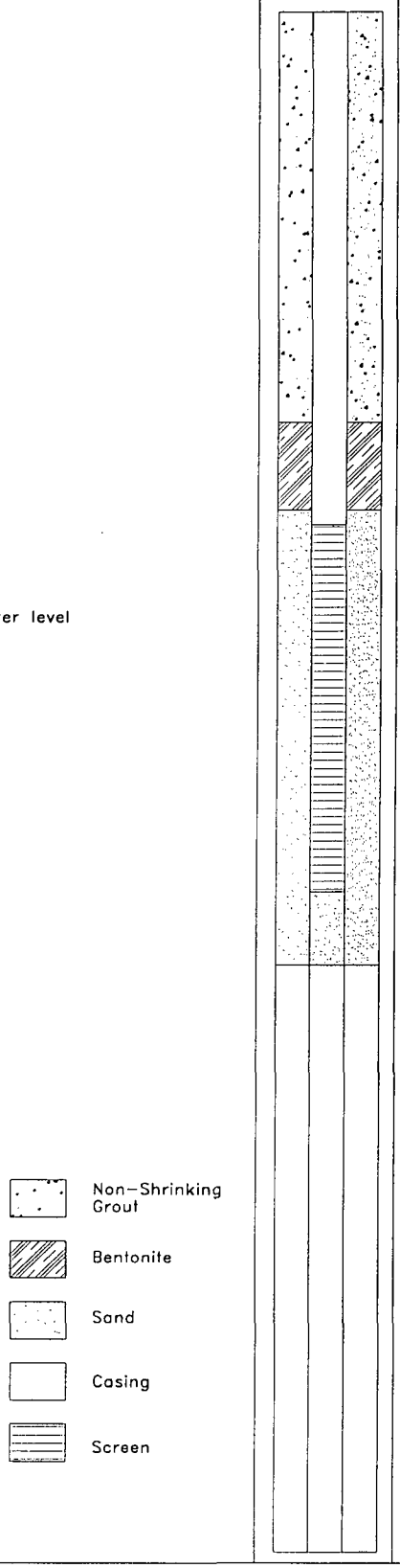
Drilling Log

Well/Bore Number:	Date Drilled:	Driller:	Logged By:
MW-9	12-19-95	AH	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	65 Feet	60 Feet	35 Feet	25 Feet

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch	2 Inch	2 Inch	0.02 Inch	Sch 40 PVC

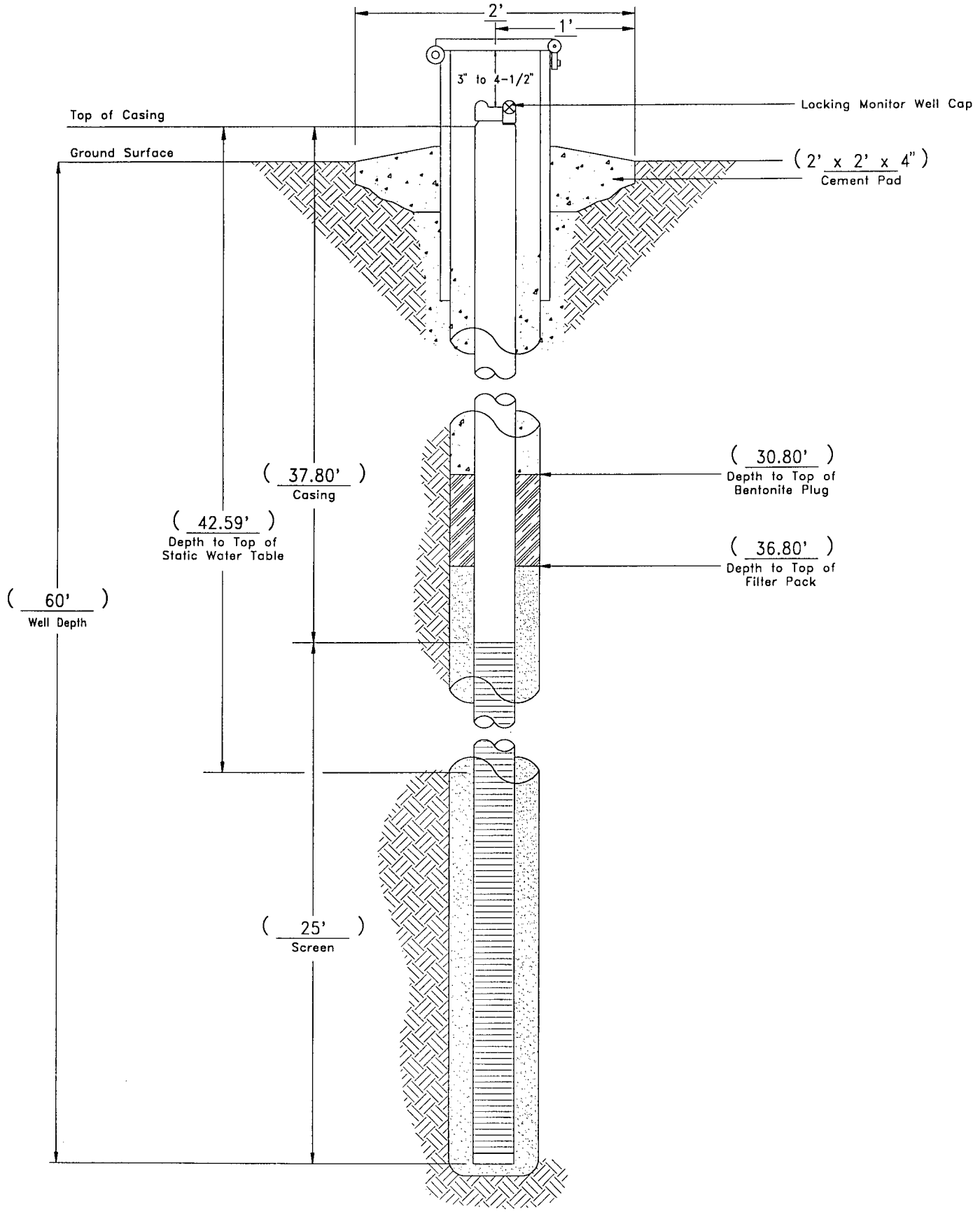
Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Ground Surface			
	Gray-brown silty loam			
5	Gray calcareous silt (caliche)	Split Spoon	<1	
	Interbedded thin layers of brown indurated sandstone, gray limestone, and brown fine-grained sand (caliche)			
10		Cuttings	<1	
15		Split Spoon	<1	
	Light brown calcareous fine-grained sand (caliche)			
	Red-brown indurated silicious sandstone			
20	Interbedded thin layers of brown indurated sandstone, gray limestone, and brown fine-grained sand (caliche)	Cuttings	<1	
25		Split Spoon	<1	
	Light brown calcareous sand (caliche)			
30		Cuttings	<1	
	Red-brown calcareous fine to medium grained sand (caliche) containing thin non-calcareous sand lenses (SM)			
35		Split Spoon	<1	
40		Split Spoon	<1	▵ Static water level
45		Cuttings	<1	
50		Cuttings	<1	
55				
60				
65	Red-brown silty clay	Cuttings	<1	
	Bottom of Boring @ 65'			
70				
75				
80				
85				
90				
95				
100				
105				



Company Drilled for: Texaco USA.					
Location: Saunders Excavation TNM #10 Sec. 18, T19S, R37E Lea Co., New Mexico			Job Number:	Installation Date: 12-19-95	Monitor Well Number: MW-9
Depth: 60 Feet	Bore Size: 6 Inch	Casing Size: 2 Inch	Casing Elevation: 3690.30 Feet	Screen Size: 0.02 Inch	Top of Water Elevation: 3647.71 Feet

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Monument Type Monitor Well Diagram



Company Drilled for: Texas–New Mexico Pipeline

Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

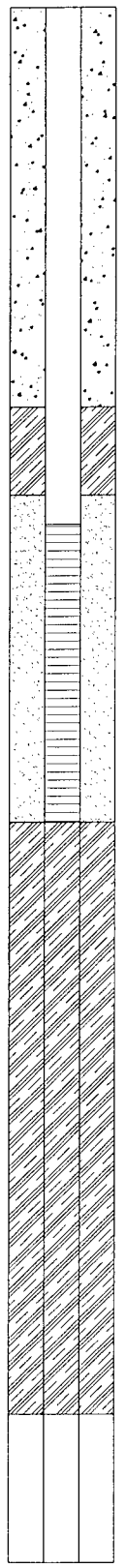
Drilling Log

Well/Bore Number:	Date Drilled:	Driller:	Logged By:
MW-10	1-24-96	AH / ST	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	95 Feet	55 Feet	35 Feet	20 Feet

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch	2 Inch	2 Inch	0.02 Inch	Sch 40 PVC

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Ground Surface			
	Gray–brown silty, clayey loam			
5		Cuttings	<1	
10	White and gray calcareous, fine–grained sand (caliche) containing thin limestone lenses	Cuttings	<1	
15		Cuttings	<1	
20		Cuttings	<1	
25	Light–brown calcareous fine–grained sand (caliche) containing thin sandstone lenses	Split Spoon	<1	* TPH 51 ppm * BTEX 0.004 ppm
30		Cuttings	<1	
35		Split Spoon	<1	* TPH 46 ppm * BTEX <0.001 ppm
		Cuttings	<1	
40	Red–brown indurated silicious sandstone	Cuttings	<1	▵ Static water level
		Split Spoon	<1	
45	Red–brown fine to medium grained sand (SM) containing thin silty calcareous lenses			
50				
55				
60				
65				
70				
75	Interbedded thin layers of brown fine to medium grained sand (SP), Red–brown sandy clay (CL), and Yellow–brown sandy limestone			
80				
85				
90				
95	Red silty sandy clay (CL)			
	Bottom of Boring @ 95'			
100				
105				



* Laboratory analysis

Non–Shrinking Grout

Bentonite

Sand

Casing

Screen

Company Drilled for:
Texas–New Mexico Pipeline

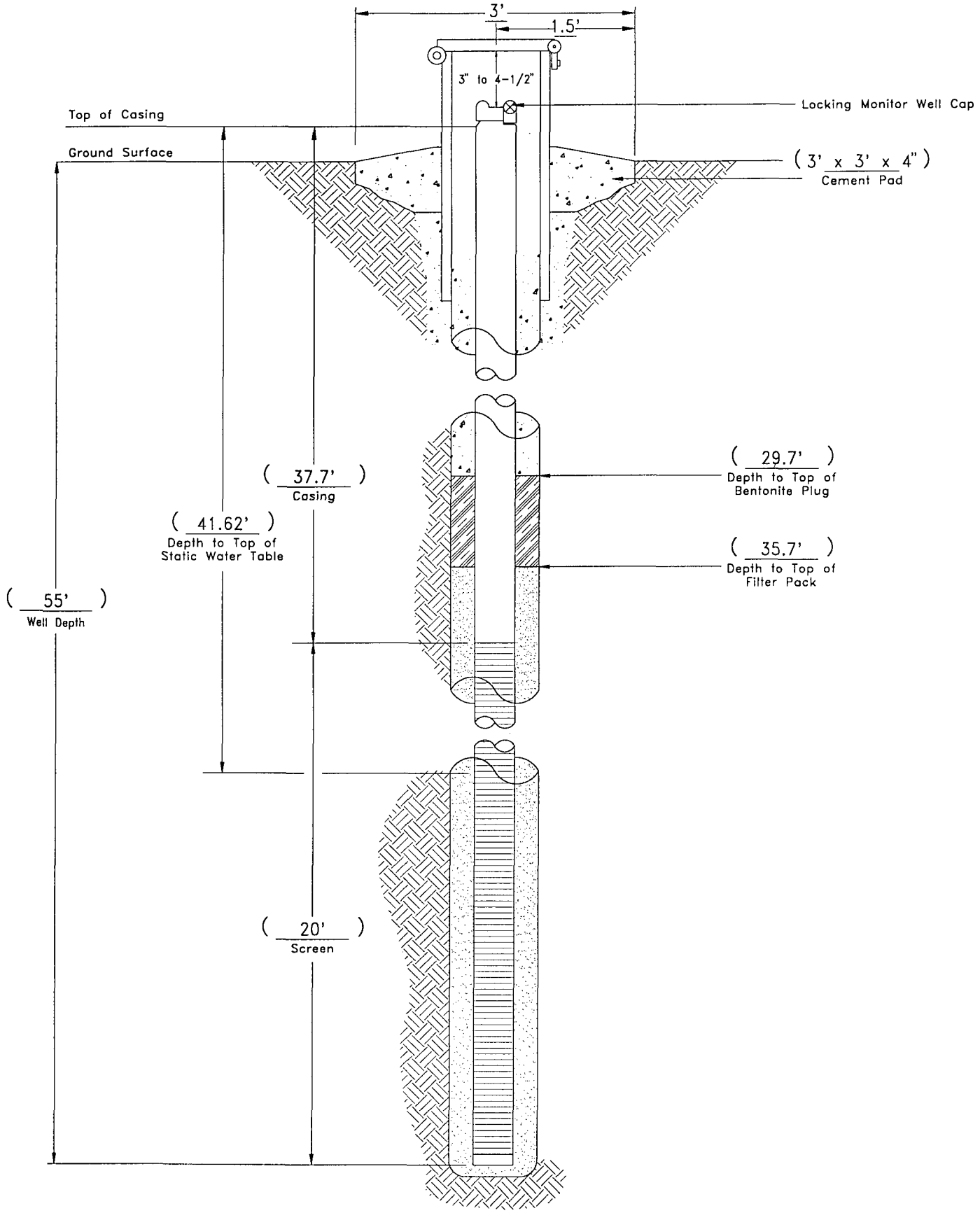
Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL
SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Monument Type Monitor Well Diagram

Job Number:	Installation Date:	Monitor Well Number:
	1-24-96	MW-10

Depth:	Bore Size:	Casing Size:	Casing Elevation:	Screen Size:	Top of Water Elevation:
55 Feet	6 Inch	2 Inch	3688.33 Feet	0.02 Inch	3646.71 Feet



Company Drilled for: Texas-New Mexico Pipeline

Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

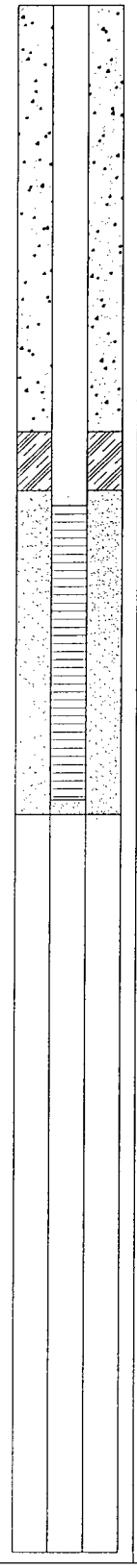
Drilling Log

Well/Bore Number:	Date Drilled:	Driller:	Logged By:
MW-11	1-24-96	AH / ST	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	55 Feet	54 Feet	34 Feet	20 Feet

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch	2 Inch	2 Inch	0.02 Inch	Sch 40 PVC

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Ground Surface			
	Gray-brown silty loom			
5	Gray calcareous silt (caliche)	Cuttings	<1	
10	Interbedded thin layers of brown indurated silicious sandstone, gray limestone, and brown fine-grained calcareous sand (caliche)	Cuttings	<1	
15		Cuttings	<1	
20	Light-brown calcareous fine-grained sand (caliche)	Split Spoon	-	
		Split Spoon	<1	* TPH 66 ppm * BTEX 0.090 ppm
25	Red-brown indurated silicious sandstone	Cuttings	<1	
	Light-brown calcareous sand (caliche)			
30	Red-brown indurated silicious sandstone			
	Red-brown fine to medium grained calcareous sand (caliche) containing thin non-calcareous sand lenses (SM)	Cuttings	<1	
35		Cuttings	<1	
40				△ Static water level * TPH 98 ppm * BTEX <0.001 ppm . Moisture on rods
		Split Spoon	<1	
45				
50				
55				
	Bottom of Boring @ 55'			
60				
65				
70				
75				
80				
85				
90				
95				
100				
105				



* Laboratory Analysis

Non-Shrinking Grout

Bentonite

Sand

Casing

Screen

Company Drilled for:
Texas-New Mexico Pipeline

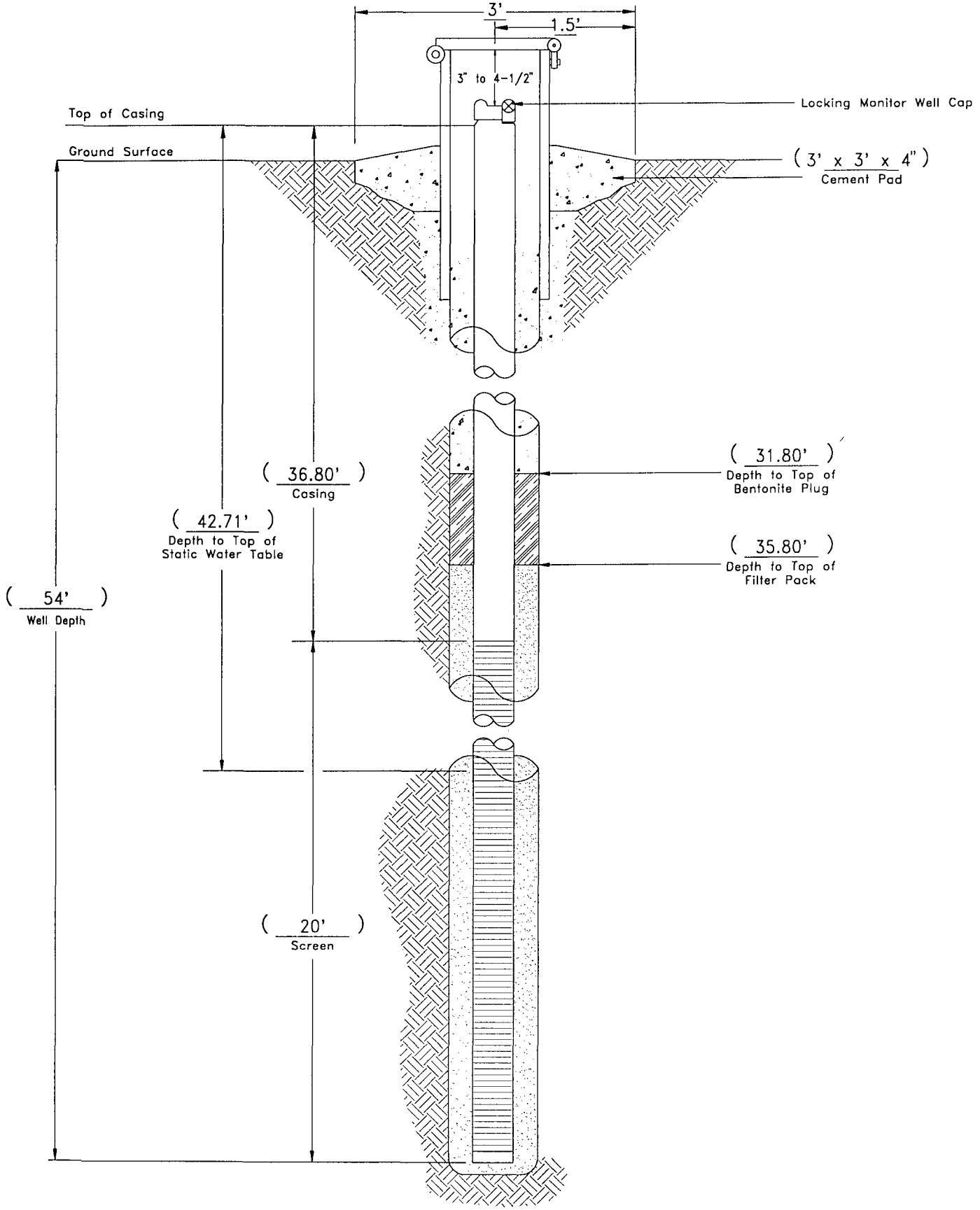
Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL
SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Monument Type Monitor Well Diagram

Job Number:	Installation Date:	Monitor Well Number:
	1-24-96	MW-11

Depth:	Bore Size:	Casing Size:	Casing Elevation:	Screen Size:	Top of Water Elevation:
54 Feet	6 Inch	2 Inch	3689.11 Feet	0.02 Inch	3646.40 Feet



Company Drilled for: Texas–New Mexico Pipeline

Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

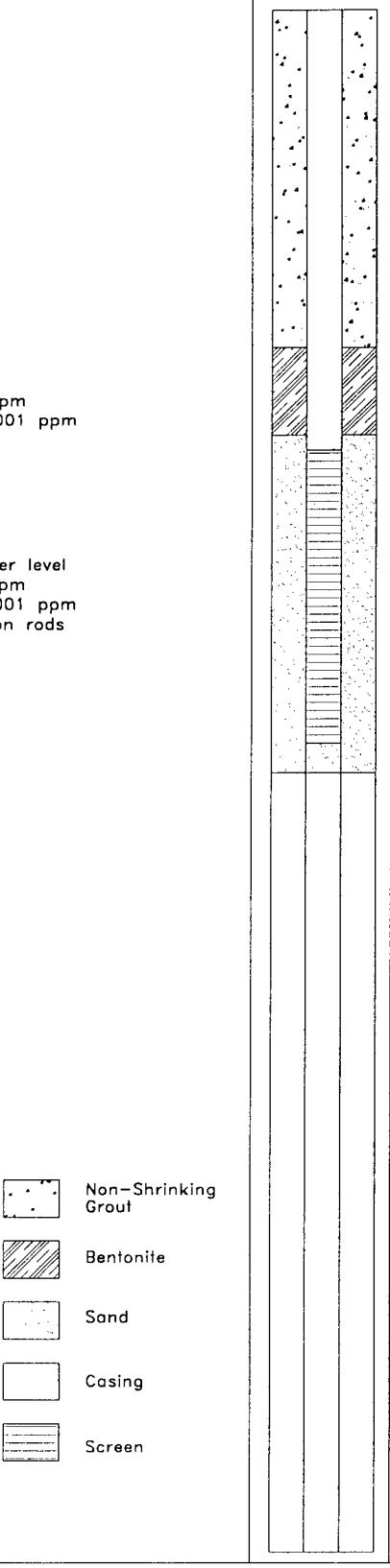
Well/Bore Number:	Date Drilled:	Driller:	Logged By:
MW-12	1-25-96	AH / ST	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	52 Feet	50 Feet	30 Feet	20 Feet

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch	2 Inch	2 Inch	0.02 Inch	Sch 40 PVC

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Ground Surface			
	Gray-brown silty loam			
	Gray calcareous silt (caliche)			
5		Cuttings	<1	
10	Interbedded thin layers of brown silicious sandstone, gray limestone, and brown fine-grained calcareous sand (caliche)	Cuttings	<1	
15		Cuttings	<1	
20		Cuttings	<1	
	Light-brown calcareous fine-grained sand (caliche)			
25	Red-brown indurated silicious sandstone			
		Split Spoon	<1	. TPH 40 ppm . BTEX <0.001 ppm
30	Red-brown fine to medium grained sand (SM) containing thin calcareous sand lenses (caliche)	Cuttings	<1	
35		Cuttings	<1	
				▵ Static water level
40		Split Spoon	<1	. TPH 41 ppm . BTEX <0.001 ppm . Moisture on rods
45				
50				
55	Bottom of Boring @ 52'			
60				
65				
70				
75				
80				
85				
90				
95				
100				
105				

Well Design



Depth

Company Drilled for:
Texas-New Mexico Pipeline

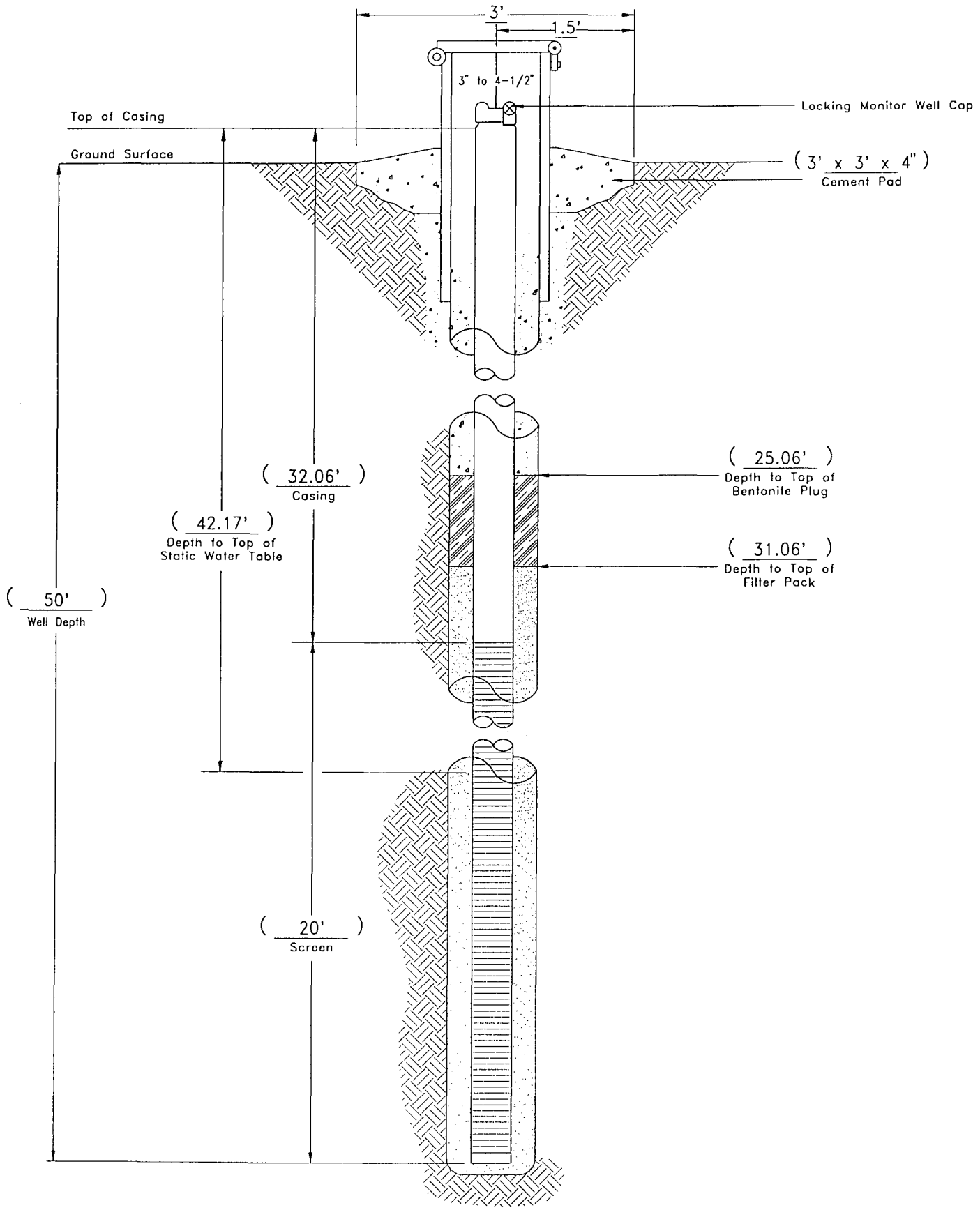
Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Monument Type Monitor Well Diagram

Job Number:	Installation Date:	Monitor Well Number:
	1-25-96	MW-12

Depth:	Bore Size:	Casing Size:	Casing Elevation:	Screen Size:	Top of Water Elevation:
50 Feet	6 Inch	2 Inch	3689.16 Feet	0.02 Inch	3646.99 Feet



Company Drilled for: Texas–New Mexico Pipeline

Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

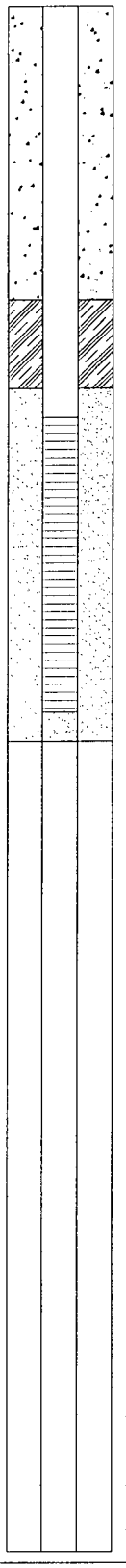
Well/Bore Number:	Date Drilled:	Driller:	Logged By:
JC-1	1-30-96	AH / ST	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	50 Feet	48 Feet	28 Feet	20 Feet

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch	2 Inch	2 Inch	0.02 Inch	Sch 40 PVC

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Ground Surface			
	Gray–brown silty loam			
	White and gray calcareous sand (caliche)			
5		Cuttings	<1	
10	Red–brown indurated silicious sandstone			
		Cuttings	<1	
	Light–brown calcareous fine–grained sand (caliche) containing indurated sandstone and limestone lenses			
15		Cuttings	<1	
20		Split Spoon	<1	
	Brown, silty, slighty calcareous fine to medium grained sand (SM) containing indurated limestone lenses (caliche)			
25		Split Spoon	<1	. TPH 15 ppm
30		Cuttings	<1	
				▵ Static water level
35		Split Spoon	<1	. Water encountered during drilling
				. TPH <5 ppm
40	Red–brown slighty calcareous fine to medium grained sand (SM) containing thin silty calcareous lenses	Split Spoon	<1	
45				
50	Bottom of Boring @ 50'			
55				
60				
65				
70				
75				
80				
85				
90				
95				
100				
105				

Well Design



Non–Shrinking Grout
Bentonite
Sand
Casing
Screen

Company Drilled for:
Texas-New Mexico Pipeline

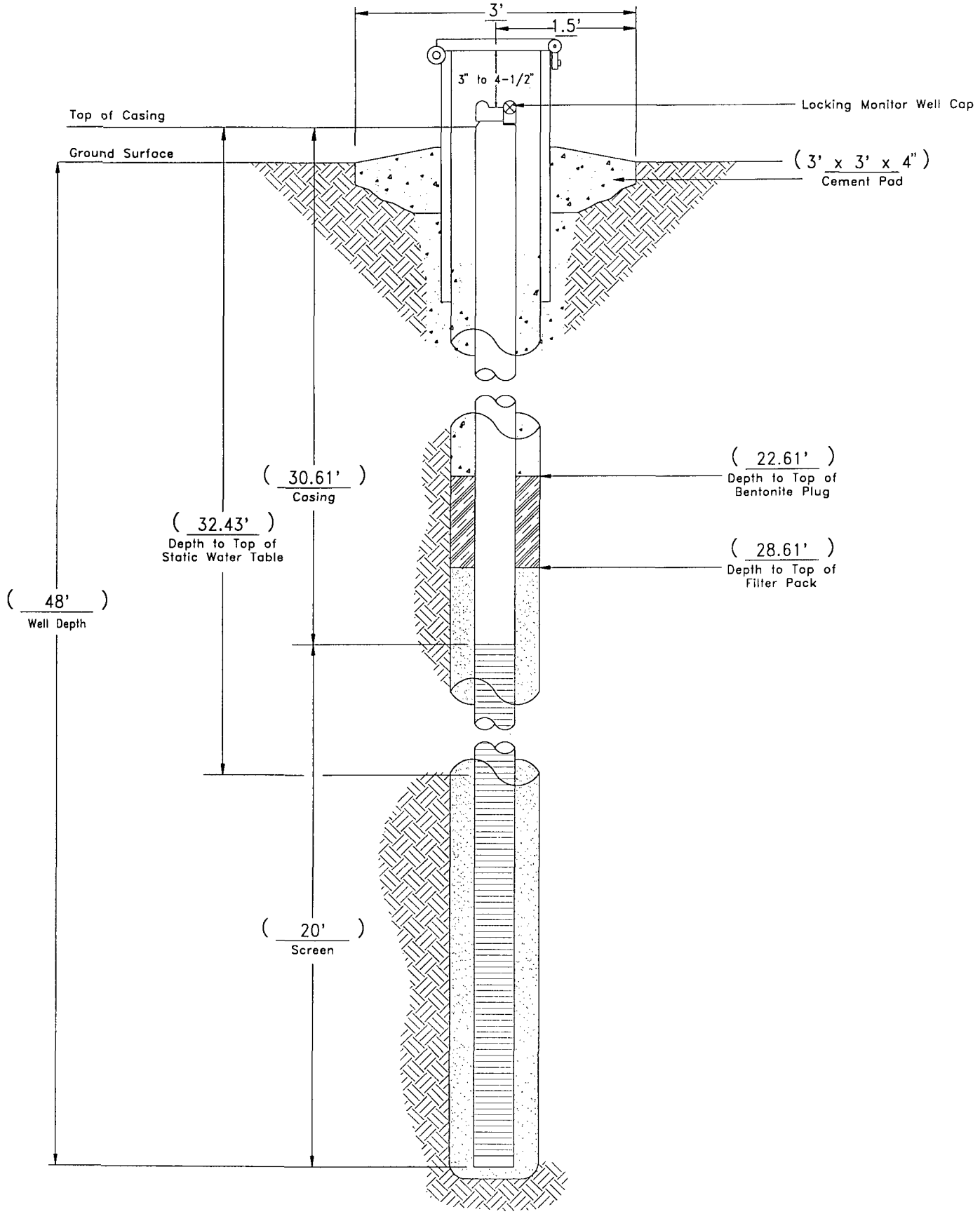
Location: Saunders Excavation TNM #10
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL
SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Monument Type Monitor Well Diagram

Job Number:	Installation Date:	Monitor Well Number:
	1-30-96	JC-1

Depth:	Bore Size:	Casing Size:	Casing Elevation:	Screen Size:	Top of Water Elevation:
48 Feet	6 Inch	2 Inch	3680.11 Feet	0.02 Inch	3647.68 Feet



APPENDIX D

BORING LOGS

Company Drilled for: Texaco USA.

Location: Saunders Pit Excavation
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

Well/Bore Number:	Date Drilled:	Driller:	Logged By:
BH-10	10-7-95	AH/JT	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	8 Feet			

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch				

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Floor of excavation @ depth of 28'			
	Red-brown silicious sandstone			
	Brown silty medium grained sand (SM)	Split Spoon	100	. TPH 46,300 ppm
5		Split Spoon	500	. TPH 52,500 ppm
		Cuttings	200	
10	Bottom of Boring @ 8' on top of indurated limestone			

Well Design

Depth: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105

Company Drilled for: Texaco USA.

Location: Saunders Pit Excavation
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

Well/Bore Number:	Date Drilled:	Driller:	Logged By:
BH-11	10-9-95	AH/JT	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	7 Feet			

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch				

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Floor of excavation @ depth of 28'			
	Red-brown silicious sandstone 1.3'			
5	Brown silty medium grained sand (SM) calcareous @ base	Split Spoon	140	. TPH 1,240 ppm
		Split Spoon	12	. TPH 60 ppm
10	Bottom of Boring @ 7' on top of indurated limestone			

Well Design

Depth: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105

Company Drilled for: Texaco USA.

Location: Saunders Pit Excavation
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

Well/Bore Number:	Date Drilled:	Driller:	Logged By:
BH-12	10-9-95	AH/JT	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	7.5 Feet			

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch				

Depth	Lithology	Sample Type	OVA (PPM)	Remarks	Well Design	Depth
0	Floor of excavation @ depth of 28'					0
	Red-brown silicious sandstone					
5	Brown silty medium grained sand (SM)	Split Spoon	250			5
		Split Spoon	320	. TPH 48,400 ppm		
10	Bottom of Boring @ 7.5' on top of indurated limestone					10
15						15
20						20
25						25
30						30
35						35
40						40
45						45
50						50
55						55
60						60
65						65
70						70
75						75
80						80
85						85
90						90
95						95
100						100
105						105

Company Drilled for:
Texaco USA.

Location:
Saunders Pit Excavation
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL
SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

Well/Bore Number:	Date Drilled:	Driller:	Logged By:
BH-13	10-9&10-95	AH/JT	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	7 Feet			

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch				

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Floor of excavation @ depth of 28'			
	Red-brown silicious sandstone			
5	Brown silty medium grained sand (SM)	Split Spoon	440	. TPH 30,600 ppm
		Split Spoon	370	
10	Bottom of Boring @ 7' on top of indurated limestone			

Well Design

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105

Company Drilled for:
Texaco USA.

Location:
Saunders Pit Excavation
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

Well/Bore Number:	Date Drilled:	Driller:	Logged By:
BH-14	12-7-95	AH/JT	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	10.5 Feet			

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch				

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Floor of excavation			
	Brown silty medium grained sand (SM)			
	Gray limestone			△ Static Water Level
5	Brown silty medium grained sand (SM)	Split Spoon	320	. TPH 110,000 ppm
				. Water and crude oil @ 9'
10	Thin calcareous sand (caliche)	Split Spoon	78	
	Brown medium grained sand (SM)	Split Spoon	6	
15	Bottom of Boring @ 10.5'			

Well Design

Depth: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105

Company Drilled for: Texaco USA.

Location: Saunders Pit Excavation
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

Well/Bore Number:	Date Drilled:	Driller:	Logged By:
BH-15	12-7-95	AH/JT	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	13 Feet			

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch				

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Floor of excavation			
	Brown fine to medium grained sand (SM)			
	Gray limestone			
5	Brown silty medium grained sand (SM)			Static Water Level
		Split Spoon	60	△ TPH 210 ppm
	Pink calcareous sand (caliche)			
10		Split Spoon	16	. TPH 90 ppm
				. Water @ 11'
	Brown fine grained sand (SM)	Split Spoon	<1	
15	Bottom of Boring @ 13'			

Well Design

Depth: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105

Company Drilled for: Texaco USA.

Location: Saunders Pit Excavation
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

Well/Bore Number:	Date Drilled:	Driller:	Logged By:
BH-16	12-7-95	AH/JT	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	8 Feet			

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch				

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Floor of excavation			
	Brown medium grained sand (SM)	Split Spoon	200	. TPH 97,200 ppm
	Gray limestone			△ Static Water Level
5	Brown silty fine to medium grained sand (SM)	Split Spoon	230	. TPH 31,400 ppm
		Split Spoon	990	. Water and crude @ 7.5'
10	Bottom of Boring @ 8'			

Well Design

Depth: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105

Company Drilled for: Texaco USA.

Location: Saunders Pit Excavation
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

Well/Bore Number:	Date Drilled:	Driller:	Logged By:
BH-17	12-7-95	AH/JT	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	45° 18 Feet			

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch				

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Floor of excavation			
	Brown silty medium grained sand (SM)			
	Gray limestone			
5	Brown silty fine to medium grained sand (SM)	Split Spoon	120	. TPH 112,400 ppm
10		Split Spoon	250	. TPH 26,000 ppm
				. Water @ 13'
15		Split Spoon	90	
		Split Spoon	30	
20	Bottom of Boring @ 18'			

Well Design

Depth: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105

Company Drilled for: Texaco USA.

Location: Saunders Pit Excavation
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

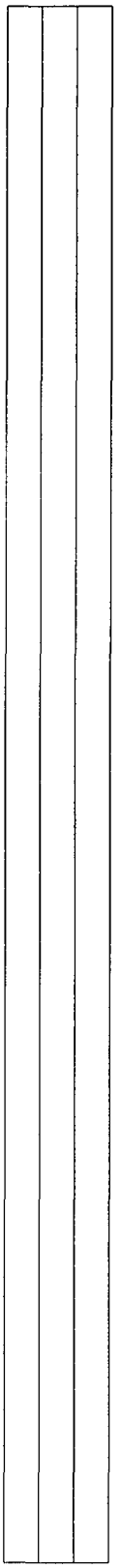
Well/Bore Number:	Date Drilled:	Driller:	Logged By:
BH-18	12-7-95	AH/JT	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	8 Feet			

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch				

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Floor of excavation			
	Brown silty medium grained sand (SM)			
	Gray limestone			Static Water Level
5	Brown fine to medium grained sand (SM)	Split Spoon	410	▲ TPH 72,000 ppm
				. TPH 1,200 ppm
		Split Spoon	54	. Water @ 7.5'
10	Bottom of Boring @ 8'			

Well Design



Depth: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105

Company Drilled for: Texaco USA.

Location: Saunders Pit Excavation
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

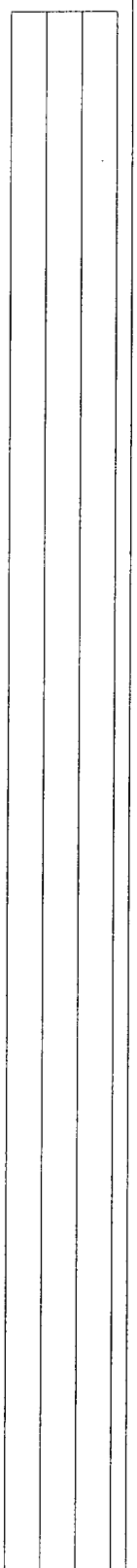
Well/Bore Number:	Date Drilled:	Driller:	Logged By:
BH-19	12-7-95	AH/JT	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	45° 18 Feet			

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch				

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Floor of excavation			
	Brown fine to medium grained sand (SM)			
5		Split Spoon	84	. TPH 15,200 ppm
10	Gray limestone	Split Spoon	80	. TPH 840 ppm
	Brown silty fine grained sand (SM)			
15		Split Spoon	26	. Water @ 15.5'
		Split Spoon	13	
20	Bottom of Boring @ 18'			

Well Design



Depth: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105

Company Drilled for: Texaco USA.

Location: Saunders Pit Excavation
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL
SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

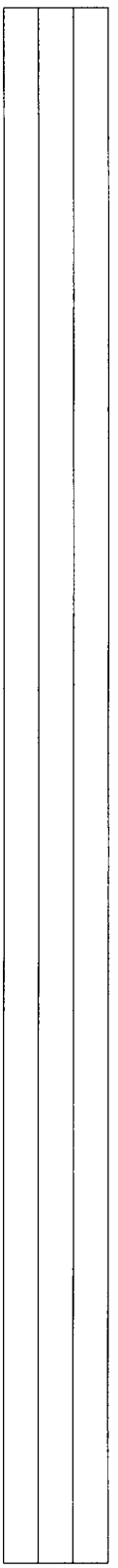
Well/Bore Number:	Date Drilled:	Driller:	Logged By:
BH-20	12-7-95	AH/JT	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	45° 18 Feet			

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch				

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Floor of excavation			
	Brown fine grained sand (SM)			
	Gray limestone			
5	Brown silty medium grained sand (SM)	Split Spoon	220	. TPH 89,600 ppm
	Gray limestone			
10	Brown silty fine to medium grained sand (SM)	Split Spoon	140	. TPH 6,800 ppm
				. Water @ 12'
15		Split Spoon	30	
		Split Spoon	26	
20	Bottom of Boring @ 18'			
25				
30				
35				
40				
45				
50				
55				
60				
65				
70				
75				
80				
85				
90				
95				
100				
105				

Well Design



Depth

Company Drilled for: Texaco USA.

Location: Saunders Pit Excavation
Sec. 18, T19S, R37E
Lea Co., New Mexico

ENVIRONMENTAL SPILL CONTROL, Inc.
PHONE (505) 392-6167
FAX (505) 397-5085

Drilling Log

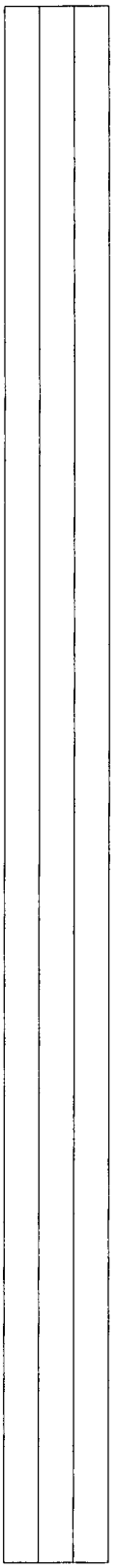
Well/Bore Number:	Date Drilled:	Driller:	Logged By:
BH-21	12-7-95	AH/JT	F. Wesley Root

Drilling Method:	Depth of Boring:	Depth of Well:	Length of Casing:	Length of Screen:
Air Rotary	12 Feet			

Bore Diameter:	Casing Diameter:	Screen Diameter:	Slot Size:	Well Material:
6 Inch				

Depth	Lithology	Sample Type	OVA (PPM)	Remarks
0	Floor of excavation			
	Brown silty medium grained sand (SM)			
5	Gray limestone	Split Spoon	22	. TPH 114,700 ppm
				Static Water Level
	Brown fine to medium grained sand (SM)	Split Spoon	44	▲ TPH 69,000 ppm
10		Split Spoon	10	▲ TPH 340 ppm
		Split Spoon	<1	. Water @ 11'
15	Bottom of Boring @ 12'			

Well Design



Depth: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105

APPENDIX E

SOIL ANALYTICAL

ENVIRONMENTAL SPILL CONTROL, INC.
1203 West Dunnam
P.O. Box 5890
Hobbs, NM 88241
(505) 392-6167 (800) 390-6167

SOIL ANALYSIS REPORT

DATE: 12/20/95
CLIENT: Texas-New Mexico Pipeline
SUPERVISOR: Stoney Thomas

FACILITY: C.J. Saunders Federal Pit
Test Method: Modified 4018.1
Matrix: Soil

	TPH		DEPTH	LOCATION
SAMPLE NO. 01	349	PPM	18'	Boring # 1
SAMPLE NO. 02	3090	PPM	10'	Boring # 2
SAMPLE NO. 03	227	PPM	18'	Boring # 2
SAMPLE NO. 04	8440	PPM	7'	Boring # 3
SAMPLE NO. 05	2610	PPM	10'	Boring # 3
SAMPLE NO. 06	1230	PPM	18'	Boring # 3
SAMPLE NO. 07	12250	PPM	10'	Boring # 4
SAMPLE NO. 08	702	PPM	18'	Boring # 4
SAMPLE NO. 09	475	PPM	18'	Boring # 5 at a 45° angle East Wall
SAMPLE NO. 10	4680	PPM	10'	Boring # 6
SAMPLE NO. 11	512	PPM	18'	Boring # 6
SAMPLE NO. 12	32000	PPM	7'	Boring # 7
SAMPLE NO. 13	27000	PPM	10'	Boring # 7
SAMPLE NO. 14	399	PPM	18'	Boring # 7
SAMPLE NO. 15	3610	PPM	10'	Boring # 8
SAMPLE NO. 16	555	PPM	18'	Boring # 8
SAMPLE NO. 17	3240	PPM	10'	Boring # 9
SAMPLE NO. 18	366	PPM	18'	Boring # 9

COMMENTS:Between 7:00 am and 1:00 pm on December 20, nine holes were drilled in the Southeast corner of the pit. Samples were taken above the sandstone layer at 7 foot. Seven samples were taken at 10 feet right below the sandstone layer. Nine samples were taken at 18 feet (8 feet into the water). Borings are numbered in the order that they were drilled and tested.

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240
PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

TPH/BTEX ANALYSIS REPORT

Company: Environmental Spill Control
Address: P.O. Box 5890
City, State: Hobbs, NM 88241

Date: 10/18/95
Lab #: H2237

Project Name: Texaco Saunders Pit Excavation
Location: 18-T19S-R37E, Lea Co., NM
Sampled by: WR Date: 10/4/95 Time: 11:10
Analyzed by: MI Date: 10/18/95 Time: 8:19
Sample Type: Soil Sample Condition: Intact Units: ppm

Samp #	Field Code	TRPHC	BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE	MTBE
1	MW-4 25-26'	50.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2	MW-4 36-32'	42.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	QC Recovery	625	0.898	0.887	0.979	0.927	0.958	0.932	0.757
	QC Spike	600	0.872	0.852	0.856	0.844	0.854	0.844	0.732
	Accuracy	104.1%	102 %	104 %	114 %	109 %	112 %	110 %	103 %
	Air Blank	***	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Methods - GAS CHROMOTOGRAPHY; INFRARED SPECTROSCOPY
- EPA SW-846; 8020, 418.1, 3510, 3540 or 3550

Mitch Irvin

Mitch Irvin

10/18/95

Date

Environmental Analytical Services

H2237

ARDINAL LABORATORIES

118 S. Commercial Ave.
Farmington, NM 87401
505-326-4669
FAX 505-326-4535

101 E. Marland
Hobbs, NM 88240
505-393-2326
FAX 505-393-2476

Chain of Custody Record

Project I.D. Texaco Saunders Pit Excavation
Project Location 18-T19S-R37E, Lea Co. NM
Sampled By F. Wesley Root
Client Name Environmental Spill Control, Inc.
Address 1203 West Dunnam, Hobbs NM 88241
Telephone 505-392-6167 (FAX) 505-397-8085

Sample Number	Date	Time	Composite	Grab	Sample Location	Number of Containers	Analysis Required: BTEX	TPH 8020	418.1				Remarks (Type sample, preservation, etc.)
	10-4-95	11:10		V	MW-4 25'-26' H2237-1	1-4oz	V	V					SOIL, ICE
	10-4-95	11:40		V	MW-4 36'-37' H2237-2	1-4oz	V	V					SOIL, ICE

Released by: (Signature)	Date	Time	Received by: (Signature)
F. Wesley Root	10-12-95	11:50	
Released by: (Signature)	Date	Time	Received by: (Signature)

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such

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PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

TPH/BTEX ANALYSIS REPORT

Company: Environmental Spill Control, Control, Inc.
Address: PO Box 5890
City, State: Hobbs, New Mexico 88241

Date: 02/06/96
Lab #: H2392

Project Name: Saunders Excavation (TN No. 10)
Location: S-18 T-195 R-37E
Sampled by: F.W.R.
Analyzed by: MI
Sample Type: Soil

Date: 1/24/96
Date: 1/24/96 Time: 17:24
Sample Condition: Intact
Units: mg/kg

Samp #	Field Code	TRPHC	BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE
1	MW-10 (25-27')	51	<0.001	<0.001	<0.001	<0.001	<0.001	0.004
2	MW-10 (35-36')	46	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
3	MW-11 (22-23')	66	<0.001	0.090	<0.001	<0.001	<0.001	<0.001
4	MW-11 (39-40')	98	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
5	MW-12 (27-28')	40	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
6	MW-12 (39-40')	41	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
QC Recovery		183	0.492	0.460	0.469	0.479	0.495	0.461
QC Spike		175	0.534	0.525	0.528	0.525	0.523	0.519
Accuracy		104.5%	92%	87%	89	91%	95%	89%
Blank		***	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Methods - GAS CHROMOTOGRAPHY; INFRARED SPECTROSCOPY
- EPA SW-846; 8020, 418.1, 3510, 3540 or 3550

Mitch Irvin

2/5/96
Date

Environmental Analytical Services

H2392-6

ARDINAL LABORATORIES

118 S. Commercial Ave.
Farmington, NM 87401
505-326-4669
FAX 505-326-4535

101 E. Marland
Hobbs, NM 88240
505-393-2326
FAX 505-393-2476

Chain of Custody Record

Project I.D. Saunders Excavation (TNM No. 10)
Project Location Sec 18, T19S, R32E Lea Co. New Mexico
Sampled By F. Wesley Root (F. Wesley Root)
Client Name Environmental Spill Control, Inc.
Address P.O. Box 5890, Hobbs, New Mexico 88241
Telephone 505-392-6167 (FAX) 397-5085

Sample Number	Date	Time	Composite	Grab	Sample Location	Number of Containers	Analysis Required: BTEX 8020	TPH 418.1						Remarks (Type sample, preservation, etc.)
1	1/24/96	10:05		V	MW-10 (25-27') H2392-1	1-4 oz	V	V						Soil, ICE
	1/24/96	10:35		V	MW-10 (35-36') H2392-2	1-4oz	V	V						Soil, ICE
	1/24/96	15:15		V	MW-11 (22-23') H2392-3	1-4oz	V	V						Soil, ICE
	1/24/96	16:00		V	MW-11 (39-40') H2392-4	1-4oz	V	V						Soil, ICE
	1/25/96	13:40		V	MW-12 (27-28') H2392-5	1-4oz	V	V						Soil, ICE
	1/25/96	14:10		V	MW-12 (39-40') H2392-6	1-4oz	V	V						Soil, ICE

Released by: (Signature)	Date	Time	Received by: (Signature)
F. Wesley Root	1/26/96	11:44	Kay Brad
Released by: (Signature)	Date	Time	Received by: (Signature)

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APPENDIX F

WATER ANALYTICAL

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BTEX ANALYSIS REPORT

Company: Environmental Spill Control
Address: P.O. Box 5890
City, State: Hobbs, NM 88240

Date: 9/26/95
Lab #: H2194

Project Name: Texaco Saunders
Location: 18 T19S R37E Lea County, NM
Sampled by: WR Date: 9/23/95 Time: various
Analyzed by: MI Date: 9/25/95 Time: 12:30
Sample Type: Water Sample Condition: Intact Units: ppm

Samp #	Field Code	BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE	MTBE
1	EFF 44	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2	EFF 48	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
3	EFF 49	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
4	EFF 51	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
5	EFF 53	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
6	MW #1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	QC Recovery	0.852	0.819	0.808	0.757	0.797	0.784	0.680
	QC Spike	0.872	0.858	0.856	0.844	0.854	0.844	0.732
	Accuracy	98%	95%	94%	90%	94%	93%	93%
	Air Blank	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Methods - GAS CHROMOTOGRAPHY
- EPA SW-846; 8020

Mitch Irvin

Mitch Irvin

9-26-95

Date

Environmental Analytical Services

H2199

ARDINAL LABORATORIES

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101 E. Marland
Hobbs, NM 88240
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FAX 505-393-2476

Chain of Custody Record

Project I.D. Texaco Saunders Pit Excavation
Project Location 18-T19S-R32E, Lea Co. NM
Sampled By F. Wesley Root
Client Name Environmental Spill Control, Inc.
Address 1203 West Dunnam, Hobbs NM 88241
Telephone 505-392-6162 (FAX) 505-397-3085

Sample Number	Date	Time	Composite	Grab	Sample Location	Number of Containers	Analysis Required: BTEX	Remarks (Type sample, preservation, etc.)
11	9-23-95	5:30		✓	MW-1	14oz.	✓	Real *

Released by: (Signature)	Date	Time	Received by: (Signature)
F. Wesley Root	9-25-95	9:30	
Released by: (Signature)	Date	Time	Received by: (Signature)

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PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

BTEX ANALYSIS REPORT

Company: Environmental Spill Control — Date: 9/25/95
Address: P.O. Box 5890 — Lab #: H2193
City, State: Hobbs, NM 88240

Project Name: Texaco Saunders Pit Excavation
Location: 18-T19S-R37E, Lea County, NM
Sampled by: WR — Date: 9/22/95 — Time: various
Analyzed by: SW — Date: 9/22-23/95 — Time: various
Sample Type: Water — Sample Condition: Intact — Units: ppm

Samp #	Field Code	BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE	MTBE
1	EFF 15	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2	EFF 19	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
3	EFF 23	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
4	EFF 27	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
5	EFF 31	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
6	EFF 43	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
7	EFF 39	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
8	EFF 35	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
9	MW #2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
10	MW #3	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	QC Recovery	0.828	0.809	0.787	0.797	0.796	0.791	0.685
	QC Spike	0.884	0.865	0.853	0.858	0.844	0.866	0.763
	Accuracy	93.6%	93.5%	92.3%	93.0%	94.3%	91.4%	90.0%
	Air Blank	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Methods - GAS CHROMOTOGRAPHY
- EPA SW-846; 8020

Mitch Irvin

9-25-95
Date

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Hobbs, NM 88240
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FAX 505-393-2476

Chain of Custody Record

Project I.D. Texaco Saunders Pit Excavation
Project Location 18-T19S-R32E, Lea Co. NM
Sampled By F. Wesley Root
Client Name Environmental Spill Control, Inc.
Address 1203 West Dunnam, Hobbs NM 88241
Telephone 505-392-6167 (FAX) 505-397-5085

Sample Number	Date	Time	Composite	Grab	Sample Location	Number of Containers	Analysis Required: BTEX	Remarks (Type sample, preservation, etc.)
	9-22-95	18:00		✓	MW-2	140mL	✓	H_2O, ICE (Rush)
	9-22-95	17:30		✓	MW-3	140mL	✓	H_2O, ICE (Rush)

Released by: (Signature)	Date	Time	Received by: (Signature)
F. Wesley Root	9-23-95	5:30	Sharon Williams Cardinal Labs Kay Snead
Released by: (Signature)	Date	Time	Received by: (Signature)

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BTEX ANALYSIS REPORT

Company: Western Environmental Consulting
Address: 1588 Cordoba
City, State: Hobbs, New Mexico 88240

Date: 01/12/96
Lab: H2361

Project Name: Saunders Pit
Location: Monument, NM
Sampled by: ST
Analyzed by: MI
Sample Type: Water

Date: 01/08/96 Time: 5:00
Date: 01/11/96
Sample Condition: intact
Units: ppm

****

Samp #	Field Code	BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE
1	#1 Monitor Well	0.019	<0.001	0.025	<0.001	<0.001	<0.001
2	#7 Monitor Well	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
3	#4 Monitor Well	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
4	#2 Monitor Well	<0.001	<0.001	<0.001	<0.001	<0.001	0.006
5	#3 Monitor Well	<0.001	0.027	<0.001	<0.001	<0.001	<0.001
	QC Recovery	0.567	0.575	0.601	0.585	0.567	0.523
	QC Spike	0.534	0.525	0.528	0.525	0.523	0.519
	Accuracy	106%	109%	113%	111%	108%	101%
	Air Blank	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Methods - GAS CHROMOTOGRAPHY
- EPA SW-846; 8020

Mitch Irvin

1-16-96
Date

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METALS ANALYSIS REPORT

Company:	Western Environmental Consulting	Date:	01/12/95
Address:	1588 Cordoba	Lab #:	H2361 1-5
City, State:	Hobbs, New Mexico 88240		
Project Name:	Saunders Pit		
Location:	Monument		
Sampled by:	ST	Date:	01/08/96
Analyed By:	MI	Sample Condition:	intact
		UNITS:	mg/L

Sample ID# 1:	MW-1
2:	MW-7
3:	MW-4
4:	MW-2
5:	MW-3

PARAMETER	RESULT 1	RESULT 2	RESULT 3	RESULT 4	RESULT 5
Silver	<0.01	<0.01	<0.01	<0.01	<0.01
Arsenic	0.005	<0.005	0.006	0.005	<0.005
Barium	0.107	0.147	0.132	0.150	0.147
Cadmium	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury	<0.002	<0.002	0.003	<0.002	<0.002
Lead	<0.05	<0.05	<0.05	<0.02	<0.05
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005

METHODS: -EPA 6010 /7060 /6010 /6010 /7191 /6010 /7740

Mitch Irvin

2-5-96
Date

CARDINAL LABORATORIES

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CHEMICAL ANALYSIS OF WATER

Company : Western Environmental Consulting
Address : 1533 Cordoba 88260
City/St : Hobbs, New MExico 88240
Project name: Saunders Pit
Location : Saunders Pit

Date : 02/05/96
Lab# : H2361

Sample 1 : Monitor Well #1
Sample 2 : Monitor Well #7
Sample 3 : Monitor Well #4
Sample 4 : Monitor Well #2
Sample 5 : Monitor Well #3

PARAMETER	RESULT 1	RESULT 2	RESULT 3	RESULT 4	RESULT 5
pH	7.58	7.08	7.63	7.61	7.44
Carbonate (CO_3)	-0-	-0-	-0-	-0-	-0-
Bicarbonate (HCO_3)	193	506	149	200	245
Calcium (Ca)	45.6	110.6	45.7	45.5	88.3
Chloride (Cl)	3,200	2,800	17,500	2,500	19,745
Sulfate (SO_4)	73.9	77.3	26.3	62.3	123
Nitrate (NO_3)	2.17	3.36	0.18	2.14	1.53
Magnesium (Mg)	5.9	22.9	5.1	5.1	12.7
Sodium (Na)	76.3	60.3	19.3	19.2	40.2
Potassium	8.19	25.32	6.11	6.37	15.27
TDS	396	806	222	395	553
Conductivity	400	700	200	340	450

Methods: 200.7

Mitch Irvin

2-5-96
Date

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FINAL ANALYSIS REPORT

Company:	Western Environmental Consulting	Date:	01/12/96
Address:	1588 Cordoba	Lab #:	H2361-1
City, State:	Hobbs, New Mexico 88240		
Project Name:	Saunders Pit		
Location:	Monument, New Mexico		
Sampled by:	ST	Date:	01/08/96
Sample Type:	Water	Sample Condition:	intact
Sample ID:	Monitor Well #1	Units:	ppm

POLYNUCLEAR AROMATIC HYDROCARBONS

PARAMETER	RESULT
Acenaphtene	<0.002
Acenaphthylene	<0.002
Anthracene	<0.002
Benzo(a)anthracene	<0.002
Benzo(a)pyrene	<0.002
Benzo(b)flouranthene	<0.002
Benzo(k)flouranthene	<0.002
Benzo(ghi)perylene	<0.002
Chrysene	<0.002
Dibenz(a,h)anthracene	<0.002
Flouranthene	<0.002
Fluorene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Naphthalene	<0.002
Phenanthrene	<0.002
Pyrene	<0.002

METHODS- EPA SW 846-8270/ EPA 625

Mitch Irvin

1/12/96
Date

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FINAL ANALYSIS REPORT

Company:	Western Environmental Consulting	Date:	01/12/96
Address:	1588 Cordoba	Lab #:	H2361-2
City, State:	Hobbs, New Mexico 88240		
Project Name:	Saunders Pit		
Location:	Monument, New Mexico		
Sampled by:	ST	Date:	01/08/96
Sample Type:	Water	Sample Condition:	intact
Sample ID:	Monitor Well #2	Units:	ppm

POLYNUCLEAR AROMATIC HYDROCARBONS

PARAMETER	RESULT
Acenaphtene	<0.002
Acenaphthylene	<0.002
Anthracene	<0.002
Benzo(a)anthracene	<0.002
Benzo(a)pyrene	<0.002
Benzo(b)flouranthene	<0.002
Benzo(k)flouranthene	<0.002
Benzo(ghi)perylene	<0.002
Chrysene	<0.002
Dibenz(a,h)anthracene	<0.002
Flouranthene	<0.002
Fluorene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Naphthalene	<0.002
Phenanthrene	<0.002
Pyrene	<0.002

METHODS- EPA SW 846-8270/ EPA 625

Mitch Irvin

1/12/96
Date

CARDINAL LABORATORIES

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240
PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

FINAL ANALYSIS REPORT

Company:	Western Environmental Consulting	Date:	01/12/96
Address:	1588 Cordoba	Lab #:	H2361-3
City, State:	Hobbs, New Mexico 88240		
Project Name:	Saunders Pit		
Location:	Monument, New Mexico	Date:	01/08/96
Sampled by:	ST	Sample Condition:	intact
Sample Type:	Water		
Sample ID:	Monitor Well #3	Units:	ppm

POLYNUCLEAR AROMATIC HYDROCARBONS

PARAMETER	RESULT
Acenaphtene	<0.002
Acenaphthylene	<0.002
Anthracene	<0.002
Benzo(a)anthracene	<0.002
Benzo(a)pyrene	<0.002
Benzo(b)flouranthene	<0.002
Benzo(k)flouranthene	<0.002
Benzo(ghi)perylene	<0.002
Chrysene	<0.002
Dibenz(a,h)anthracene	<0.002
Flouranthene	<0.002
Fluorene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Naphthalene	<0.002
Phenanthrene	<0.002
Pyrene	<0.002

METHODS- EPA SW 846-8270/ EPA 625

Mitch Irvin

1/12/96
Date

CARDINAL LABORATORIES

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PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

FINAL ANALYSIS REPORT

Company:	Western Environmental Consulting	Date:	01/12/96
Address:	1588 Cordoba	Lab #:	H2361-4
City, State:	Hobbs, New Mexico 88240		
Project Name:	Saunders Pit		
Location:	Monument, New Mexico		
Sampled by:	ST	Date:	01/08/96
Sample Type:	Water	Sample Condition:	intact
Sample ID:	Monitor Well #4	Units:	ppm

POLYNUCLEAR AROMATIC HYDROCARBONS

PARAMETER	RESULT
Acenaphtene	<0.004
Acenaphthylene	<0.004
Anthracene	<0.004
Benzo(a)anthracene	<0.004
Benzo(a)pyrene	<0.004
Benzo(b)flouranthene	<0.004
Benzo(k)flouranthene	<0.004
Benzo(ghi)perylene	<0.004
Chrysene	<0.004
Dibenz(a,h)anthracene	<0.004
Flouranthene	<0.004
Fluorene	<0.004
Indeno(1,2,3-cd)pyrene	<0.004
Naphthalene	<0.016
Phenanthrene	<0.004
Pyrene	<0.004

METHODS- EPA SW 846-8270/ EPA 625

Mitch Irvin

1/12/96
Date

CARDINAL LABORATORIES

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FINAL ANALYSIS REPORT

Company:	Western Environmental Consulting	Date:	01/12/96
Address:	1588 Cordoba	Lab #:	H2361-5
City, State:	Hobbs, New Mexico 88240		
Project Name:	Saunders Pit		
Location:	Monument, New Mexico		
Sampled by:	ST	Date:	01/08/96
Sample Type:	Water	Sample Condition:	intact
Sample ID:	Monitor Well #7	Units:	ppm

POLYNUCLEAR AROMATIC HYDROCARBONS

PARAMETER	RESULT
Acenaphtene	<0.002
Acenaphthylene	<0.002
Anthracene	<0.002
Benzo(a)anthracene	<0.002
Benzo(a)pyrene	<0.002
Benzo(b)flouranthene	<0.002
Benzo(k)flouranthene	<0.002
Benzo(ghi)perylene	<0.002
Chrysene	<0.002
Dibenz(a,h)anthracene	<0.002
Flouranthene	<0.002
Fluorene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Naphthalene	<0.002
Phenanthrene	<0.002
Pyrene	<0.002

METHODS- EPA SW 846-8270/ EPA 625

Mitch Irvin

1/12/96
Date

Environmental Analytical Services

ARDINAL LABORATORIES

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FAX 505-326-4535

101 E. Marland
Hobbs, NM 88240
505-393-2326
FAX 505-393-2476

Chain of Custody Record

Project I.D. Saunders P.F
Project Location Monument
Sampled By Thomas, Stoney
Client Name Texaco
Address Western Enviro. Consulting
Telephone 392-6167

Sample Number	Date	Time	Composite	Grab	Sample Location	Number of Containers	Analysis Required: See ATTACHed LISTING	Remarks (Type sample, preservation, etc.)
1	1-89			✓	Monitorwell #1	3		
2	1-89			✓	" #7	3		
3	1-89			✓	" #4	3		
4	1-89			✓	" #2	3		
5	1-89			✓	" #3	3		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Stoney Thomas	1-8	5:45pm	Ray Smead
Relinquished by: (Signature)	Date	Time	Received by: (Signature)

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BTEX ANALYSIS REPORT

Company: Western Environmental Consultants
Address: 1588 Cordoba
City, State: Hobbs, New Mexico 88240

Date: 01/15/96
Lab: H2365

Project Name: Saunders Pit
Location: Monument
Sampled by: ST
Analyzed by: MI
Sample Type: water

Date: 01/10/96
Date: 01/11/96
Sample Condition: intact
Units: ppm

****

Samp #	Field Code	BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE
1	Monitor Well #9	<0.001	<0.001	0.016	0.004	<0.001	0.018
2	Monitor Well #5	0.005	<0.001	<0.001	<0.001	0.062	0.012
3	Monitor Well #6	0.003	<0.001	<0.001	<0.001	<0.001	0.008
4	Monitor Well #8	<0.001	<0.001	<0.001	0.004	0.007	<0.001
	QC Recovery	0.567	0.575	0.601	0.585	0.567	0.523
	QC Spike	0.534	0.525	0.528	0.525	0.523	0.519
	Accuracy	106%	109%	113%	111%	108%	101%
	Air Blank	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Methods - GAS CHROMOTOGRAPHY
- EPA SW-846; 8020

Mitch Irvin

1-17-96
Date

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CHEMICAL ANALYSIS OF WATER

Company : Western Environmental Consultants
City : 1588 Cordoba
State : Hobbs, New Mexico 88240
Proj.Name : Saunders Pit
Location : Monument NM

Sample 1 : Monitor Well #9
Sample 2 : Monitor Well #5
Sample 3 : Monitor Well #6
Sample 4 : Monitor Well #8

Lab #: H2365
Date Received: 01/10/96
Date Analyzed: 01/12/96
Units: mg/L

PARAMETER	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4
Chloride	46	60	102	210
pH	12.41	7.27	7.30	7.45

Mitch Irvin

1-17-96
Date

Environmental Analytical Services

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FAX 505-326-4535

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Hobbs, NM 88240
505-393-2326
FAX 505-393-2476

Chain of Custody Record

Project I.D. Saunders Pit
Project Location Monument
Sampled By Thomas, Stoney
Client Name Western Enviro. Consulting
Address
Telephone 392-6167

Sample Number	Date	Time	Composite	Grab	Sample Location	Number of Containers	Analysis Required: BTEX	Pb	Chlorides	Remarks (Type sample, preservation, etc.)
1	1-10	10:00		✓	monitor well #9	1				H2365-1
2	1-10	10:10		✓	# 5	1				H2365-2
3	1-10	10:15		✓	# 6	1				H2365-3
4	1-10	10:20		✓	# 8	1				H2365-4
					↑					
					(the above samples were labeled 1, 2, 3, 4)					

Released by: (Signature)	Date	Time	Received by: (Signature)
Stoney Thomas	1-10		
Released by: (Signature)	Date	Time	Received by: (Signature)

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BTEX ANALYSIS REPORT

Company: Western Environmental Consulting
Address: 1533 Cordoba
City, State: Hobbs, New Mexico 88241

Date: 02/08/96
Lab #: H2399

Project Name: Texas NM Pipeline
Location: Saunders Pit
Sampled by: JH
Analyzed by: MI
Sample Type: Water

Date: 2/1/06/96
Date: 2/8/06/96 Time: 14:53
Sample Condition: Intact
Units: mg/L

Samp #	Field Code		BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE
1	MW-10	12:15	0.290	1.237	2.529	0.173	1.218	0.969
2	MW-11	11:45	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
3	MW-12	11:20	<0.001	<0.001	<0.001	<0.001	<0.001	0.004
4	JC-1	10:30	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	QC Recovery		0.505	0.507	0.537	0.536	0.552	0.516
	QC Spike		0.534	0.525	0.528	0.525	0.523	0.519
	Accuracy		95%	96%	102%	102%	106%	99%
	Blank		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Methods - GAS CHROMOTOGRAPHY; INFRARED SPECTROSCOPY
- EPA SW-846; 8020, 418.1, 3510, 3540 or 3550

Mitch Irvin

2/9/96
Date

H2399-17

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505-326-4669	505-393-2326
FAX 505-326-4535	FAX 505-393-2476

Chain of Custody Record

Project I.D. TEXAS - NEW MEXICO PIPELINE

Project Location Saunders Pit

Sampled By JUSTIN HUTCHINS

Client Name western ENVIRONMENTAL ~~Spill Control, Inc.~~

Address 1203 W DUNNAM

Telephone (505) 392-6167 FAX (505) 397-5085

Sample Number	Date	Time	Composite	Grab	Sample Location	Number of Containers	Analysis Required: B-TEX							Remarks (Type sample, preservation, etc.)
1	2/5/96	12:15 Pm		X	MW-10	2	X							
2	2/5/96	11:45Am		X	MW-11	2	X							
3	2/5/96	11:20 Am		X	MW-12	2	X							
4	2/5/96	10:30 Am		X	JC-1	2	X							

Released by: (Signature)	Date	Time	Received by: (Signature)
[signature]	26	9:00	[signature]
Released by: (Signature)	Date	Time	Received by: (Signature)

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TPH/BTEX ANALYSIS REPORT

Company: Environmental Spill Control, Inc.
Address: P.O. Box 5890
City, State: Hobbs, NM 88241

Date: 10/31/95
Lab #: H2242

Project Name: Texaco Saunders at Excavation
Location: Lea County, NM
Sampled by: JH
Analyzed by: MI
Sample Type: Water

Date: 10/17/95
Date: 10/23-30/95
Time: 3:25
Time: various
Sample Condition: Intact

Units: ppm

Samp #	Field Code	TRPHC	BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE	MTBE
1	MW-4	12.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
QC Recovery		385	0.808	0.805	0.919	0.871	0.906	0.874	0.740
QC Spike		375	0.872	0.852	0.856	0.844	0.854	0.844	0.732
Accuracy		102.6%	93 %	94 %	107 %	103 %	106 %	104 %	101 %
Air Blank		***	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Methods - GAS CHROMOTOGRAPHY; INFRARED SPECTROSCOPY
- EPA SW-846; 8020, 418.1, 3510, 3540 or 3550

Mitch Irvin

10/31/95
Date

Environmental Analytical Services

H22442

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118 S. Commercial Ave.
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505-326-4669
FAX 505-326-4535

101 E. Marland
Hobbs, NM 88240
505-393-2326
FAX 505-393-2476

Chain of Custody Record

Project I.D. TEXACO--SAUNDERS PIT EXCAVATION
Project Location S18 T19S R37E LEA CO. N.M.
Sampled By JUSTIN HUTCHINS
Client Name ENVIRONMENTAL SPILL CONTROL, INC.
Address 1203 DUNNAM HOBBS, NM 88241
Telephone (OFFICE) (505) 392-6167 (FAX) (505) 397-5085

Sample Number	Date	Time	Composite	Grab	Sample Location	Number of Containers	Analysis Required: TPH 418.1	Analysis Required: BTEX 8020	Remarks (Type sample, preservation, etc.)
	10/7/95	3:25 PM		✓	MW-4	1 LTR	✓		H2O, ICE
	10/7/95	3:25 PM		✓	MW-4	1 40mL		✓	H2O, ICE

Released by: (Signature)	Date	Time	Received by: (Signature)
Justin Hutchins	10/8/95	3:25 P.M.	Alyssa Fay
Released by: (Signature)	Date	Time	Received by: (Signature)

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FINAL ANALYSIS REPORT

Company:	Environmental Spill Control, Inc	Date:	03/11/96
Address:	PO Box 5890	Lab #:	H2436
City, State:	Hobbs, NM 88240		
Project Name:	Saunders Excavation		
Location:	S35 T 24S R 37E		
Sampled by:	JH	Date:	02/29/96
Sample Type:	Water	Sample Condition:	intact
Sample #2:	MW-10 4:50pm	Units:	mg/L
Sample #5:	JC-1 4:10pm		

****

POLYNUCLEAR AROMATIC HYDROCARBONS

PARAMETER	RESULT 2	RESULT 5
Acenapthene	<0.004	<0.004
Acenaphthylene	<0.004	<0.004
Anthracene	<0.004	<0.004
Benzo(a)anthracene	<0.004	<0.004
Benzo(a)pyrene	<0.004	<0.004
Benzo(b)flouranthene	<0.004	<0.004
Benzo(k)flouranthene	<0.004	<0.004
Benzo(ghi)perylene	<0.004	<0.004
Chrysene	<0.004	<0.004
Dibenz(a,h)anthracene	<0.004	<0.004
Flouranthene	<0.004	<0.004
Fluorene	<0.004	<0.004
Indeno(1,2,3-cd)pyrene	<0.004	<0.004
Naphthalene	<0.004	<0.004
Phenanthrene	<0.004	<0.004
Pyrene	<0.004	<0.004

METHODS- EPA SW 846-8270

Manuel Garbalena

3-11-96
Date

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FINAL ANALYSIS REPORT

Company: Environmental Spill Control, Inc.
Address: PO Box 5890
City, State: Hobbs, NM 88240
Location: S35 T 24S R 37 E
Sampled by: JH
Sample Type: Water

Date : 03/11/96
Lab# : H2436

Date: 02/29/96
Sample Condition: intact
Units: mg/L

Sample #1: MW-10 4:45
#2: MW-10 4:50
#3: JC-1 4:00
#4: JC-1 4:05
#5: JC-1 4:10

****

CHEMICAL ANALYSIS OF WATER

	SAMPLE 1	SAMPLE 3
Carbonate	-0-	-0-
Bicarbonate (HCO_3)	201	235
Calcium (Ca)	176.3	504.1
Chloride (Cl)	24	38
Sulfate (SO_4)	199	171
Magnesium (Mg)	25.8	31.7
Sodium (Na)	43.5	46.3
TDS	636	748
Conductivity (umhos/cm)	450	470

TCLP INORGANICS (Leachate)

PARAMETER	RESULT 4	EPA LIMIT	UNITS
Arsenic	<0.02	5	ppm
Silver	<0.02	5	ppm
Barium	1.46	100	ppm
Cadmium	<0.02	1	ppm
Chromium	0.09	5	ppm
Mercury	<0.001	0.2	ppm
Lead	<0.02	5	ppm
Selenium	<0.02	1	ppm

METHODS: EPA 600/4-91/010

Manuel Garbalena

3-13-96
Date

Environmental Analytical Services

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505-326-4669
FAX 505-326-4535

101 E. Marland
Hobbs, NM 88240
505-393-2326
FAX 505-393-2476

Chain of Custody Record

Project I.D. SAUNDERS EXCAVATION (TNM No. 10)
Project Location S35-T24S-R37E LEA Co., NM
Sampled By JUSTIN HUTCHINS
Client Name ENVIRONMENTAL SPILL CONTROL, INC.
Address 1203 W. DUNNAM HOBBS
Telephone (505) 392-6167 FAX (505) 397-5085

Sample Number	Date	Time	Composite	Grab	Sample Location	Number of Containers	Major Cations/Anions	TDS 160.1	Specific Conductivity 120.1	PAH's 8100	Total Metals			Remarks (Type sample, preservation, etc.)
1	2/28/96	4:45 pm		X	MW-10 — H2436-1	1	X	X						H_2O, ICE
2	2/28/96	4:50 pm		X	MW-10 — H2436-2	1			X	X				H_2O, ICE
3	2/28/96	4:00 pm		X	JC-1 1 H2436-3	1	X	X						H_2O, ICE
4	2/28/96	4:05 pm		X	JC-1 2 H2436-4	1					X			H_2O, HNO_3, ICE
5	2/28/96	4:10 pm		X	JC-1 3 H2436-5	1			X	X				H_2O, ICE

Released by: (Signature)	Date	Time	Received by: (Signature)
Justin Hutchins	2/29	8:30	Kay Stead
Released by: (Signature)	Date	Time	Received by: (Signature)

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EXCAVATION AND SOIL STOCKPILE ASSESSMENT PLAN

TEXAS - NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA TNM NO. 10, SAUNDERS EXCAVATION)
S18, T19S, R37E
LEA COUNTY, NEW MEXICO

SCOPE OF SERVICES

Project Information

Significant investigative and release abatement activities have occurred at the site to date. These activities are summarized in a separate report. In general, activities to date have included the installation of numerous monitor wells and soil borings, excavation of impacted soils, and installation/operation of a free phase crude oil recovery trench. The results of the previous work have indicated the presence of free phase crude oil on the groundwater surface approximately 40-45 feet below natural ground surface apparently in an area confined to the excavation, as well as low levels of dissolved hydrocarbons in monitoring wells around the perimeter of the excavation. It is currently appropriate to implement longterm closure activities for this site. However, the exact extent of the free phase crude oil plume in the excavation area and the extent of hydrocarbon impact to excavated soils at the site have not been determined. This information is critical to the successful design and installation of remediation/closure systems in the excavation area. Therefore, this proposal describes additional assessment activities to obtain the critical data.

Field Investigation

Crude Oil Extent

Approximately 11 additional temporary monitoring wells will be installed at selected locations across the bottom of the excavation. The approximate locations of the wells are indicated on FIG. 1. The exact number and locations of the wells to be installed will vary dependent upon field conditions discovered during installation of the wells.

The wells will be drilled to depths of approximately 8-10 feet below the floor of the excavation to obtain soil and ground water samples and to monitor the groundwater for the presence of free phase crude oil (if any). The actual depth may vary slightly, but the intent is to install a temporary monitoring well approximately 5 feet into groundwater. A KEI engineer or geologist will log the monitoring wells and supervise the field activities. Soil samples will be obtained on 2.5 foot intervals by driving a split spoon sampler. Drilling will be terminated if refusal is encountered utilizing conventional drilling methods. Each soil sample will be placed in two separate containers. One container will be used for visual classification and for head-space analysis of volatile organic compounds. Head-space testing will be conducted with a photoionization detector (PID). The second container will be chilled until selected samples are transmitted to a certified laboratory. Typically, the soil sample from each hole with the highest head-space reading and a soil sample directly above the water level, or from the bottom of each hole, will be chilled and transmitted to the laboratory for determination of BTEX (EPA Method SW846-8020) and TPH (EPA Method 418.1) concentrations. The cuttings collected during drilling will be placed with the existing stockpiled soils at the site.

The wells will be constructed with 2 inch diameter PVC in accordance with OCD guidelines. The wells will be semi-permanent completions installed by the drilling contractor. The appropriate sand pack will be installed above the screened interval, and a bentonite seal will be installed above the sand. After installation, the wells will be developed by purging and bailing. The KEI engineer or geologist will measure the static water and free phase crude oil levels (if any) from all wells and obtain water samples for laboratory analyses from those wells without free phase crude oil. The water samples will be chilled and transmitted to the

laboratory for determination of BTEX (EPA Method SW846-8020), TPH (EPA Method 418.1), Chlorides (EPA Method 325.3), and Total Dissolved Solids (EPA Method 160.1) concentrations.

All drilling and sampling equipment will be cleaned throughout the project. The cuttings obtained during drilling will be placed with existing stockpiled soils at the site. Water collected during developing and sampling will be stored in the existing fluid recovery tank at the site.

The elevations and locations of the monitoring wells will be determined with a level survey and referenced from the benchmark established during the previous assessment at the site. Elevations for the ground surface and top of PVC casing will be determined.

Soil Stockpiles

Longterm closure plans for this site contemplate utilization of excavated soils to backfill the excavation, where possible. However, the stockpiled soils have not been completely evaluated with respect to the extent of hydrocarbon impact. Consequently, sampling of the stockpiles will be performed to determine BTEX and TPH concentrations in the soils.

A backhoe will be utilized to obtain a vertical composite sample at selected locations across the stockpile as indicated on FIG. 1. Given that the soils have been worked and mixed once already in the excavation and stockpiling process, and that a portion of the soil was sampled during boring installation early in the project, the additional samples to be obtained should provide sufficient representation of soil characteristics throughout the stockpiles. The samples will be shipped to an analytical laboratory for determination of BTEX (EPA Method 8020) and TPH (EPA Method 418.1).

REPORT PREPARATION

A report will be prepared to present the information obtained during the assessment. The report will present the subsurface soil profile; indicate the depth to ground water and free phase crude oil (if any), present the apparent distribution of free phase crude oil at the site (if any); and summarize results of laboratory testing of the excavation borings and the stockpiles. Graphic logs of the monitoring wells will be presented. All work for the project will be conducted under the supervision of a professional engineer registered in the State of New Mexico.

Submit 3 Copies to Appropriate District Office

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-103
Revised 1-1-89

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artexia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION
310 Old Santa Fe Trail, Room 206
Sante Fe, New Mexico 87503

WELL API NO.

5. Indicate Type of Lease Deeded STATE ☐ FEE ☐

6. State Oil and Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name
Monument Field, Ref. TNM-10-95

1. Type of Well:
OIL WELL ☐ GAS WELL ☐ OTHER Temp. Monitoring Wells

2. Name of Operator
Texas New Mexico Pipe Line Co.

8. Well No.

3. Address of Operator
P.O. Box 60028, San Angelo, Texas

9. Pool name or Wildcat

4. Well Location
Unit Letter _____ : _____ Feet From The _____ Line and _____ Feet From The _____

Section 18 Township 19S Range 37E NMPM Lea County

10. Elevation *(Show whether DF, RKB, RT, GR, etc.)*

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	PLUG AND ABANDONMENT ☐
PULL OR ALTER CASING ☐		CASING TEST AND CEMENT JOB ☐	
OTHER: Install Temp. Monitoring Wells ☐		OTHER:	

12. Describe Proposed or Completed Operations *(Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work)* SEE RULE 1103

See Attachments

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

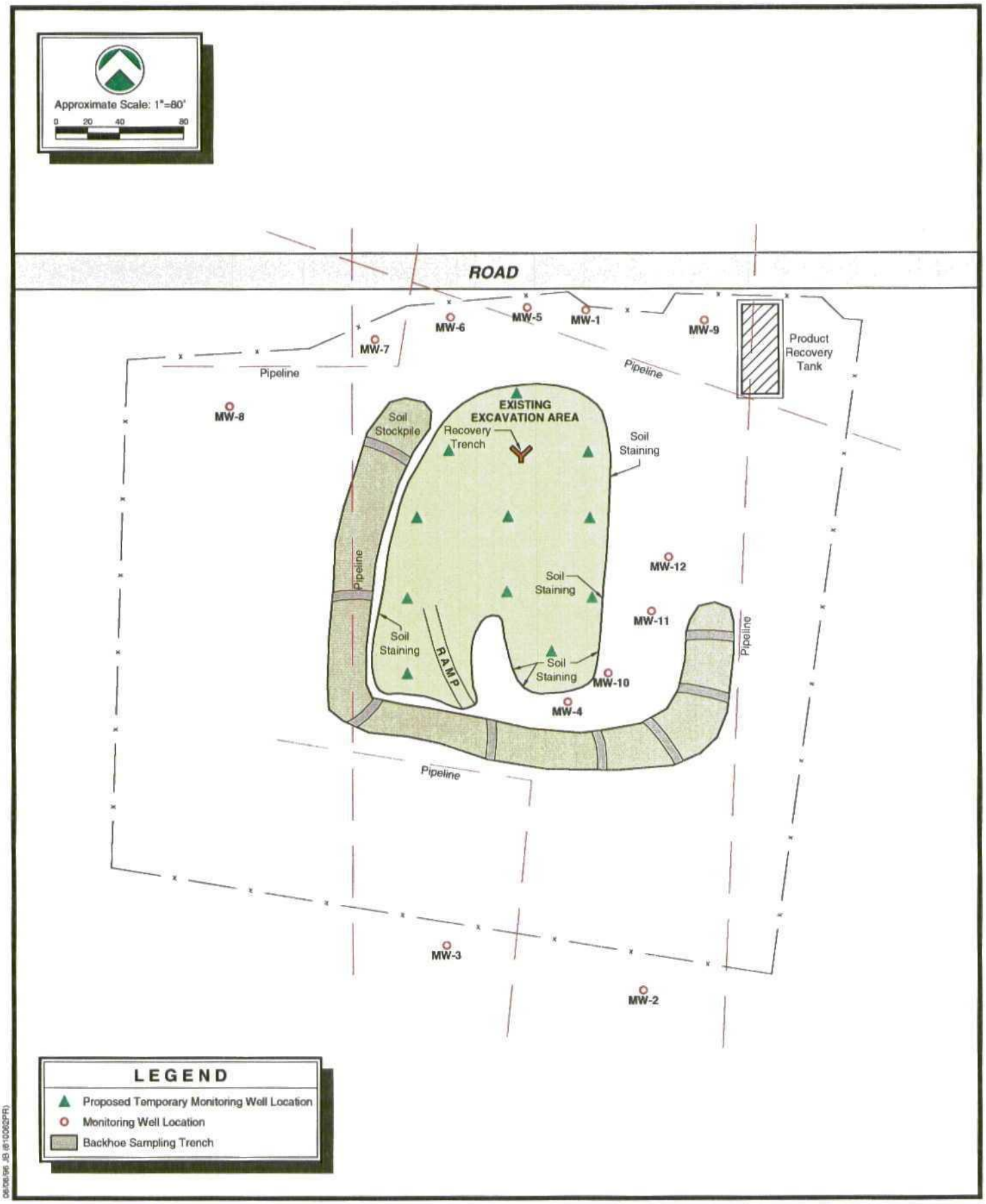
SIGNATURE John A. Savoie TITLE Senior Technician DATE 6/4/96

TYPE OR PRINT NAME John A. Savoie TELEPHONE NO. 395-2705

(This space for State Use)

APPROVED BY _____ TITLE: _____ DATE _____

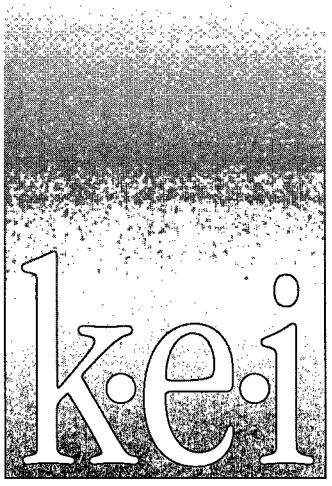
CONDITIONS OF APPROVAL IF ANY:



05/06/96 JB (610062PR)

k·e·i

PROPOSED LOCATIONS - TEMPORARY MONITORING WELLS	610062
SITE 16 (AKA TNM-10-95, SAUNDERS EXCAVATION) LEA COUNTY, NEW MEXICO	FIG 1



CRUDE OIL PIPELINE
RELEASE RESPONSE SUMMARY REPORT

SAUNDERS EXCAVATION/TNM-10-95
LEA COUNTY
NEW MEXICO

5309 Wurzbach, Suite 100
San Antonio, Texas 78238
(210) 680-3767
(210) 680-3763 FAX

CRUDE OIL PIPELINE
RELEASE RESPONSE SUMMARY REPORT

SAUNDERS EXCAVATION/TNM-10-95
LEA COUNTY
NEW MEXICO

PREPARED FOR:

TEXAS - NEW MEXICO PIPE LINE COMPANY
3330 Executive Drive
San Angelo, Texas

Mr. Edwin H. Gripp

PREPARED BY:

KEI

Theresa L. Nix, Project Manager

J. Michael Hawthorne, P.G., Sr. Geologist

KEI Job No. 610062

November 4, 1996

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLES

APPENDICES

EXECUTIVE SUMMARY

The purpose of this report is to summarize events and available data for the release response activities which have occurred at the project site to date. The scope of this report covers all available data from the initiation of release response activities in June of 1995 through late October of 1996. This work is a summary of available data. Documentation of activities during certain time periods of the project was not available.

The Site is located west of Monument, New Mexico, in a rural portion of Lea County and is surrounded by unimproved pasture land utilized for cattle ranching and crude oil production.

In June, 1995, a crude oil release from a subsurface pipeline operated by Texas - New Mexico Pipe Line Company (TNMPL) was discovered. Subsurface investigations were initiated to delineate the extent and magnitude of hydrocarbon impact within soils and ground water and to characterize generated wastes. Investigations included soil boring installation to delineate impacted soils, monitoring well installation to assess ground water, and excavation operations to remove hydrocarbon impacted soils. During excavation, a former pit was encountered. Texaco Exploration and Production Inc. (TEPI) managed excavation of these pit materials, before returning the site to the control of TNMPL.

Subsequent to excavation, a recovery trench was installed and operated in the bottom of the excavation from January through May of 1996. Total hydrocarbon recovery from the trench was 15.72 bbls.

Gauging and sampling of monitoring wells located around the perimeter of the excavation has indicated a relatively stable gradient to the south-southeast, and little to no ground water impact from hydrocarbon outside of the excavation limits.

Eleven temporary monitoring wells were installed in the excavation bottom in October of 1996. All of these temporary monitoring wells exhibited highly viscous free phase hydrocarbon on October 30, 1996.

Assessment data collected to date for the site indicates that the primary impact to ground water is the presence of free phase hydrocarbon generally within the confines of the excavation. Limited dissolved phase hydrocarbons are present in a portion of the ground water underneath the excavation and in some of the perimeter monitoring wells. Hydrocarbon impacted soil is present underneath the floor of the excavation, particularly at the saturated/unsaturated zone interface.

Evaluation of appropriate methods to address the hydrocarbon in soil and ground water is currently ongoing. Upon completion of the data analysis and technology review, a proposed corrective action plan will be prepared for NMOCD approval. Quarterly monitoring of wells at the site has been implemented, with more frequent gauging of the temporary monitoring wells in the excavation floor to monitor hydrocarbon thicknesses.

PURPOSE AND SCOPE

The purpose of this report is to summarize events and available data for the release response activities which have occurred at the project site to date. This is in response to a directive from the New Mexico Oil Conservation Division dated August 16, 1996, which approved ongoing assessment plans and also ordered this summary of the project to be submitted by November 1, 1996.

The scope of this report covers all available data from the initiation of release response activities in June of 1995 through late October of 1996. This work is a summary of available data. Documentation of activities during certain time periods of the project was not available.

SITE LOCATION AND SETTING

The Texas - New Mexico Pipe Line Company Saunders Excavation Site (AKA TNM-10-95, Site 16) is located west of Monument, New Mexico, in a rural portion of Lea County. The site is surrounded by unimproved pasture land utilized for cattle ranching and crude oil production. The location of the site is shown on the topographic map identified as FIG. 1. The site layout is shown on the site plan identified as FIG. 2.

SITE CHRONOLOGY

A chronological listing of significant events and activities is presented below. This is not a comprehensive list of all activities for the site, but does summarize significant activities, as they are known.

06/95: Allstate Environmental Services conducted an initial site assessment in response to the discovery of a crude oil release from a subsurface pipeline operated by Texas - New Mexico Pipe Line Company. This work included an initial subsurface investigation to assess the extent of impact resulting from the leak, and subsequent excavation operations to remove the hydrocarbon impacted soils.

Soil samples were collected from the impacted materials and analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), the eight RCRA metals, and solid waste characteristics (ignitability, corrosivity, and reactivity). Based on the analytical results, the soil was classified as non-hazardous and clean-up operations were initiated in accordance with New Mexico Oil Conservation Division (NMOCD) regulations. Excavated soils were placed on plastic and are currently staged on-site pending final disposition.

During the initial assessment, nine soil borings (B-1 through B-9) were advanced around the release to delineate the extent of hydrocarbon impacted soils. Three monitoring wells (MW-1, MW-2, MW-3) were installed to determine the depth to ground water, direction of flow, and hydraulic gradient beneath the site.

Ground water samples were collected from the three monitoring wells and submitted for determination of benzene, toluene, ethyl benzene, xylenes (BTEX), SVOCs and total metals. Analytical results indicated no evidence of hydrocarbon impact to the ground water.

During excavation, an area exhibiting weathered hydrocarbon staining was observed along the west wall of the excavation. The area was identified as a backfilled pit that had been associated with historical crude oil production at the C.J. Saunders Federal Tank Battery No. 1, previously operated by Texaco Exploration and Production, Inc. (TEPI).

08/95: Environmental Spill Control, Inc. began excavation operations on behalf of TEPI to remove the hydrocarbon impacted soils associated with the former pit area. Excavation operations removed a majority of the impacted soils above an indurated sandstone layer encountered at a depth of approximately 28 feet below ground surface. These excavated soils were kept segregated from the previously excavated soils and staged on-site pending final disposition. The exposed surface of the sandstone layer appeared fractured and exhibited evidence of hydrocarbon staining in an area approximately 85 feet long and 40 feet wide.

Four soil borings (B-10 through B-13) were advanced through the sands underlying the sandstone layer to total depths of approximately seven feet. Each boring was terminated upon encountering an indurated limestone layer immediately above the water table in order to prevent the creation of a potential migratory pathway for contamination of the ground water.

Soil samples were collected from each boring and submitted for determination of total petroleum hydrocarbon (TPH) concentrations. The TPH concentrations ranged from 60 ppm to 52,500 ppm in the sand layer immediately below the sandstone forming the floor of the excavation.

10/95: Monitoring well MW-4 was installed directly downgradient from the deepest point of the excavation to determine if a dissolved hydrocarbon plume was present. Soil and ground water analytical results identified no evidence of hydrocarbon impact to the ground water.

10/95-12/95: Additional excavation was performed to remove the hydrocarbon impacted soils identified in soil borings B-10 through B-13. After excavating these impacted soils, evidence of hydrocarbon staining was present on the upper surface of the indurated limestone layer forming the bottom of this more recent excavation at a depth of approximately 36 feet below ground surface.

12/95: Eight soil borings (B-14 through B-21) were drilled in the floor of the excavation to determine if hydrocarbon contamination was present beneath the limestone layer forming the bottom of this more recent excavation. Borings B-14, B-15, B-16, B-18, and B-21 were drilled to total vertical depths ranging from 8 to 13 feet and encountered ground water from 3 to 5 feet below the floor of the excavation. Borings B-17, B-19, and B-20 were placed along the northern edge

of the excavation floor and drilled at 45 degree angles to assess subsurface conditions immediately adjacent to the excavation.

Five soil borings outside the excavation perimeter were drilled and completed as monitoring wells MW-5 through MW-9 in order to further define the subsurface lithology at the site and determine if the hydrocarbon impact identified at depth could be from an upgradient source.

Nine additional borings were drilled to further assess subsurface conditions in the southeast corner of the excavation (downgradient portion). The borings were drilled to depths ranging from 7 to 18 feet. These borings were numbered BH-1 through BH-9, duplicating numbering of the original borings installed in June of 1995. No logs of these borings are available.

01/96: Four additional monitoring wells (MW-10, MW-11, MW-12, and JC-1) were installed to delineate the extent of hydrocarbon impact along the southeast margin of the excavation and provide additional ground water monitoring points. Monitoring well JC-1 was installed approximately 1,300 feet downgradient (south) from the release site at the landowners request. The soil boring for monitoring well MW-10 was drilled to a total depth of 95 feet to determine the total aquifer thickness.

The hydrocarbon recovery trench was installed in the bottom of the excavation.

01/31/96: Hydrocarbon recovery operations began.

02/96: Water samples were collected from the recovery trench and submitted for TCLP metals and RCI analysis. Hydrocarbon recovery from the recovery trench was ongoing.

03/96: An additional set of water samples was collected from the recovery trench. Hydrocarbon recovery from the recovery trench was ongoing.

05/96 Hydrocarbon recovery operations from the recovery trench ceased on May 13, 1996.

06/96: Ground water monitoring and sampling of wells MW-1 through MW-12 was conducted by KEI.

07/96: Ground water monitoring and sampling of wells MW-1 through MW-12 was conducted by KEI.

08/96: Soil stockpile characterization sampling was performed by KEI in accordance with the NMOCD approved sampling plan.

10/96: Temporary monitoring wells TMW-1 through TMW-11 were installed in the floor of the excavation in accordance with the NMOCD approved plan. Ground water monitoring and sampling of monitoring wells MW-1 through MW-12 and temporary monitoring wells TMW-1 through TMW-11 was conducted by KEI.

TECHNICAL SITE SUMMARY

In June, 1995, a crude oil release from a subsurface pipeline operated by Texas - New Mexico Pipe Line Company was discovered. This report summarizes activities performed by several different contractors and environmental engineering companies on behalf of TNMPL and TEPI in response to this release.

Upon discovery of the release, subsurface investigations were initiated to delineate the extent and magnitude of hydrocarbon impact within soils and ground water and to characterize generated wastes. Investigations included soil boring installation to delineate impacted soils, monitoring well installation to assess ground water, and excavation operations to remove hydrocarbon impacted soils.

Soil excavation activities conducted at the site removed the apparent majority of the hydrocarbon impacted soils. The excavated soils are currently staged on-site pending final disposition. An assessment of hydrocarbon concentrations in the stockpiled soils was performed in August of 1996. The results of this assessment are presented in TABLE 2 and on FIG. 14.

Twelve monitoring wells (MW-1 through MW-12) have been installed at the site to assess native soils and ground water. One additional monitoring well, JC-1, was installed approximately 1300 feet downgradient at the request of the landowner. Selected soil samples were collected and analyzed for concentrations of benzene, toluene, ethyl benzene, and xylenes (BTEX), and total petroleum hydrocarbons (TPH). The analytical results are presented in TABLE 1 and FIG. 3. Copies of the laboratory analytical reports are presented in APPENDIX A.

Ground water samples were collected from the monitoring wells on various dates and selectively analyzed for concentrations of BTEX, polynuclear aromatic hydrocarbons (PAH's), total metals, or selected ground water quality criteria. Prior to sampling, ground water elevations were measured. The ground water elevations and analytical results are presented in TABLE 2, TABLE 3, TABLE 4, and FIG. 6 through FIG. 12. Copies of the laboratory analytical reports are presented in APPENDIX B.

A hydrocarbon recovery system was installed in the bottom of the excavation and operated from January 31 to May 13 of 1996. Throughout system operation, a total of 15.72 bbls of hydrocarbon and 375.88 bbls of ground water were recovered. In May of 1996, the excavation was flooded to a depth of several feet, and the recovery system was damaged beyond repair. In August of 1996 the excavation was cleaned out, the damaged recovery system components were removed, and the excavation bottom was graded to facilitate further characterization activities.

Soil borings installed at various times in the bottom of the excavation had identified a zone of hydrocarbon impact in the sand/limestone strata near the static water table at approximately 42 feet below grade. Soil sample results from the borings are presented in TABLE 1 and FIG. 4. Copies of the available laboratory analytical reports are presented in APPENDIX A.

In order to determine the extent of potential impact at the site, eleven temporary monitoring wells, designated TMW-1 through TMW-11, were installed at selected locations across the bottom of the excavation in October of 1996. The wells were drilled to depths ranging from

approximately 4.5 to 17 feet below the floor of the excavation to obtain soil and ground water samples and to monitor ground water for the presence of free phase hydrocarbon. Selected soil samples were collected and analyzed for concentrations of BTEX and TPH. The analytical results are presented in TABLE 1 and FIG. 5. Copies of the laboratory analytical reports are presented in APPENDIX A.

During installation, temporary monitoring wells TMW-1 and TMW-2 did not exhibit free-phase hydrocarbon. Ground water samples were collected from these temporary monitoring wells on October 2, 1996, and analyzed for concentrations of BTEX, polynuclear aromatic hydrocarbons (PAH's), 15 total metals as specified by NMOCD, major cations/anions, and TDS. The analytical results are presented in TABLE 2, TABLE 3, and TABLE 4. Copies of the laboratory analytical reports are presented in APPENDIX B.

On October 1-2, 1996, October 17, 1996, and again on October 30, 1996, free-phase hydrocarbon was observed in the temporary monitoring wells. A product thickness map for the October 30, 1996 data is presented as FIG 13.

Logs of soil borings, monitoring wells, and temporary monitoring wells installed at the site are presented as FIG. 15 through FIG. 42. Logs for soil borings and monitoring wells installed by previous contractors were generated from field notes by those contractors.

Soil Analytical Results

Soil samples were collected from monitoring wells MW-1, MW-2, and MW-3 on June 21, 1995, and submitted for determination of BTEX and TPH concentrations. Benzene concentrations were ND; total BTEX concentrations were ND; and TPH concentrations ranged from 140 ppm to 230 ppm.

Soil samples were collected from soil borings SB-1 through SB-3, SB-5, SB-6, SB-8, and SB-9 on June 30, 1995 and submitted for determination of BTEX and TPH concentrations. Benzene concentrations were ND, total BTEX concentrations were ND, and TPH concentrations ranged from ND to 21,700 ppm.

Soil samples were collected from monitoring well MW-4 on October 4, 1995 and submitted for determination of BTEX and TPH concentrations. Benzene concentrations were ND; total BTEX concentrations were ND; and TPH concentrations ranged from 42.1 ppm to 50.2 ppm.

TPH concentrations for soil samples collected from soil borings BH-10 through BH-13 on October 7 and 9, 1995, ranged from 60 ppm to 52,500 ppm. TPH concentrations for soil samples collected from soil borings BH-14 through BH-21 on December 7, 1995, ranged from 90 ppm to 114,700 ppm. The nine soil borings designated BH-1 through BH-9, which were sampled on December 20, 1995, exhibited TPH concentrations ranging from 227 ppm to 32,000 ppm.

Soil samples were collected from monitoring wells MW-10 through MW-12 on January 24, 1996, and submitted for determination of BTEX and TPH concentrations. Benzene concentrations were ND; total BTEX concentrations ranged from ND to 0.090 ppm; and TPH concentrations ranged from 40 ppm to 98 ppm.

Eight composite soil samples collected from the excavation stockpiles were collected on August 15, 1996 and submitted for determination of TPH concentrations. TPH concentrations ranged from 800 to 31,500 mg/kg.

Soil samples were collected from temporary monitoring wells TMW-1 through TMW-11 on October 1 and 2, 1996 and submitted for determination of BTEX and TPH concentrations. Benzene concentrations were ND to 2.234, total BTEX concentrations ranged from ND to 29.092 mg/kg, and TPH concentrations ranged from 10 to 86,200 mg/kg.

A summary of soil laboratory results from all borings and monitoring wells is presented in TABLE 1.

Ground Water Analytical Results

Prior to June of 1996, ground water samples were collected from the monitoring wells on various dates and selectively submitted for determination of BTEX, PAHs, Total Metals, and/or water quality criteria concentrations. Benzene concentrations ranged from ND to 0.290 mg/l; total BTEX concentrations ranged from ND to 6.416 mg/l; and PAHs were ND. Silver, Cadmium, and Selenium concentrations were ND; Arsenic concentrations ranged from ND to 0.006 mg/l, Barium concentrations ranged from ND to 23.3 mg/l; Chromium concentrations ranged from ND to 0.13 mg/l; Mercury concentrations ranged from ND to 0.003 mg/l; and lead concentrations ranged from ND to 0.14 mg/l. A site map illustrating the distribution of selected ground water analyses is presented as FIG. 6.

On June 4, 1996, July 10, 1996, and October 3, 1996, ground water samples were obtained from monitoring wells MW-1 through MW-12 and analyzed for BTEX and TPH concentrations. Benzene concentrations ranged from ND to 0.290 mg/l, BTEX concentrations ranged from ND to 6.416 mg/l, and TPH concentrations ranged from ND to 2 mg/l. These ground water analytical results are presented in TABLE 2, the June 4, 1996 results are presented on FIG. 9, and the October 3, 1996 results are presented on FIG. 12. Ground water samples were obtained from temporary monitoring wells TMW-1 and TMW-2 on October 3, 1996. The BTEX concentration for TMW-1 was ND and for TMW-2 was 0.029 mg/l.

Ground water samples for monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-7 were collected on January 8, 1996 and submitted for determination of total dissolved solids concentrations (TDS). TDS concentrations ranged from 222 mg/l to 806 mg/l. Ground water samples for monitoring wells MW-10 and JC-1 collected on February 29, 1996, were also submitted for determination of TDS concentrations. The TDS concentrations for these two wells ranged from 636 mg/l to 748 mg/l. TDS and chlorides samples were collected from monitoring wells MW-1 through MW-12 on June 4, 1996, and TDS samples were collected from temporary monitoring wells TMW-1 and TMW-2 on October 2, 1996. TDS concentrations for these samples ranged from 210 mg/l to 1,010 mg/l. Chlorides concentrations ranged from 107 mg/l to 373 mg/l. A summary of ground water analytical results is presented in TABLE 2 and TABLE 3.

Ground Water Gradient

Groundwater elevation maps contoured from data obtained from five separate gauging events between September 20, 1995 and February 23, 1996 show only slightly varying hydraulic gradients. The ground water appears to flow toward the south-southeast, although the December 8, 1995 event indicates a flow in direction towards the east. During the July, 1996 monitoring event, the depth to ground water ranged from approximately 41.58 to 45.38 feet below ground surface. This data is generally consistent with previous and subsequent information obtained at the site. Ground water contours from June through October of 1996 indicate a consistent gradient to the south-southeast. Ground water contours for selected monitoring events are presented on FIG. 7 - 8 and FIG. 10 - 11. A summary of ground water measurements is presented in TABLE 2.

PSH Monitoring and Disposition

A hydrocarbon recovery system was installed in January of 1996. On-going hydrocarbon recovery operations began on January 31, 1996. Hydrocarbon was pumped from recovery trenches located in the bottom of the excavation through a 2" poly line into a 500 Bbl tank using a 2" floating dock skimmer, a 1-1/2" Viking pump and a 2" trash pump. The recovery pit levels were recorded prior to and after each skimming operation and the tank was gauged periodically for total liquid recovered. Through May 13, 1996 (the last day of system operation), approximately 15.72 bbls of hydrocarbon and 375.88 bbls of ground water had been recovered. A Free Phase Hydrocarbon Thickness map from data collected in October of 1996 is presented as FIG. 11.

Water samples were collected from the recovery trench for determination of TCLP metals, TCLP volatiles, and TPH. All of the recovered fluids are currently in the on-site tank awaiting final disposition.

CONCLUSIONS

The following conclusions are drawn from the available assessment and recovery data for the site. Further conclusions, or an assessment of these conclusions, may be made as the project continues.

- The majority of the soils impacted by hydrocarbon at the site were removed during excavation operations. Hydrocarbon impacted soils are still present below the excavation floor, particularly at the saturated/unsaturated zone interface.
- Free phase hydrocarbon is present on ground water within the confines of the excavation.
- Dissolved phase hydrocarbons are present in ground water within the excavation confines. Several of the perimeter monitoring wells around the excavation have exhibited dissolved phase hydrocarbon at low to non-detectable concentrations.
- The ground water gradient is generally consistent to the south-southeast.
- TDS concentrations in ground water are within permissible limits.

RECOMMENDATIONS

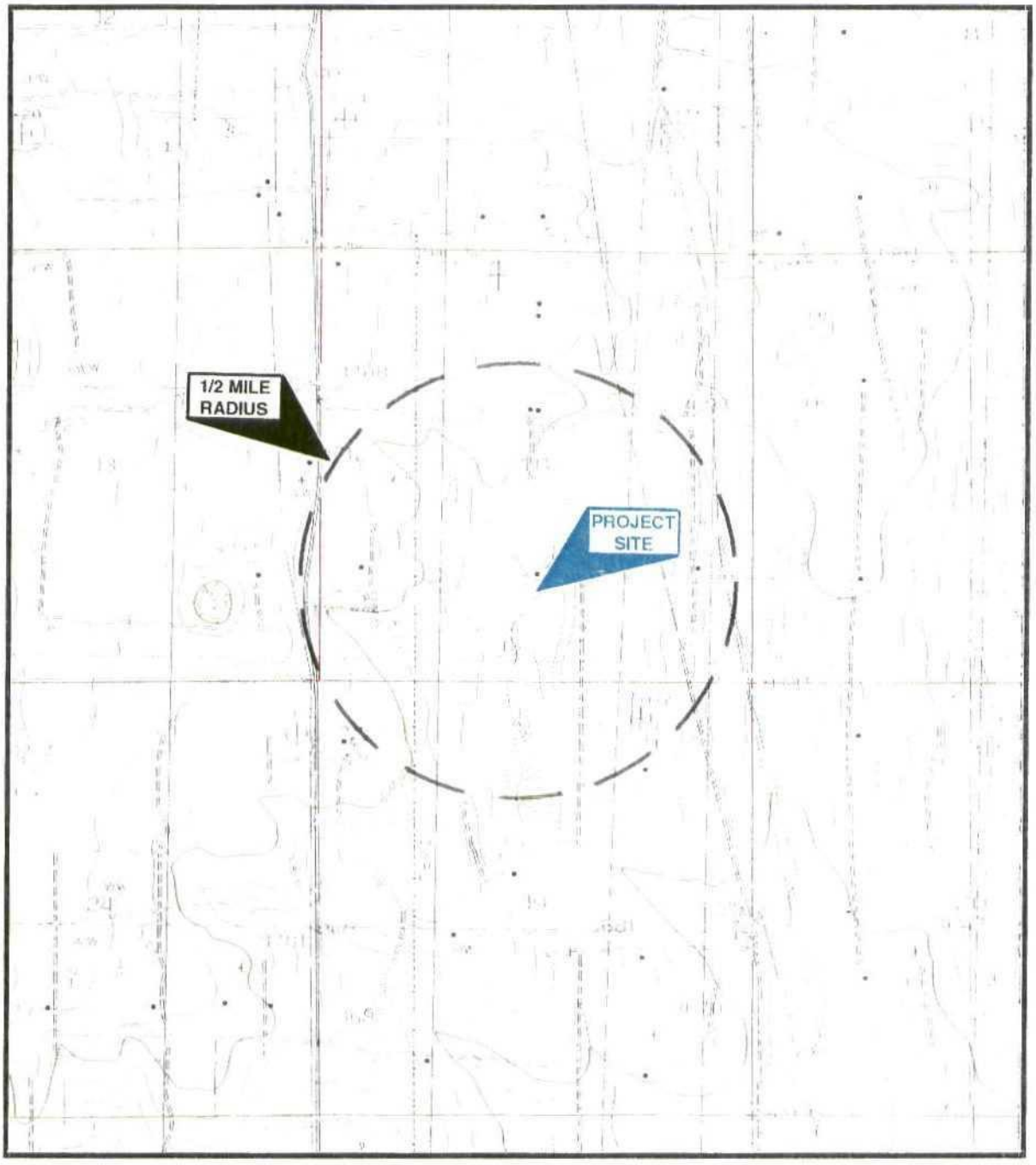
The following recommendations are provided to address hydrocarbon impacted media at the site. Further recommendations, or an assessment of these recommendations, may be made as the project continues.

- Ongoing monitoring of the site should continue. This should consist of at least monthly gauging of the temporary monitoring wells in the excavation on a short term basis to monitor hydrocarbon thicknesses, and quarterly monitoring of the monitoring wells around the perimeter of the excavation.
- A comprehensive technology review of the assessment data for the site should be performed to determine the most appropriate methods to address hydrocarbon impacted media at the site. This technology review is currently underway.
- Following OCD approval of the selected technology(ies), further corrective action should be implemented until pre-determined closure levels have been achieved for all site media.

MONUMENT NORTH QUADRANGLE

NEW MEXICO - LEA COUNTY

PRINTED 1985



SCALE 1:24000

1 1/2 0 1 MILE

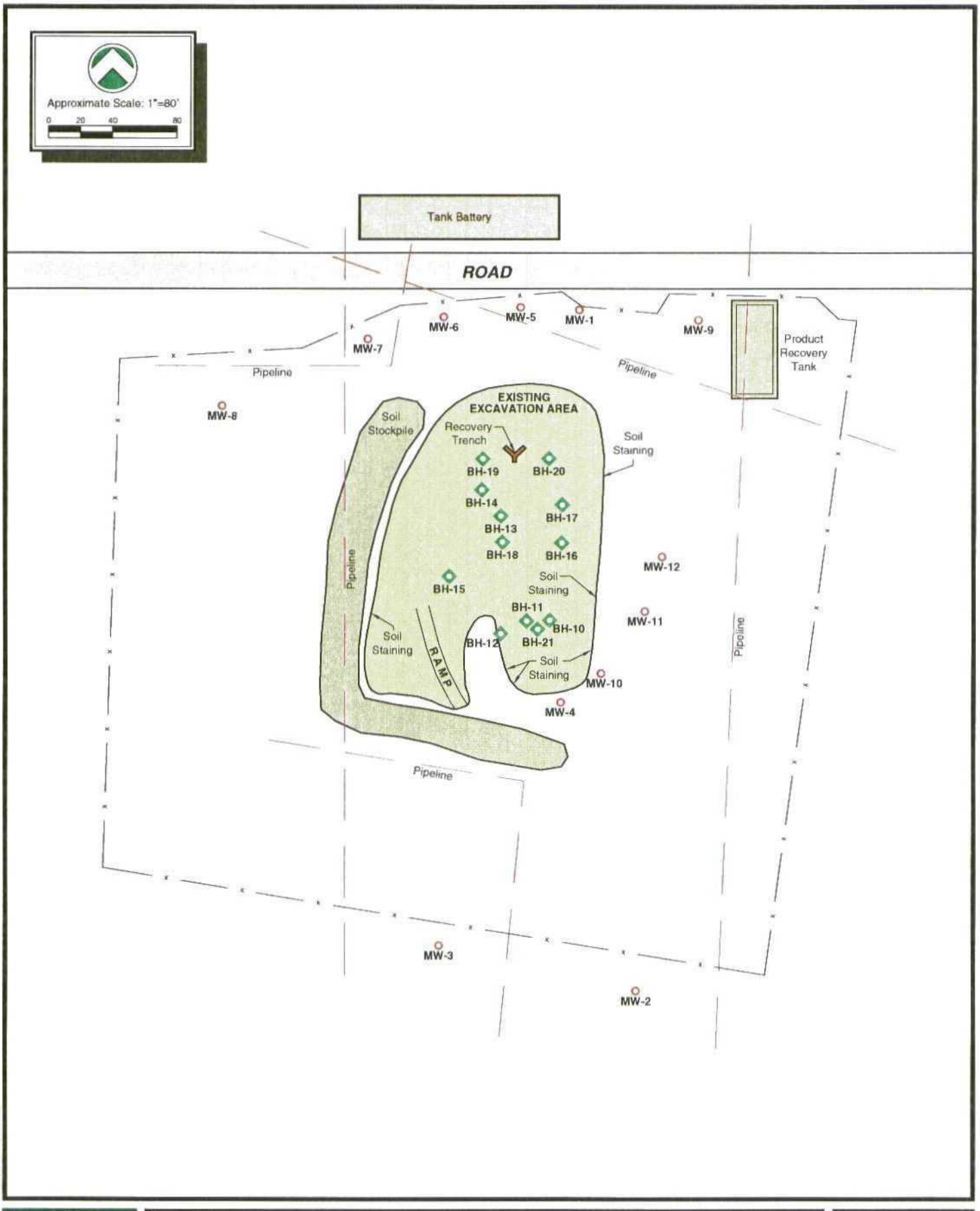
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETRE

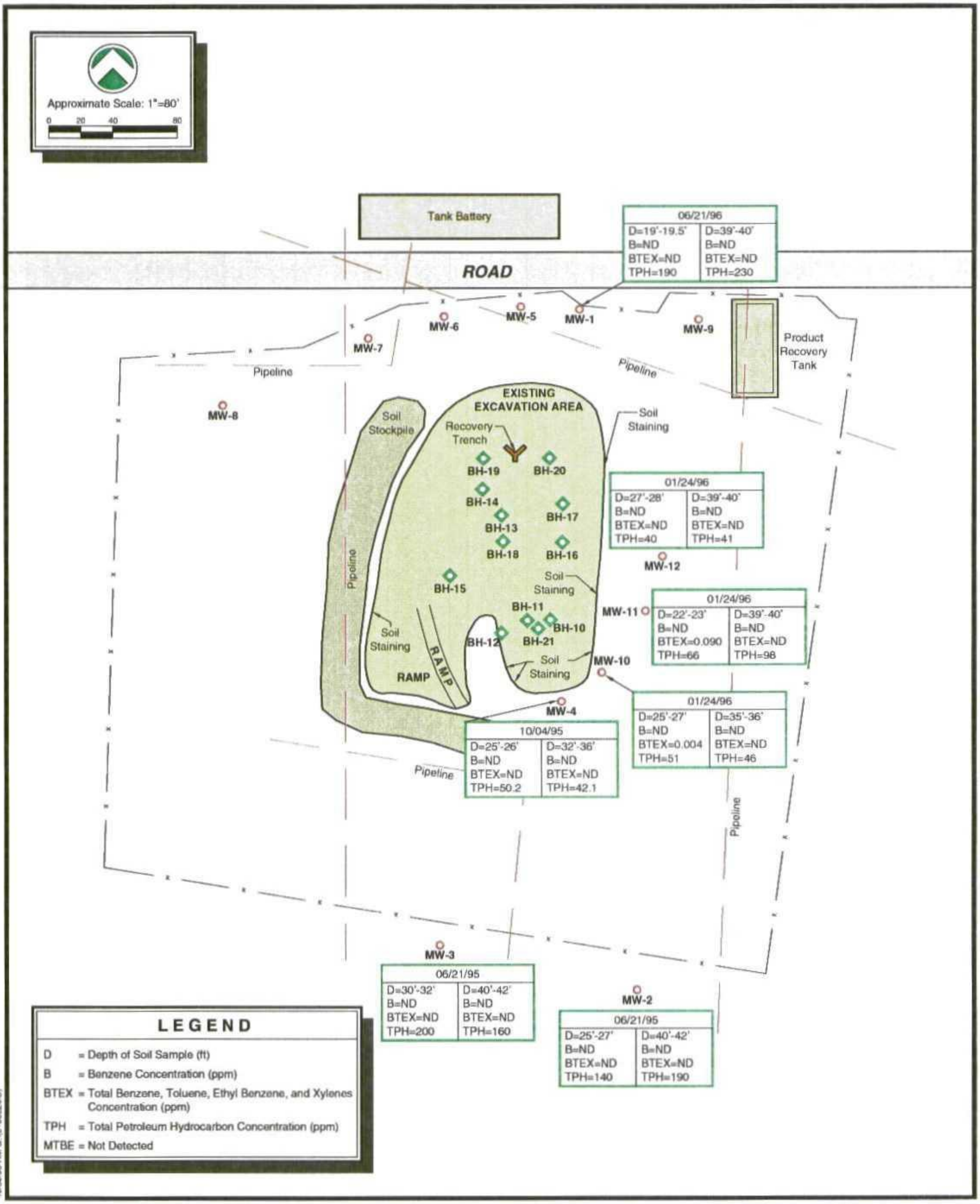
CONTOUR INTERVAL 10 FEET

02/22/96

k·e·i	*SITE LOCATION MAP*	610062
	SECTIONS 18, T19S, AND R37E LEA COUNTY, NEW MEXICO	FIG 1



k·e·i	*SITE PLAN*	610062
	SECTIONS 18, T19S, AND R37E LEA COUNTY, NEW MEXICO	FIG 2



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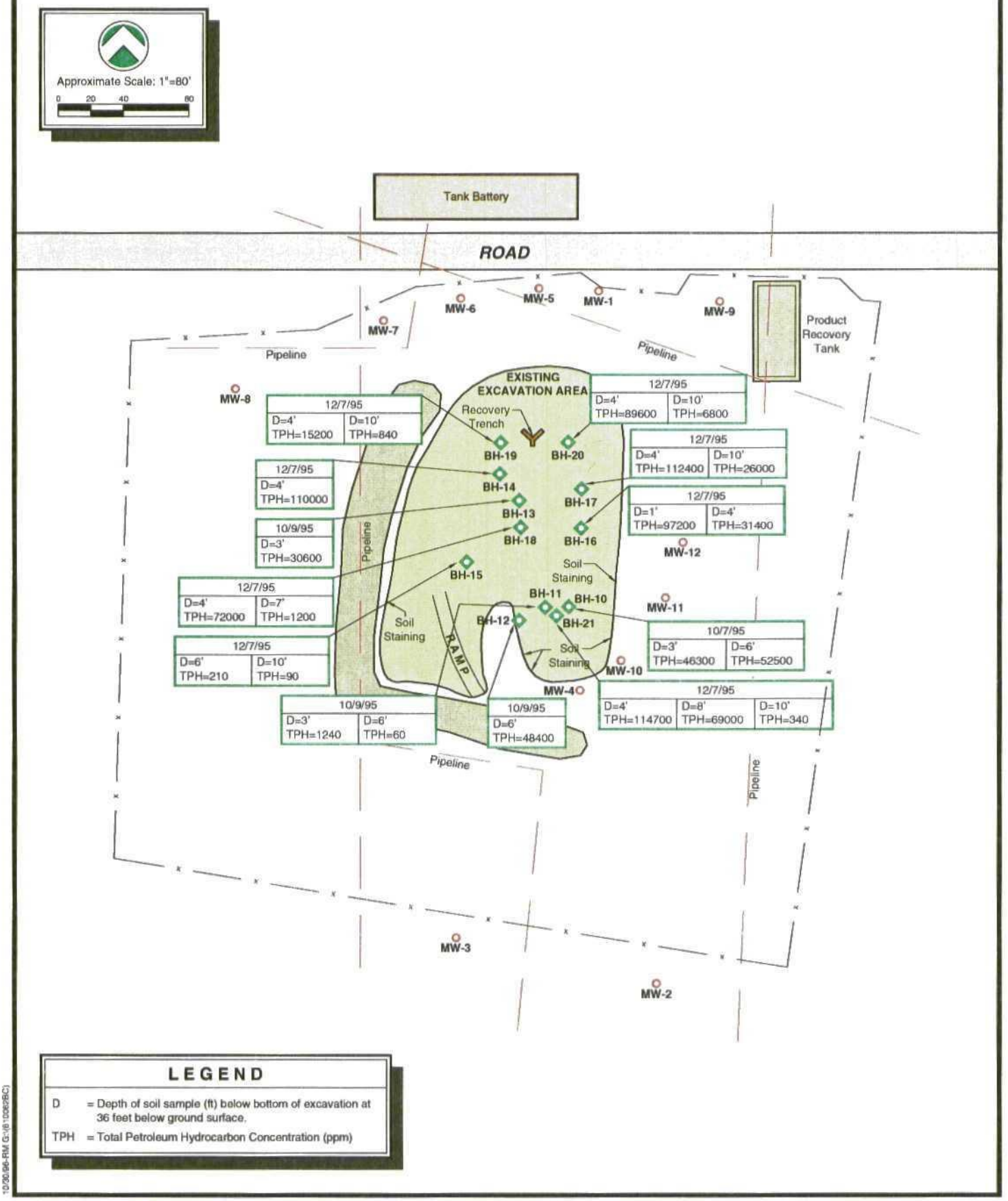
SOIL CONCENTRATION MAP - MONITORING WELLS

SECTIONS 18, T19S, AND R37E LEA COUNTY, NEW MEXICO

610062

FIG 3



LEGEND

D = Depth of soil sample (ft) below bottom of excavation at 36 feet below ground surface.

TPH = Total Petroleum Hydrocarbon Concentration (ppm)

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k·e·i	*SOIL CONCENTRATION MAP - EXCAVATION BOTTOM BORINGS*	610062
	SECTIONS 18, T19S, AND R37E LEA COUNTY, NEW MEXICO	FIG 4

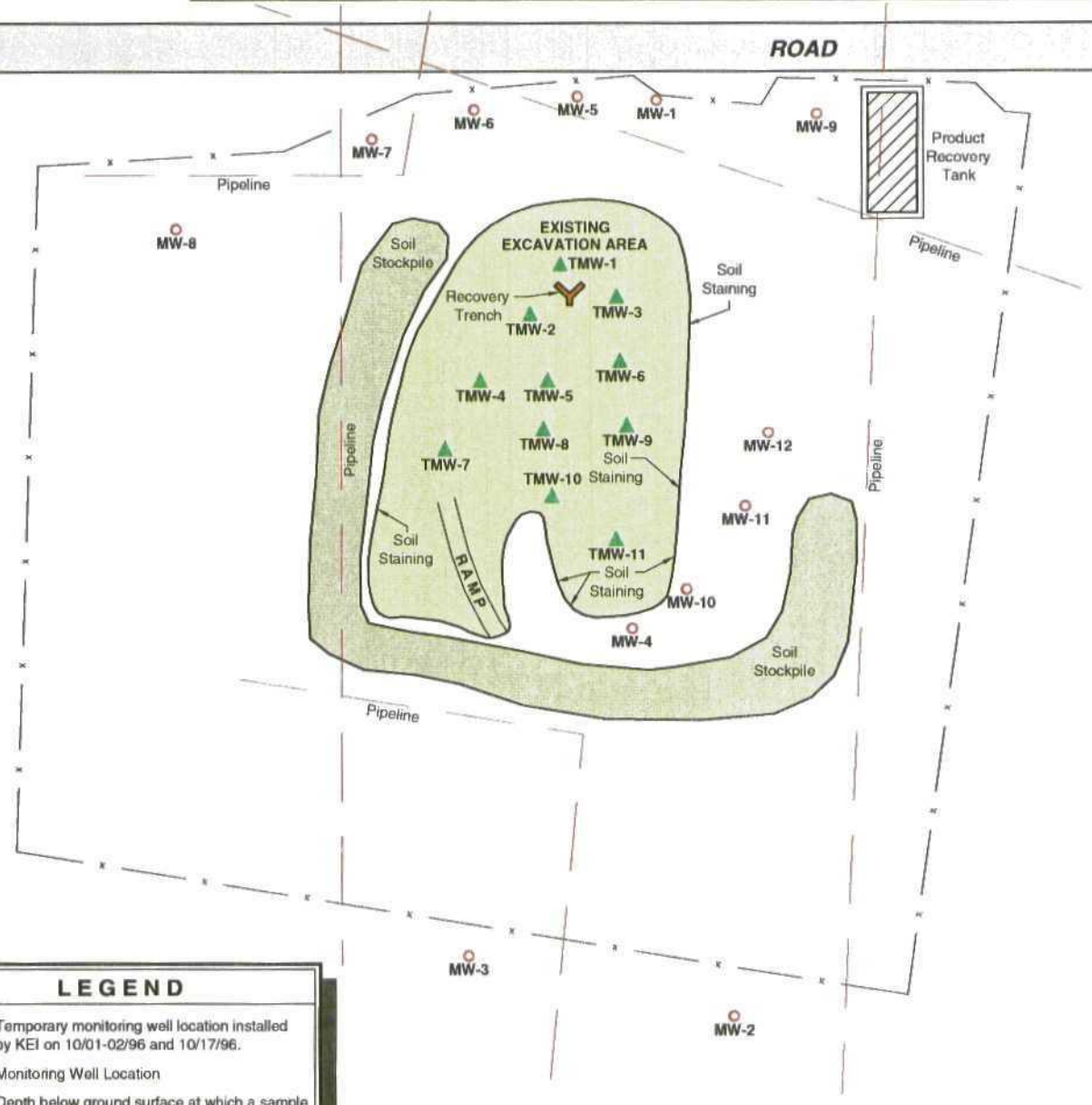
Approximate Scale: 1"=80'

0 20 40 80

Apparent direction of ground water flow.

LAB RESULTS - (06/04/96)

TMW-1	TMW-1	TMW-2	TMW-2	TMW-3	TMW-3	TMW-4	TMW-4	TMW-5
D=5-6 B=ND BTEX=5.372 TPH=17300	D=11-12 B=0.158 BTEX=0.158 TPH=240	D=7-8 B=1.630 BTEX=26.917 TPH=32700	D=11-12 B=ND BTEX=1.550 TPH=240	D=1-2 B=0.114 BTEX=0.309 TPH=210	D=11-12 B=0.827 BTEX=19.898 TPH=36300	D=1-2 B=0.301 BTEX=12.385 TPH=21500	D=11-12 B=0.292 BTEX=2.426 TPH=10	D=2.5-3.5 B=1.767 BTEX=29.092 TPH=27000
TMW-5	**TMW-6**	**TMW-6**	**TMW-7**	**TMW-8**	**TMW-9**	**TMW-10**	**TMW-11**	
D=11-12 B=ND BTEX=ND TPH=100	D=1-2 B=0.900 BTEX=20.421 TPH=37600	D=11-12 B=ND BTEX=3.549 TPH=70	D=4.5-5.5 B=ND BTEX=17.811 TPH=18100	D=3.5-4.5 B=1.721 BTEX=15.547 TPH=86200	D=5-6 B=0.944 BTEX=22.585 TPH=34100	D=5-6 B=ND BTEX=4.192 TPH=27300	D=6-7 B=2.234 BTEX=14.593 TPH=10700	



LEGEND

- ▲ Temporary monitoring well location installed by KEI on 10/01-02/96 and 10/17/96.
- ○ Monitoring Well Location
- D = Depth below ground surface at which a sample was collected (ft).
- B = Benzene Concentration (mg/kg)
- BTEX = Total Benzene, Toluene, Ethyl Benzene, Xylenes Concentration (mg/kg)
- TPH = Total Petroleum Hydrocarbons Concentration (mg/kg)

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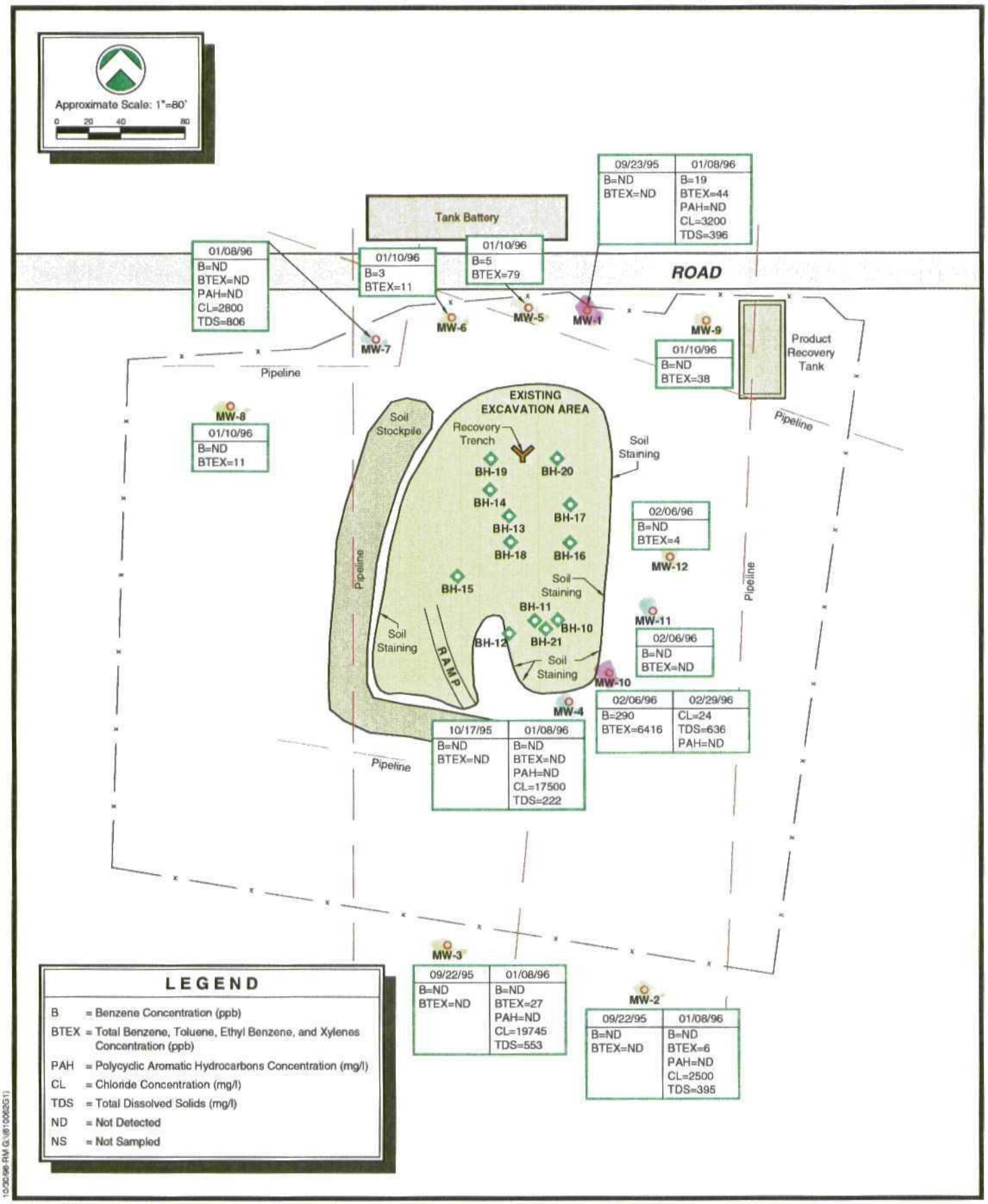
SOIL CONCENTRATION MAP - TEMPORARY MONITORING WELLS	610062
SECTION 18, T19S, AND R37E LEA COUNTY, NEW MEXICO	FIG 5



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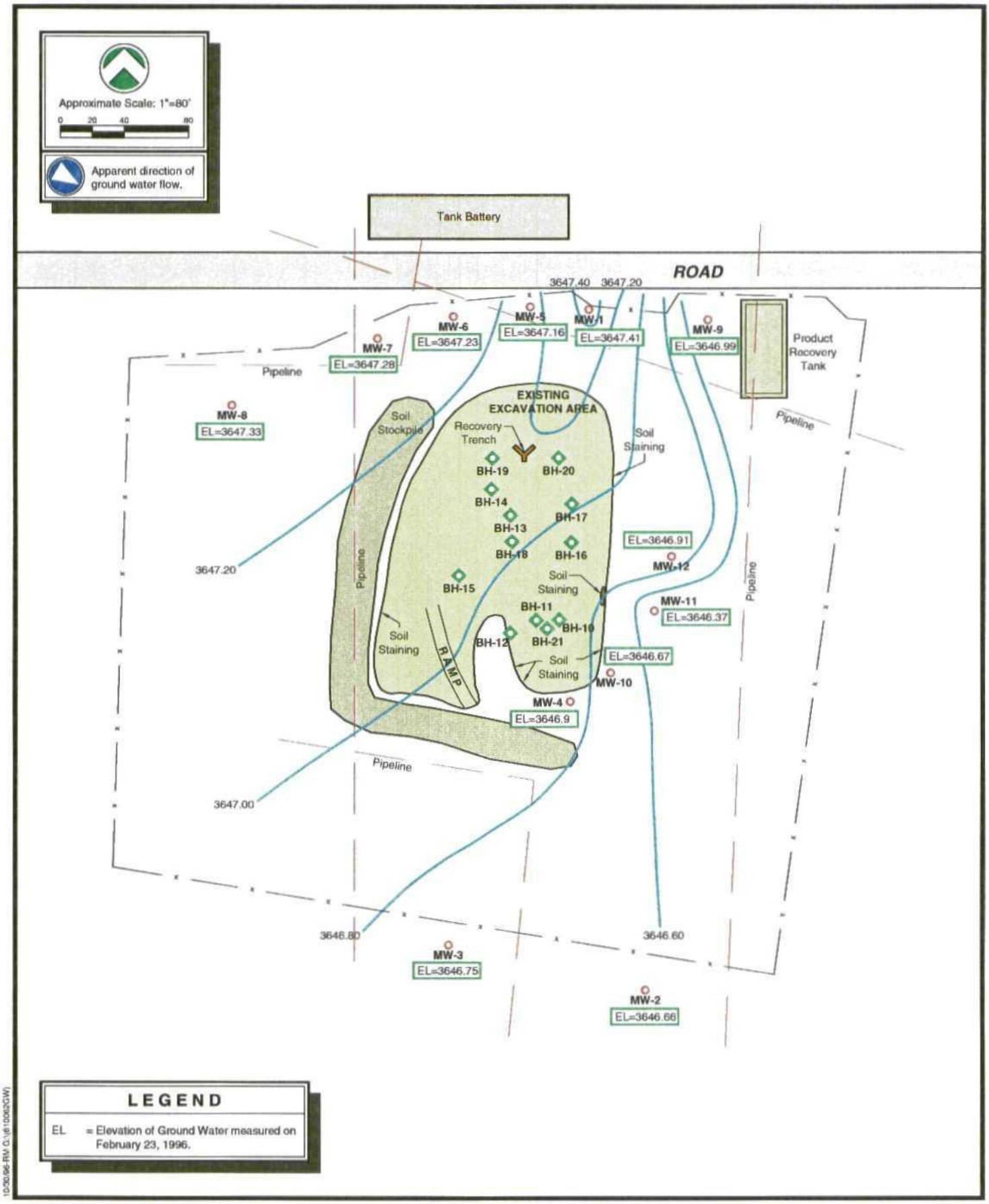
GROUND WATER CONCENTRATION MAP (9/95 - 2/96)	610062
SECTIONS 18, T19S, AND R37E LEA COUNTY, NEW MEXICO	FIG 6

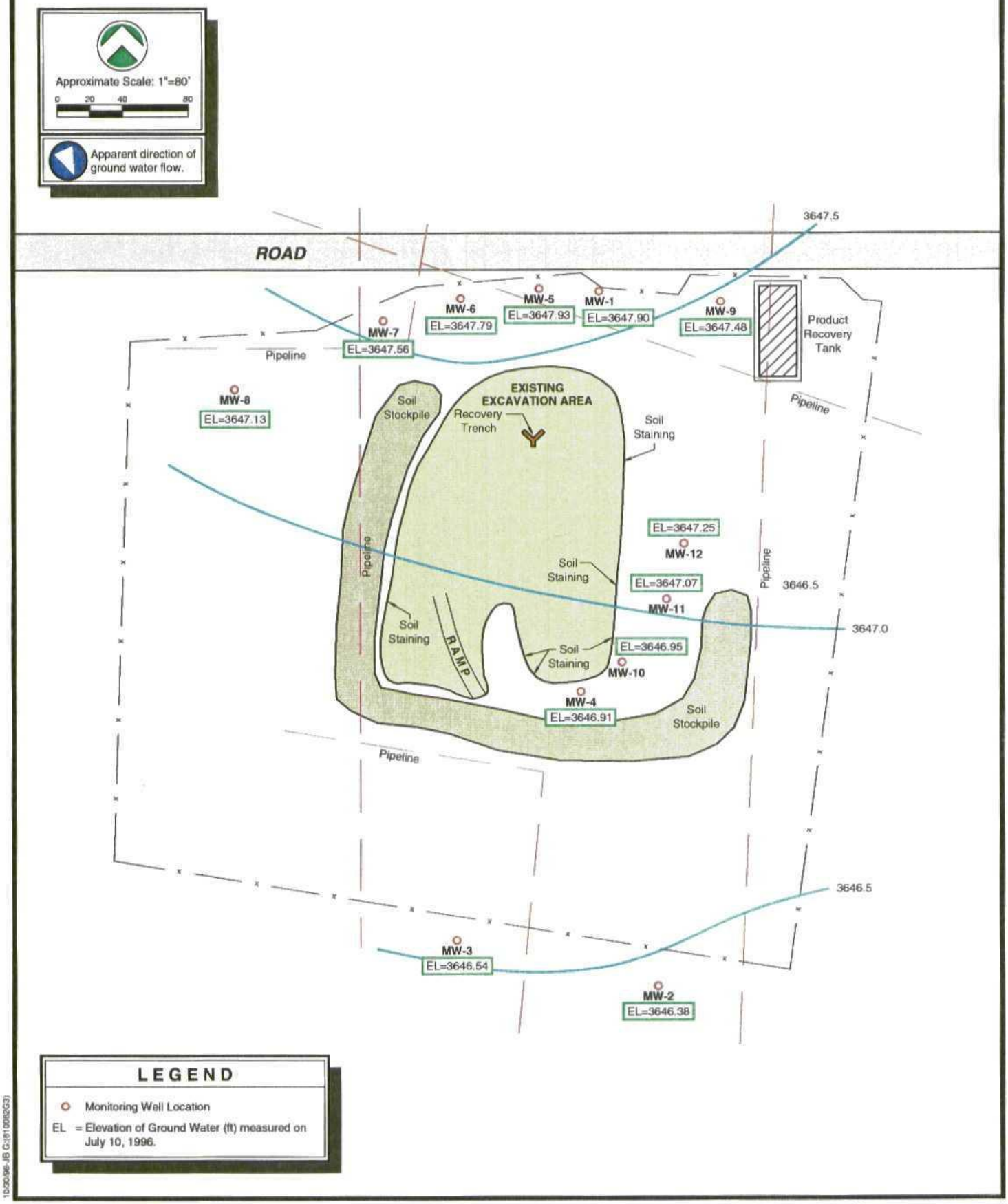


LEGEND

EL = Elevation of Ground Water measured on February 23, 1996.

10/30/96-RW G:\610062\GW)

k·e·i	*GROUND WATER GRADIENT MAP - (02/23/96)*	610062
	SECTIONS 18, T19S, AND R37E LEA COUNTY, NEW MEXICO	FIG 7



10/30/96- JB G:\810062\G3\

k·e·i	GROUND WATER GRADIENT MAP (06/04/96)	610062
	SECTION 18, T19S, AND R37E LEA COUNTY, NEW MEXICO	FIG 8

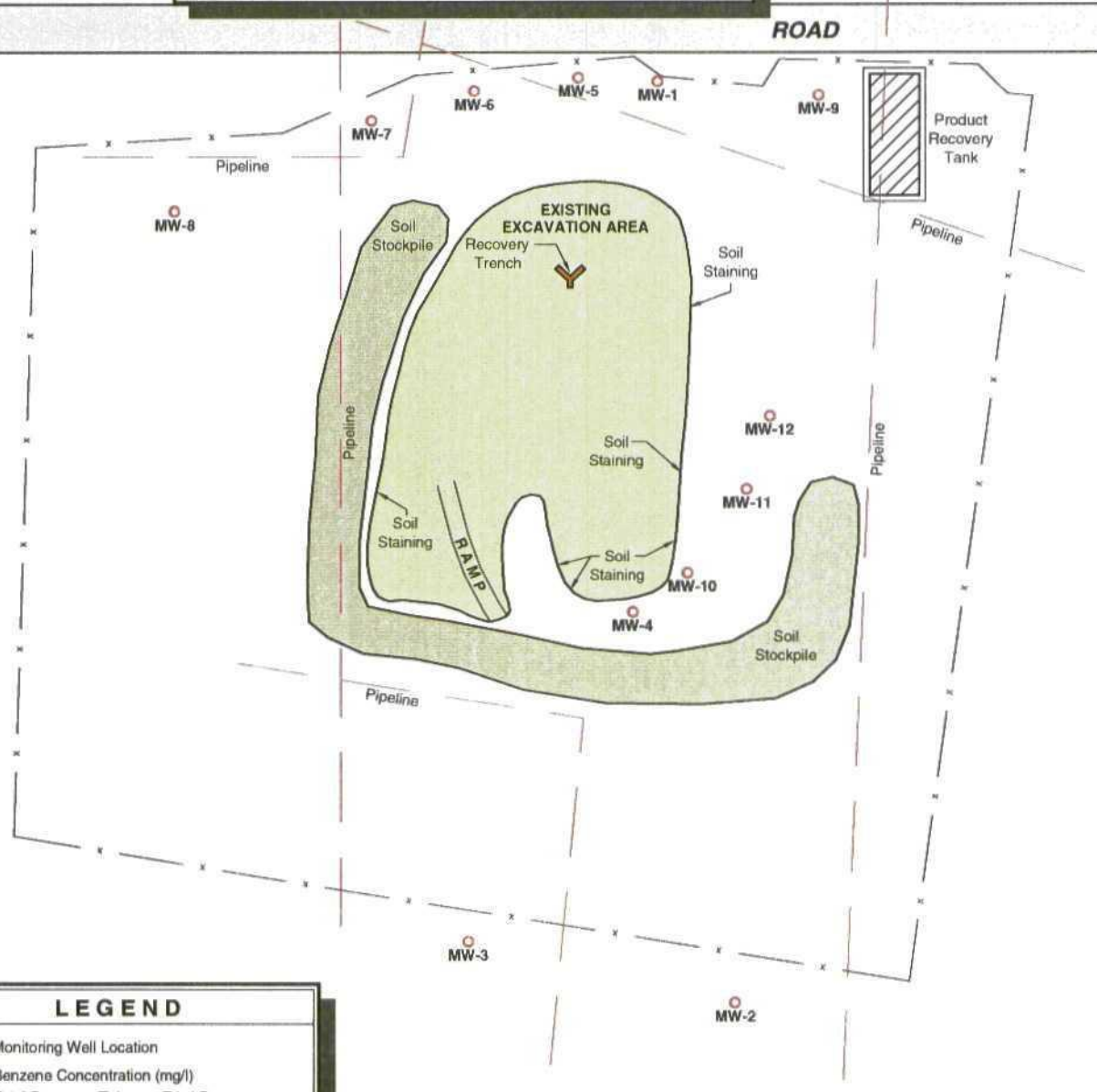
Approximate Scale: 1"=80'

0 20 40 80

Apparent direction of ground water flow.

LAB RESULTS - (06/04/96)

MW-1	MW-2	MW-3	MW-4	MW-5	MW-6
B=ND BTEX=ND TPH=ND TDS=880 CL=320	B=ND BTEX=ND TPH=ND TDS=320 CL=213	B=ND BTEX=ND TPH=ND TDS=410 CL=107	B=ND BTEX=ND TPH=ND TDS=210 CL=107	B=ND BTEX=ND TPH=ND TDS=650 CL=107	B=ND BTEX=ND TPH=ND TDS=720 CL=122
MW-7	**MW-8**	**MW-9**	**MW-10**	**MW-11**	**MW-12**
B=ND BTEX=ND TPH=ND TDS=850 CL=373	B=ND BTEX=ND TPH=ND TDS=310 CL=107	B=ND BTEX=ND TPH=1 TDS=420 CL=107	B=ND BTEX=ND TPH=ND TDS=660 CL=107	B=ND BTEX=ND TPH=1 TDS=620 CL=213	B=2 BTEX=11 TPH=2 TDS=1010 CL=266



LEGEND

- Monitoring Well Location
- B = Benzene Concentration (mg/l)
- BTEX = Total Benzene, Toluene, Ethyl Benzene, Xylenes Concentration (mg/l)
- TPH = Total Petroleum Hydrocarbons Concentration (mg/l)
- TDS = Total Dissolved Solids Concentration (mg/l)
- CL = Chlorides Concentration (mg/l)

10/30/96 JB G:\610062\CM\

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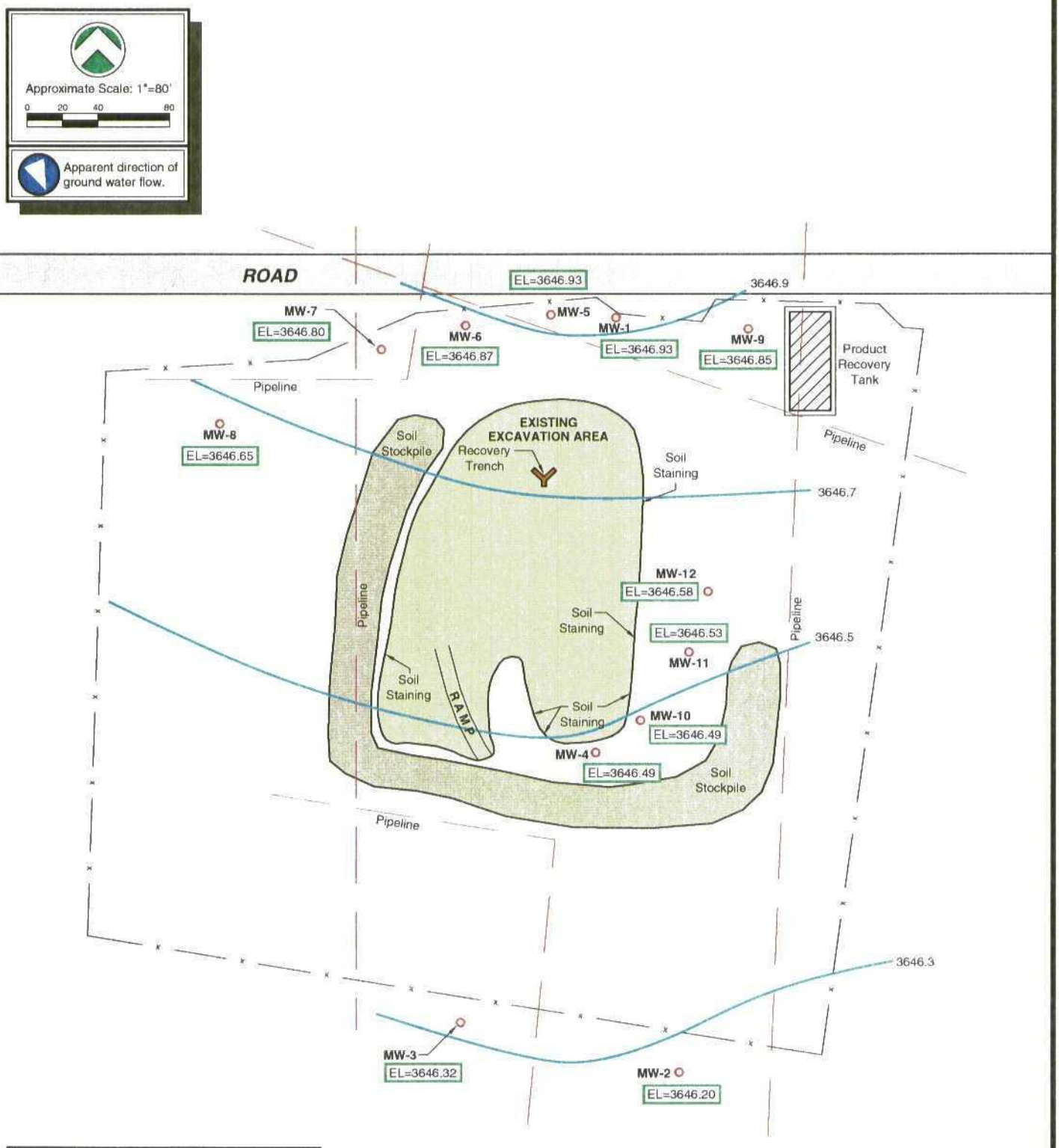
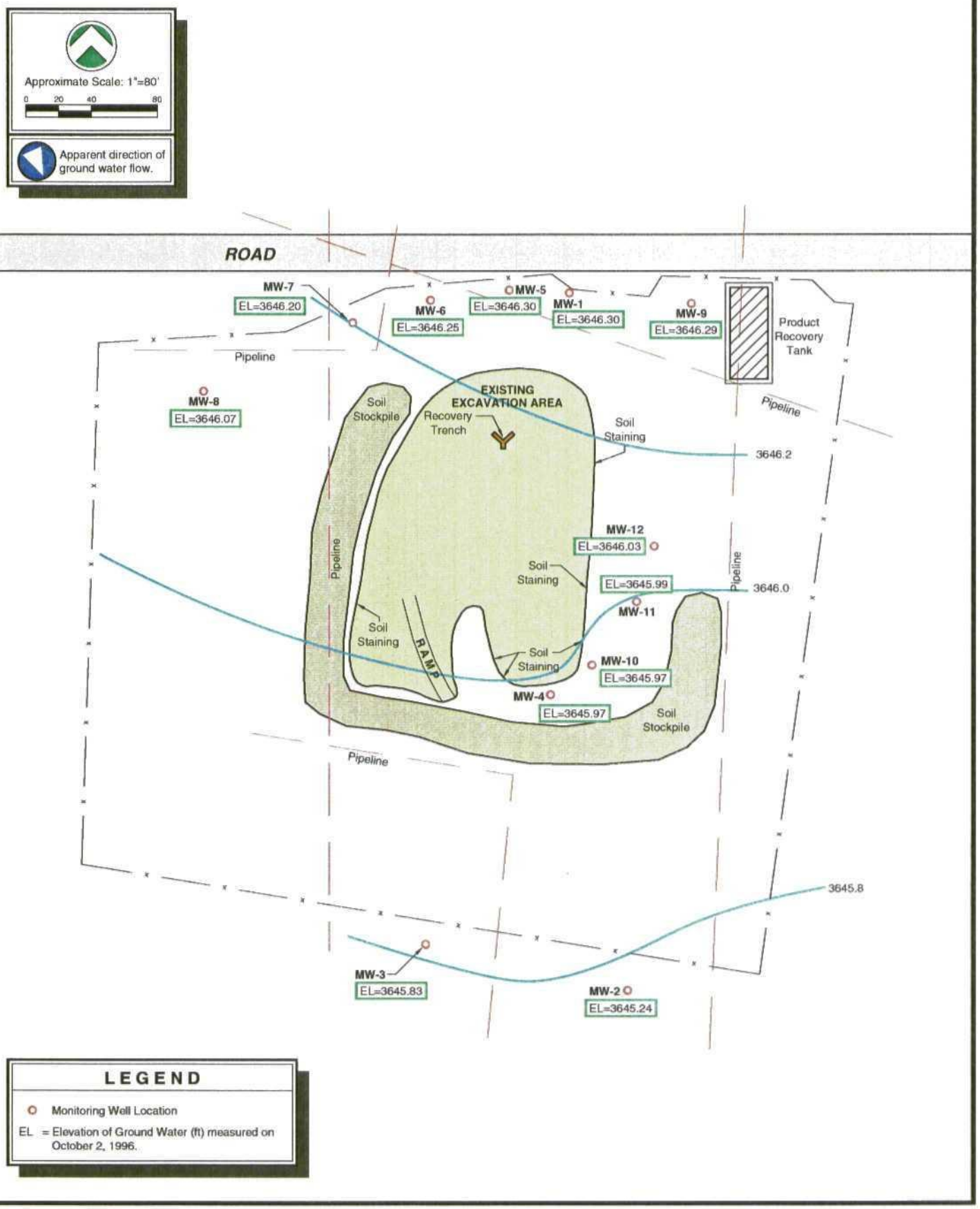
GROUND WATER CONCENTRATION MAP (06/04/96)	610062
SECTION 18, T19S, AND R37E LEA COUNTY, NEW MEXICO	FIG 9



10/30/96-JB G:\610062\G2)

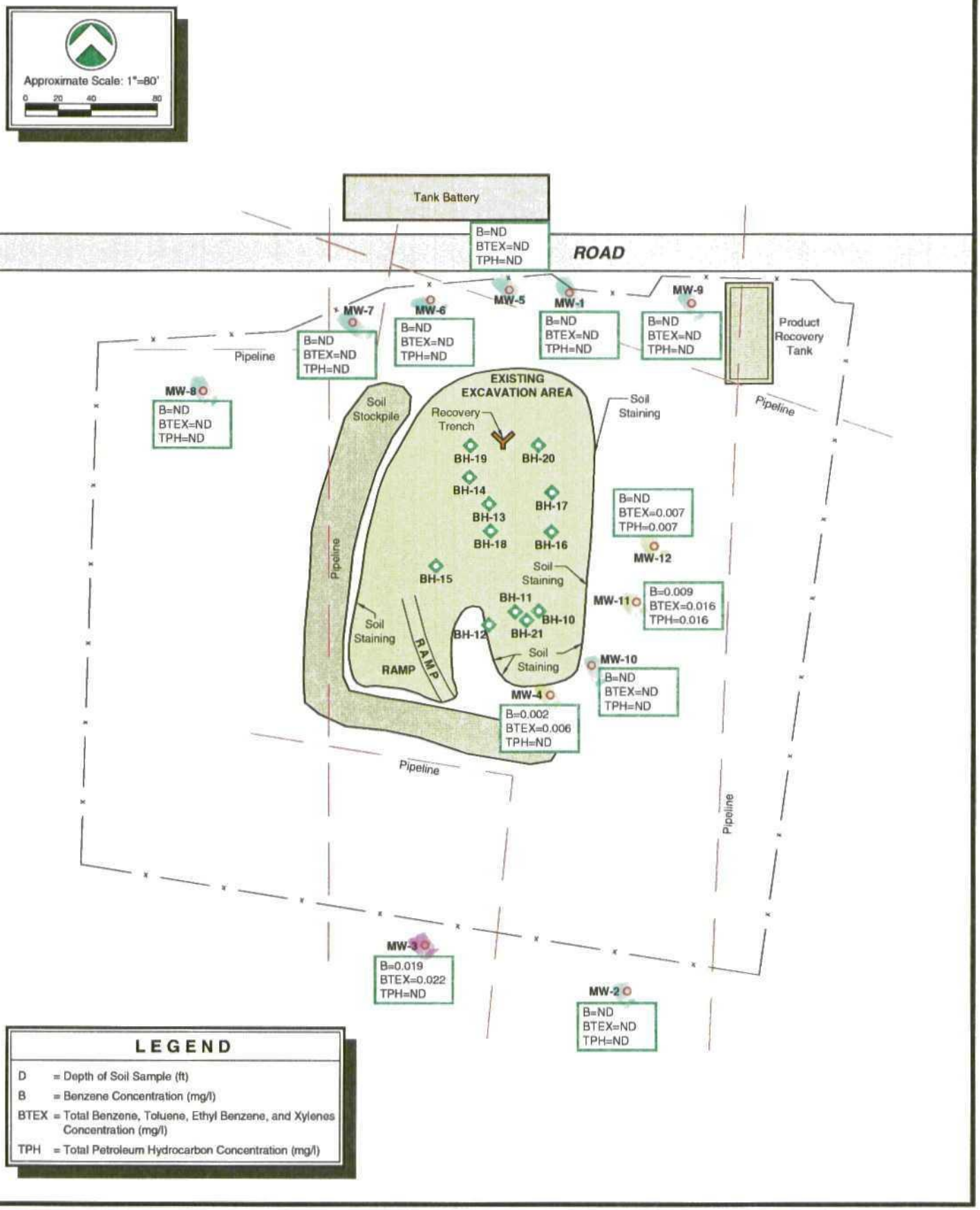
k·e·i	GROUND WATER GRADIENT MAP (07/10/96)	610062
	SECTION 18, T19S, AND R37E LEA COUNTY, NEW MEXICO	FIG 10



10/30/96-JB G:\610062\G4)

k·e·i

GROUND WATER GRADIENT MAP (10/02/96)	610062
SECTION 18, T19S, AND R37E — LEA COUNTY, NEW MEXICO	FIG 11



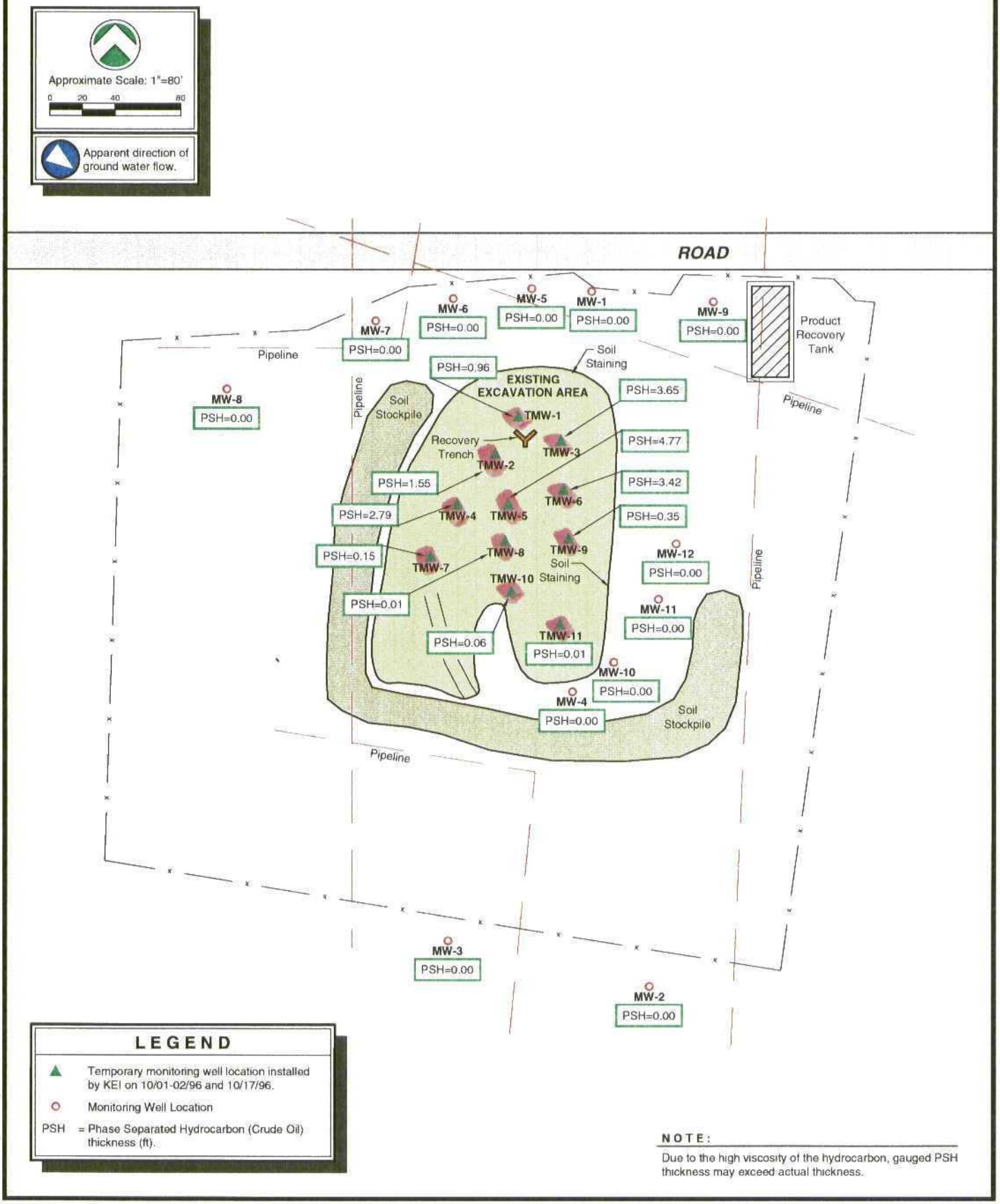
LEGEND

D	= Depth of Soil Sample (ft)
B	= Benzene Concentration (mg/l)
BTEX	= Total Benzene, Toluene, Ethyl Benzene, and Xylenes Concentration (mg/l)
TPH	= Total Petroleum Hydrocarbon Concentration (mg/l)

10/30/96-RM G:\610062\C1)

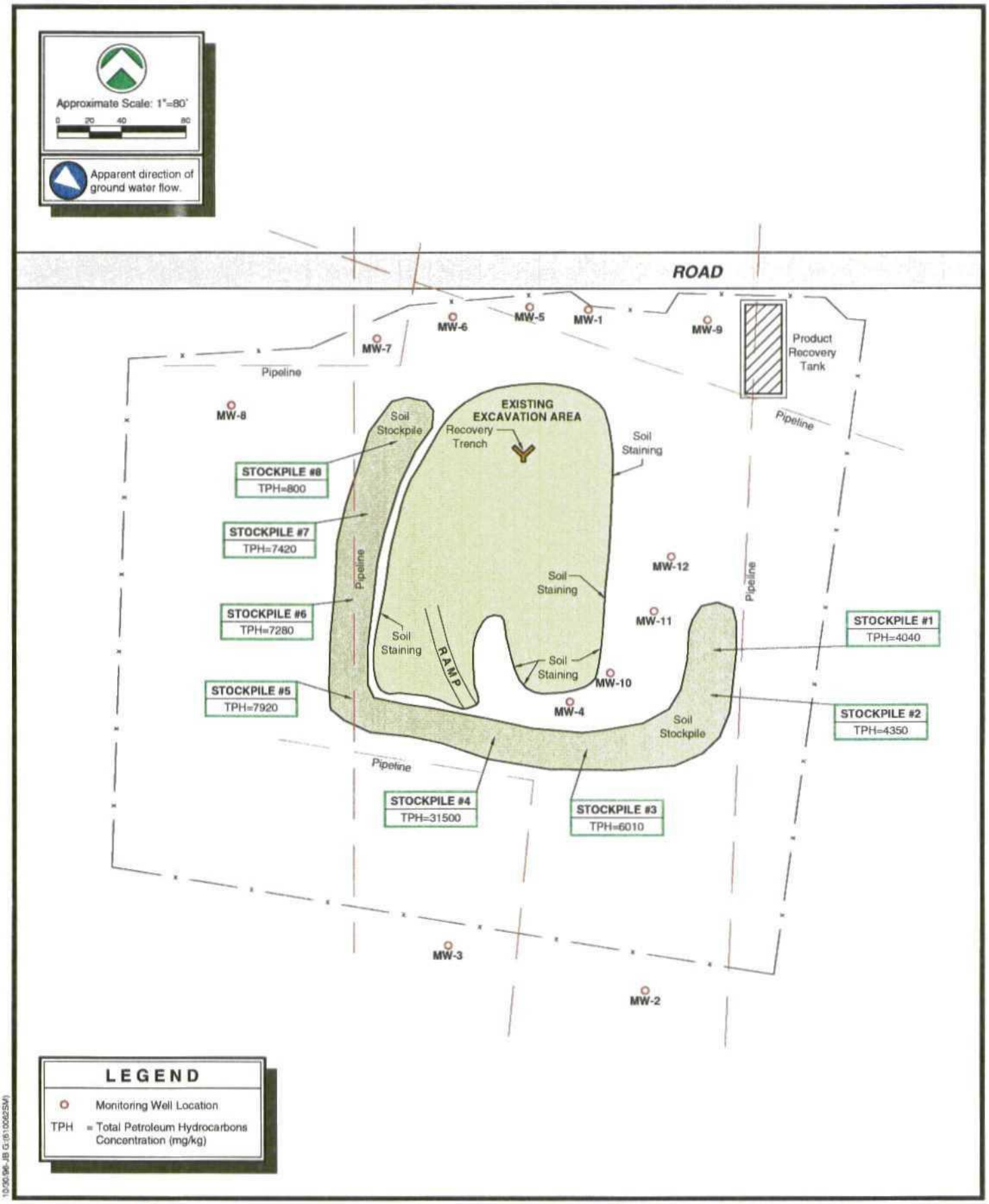
k·e·i

GROUND WATER CONCENTRATION MAP - MONITORING WELLS (10/03/96)	**610062**
SECTIONS 18, T19S, AND R37E LEA COUNTY, NEW MEXICO	**FIG 12**



11/04/96- JB G:\610062HT\

k·e·i	FREE PHASE HYDROCARBON THICKNESS MAP - (11/04/96)	610062
	SECTION 18, T19S, AND R37E LEA COUNTY, NEW MEXICO	FIG 13



10/30/96-JB G:\610062SM\

k·e·i

SOIL STOCKPILE SAMPLING LOCATIONS AND RESULTS (08/15/96)	610062
SECTION 18, T19S, AND R37E LEA COUNTY, NEW MEXICO	FIG 14

LEGEND


Clay (CL), light colored


Light colored caliche type


Red sand


White caliche type-hard drilling


Hard rock cuttings only


Lithology not provided by previous consultant.


Indicates the ground water level measured during drilling.


Indicates sample interval.

TPH = Total Petroleum Hydrocarbon Concentration (ppm)

ND = Indicates the constituent concentration was below method detection limits.

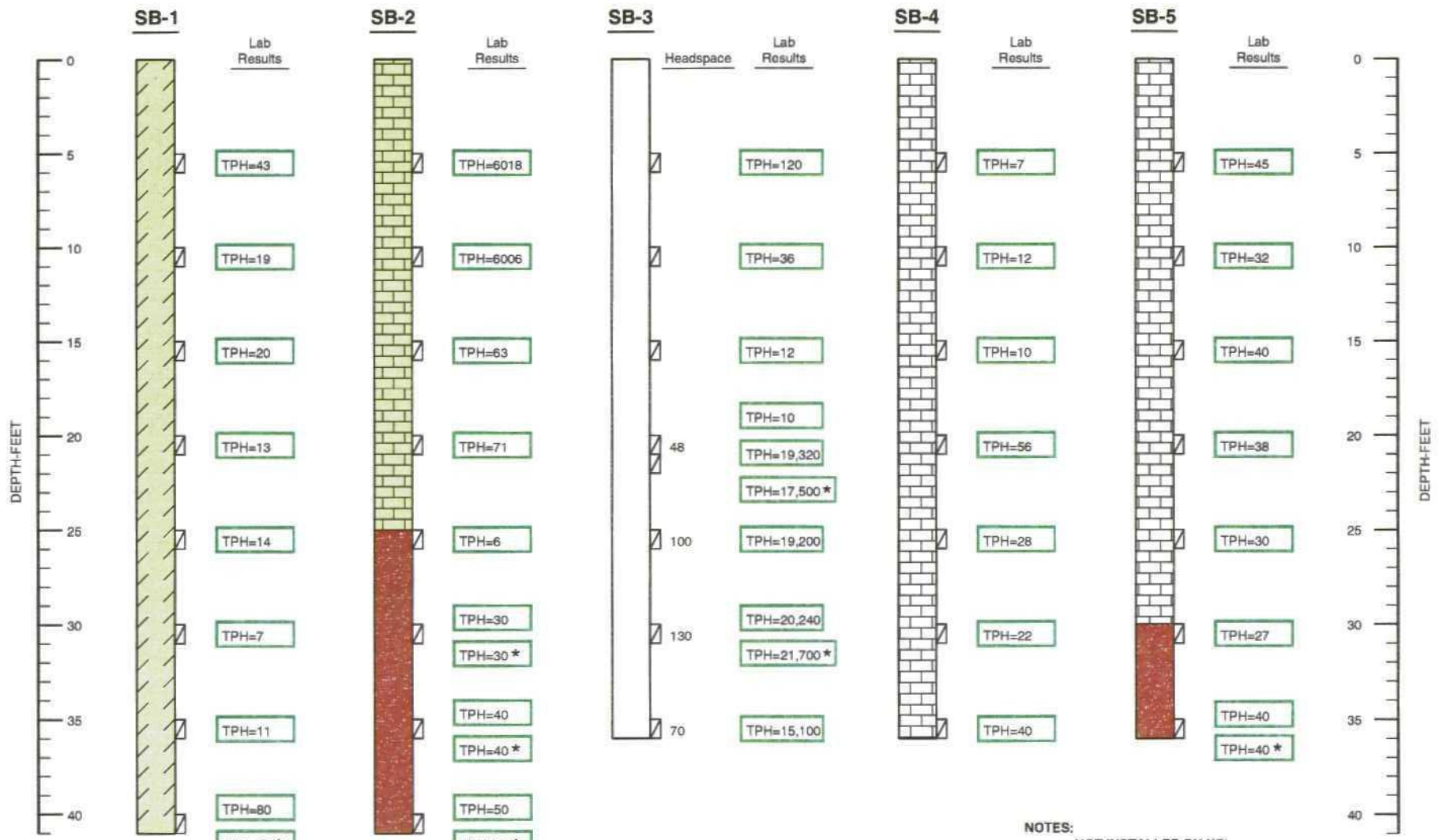
NOTES

1. The exploratory holes SB-1 through SB-9 were advanced on June 29, 1995.
2. The lines between material types indicated on the logs represent approximate boundaries. Actual transitions may be gradual.
3. The depths indicated are referenced from the ground surface.
4. The borings were backfilled with bentonite.

10/20/96-JB G:\610\062L\

k·e·i	*LEGEND AND NOTES - EXPLORATORY HOLES*	610062
	TNMPL SAUNDERS EXCAVATION	FIG 15

10/30/96-JB G:\(610062T1)



NOTES:

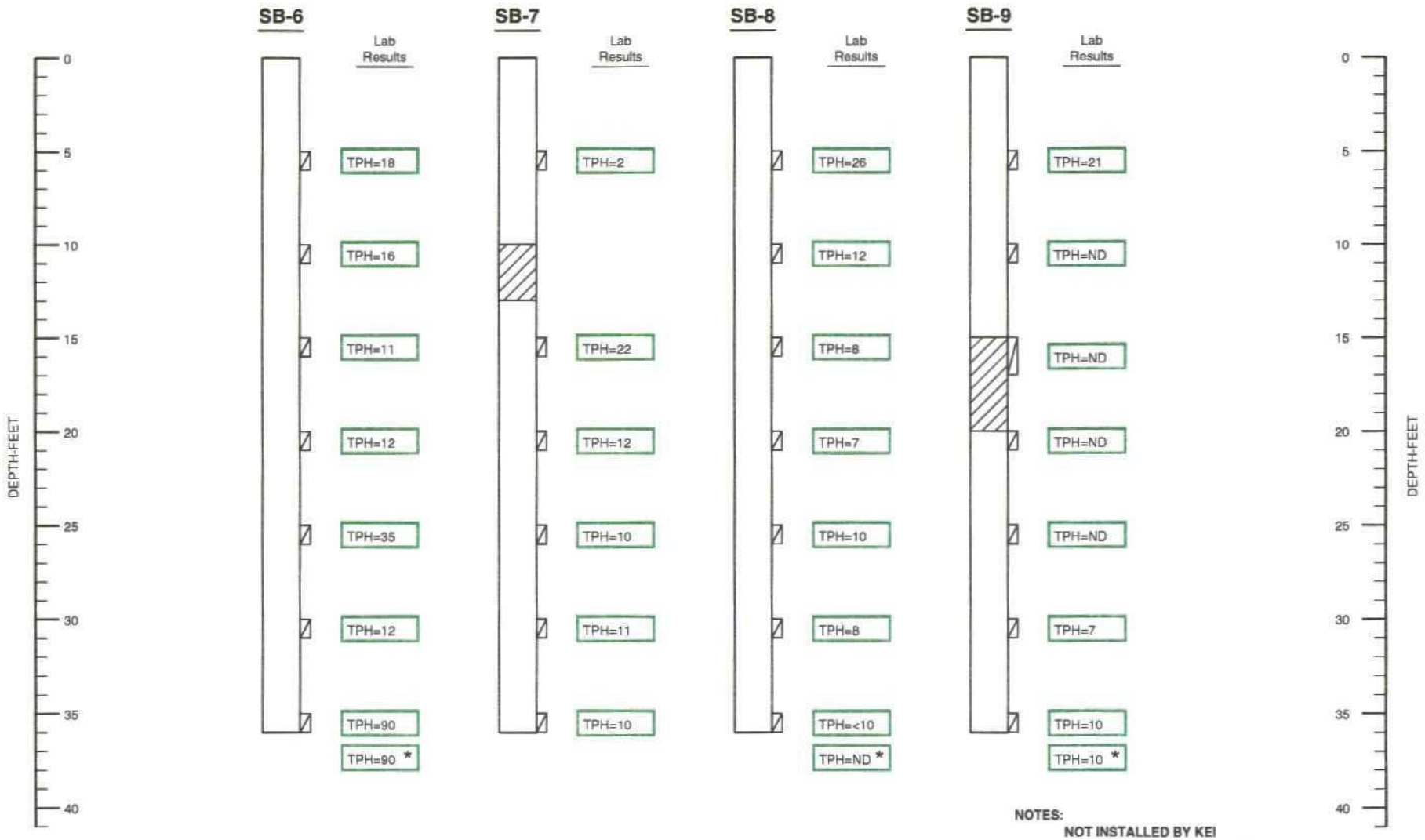
NOT INSTALLED BY KEI

* EXCEPT AS NOTED, ALL TPH RESULTS ARE FIELD ANALYSIS

THE SOIL DESCRIPTIONS ARE BASED ON FIELD OBSERVATIONS MADE BY A PREVIOUS CONSULTANT

k·e·i

LOG AND DETAILS OF SOIL BORINGS SB-1 THROUGH SB-5	610062
TNMPL SAUNDERS EXCAVATION	FIG 16



NOTES:

NOT INSTALLED BY KEI

* EXCEPT AS NOTED, ALL TPH RESULTS ARE FIELD ANALYSIS.

THE SOIL DESCRIPTIONS ARE BASED ON FIELD OBSERVATIONS MADE BY A PREVIOUS CONSULTANT

k·e·i

LOG AND DETAILS OF SOIL BORINGS SB-6 THROUGH SB-9

TNMPL SAUNDERS EXCAVATION

610062

FIG 17

LEGEND

Sandstone, silicious, red-brown.

Sand (SM), silty, medium grained, calcareous, brown.

Limestone, grey.

Sand, lhin calcareous (caliche)

Indicates the ground water level measured during drilling.

Indicates sample interval.

TPH = Total Petroleum Hydrocarbon Concentration (ppm)

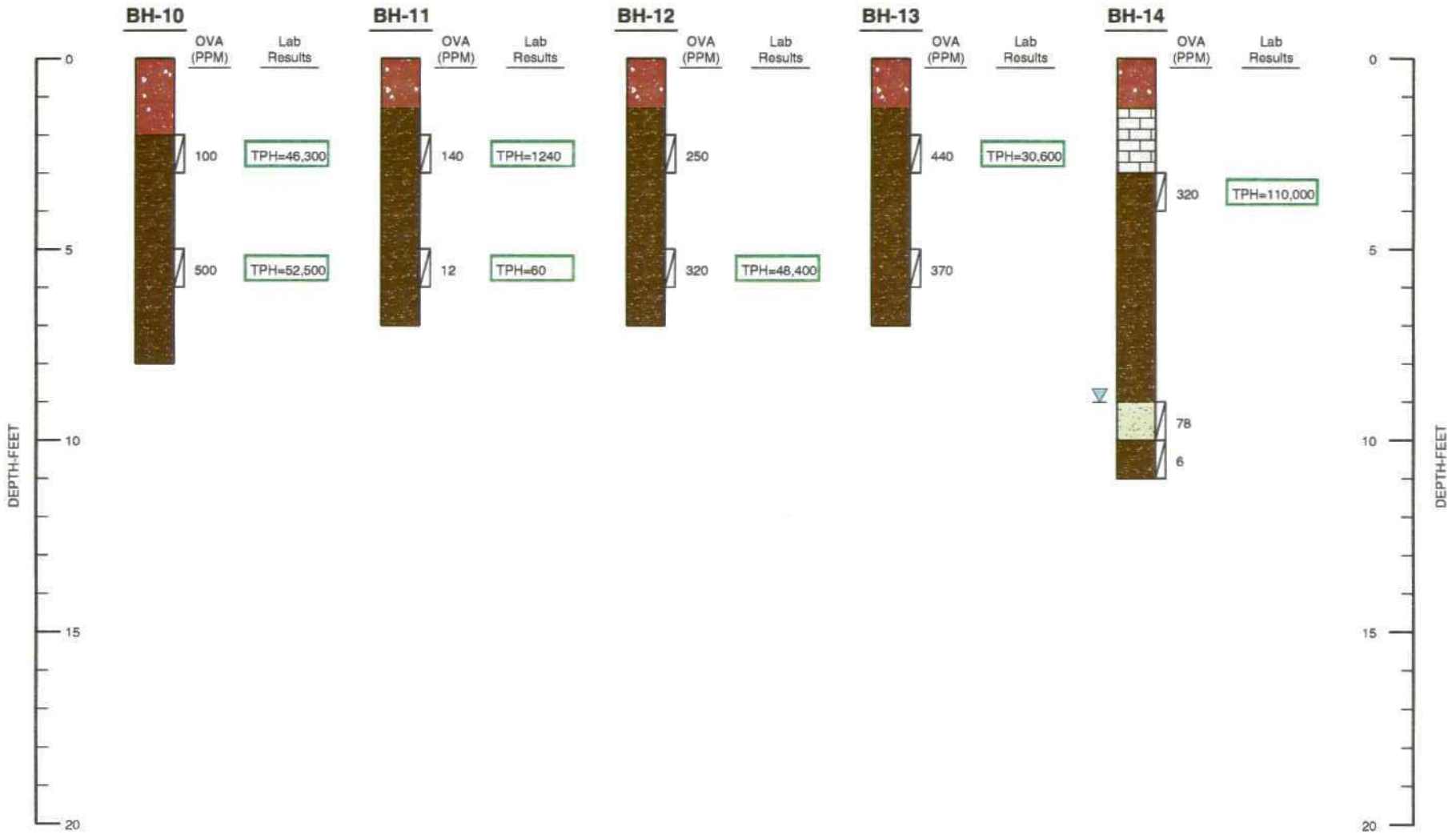
ND = Indicates the constituent concentration was below method detection limits.

NOTES

1. The exploratory holes were advanced on October 7, 9-10 and December 7, 1995, using air rotary drilling techniques.
2. The lines between material types indicated on the logs represent approximate boundaries. Actual transitions may be gradual.
3. The depths indicated are referenced from the ground surface.
4. The borings were backfilled with bentonite.
5. This borehole was not installed by KEI. The soil descriptions are based on field observations made by a previous consultant.

10/30/96-RM G:\610062\L2\

k·e·i	*LEGEND AND NOTES - EXPLORATORY HOLES*	610062
	TNMPL SAUNDERS EXCAVATION	FIG 18



NOTES:
NOT INSTALLED BY KEI
THE SOIL DESCRIPTIONS ARE BASED ON FIELD OBSERVATIONS MADE BY A PREVIOUS CONSULTANT

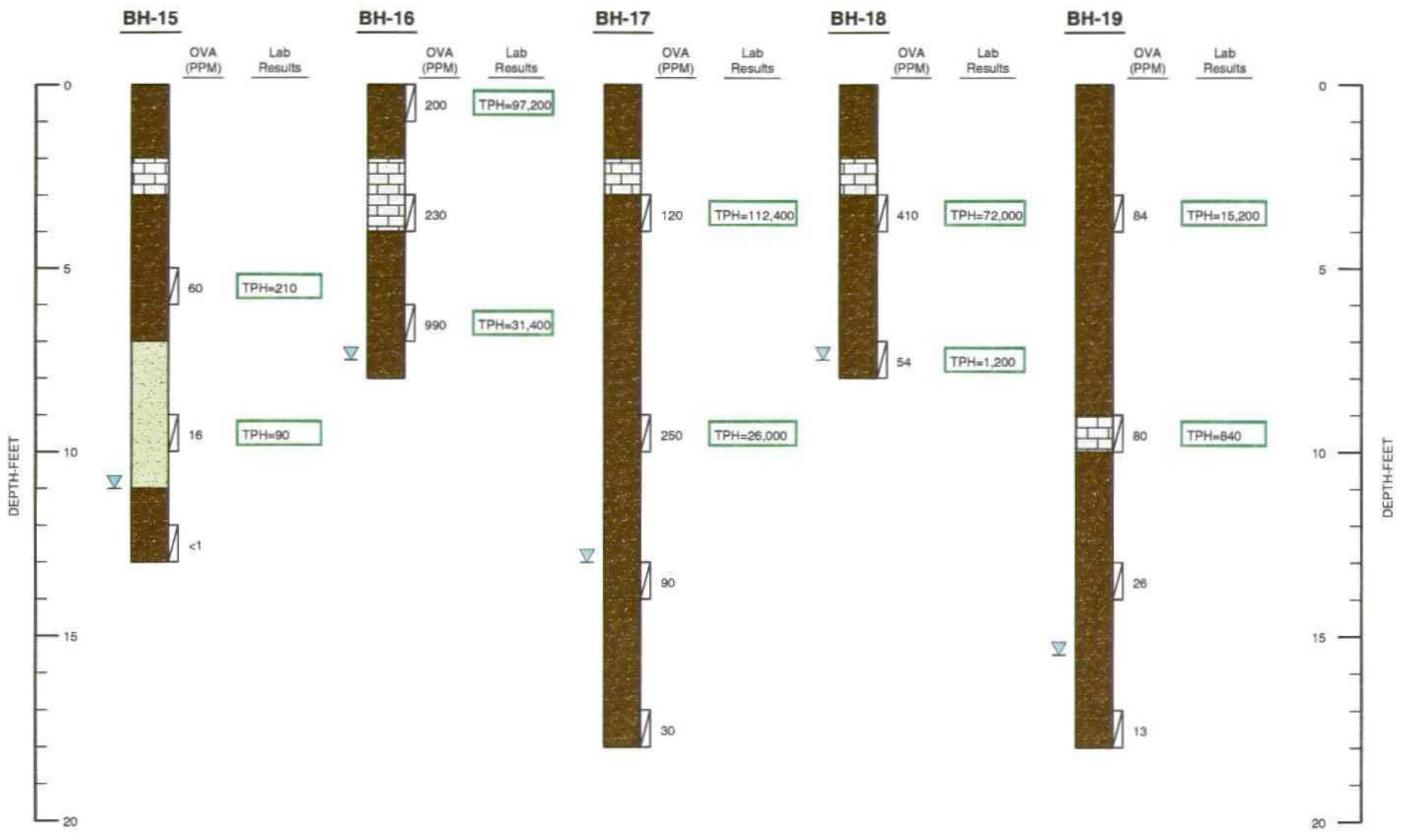
k·e·i

LOG AND DETAILS OF SOIL BORINGS BH-10 THROUGH BH-14

TNMPL SAUNDERS EXCAVATION

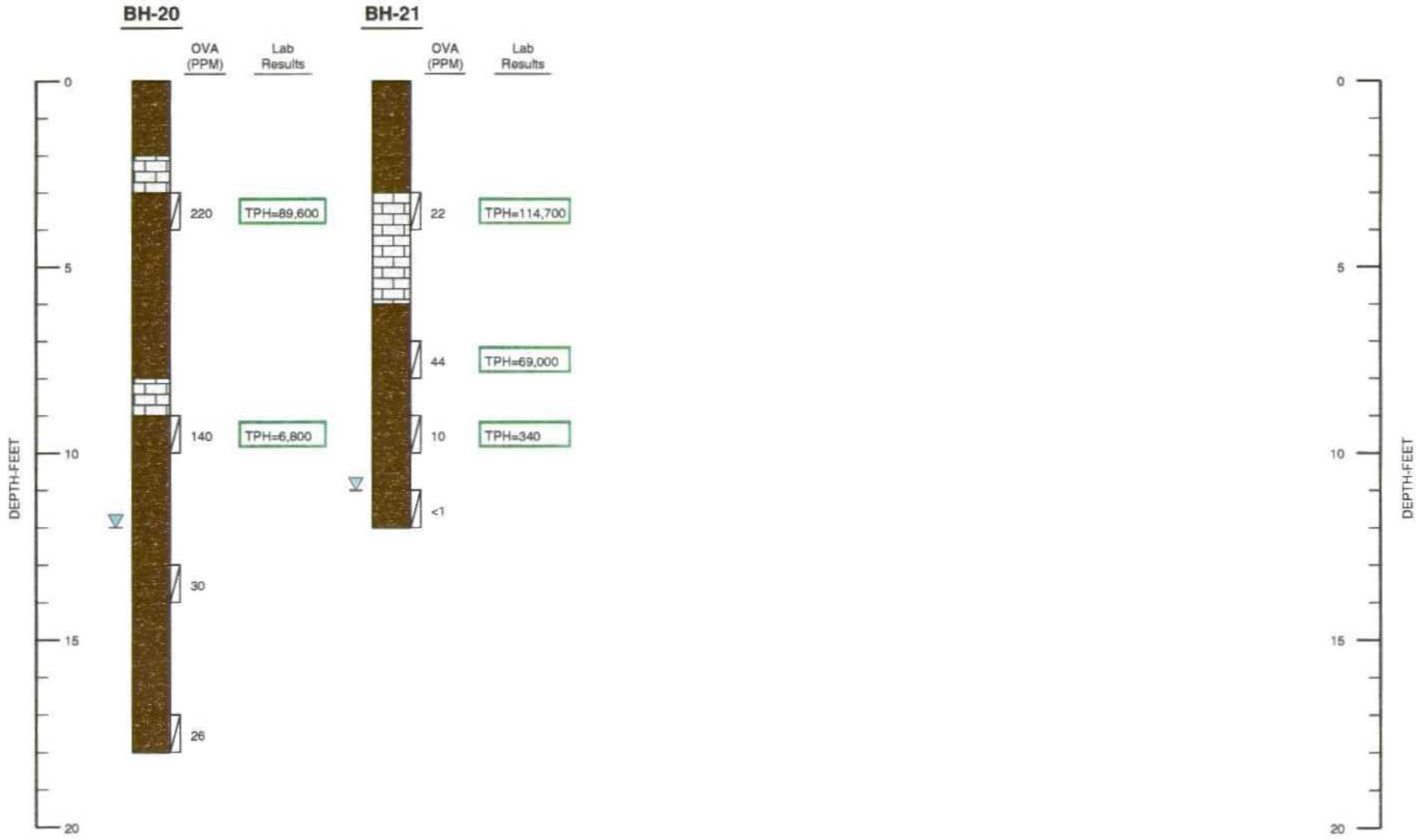
610062

FIG 19



NOTES:
NOT INSTALLED BY KEI
THE SOIL DESCRIPTIONS ARE BASED ON FIELD OBSERVATIONS MADE BY A PREVIOUS CONSULTANT

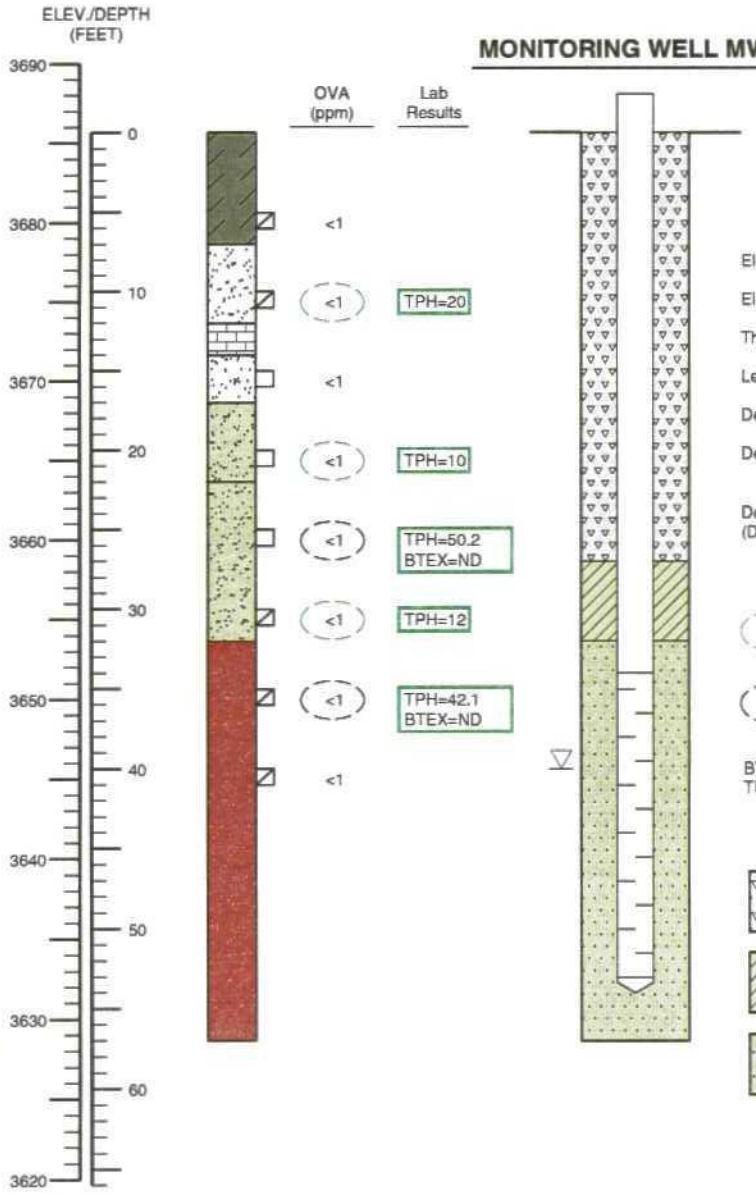
k·e·i	*LOG AND DETAILS OF SOIL BORINGS BH-15 THROUGH BH-19*	610062
	TNMPL SAUNDERS EXCAVATION	FIG 20



NOTES:
NOT INSTALLED BY KEI
THE SOIL DESCRIPTIONS ARE BASED ON FIELD OBSERVATIONS MADE BY A PREVIOUS CONSULTANT

k·e·i	*LOG AND DETAILS OF SOIL BORINGS BH-20 AND BH-21*	610062
	TNMPL SAUNDERS EXCAVATION	FIG 21

10/21/96-JB (610062W4)



MONITORING WELL MW-4

Monitoring Well Details (MW-4)

Elev of Ground Surface	3685.7 ft
Elev Top of PVC Well	3688.07 ft
Thickness of Bentonite Seal	5.0 ft
Length of PVC Well Screen	20.0 ft
Depth of PVC Well	54.0 ft
Depth of Exploratory Hole	57.0 ft
Depth to Ground Water (During drilling)	40.0 ft

Indicates sample selected for field analysis.

Indicates sample selected for laboratory analysis.

BTEX = Total BTEX Concentration (ppm)
TPH = Total Petroleum Hydrocarbon Concentration (ppm)

Non-Shrinking Grout

Bentonite Pellet Seal

Sand Pack

LEGEND

Gray-brown silty, clayey, loam.

White calcareous fine-grained sand (caliche).

Light gray indurated limestone.

Light brown calcareous sand containing thin limestone lenses (caliche).

Light brown slightly calcareous fine-grained sand (SM) containing limestone lenses.

Red-brown slighty calcareous fine to medium grained sand (SM) containing thin siltly calcareous lenses.

Indicates sample interval.

Indicates the ground water level measured during drilling.

OVA Head-space readings in ppm obtained with an organic vapor analyzer.

ND Indicates the constituent was not detected.

NOTES

1. The monitoring well was installed on October 4, 1995 using air rotary drilling techniques.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The well is protected with a stick up steel cover and a locked compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.
6. This monitoring well was not installed by KEI. The soil descriptions are based on field observations made by a previous consultant.

k·e·i

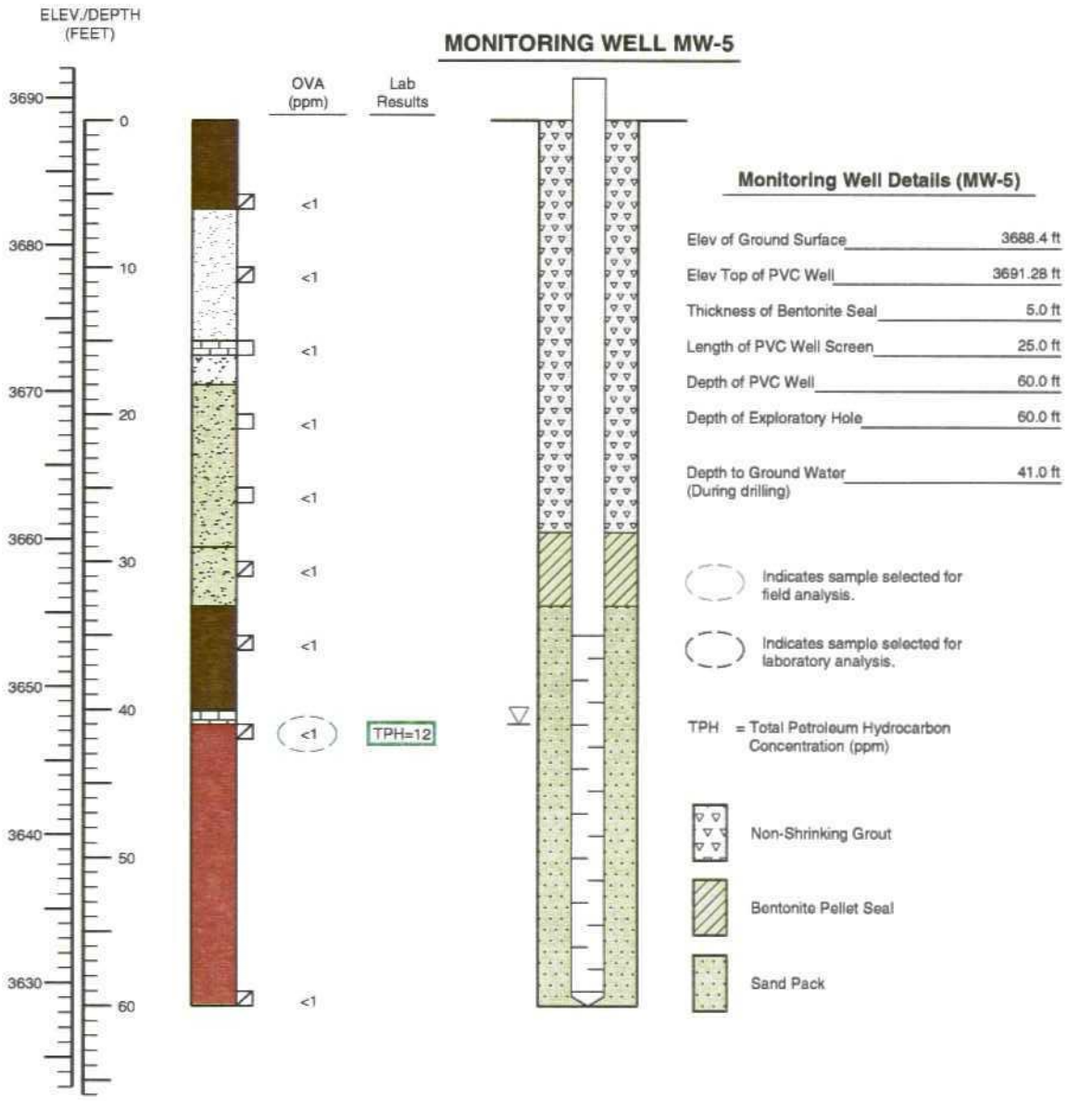
LOG AND DETAILS OF MONITORING WELL MW-4

TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO

610062

FIG 22

10/21/96-JB (610062W5)



Monitoring Well Details (MW-5)

Elev of Ground Surface	3688.4 ft
Elev Top of PVC Well	3691.28 ft
Thickness of Bentonite Seal	5.0 ft
Length of PVC Well Screen	25.0 ft
Depth of PVC Well	60.0 ft
Depth of Exploratory Hole	60.0 ft
Depth to Ground Water (During drilling)	41.0 ft

Indicates sample selected for field analysis.

Indicates sample selected for laboratory analysis.

TPH = Total Petroleum Hydrocarbon Concentration (ppm)

Non-Shrinking Grout

Bentonite Pellet Seal

Sand Pack

LEGEND

- Brown silty loam.
- Gray and white calcareous fine-grained sand (caliche).
- Light gray indurated limestone.
- White calcareous fine-grained sand (caliche).
- Light brown calcareous sand (caliche) containing indurated sandstone lenses.
- Light brown calcareous, fine-grained sand (caliche).
- Brown silty, slightly calcareous, medium-grained sand (SM).
- Red-brown slightly calcareous fine to medium grained sand (SM) containing thin silty calcareous lenses.

Indicates sample interval.

Indicates the ground water level measured during drilling.

OVA Head-space readings in ppm obtained with an organic vapor analyzer.

ND Indicates the constituent was not detected.

NOTES

1. The monitoring well was installed on December 9, 1995 using air rotary drilling techniques.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The well is protected with a stick up steel cover and a locked compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.
6. This monitoring well was not installed by KEI. The soil descriptions are based on field observations made by a previous consultant.

k·e·i

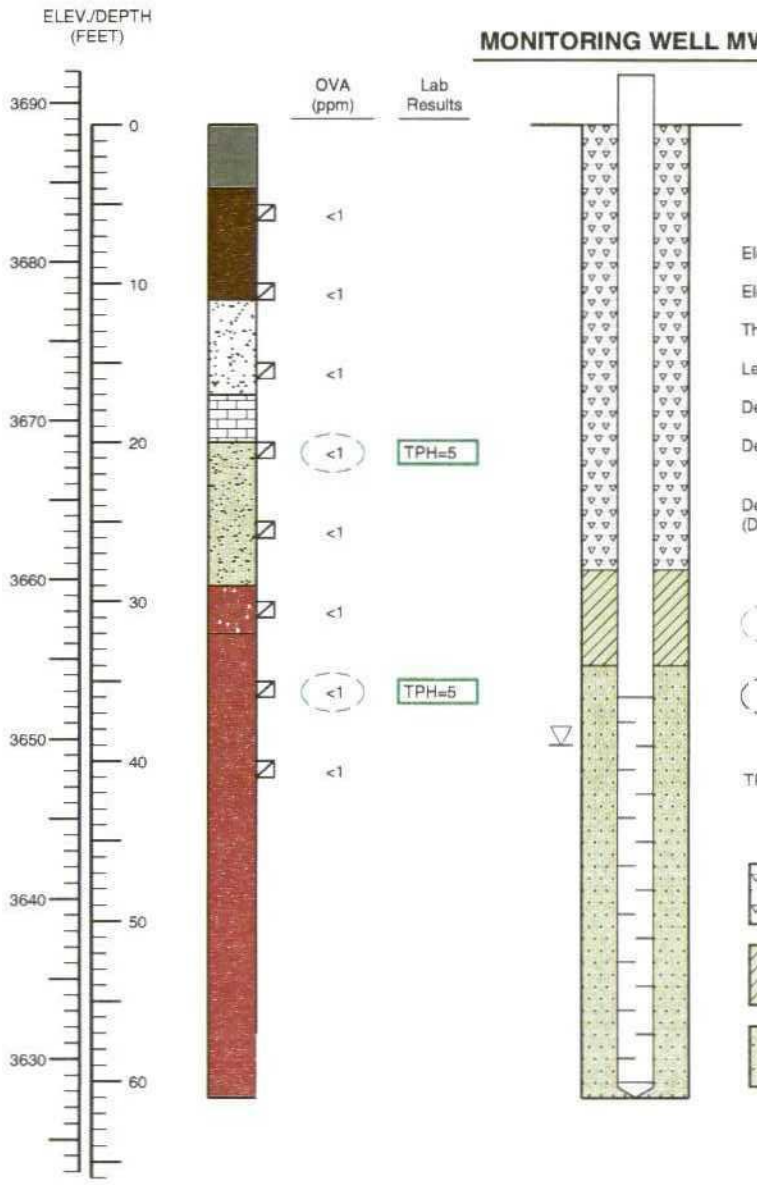
LOG AND DETAILS OF MONITORING WELL MW-5

TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO

610062

FIG 23

10/21/96-JB (610062W6)



Monitoring Well Details (MW-6)

Elev of Ground Surface	3688.7 ft
Elev Top of PVC Well	3691.81 ft
Thickness of Bentonite Seal	6.0 ft
Length of PVC Well Screen	25.0 ft
Depth of PVC Well	61.0 ft
Depth of Exploratory Hole	61.0 ft
Depth to Ground Water (During drilling)	39.0 ft

Indicates sample selected for field analysis.

Indicates sample selected for laboratory analysis.

TPH = Total Petroleum Hydrocarbon Concentration (ppm)

Non-Shrinking Grout

Bentonite Pellet Seal

Sand Pack

LEGEND

Gray-brown silty loam.

Brown fine-grained silty sand (SM).

Gray calcareous fine-grained sand (caliche).

Ligh gray indurated limestone.

Light brown calcareous sand (caliche) containing thin gray limestone lenses.

Red-brown silicious sandstone.

Red-brown slighty calcareous fine to medium grained sand (SM) containing thin siltly calcareous lenses.

Indicates sample interval.

Indicates the ground water level measured during drilling.

OVA Head-space readings in ppm obtained with an organic vapor analyzer.

ND Indicates the constituent was not detected.

NOTES

1. The monitoring well was installed on December 11, 1995 using air rotary drilling techniques.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The well is protected with a stick up steel cover and a locked compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.
6. This monitoring well was not installed by KEI. The soil descriptions are based on field observations made by a previous consultant.

k·e·i

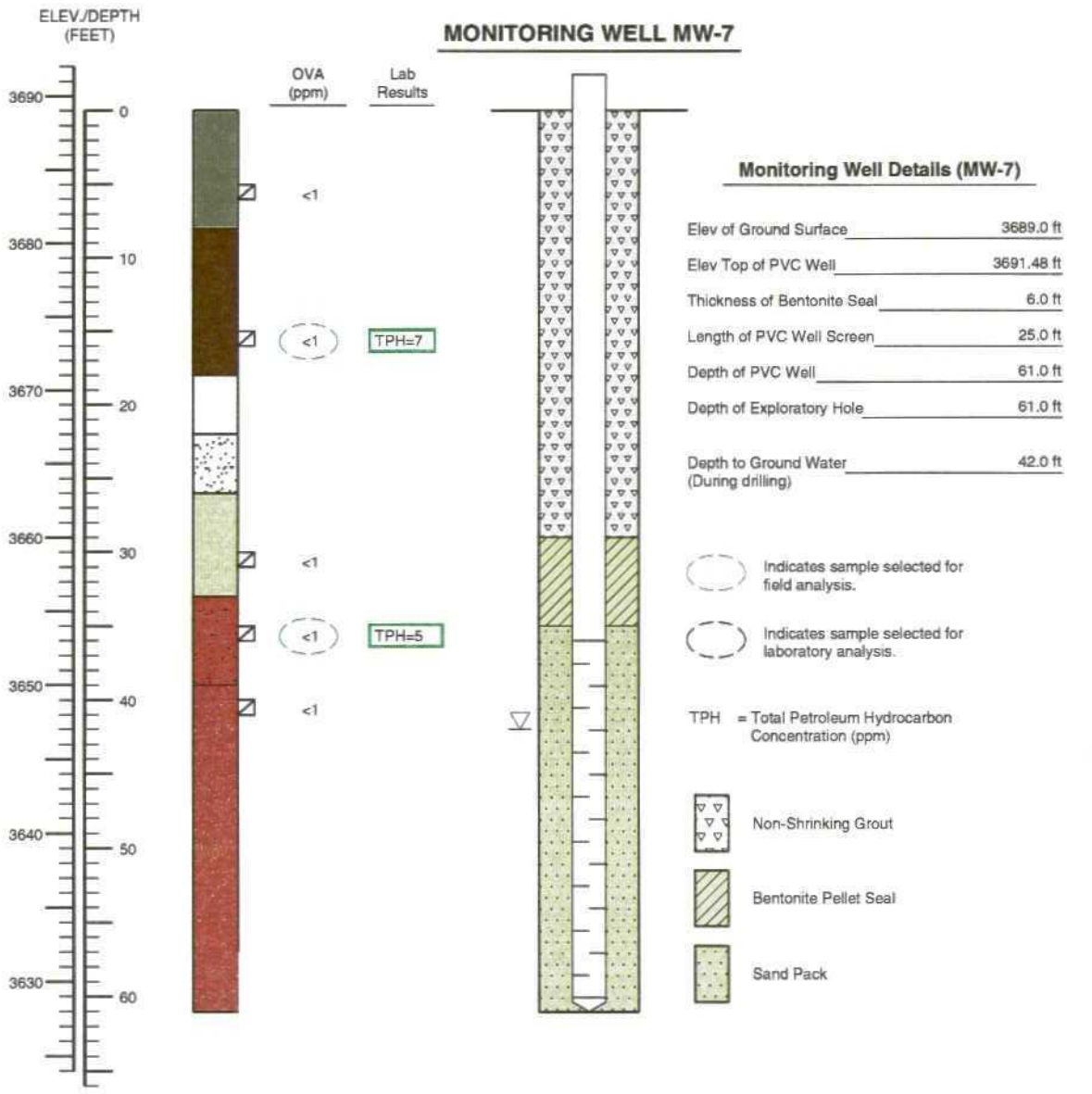
LOG AND DETAILS OF MONITORING WELL MW-6

610062

TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO

FIG 24

10/21/96-JB (610062W7)



Monitoring Well Details (MW-7)

Elev of Ground Surface	3689.0 ft
Elev Top of PVC Well	3691.48 ft
Thickness of Bentonite Seal	6.0 ft
Length of PVC Well Screen	25.0 ft
Depth of PVC Well	61.0 ft
Depth of Exploratory Hole	61.0 ft
Depth to Ground Water (During drilling)	42.0 ft

Indicates sample selected for field analysis.

Indicates sample selected for laboratory analysis.

TPH = Total Petroleum Hydrocarbon Concentration (ppm)

Non-Shrinking Grout

Bentonite Pellet Seal

Sand Pack

LEGEND

- Gray-brown silty loam, becomes calcareous at base.
- White and gray fine-grained calcareous sand (caliche).
- Interbedded thin layers of brown indurated silicious sandstone and gray limestone.
- Light brown calcareous fine-grained sand (caliche).
- Red-brown calcareous sand (caliche).
- Light brown fine-grained calcareous sand (caliche).
- Red-brown fine to medium grained sand (SM) containing thin calcareous sand lenses.

Indicates sample interval.

Indicates the ground water level measured during drilling.

OVA Head-space readings in ppm obtained with an organic vapor analyzer.

ND Indicates the constituent was not detected.

NOTES

1. The monitoring well was installed on December 15, 1995 using air rotary drilling techniques.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The well is protected with a stick up steel cover and a locked compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.
6. This monitoring well was not installed by KEI. The soil descriptions are based on field observations made by a previous consultant.

k·e·i

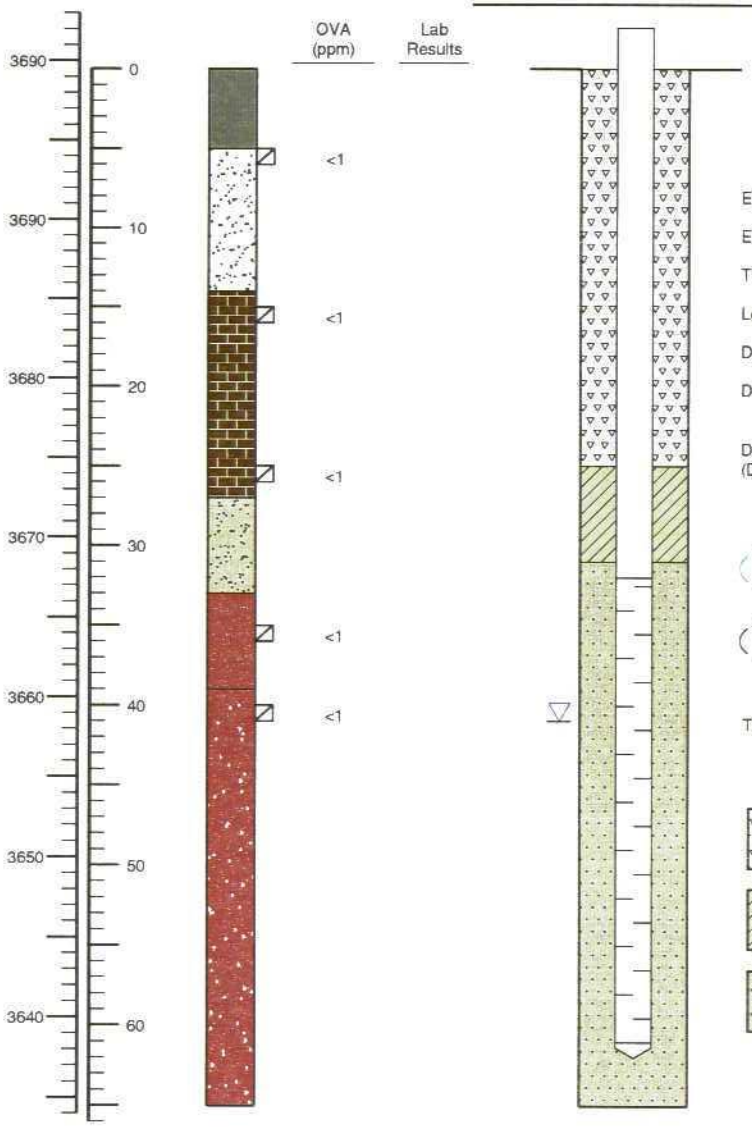
LOG AND DETAILS OF MONITORING WELL MW-7

TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO

610062

FIG 25

10/21/96 JB (610062W8)



MONITORING WELL MW-8

Monitoring Well Details (MW-8)

Elev of Ground Surface	3689.4 ft
Elev Top of PVC Well	3692.03 ft
Thickness of Bentonite Seal	6.0 ft
Length of PVC Well Screen	30.0 ft
Depth of PVC Well	62.0 ft
Depth of Exploratory Hole	65.0 ft
Depth to Ground Water (During drilling)	41.0 ft

Indicates sample selected for field analysis.

Indicates sample selected for laboratory analysis.

TPH = Total Petroleum Hydrocarbon Concentration (ppm)

Non-Shrinking Grout

Bentonite Pellet Seal

Sand Pack

LEGEND

Gray-brown silty loam.

Light gray silty, fine-grained calcareous sand (caliche).

Interbedded thin layers of brown indurated silicious sandstone gray limestone and brown fine-grained calcareous sand (caliche).

Light brown calcareous sand (caliche).

Red-brown fine-grained calcareous sand (caliche)

Red-brown fine to medium grained sand (SM) containing thin calcareous sand lenses.

Indicates sample interval.

Indicates the ground water level measured during drilling.

OVA Head-space readings in ppm obtained with an organic vapor analyzer.

ND Indicates the constituent was not detected.

NOTES

1. The monitoring well was installed on December 16, 1995 using air rotary drilling techniques.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The well is protected with a stick up steel cover and a locked compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.
4. This monitoring well was not installed by KEI. The soil descriptions are based on field observations made by a previous consultant.

k·e·i

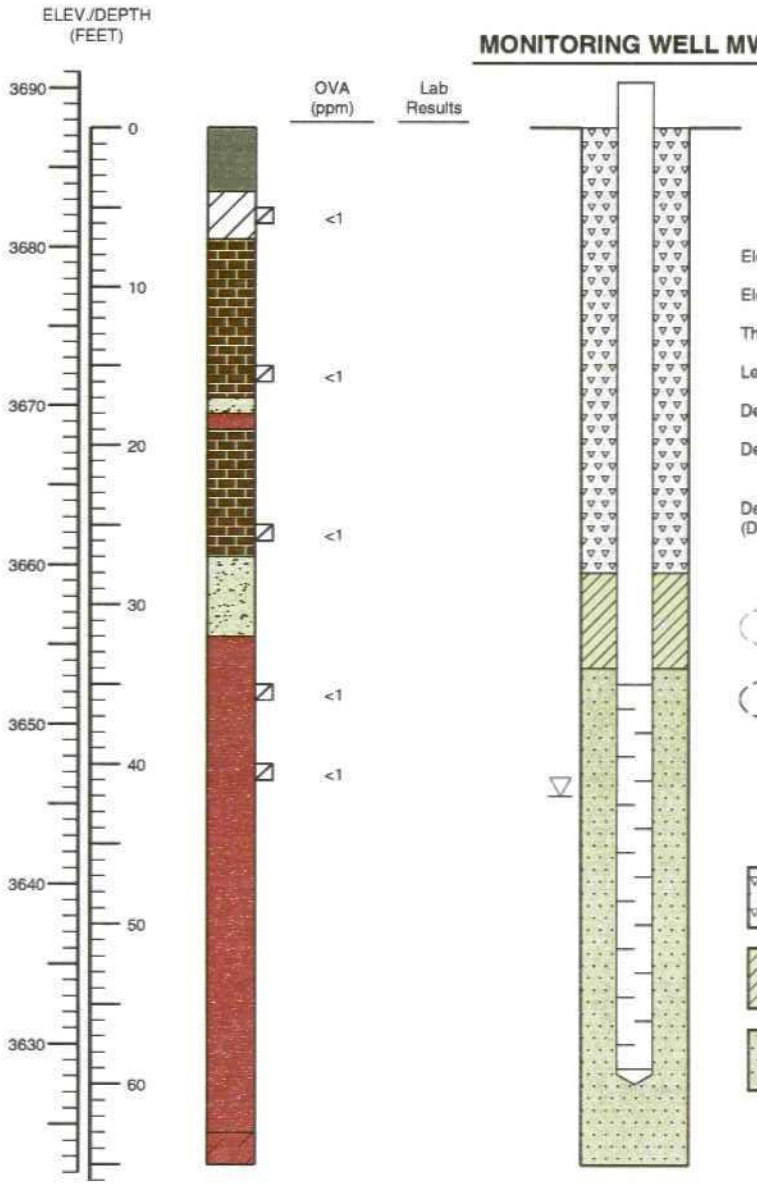
LOG AND DETAILS OF MONITORING WELL MW-8

TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO

610062

FIG 26

10/21/96 JB (610062W9)



Monitoring Well Details (MW-9)

Elev of Ground Surface	3687.5 ft
Elev Top of PVC Well	3690.3 ft
Thickness of Bentonite Seal	6.0 ft
Length of PVC Well Screen	25.0 ft
Depth of PVC Well	60.0 ft
Depth of Exploratory Hole	65.0 ft
Depth to Ground Water (During drilling)	42.0 ft

Indicates sample selected for field analysis.

Indicates sample selected for laboratory analysis.

Non-Shrinking Grout

Bentonite Pellet Seal

Sand Pack

LEGEND

- Gray-brown silty loam.
- Gray calcareous silt (caliche).
- Interbedded thin layers of brown indurated sandstone, gray limestone, and brown fine-grained sand (caliche).
- Light brown calcareous fine-grained sand (caliche).
- Red-brown indurated silicious sandstone.
- Light brown calcareous sand (caliche).
- Red-brown calcareous fine to medium grained sand (caliche) containing thin non-calcareous sand lenses (SM).
- Red-brown silty clay.

Indicates sample interval.

Indicates the ground water level measured during drilling.

OVA Head-space readings in ppm obtained with an organic vapor analyzer.

NOTES

1. The monitoring well was installed on December 19, 1995 using air rotary drilling techniques.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The well is protected with a stick up steel cover and a locked compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.
6. This monitoring well was not installed by KEI. The soil descriptions are based on field observations made by a previous consultant.

k·e·i

LOG AND DETAILS OF MONITORING WELL MW-9

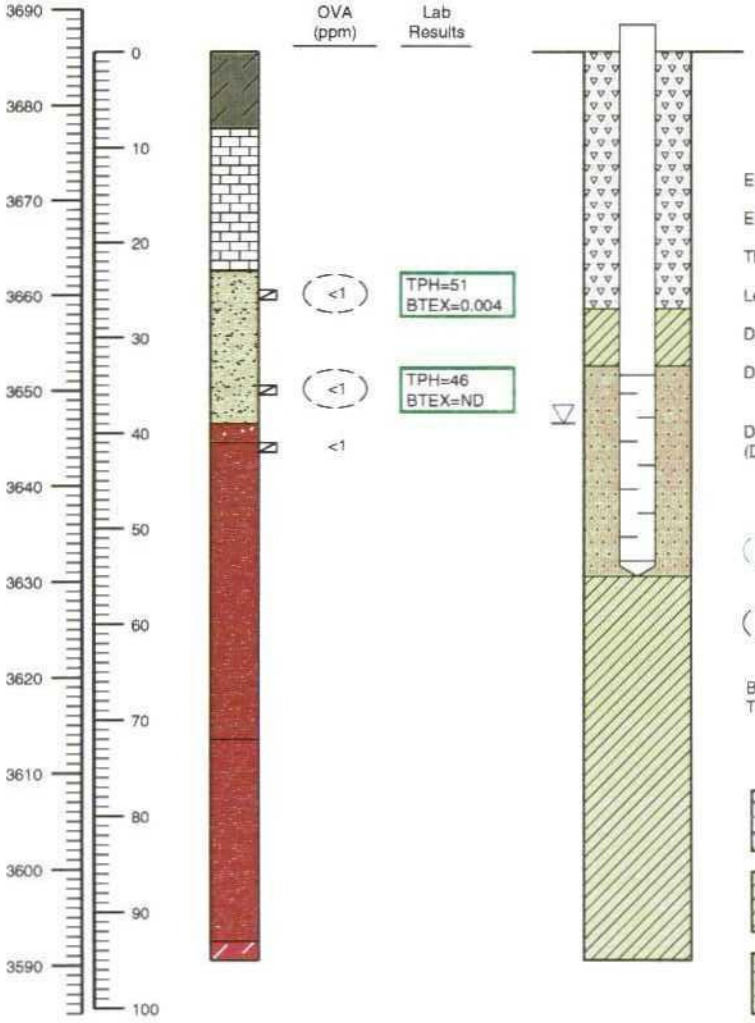
TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO

610062

FIG 27

10/21/96-JB (616ZW10)

MONITORING WELL MW-10



Monitoring Well Details (MW-10)

Elev of Ground Surface	3685.6 ft
Elev Top of PVC Well	3688.33 ft
Thickness of Bentonite Seal	7.0 ft
Length of PVC Well Screen	20.0 ft
Depth of PVC Well	55.0 ft
Depth of Exploratory Hole	95.0 ft
Depth to Ground Water (During drilling)	39.0 ft

Indicates sample selected for field analysis.

Indicates sample selected for laboratory analysis.

BTEX = Total BTEX Concentration (ppm)
TPH = Total Petroleum Hydrocarbon Concentration (ppm)

Non-Shrinking Grout

Bentonite Pellet Seal

Sand Pack

LEGEND

Gray-brown silty, clayey, loam.

White and gray calcareous, fine-grained sand (caliche) containing thin limestone lenses.

Light-brown calcareous fine-grained sand (caliche) containing thin sandstone lenses.

Red-brown indurated silicious sandstone.

Red-brown fine to medium grained sand (SM) containing thin silty calcareous lenses.

Interbedded thin layers of brown fine to medium grained sand (SP), red-brown sandy clay (CL), and yellow-brown sandy limestone.

Red silty sandy clay (CL).

Indicates sample interval.

Indicates the ground water level measured during drilling.

OVA Head-space readings in ppm obtained with an organic vapor analizer.

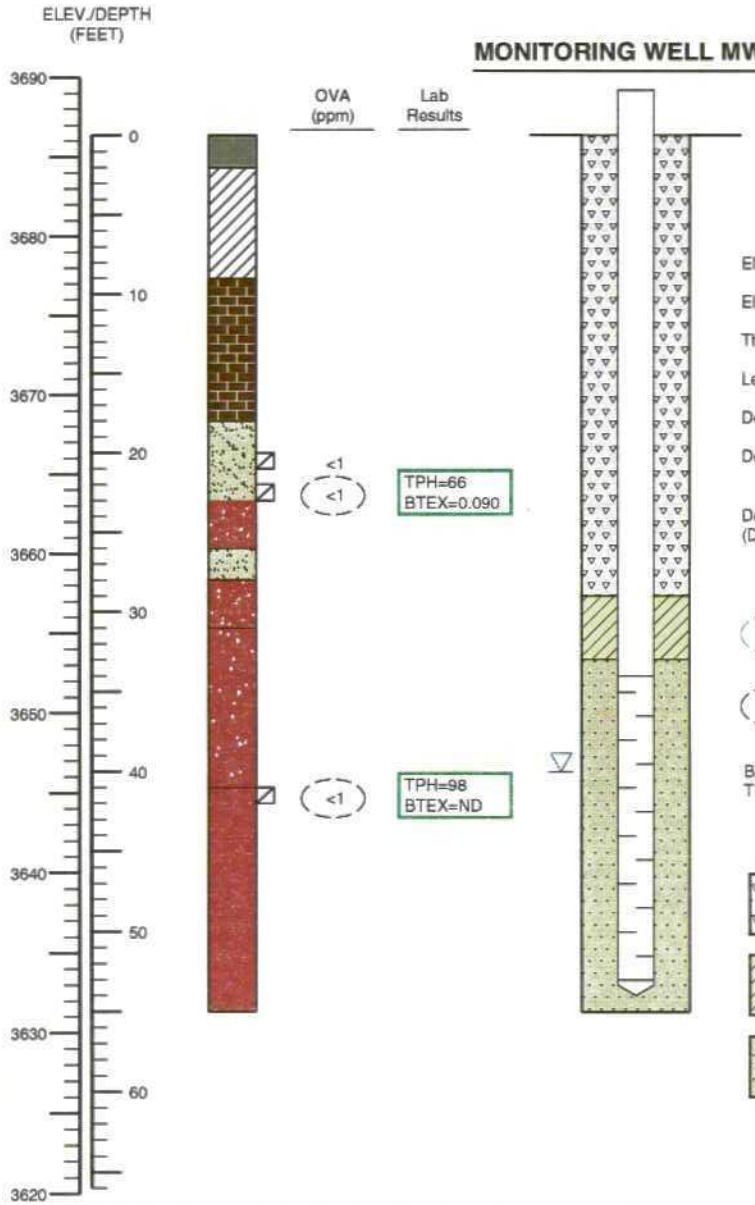
ND Indicates the constituent was not detected.

NOTES

1. The monitoring well was installed on January 24, 1996 using air rotary drilling techniques.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The well is protected with a stick up steel cover and a locked compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.
6. This monitoring well was not installed by KEi. The soil descriptions are based on field observations made by a previous consultant.

k·e·i	*LOG AND DETAILS OF MONITORING WELL MW-10*	610062
	TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO	FIG 28

10/21/96 JB (8162W11)



Monitoring Well Details (MW-11)

Elev of Ground Surface	3686.3 ft
Elev Top of PVC Well	3689.11 ft
Thickness of Bentonite Seal	4.0 ft
Length of PVC Well Screen	20.0 ft
Depth of PVC Well	54.0 ft
Depth of Exploratory Hole	55.0 ft
Depth to Ground Water (During drilling)	40.0 ft

Indicates sample selected for field analysis.

Indicates sample selected for laboratory analysis.

BTEX = Total BTEX Concentration (ppm)
TPH = Total Petroleum Hydrocarbon Concentration (ppm)

Non-Shrinking Grout

Bentonite Pellet Seal

Sand Pack

LEGEND

Gray-brown silty loam.

Gray calcareous silt (caliche).

Interbedded this layers of brown indurated silicious sandstone, gray limestone, and brown fine-grained calcareous sand (caliche).

Light-brown calcareous fine-grained sand (caliche).

Red-brown indurated silicious sandstone.

Light-brown calcareous sand (caliche).

Red-brown fine to medium grained calcareous sand (caliche) containing thin non-calcareous sand lenses (SM).

Indicates sample interval.

Indicates the ground water level measured during drilling.

OVA Head-space readings in ppm obtained with an organic vapor analyzer.

ND Indicates the constituent was not detected.

NOTES

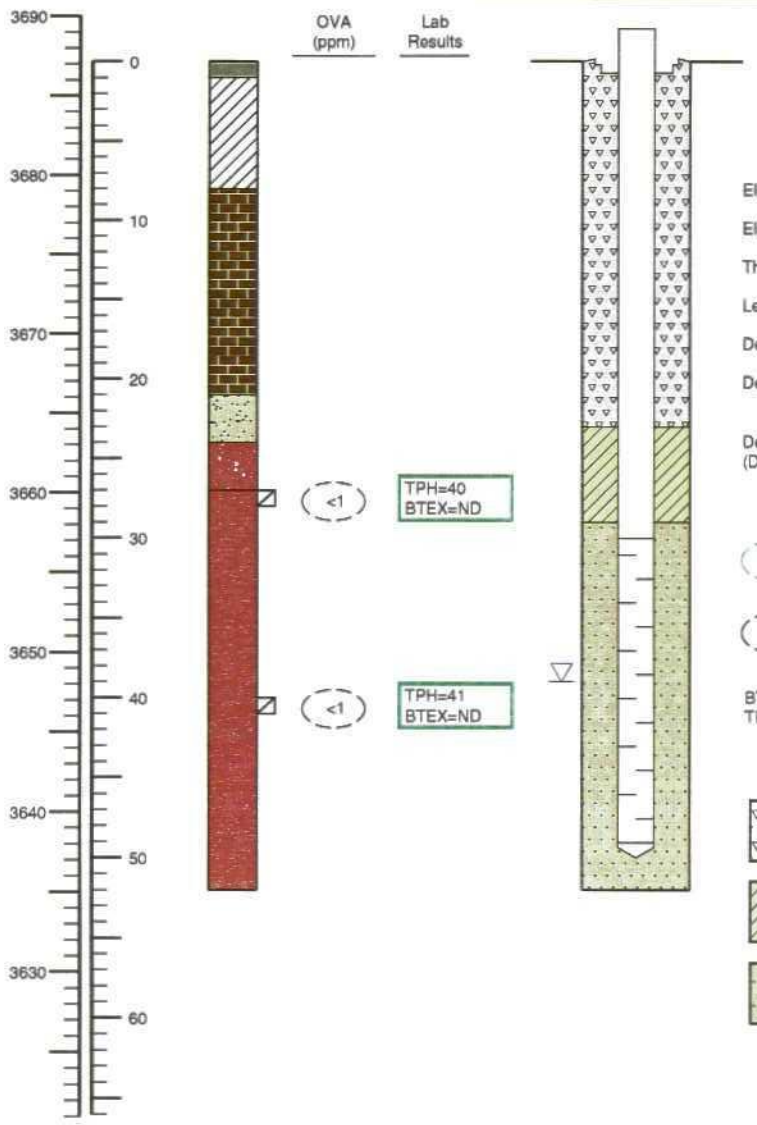
1. The monitoring well was installed on January 24, 1996 using air rotary drilling techniques.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The well is protected with a stick up steel cover and a locked compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.
6. This monitoring well was not installed by KEI. The soil descriptions are based on field observations made by a previous consultant.

k·e·i

LOG AND DETAILS OF MONITORING WELL MW-11	610062
TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO	FIG 29

10/21/96-JB (8162W12)

MONITORING WELL MW-12



Monitoring Well Details (MW-12)

Elev of Ground Surface	3687.1 ft
Elev Top of PVC Well	3689.16 ft
Thickness of Bentonite Seal	6.0 ft
Length of PVC Well Screen	20.0 ft
Depth of PVC Well	50.0 ft
Depth of Exploratory Hole	52.0 ft
Depth to Ground Water (During drilling)	39.0 ft

Indicates sample selected for field analysis.

Indicates sample selected for laboratory analysis.

BTEX = Total BTEX Concentration (ppm)
TPH = Total Petroleum Hydrocarbon Concentration (ppm)

Non-Shrinking Grout

Bentonite Pellet Seal

Sand Pack

LEGEND

Gray-brown silty loam.

Gray calcareous silt (caliche).

Interbedded thin layers of brown silicious sandstone, gray limestone, and brown fine-grained calcareous sand (caliche).

Light-brown calcareous fine-grained sand (caliche).

Red-brown indurated silicious sandstone.

Red-brown fine to medium grained sand (SM) containing thin calcareous sand lenses (caliche).

Indicates sample interval.

Indicates the ground water level measured during drilling.

OVA Head-space readings in ppm obtained with an organic vapor analyzer.

ND Indicates the constituent was not detected.

NOTES

1. The monitoring well was installed on January 25, 1996 using air rotary drilling techniques.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The well is protected with a stick up steel cover and a locked compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.
6. This monitoring well was not installed by KEI. The soil descriptions are based on field observations made by a previous consultant.

k·e·i

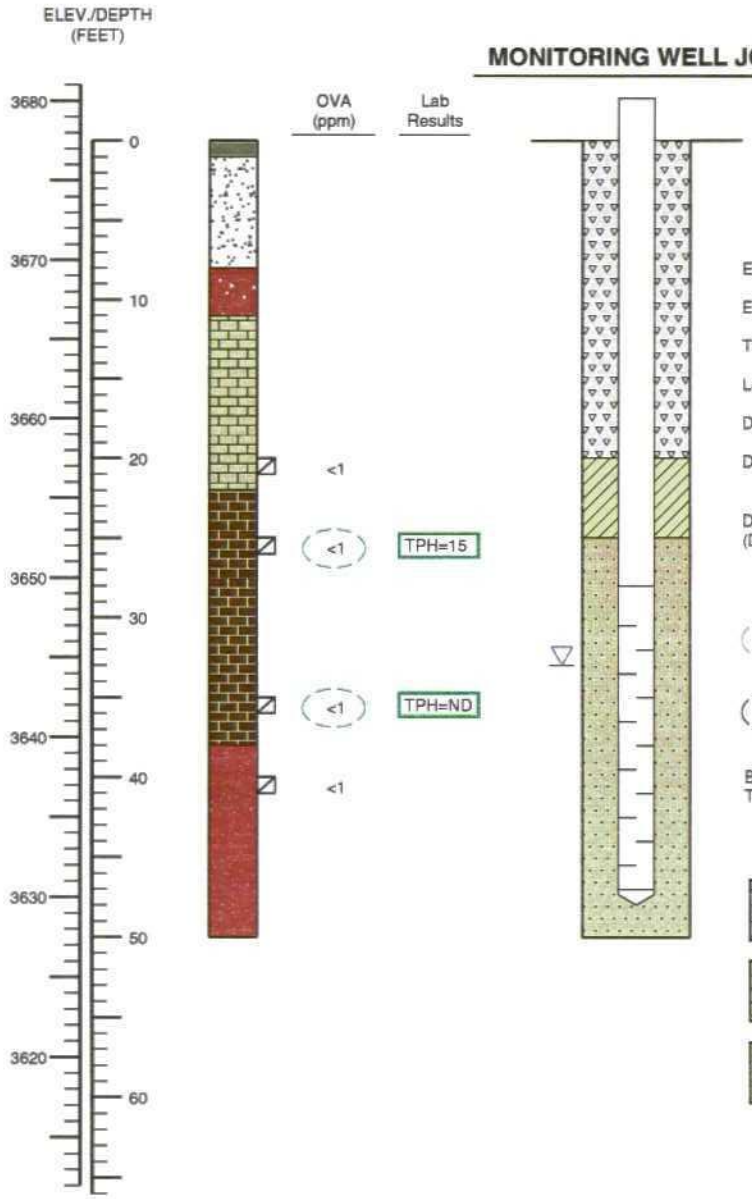
LOG AND DETAILS OF MONITORING WELL MW-12

TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO

610062

FIG 30

10/22/96-JB (6162JC-1)



Monitoring Well Details (JC-1)

Elev of Ground Surface	3677.5 ft
Elev Top of PVC Well	3680.11 ft
Thickness of Bentonite Seal	6.0 ft
Length of PVC Well Screen	20.0 ft
Depth of PVC Well	48.0 ft
Depth of Exploratory Hole	50.0 ft
Depth to Ground Water (During drilling)	33.0 ft

Indicates sample selected for field analysis.

Indicates sample selected for laboratory analysis.

BTEX = Total BTEX Concentration (ppm)
TPH = Total Petroleum Hydrocarbon Concentration (ppm)

Non-Shrinking Grout

Bentonite Pellet Seal

Sand Pack

LEGEND

Gray-brown silty loam.

White and gray calcareous sand (caliche).

Red-brown indurated silicious sandstone.

Light-brown calcareous fine-grained sand (caliche) containing indurated sandstone and limestone lenses.

Brown, silty, slighty calcareous fine to medium grained sand (SM) containing indurated limestone lenses (caliche)

Red-brown slighty calcareous fine to medium grained sand (SM) containing thin silty calcareous lenses.

Indicates sample interval.

Indicates the ground water level measured during drilling.

OVA Head-space readings in ppm obtained with an organic vapor analyzer.

ND Indicates the constituent was not detected.

NOTES

1. The monitoring well was installed on January 30, 1996 using air rotary drilling techniques.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The well is protected with a flush mount stick up steel cover and a locked compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.
6. The monitoring well was not installed by KEI. The soil descriptions are based on field observations made by a previous consultant.

k·e·i

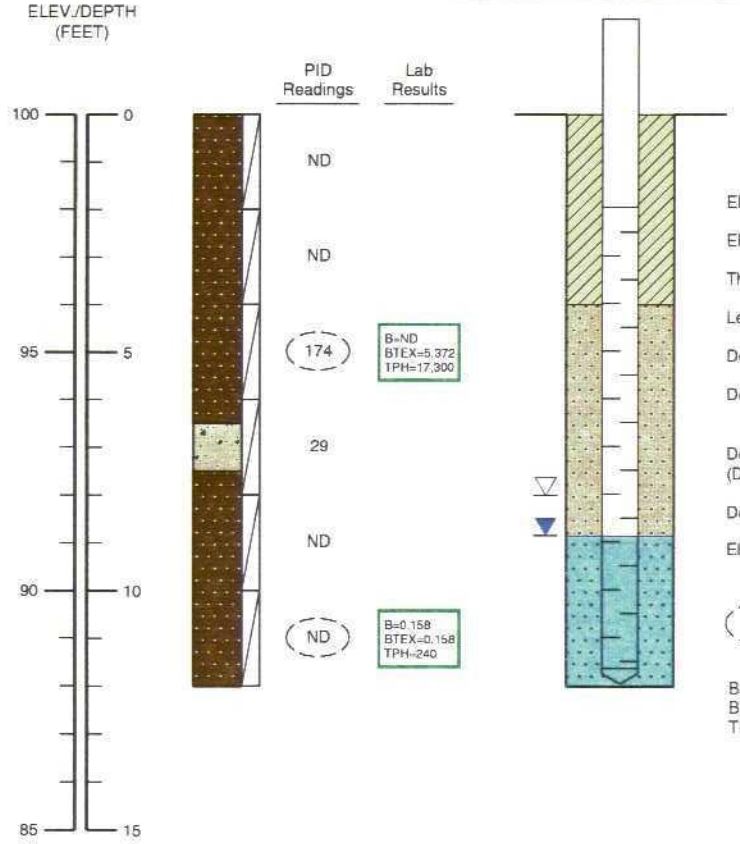
LOG AND DETAILS OF MONITORING WELL JC-1

TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO

610062

FIG 31

TEMPORARY MONITORING WELL TMW-1



Temporary Monitoring Well Details (TMW-1)

Elev of Ground Surface	N/A ft
Elev Top of PVC Well	N/A ft
Thickness of Bentonite Seal	4.0 ft
Length of PVC Well Screen	10.0 ft
Depth of PVC Well	12.0 ft
Depth of Exploratory Hole	12.0 ft
Depth to Ground Water (During drilling)	8.0 ft
Depth to Ground Water	8.92 ft
Elev of Ground Water	N/A ft

Indicates sample selected for laboratory analysis.

B = Total Benzene Concentration (mg/kg)
BTEX = Total BTEX Concentration (mg/kg)
TPH = Total Petroleum Hydrocarbon Concentration (mg/kg)

Bentonite Pellet Seal

Sand Pack

LEGEND

Sand (SM), silty, moist, brown, oil stained.

Rock

Indicates sample interval. Sample was obtained by hydraulically pushing a shelby tube.

Indicates the ground water level measured during drilling.

Indicates the ground water level measured on October 3, 1996.

PID Head-space readings in ppm obtained with a photo-ionization detector.

ND Indicates the constituent was not detected.

NOTES

1. The temporary monitoring well was installed on October 1, 1996 using 6 inch diameter solid flight augers.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
4. The depths indicated are referenced from the ground surface.

k·e·i

LOG AND DETAILS OF TEMPORARY MONITORING WELL TMW-1

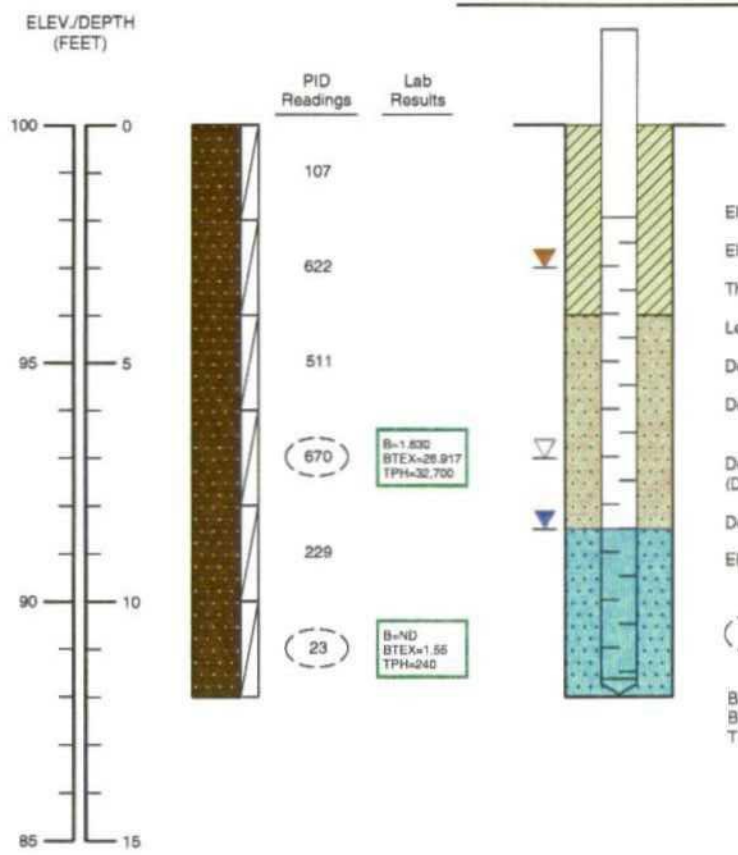
TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO

610062

FIG 32

10/24/96-JB (6162TM2)

TEMPORARY MONITORING WELL TMW-2



Temporary Monitoring Well Details (TMW-2)

Elev of Ground Surface	N/A ft
Elev Top of PVC Well	N/A ft
Thickness of Bentonite Seal	4.0 ft
Length of PVC Well Screen	10.0 ft
Depth of PVC Well	12.0 ft
Depth of Exploratory Hole	12.0 ft
Depth to Ground Water (During drilling)	7.0 ft
Depth to Ground Water	8.65 ft
Elev of Ground Water	N/A ft

Indicates sample selected for laboratory analysis.

B = Total Benzene Concentration (mg/kg)
BTEX = Total BTEX Concentration (mg/kg)
TPH = Total Petroleum Hydrocarbon Concentration (mg/kg)

Bentonite Pellet Seal

Sand Pack

LEGEND

Sand (SM), silty, moist, brown, oil stained.

Indicates sample interval. Sample was obtained by hydraulically pushing a shelby tube.

Indicates the crude oil level measured during drilling.

Indicates the ground water level measured during drilling.

Indicates the ground water level measured on October 3, 1996.

PID Head-space readings in ppm obtained with a photo-ionization detector.

ND Indicates the constituent was not detected.

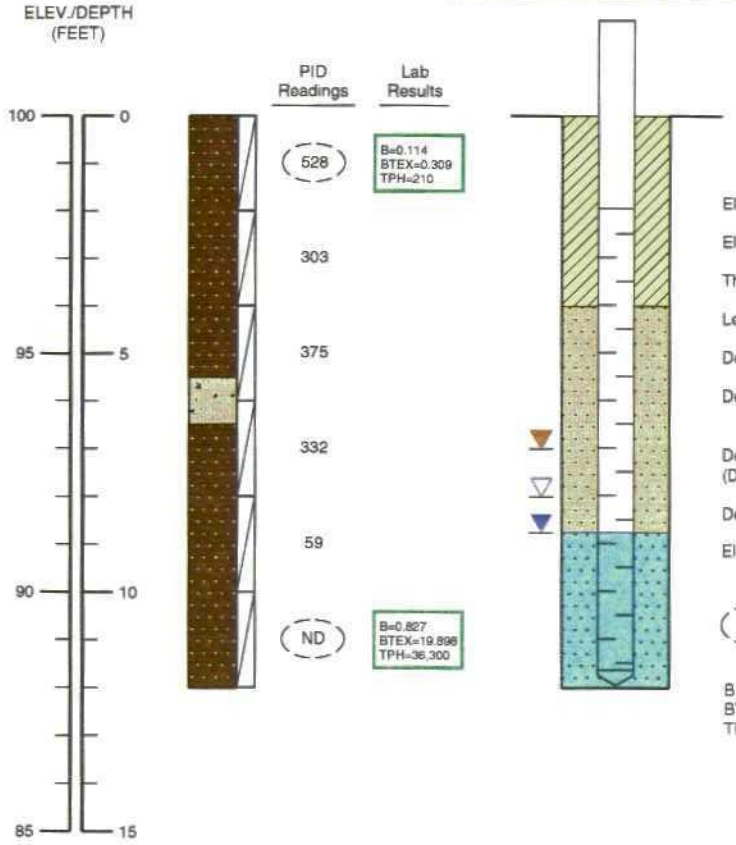
NOTES

1. The temporary monitoring well was installed on October 1, 1996 using 6 inch diameter solid flight augers.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
4. The depths indicated are referenced from the ground surface.

k·e·i	*LOG AND DETAILS OF TEMPORARY MONITORING WELL TMW-2*	610062
	TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO	FIG 33

10/24/96-JB (6162TM3)

TEMPORARY MONITORING WELL TMW-3



Temporary Monitoring Well Details (TMW-3)

Elev of Ground Surface	N/A ft
Elev Top of PVC Well	N/A ft
Thickness of Bentonite Seal	4.0 ft
Length of PVC Well Screen	10.0 ft
Depth of PVC Well	12.0 ft
Depth of Exploratory Hole	12.0 ft
Depth to Ground Water (During drilling)	8.0 ft
Depth to Ground Water	8.92 ft
Elev of Ground Water	N/A ft

Indicates sample selected for laboratory analysis.

B = Total Benzene Concentration (mg/kg)
BTEX = Total BTEX Concentration (mg/kg)
TPH = Total Petroleum Hydrocarbon Concentration (mg/kg)

Bentonite Pellet Seal

Sand Pack

LEGEND

Sand (SM), silty, moist, brown, oil stained.

Rock

Indicates sample interval. Sample was obtained by hydraulically pushing a shelby tube.

Indicates the crude oil level measured during drilling.

Indicates the ground water level measured during drilling.

Indicates the ground water level measured on October 3, 1996.

PID Head-space readings in ppm obtained with a photo-ionization detector.

ND Indicates the constituent was not detected.

NOTES

1. The temporary monitoring well was installed on October 1, 1996 using 6 inch diameter solid flight augers.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
4. The depths indicated are referenced from the ground surface.

k·e·i

LOG AND DETAILS OF TEMPORARY MONITORING WELL TMW-3

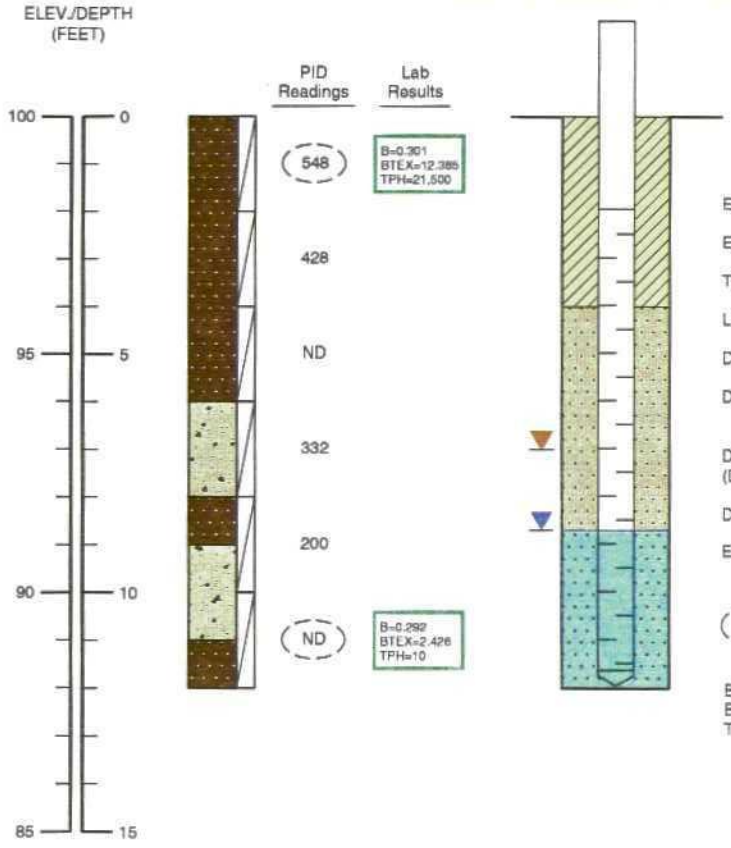
TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO

610062

FIG 34

10/24/96 JB (6162TM4)

TEMPORARY MONITORING WELL TMW-4



Temporary Monitoring Well Details (TMW-4)

Elev of Ground Surface	N/A ft
Elev Top of PVC Well	N/A ft
Thickness of Bentonite Seal	4.0 ft
Length of PVC Well Screen	10.0 ft
Depth of PVC Well	12.0 ft
Depth of Exploratory Hole	12.0 ft
Depth to Ground Water (During drilling)	Dry
Depth to Ground Water	8.76 ft
Elev of Ground Water	N/A ft

( ) Indicates sample selected for laboratory analysis.

B = Total Benzene Concentration (mg/kg)
BTEX = Total BTEX Concentration (mg/kg)
TPH = Total Petroleum Hydrocarbon Concentration (mg/kg)

Bentonite Pellet Seal

Sand Pack

LEGEND

Sand (SM), silty, moist, brown, oil stained.

Rock

Indicates sample interval. Sample was obtained by hydraulically pushing a sholby tube.

Indicates the crude oil level measured during drilling.

Indicates the ground water level measured on October 3, 1996.

PID — Head-space readings in ppm obtained with a photo-ionization detector.

ND — Indicates the constituent was not detected.

NOTES

1. The temporary monitoring well was installed on October 2, 1996 using 6 inch diameter solid flight augers.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
4. The depths indicated are referenced from the ground surface.

k·e·i

LOG AND DETAILS OF TEMPORARY MONITORING WELL TMW-4

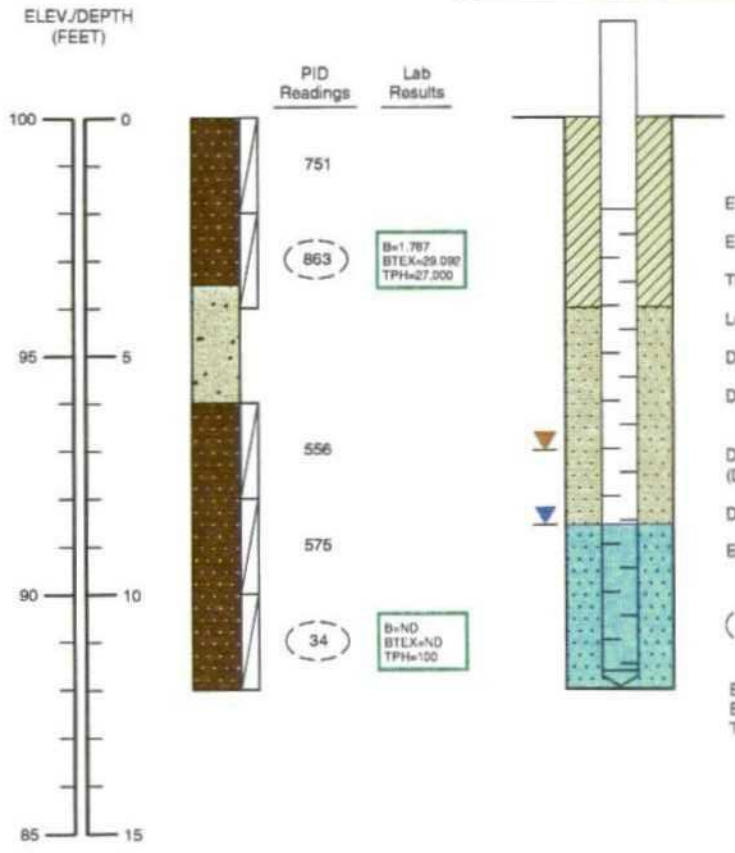
TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO

610062

FIG 35

10/24/96 JB (8162TM5)

TEMPORARY MONITORING WELL TMW-5



Temporary Monitoring Well Details (TMW-5)

Elev of Ground Surface	N/A ft
Elev Top of PVC Well	N/A ft
Thickness of Bentonite Seal	4.0 ft
Length of PVC Well Screen	10.0 ft
Depth of PVC Well	12.0 ft
Depth of Exploratory Hole	12.0 ft
Depth to Ground Water (During drilling)	Dry
Depth to Ground Water	8.49 ft
Elev of Ground Water	N/A ft

Indicates sample selected for laboratory analysis.

B = Total Benzene Concentration (mg/kg)
BTEX = Total BTEX Concentration (mg/kg)
TPH = Total Petroleum Hydrocarbon Concentration (mg/kg)

Bentonite Pellet Seal

Sand Pack

LEGEND

Sand (SM), silty, moist, brown, oil stained.

Rock

Indicates sample interval. Sample was obtained by hydraulically pushing a shelby tube.

Indicates the ground water level measured on October 3, 1996.

PID Head-space readings in ppm obtained with a photo-ionization detector.

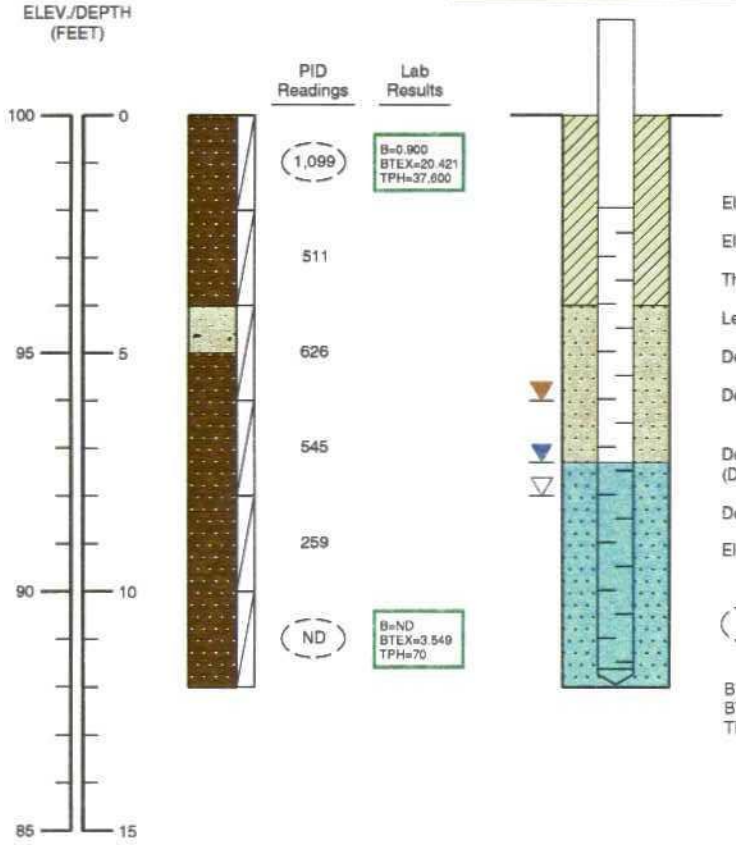
ND Indicates the constituent was not detected.

NOTES

1. The temporary monitoring well was installed on October 1, 1996 using 6 inch diameter solid flight augers.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
4. The depths indicated are referenced from the ground surface.

k·e·i	*LOG AND DETAILS OF TEMPORARY MONITORING WELL TMW-5*	610062
	TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO	FIG 36

TEMPORARY MONITORING WELL TMW-6



Temporary Monitoring Well Details (TMW-6)

Elev of Ground Surface	N/A ft
Elev Top of PVC Well	N/A ft
Thickness of Bentonite Seal	4.0 ft
Length of PVC Well Screen	10.0 ft
Depth of PVC Well	12.0 ft
Depth of Exploratory Hole	12.0 ft
Depth to Ground Water (During drilling)	8.0 ft
Depth to Ground Water	7.29 ft
Elev of Ground Water	N/A ft

(1,099) Indicates sample selected for laboratory analysis.

B = Total Benzene Concentration (mg/kg)
BTEX = Total BTEX Concentration (mg/kg)
TPH = Total Petroleum Hydrocarbon Concentration (mg/kg)

Bentonite Pellet Seal

Sand Pack

LEGEND

Sand (SM), silty, moist, brown, oil stained.

Rock

Indicates sample interval. Sample was obtained by hydraulically pushing a shelby tube.

Indicates the crude oil level measured during drilling.

Indicates the ground water level measured during drilling.

Indicates the ground water level measured on October 3, 1996.

PID Head-space readings in ppm obtained with a photo-ionization detector.

ND Indicates the constituent was not detected.

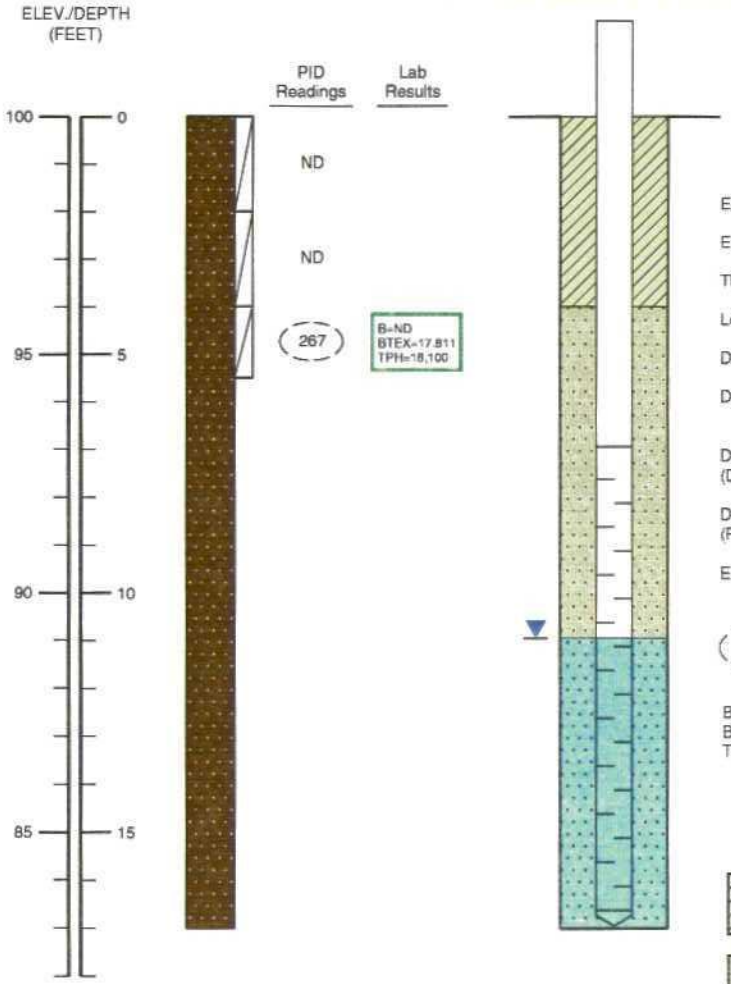
NOTES

1. The temporary monitoring well was installed on October 1, 1996 using 6 inch diameter solid flight augers.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
4. The depths indicated are referenced from the ground surface.

k·e·i	*LOG AND DETAILS OF TEMPORARY MONITORING WELL TMW-6*	610062
	TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO	FIG 37

10/24/96 JB (8162TM7)

TEMPORARY MONITORING WELL TMW-7



Temporary Monitoring Well Details (TMW-7)

Elev of Ground Surface	N/A ft
Elev Top of PVC Well	N/A ft
Thickness of Bentonite Seal	4.0 ft
Length of PVC Well Screen	10.0 ft
Depth of PVC Well	17.0 ft
Depth of Exploratory Hole	17.0 ft
Depth to Ground Water (During drilling)	8-11 ft
Depth to Ground Water (From TOC)	10.94 ft
Elev of Ground Water	N/A ft

Indicates sample selected for laboratory analysis.

B = Total Benzene Concentration (mg/kg)
BTEX = Total BTEX Concentration (mg/kg)
TPH = Total Petroleum Hydrocarbon Concentration (mg/kg)

Bentonite Pellet Seal

Sand Pack

LEGEND

Sand (SM), silty, moist, brown, oil stained.

Rock

Indicates sample interval. Sample was obtained by hydraulically pushing a shelby tube.

Indicates the ground water level measured on October 3, 1996.

PID Head-space readings in ppm obtained with a photo-ionization detector.

ND Indicates the constituent was not detected.

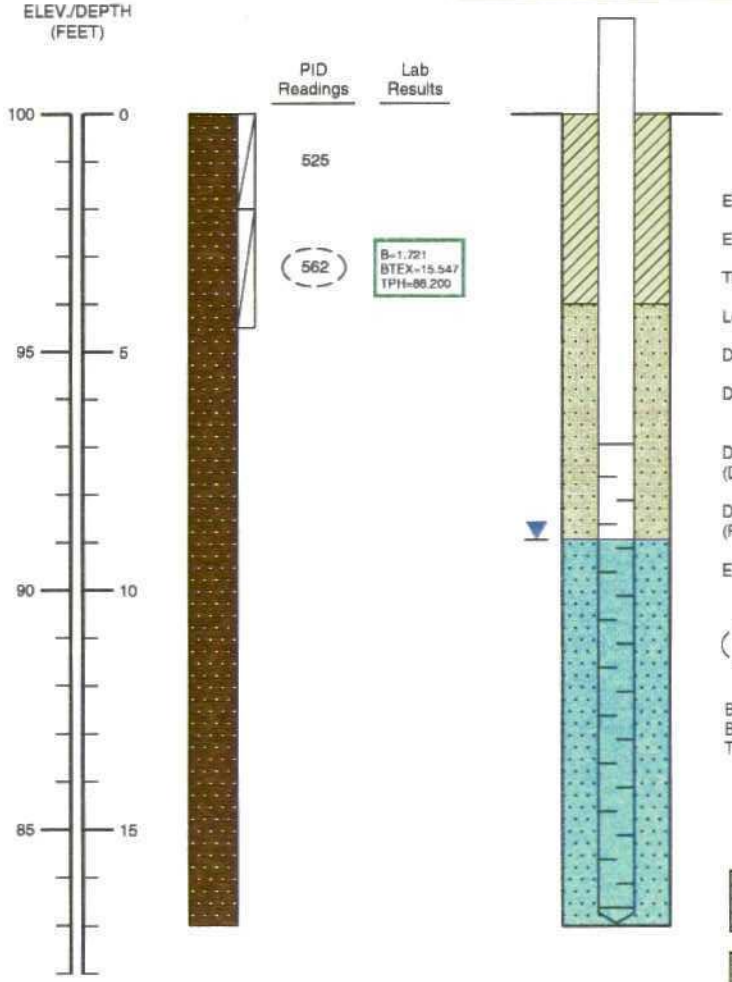
NOTES

1. The temporary monitoring well bore was sampled on October 2, 1996 using a direct push rig.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
4. The depths indicated are referenced from the ground surface.
5. Rock encountred at 5.5', finished well with airdrill on October 17, 1996, no sample taken.

k·e·i	*LOG AND DETAILS OF TEMPORARY MONITORING WELL TMW-7*	610062
	TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO	FIG 38

10/24/96-JB (6162TM8)

TEMPORARY MONITORING WELL TMW-8



Temporary Monitoring Well Details (TMW-8)

Elev of Ground Surface	N/A ft
Elev Top of PVC Well	N/A ft
Thickness of Bentonite Seal	4.0 ft
Length of PVC Well Screen	10.0 ft
Depth of PVC Well	17.0 ft
Depth of Exploratory Hole	17.0 ft
Depth to Ground Water (During drilling)	8-11 ft
Depth to Ground Water (From TOC)	8.96 ft
Elev of Ground Water	N/A ft

( ) Indicates sample selected for laboratory analysis.

B = Total Benzene Concentration (mg/kg)
BTEX = Total BTEX Concentration (mg/kg)
TPH = Total Petroleum Hydrocarbon Concentration (mg/kg)

Bentonite Pellet Seal

Sand Pack

LEGEND

Sand (SM), silty, moist, brown, oil stained.

Rock

Indicates sample interval. Sample was obtained by hydraulically pushing a shelby tube.

Indicates the ground water level measured on October 17, 1996.

PID Head-space readings in ppm obtained with a photo-ionization detector.

ND Indicates the constituent was not detected.

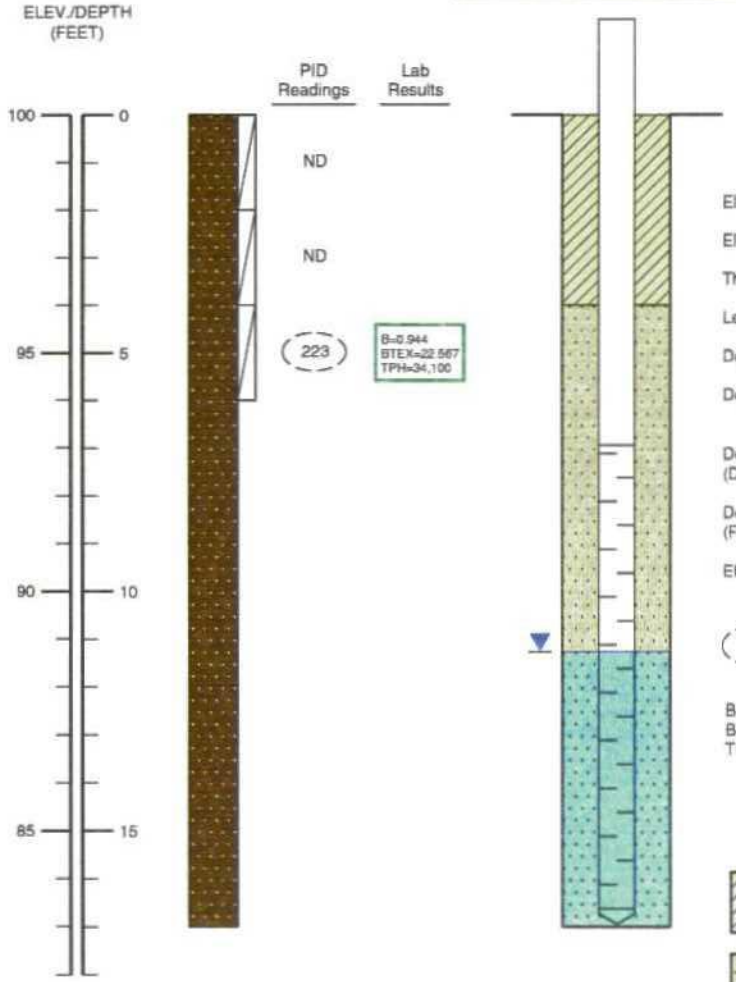
NOTES

1. The temporary monitoring well bore was sampled on October 2, 1996 using a direct push rig.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
4. The depths indicated are referenced from the ground surface.
5. Rock encountred at 4.5', finished well with air drill on October 17, 1996, no sample taken.

k·e·i	*LOG AND DETAILS OF TEMPORARY MONITORING WELL TMW-8*	610062
	TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO	FIG 39

10/24/96 JB (6162TM9)

TEMPORARY MONITORING WELL TMW-9



Temporary Monitoring Well Details (TMW-9)

Elev of Ground Surface	N/A ft
Elev Top of PVC Well	N/A ft
Thickness of Bentonite Seal	4.0 ft
Length of PVC Well Screen	10.0 ft
Depth of PVC Well	17.0 ft
Depth of Exploratory Hole	17.0 ft
Depth to Ground Water (During drilling)	8-11 ft
Depth to Ground Water (From TOC)	11.28 ft
Elev of Ground Water	N/A ft

Indicates sample selected for laboratory analysis.

B = Total Benzene Concentration (mg/kg)
BTEX = Total BTEX Concentration (mg/kg)
TPH = Total Petroleum Hydrocarbon Concentration (mg/kg)

Bentonite Pellet Seal

Sand Pack

LEGEND

Sand (SM), silty, moist, brown, oil stained.

Rock

Indicates sample interval. Sample was obtained by hydraulically pushing a shelby tube.

Indicates the ground water level measured on October 17, 1996.

PID Head-space readings in ppm obtained with a photo-ionization detector.

ND Indicates the constituent was not detected.

NOTES

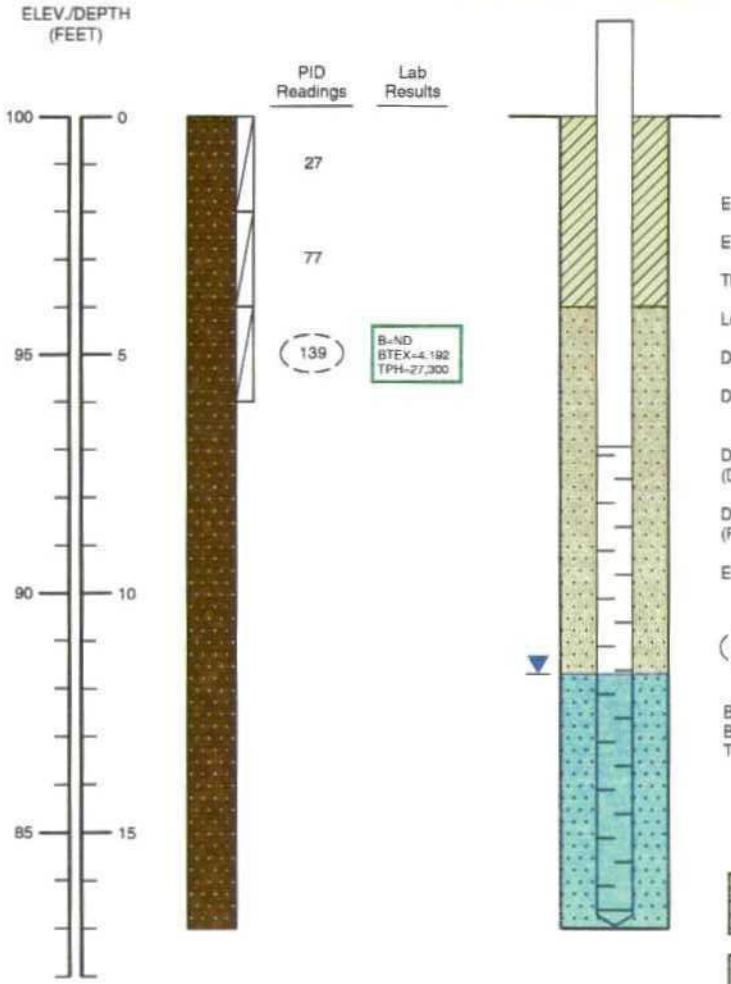
1. The temporary monitoring well bore was sampled on October 2, 1996 using a direct push rig.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
4. The depths indicated are referenced from the ground surface.

Rock encountred at 6.0', finished well with air drilling on October 17, 1996, no samples taken.

k·e·i	*LOG AND DETAILS OF TEMPORARY MONITORING WELL TMW-9*	610062
	TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO	FIG 40

10/24/96 JB (6162TM10)

TEMPORARY MONITORING WELL TMW-10



Temporary Monitoring Well Details (TMW-10)

Elev of Ground Surface	N/A ft
Elev Top of PVC Well	N/A ft
Thickness of Bentonite Seal	4.0 ft
Length of PVC Well Screen	10.0 ft
Depth of PVC Well	17.0 ft
Depth of Exploratory Hole	17.0 ft
Depth to Ground Water (During drilling)	8-11 ft
Depth to Ground Water (From TOC)	11.70 ft
Elev of Ground Water	N/A ft

( ) indicates sample selected for laboratory analysis.

B = Total Benzene Concentration (mg/kg)
BTEX = Total BTEX Concentration (mg/kg)
TPH = Total Petroleum Hydrocarbon Concentration (mg/kg)

Bentonite Pellet Seal

Sand Pack

LEGEND

Sand (SM), silty, moist, brown, oil stained.

Rock

Indicates sample interval. Sample was obtained by hydraulically pushing a shelby tube.

Indicates the ground water level measured on October 17, 1996.

PID Head-space readings in ppm obtained with a photo-ionization detector.

ND Indicates the constituent was not detected.

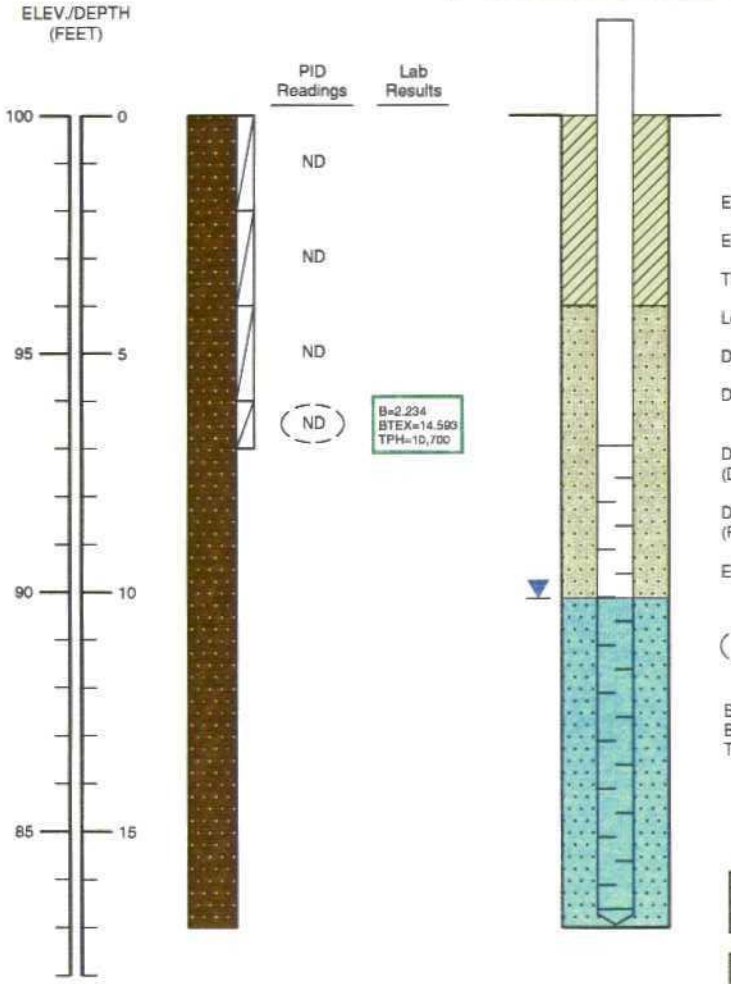
NOTES

1. The temporary monitoring well bore was sampled on October 2, 1996 using a direct push rig.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
4. The depths indicated are referenced from the ground surface.
5. Rock encountred at 6.0', finished well with air drill, on October 17, 1996, no sample taken.

k·e·i	*LOG AND DETAILS OF TEMPORARY MONITORING WELL TMW-10*	610062
	TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO	FIG 41

10/24/96-JB (6162TM11)

TEMPORARY MONITORING WELL TMW-11



Temporary Monitoring Well Details (TMW-11)

Elev of Ground Surface	N/A ft
Elev Top of PVC Well	N/A ft
Thickness of Bentonite Seal	4.0 ft
Length of PVC Well Screen	10.0 ft
Depth of PVC Well	17.0 ft
Depth of Exploratory Hole	17.0 ft
Depth to Ground Water (During drilling)	8-11 ft
Depth to Ground Water (From TOC)	10.14 ft
Elev of Ground Water	N/A ft

Indicates sample selected for laboratory analysis.

B = Total Benzene Concentration (mg/kg)
BTEX = Total BTEX Concentration (mg/kg)
TPH = Total Petroleum Hydrocarbon Concentration (mg/kg)

Bentonite Pellet Seal

Sand Pack

LEGEND

Sand (SM), silty, moist, brown, oil stained.

Rock

Indicates sample interval. Sample was obtained by hydraulically pushing a shelby tube.

Indicates the ground water level measured on October 17, 1996.

PID Head-space readings in ppm obtained with a photo-ionization detector.

ND Indicates the constituent was not detected.

NOTES

1. The temporary monitoring well bore was sampled on October 2, 1996 using a direct push rig.
2. The well was constructed with 2 inch ID, 0.020 inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
4. The depths indicated are referenced from the ground surface.
5. Rock encountred at 7.0', finished well with air drill, on October 17, 1996, no samples taken.

k·e·i

LOG AND DETAILS OF TEMPORARY MONITORING WELL TMW-11	610062
TNMPL SAUNDERS EXCAVATION SEC. 18, T19S, R37E LEA COUNTY, NEW MEXICO	FIG 42

TABLE I

SUMMARY OF LABORATORY RESULTS - SOIL
TEXAS-NEW MEXICO PIPE LINE COMPANY
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DATE	DEPTH (feet)	BENZENE (ppm)	TOLUENE (ppm)	ETHYL-BENZENE (ppm)	XYLENES (ppm)	TOTAL BTEX (ppm)	TPH (ppm)
MW-1	06/21/95	19 - 19.5	ND	ND	ND	ND	ND	190
MW-1	06/21/95	39 - 40	ND	ND	ND	ND	ND	230
MW-2	06/21/95	25 - 27	ND	ND	ND	ND	ND	140
MW-2	06/21/95	40 - 42	ND	ND	ND	ND	ND	190
MW-3	06/21/95	30 - 32	ND	ND	ND	ND	ND	200
MW-3	06/21/95	40 - 42	ND	ND	ND	ND	ND	160
SB-1	06/29/95	40	ND	ND	ND	ND	ND	80
SB-2	06/29/95	33	ND	ND	ND	ND	ND	30
SB-2	06/29/95	40	ND	ND	ND	ND	ND	50
SB-2	06/29/95	35	ND	ND	ND	ND	ND	40
SB-3	06/29/95	30	ND	ND	ND	ND	ND	21,700
SB-3	06/29/95	21	ND	ND	ND	ND	ND	17,500
SB-5	06/30/95	35	ND	ND	ND	ND	ND	40
SB-6	06/30/95	35	ND	ND	ND	ND	ND	90
SB-8	06/30/95	35	ND	ND	ND	ND	ND	ND
SB-9	06/30/95	35	ND	ND	ND	ND	ND	10
MW-4	10/04/95	25 - 26	ND	ND	ND	ND	ND	50.2
MW-4	10/04/95	32 - 36	ND	ND	ND	ND	ND	42.1
BH-10	10/07/95	3	-	-	-	-	-	46,300
BH-10	10/07/95	6	-	-	-	-	-	52,500
BH-11	10/09/95	3	-	-	-	-	-	1,240
BH-11	10/09/95	6	-	-	-	-	-	60
BH-12	10/09/95	6	-	-	-	-	-	48,400
BH-13	10/09/95	3	-	-	-	-	-	30,600
BH-14	12/07/95	4	-	-	-	-	-	110,000
BH-15	12/07/95	6	-	-	-	-	-	210
BH-15	12/07/95	10	-	-	-	-	-	90
BH-16	12/07/95	1	-	-	-	-	-	97,200
BH-16	12/07/95	4	-	-	-	-	-	31,400

TABLE I
(continued)
SUMMARY OF LABORATORY RESULTS - SOIL
TEXAS-NEW MEXICO PIPE LINE COMPANY
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DATE	DEPTH (feet)	BENZENE (ppm)	TOLUENE (ppm)	ETHYL-BENZENE (ppm)	XYLENES (ppm)	TOTAL BTEX (ppm)	TPH (ppm)
BH-17	12/07/95	4	-	-	-	-	-	112,400
BH-17	12/07/95	10	-	-	-	-	-	26,000
BH-18	12/07/95	4	-	-	-	-	-	72,000
BH-18	12/07/95	7	-	-	-	-	-	1,200
BH-19	12/07/95	4	-	-	-	-	-	15,200
BH-19	12/07/95	10	-	-	-	-	-	840
BH-20	12/07/95	4	-	-	-	-	-	89,600
BH-20	12/07/95	10	-	-	-	-	-	6,800
BH-21	12/07/95	4	-	-	-	-	-	114,700
BH-21	12/07/95	8	-	-	-	-	-	69,000
BH-21	12/07/95	10	-	-	-	-	-	340
BH-1	12/20/95	18	-	-	-	-	-	349
BH-2	12/20/95	10	-	-	-	-	-	3,090
BH-2	12/20/95	18	-	-	-	-	-	227
BH-3	12/20/95	7	-	-	-	-	-	8,440
BH-3	12/20/95	10	-	-	-	-	-	2,610
BH-3	12/20/95	18	-	-	-	-	-	1,230
BH-4	12/20/95	10	-	-	-	-	-	12,250
BH-4	12/20/95	18	-	-	-	-	-	702
BH-5	12/20/95	18	-	-	-	-	-	475
BH-6	12/20/95	10	-	-	-	-	-	4,680
BH-6	12/20/95	18	-	-	-	-	-	512
BH-7	12/20/95	7	-	-	-	-	-	32,000
BH-7	12/20/95	10	-	-	-	-	-	27,000
BH-7	12/20/95	18	-	-	-	-	-	399
BH-8	12/20/95	10	-	-	-	-	-	3,610
BH-8	12/20/95	18	-	-	-	-	-	555
BH-9	12/20/95	10	-	-	-	-	-	3,240
BH-9	12/20/95	18	-	-	-	-	-	366
MW-10	01/24/96	25 - 27	ND	ND	ND	0.004	0.004	51
MW-10	01/24/96	35 - 36	ND	ND	ND	ND	ND	46

TABLE I
(continued)
SUMMARY OF LABORATORY RESULTS - SOIL
TEXAS-NEW MEXICO PIPE LINE COMPANY
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DATE	DEPTH (feet)	BENZENE (ppm)	TOLUENE (ppm)	ETHYL-BENZENE (ppm)	XYLENES (ppm)	TOTAL BTEX (ppm)	TPH (ppm)
MW-11	01/24/96	22 - 23	ND	0.090	ND	ND	0.090	66
MW-11	01/24/96	39 - 40	ND	ND	ND	ND	ND	98
MW-12	01/24/96	27 - 28	ND	ND	ND	ND	ND	40
MW-12	01/24/96	39 - 40	ND	ND	ND	ND	ND	41
Stockpile#1	08/15/96	---	-	-	-	-	-	4,040
Stockpile#2	08/15/96	---	-	-	-	-	-	4,350
Stockpile#3	08/15/96	---	-	-	-	-	-	6,010
Stockpile#4	08/15/96	---	-	-	-	-	-	31,500
Stockpile#5	08/15/96	---	-	-	-	-	-	7,920
Stockpile#6	08/15/96	---	-	-	-	-	-	7,280
Stockpile#7	08/15/96	---	-	-	-	-	-	7,420
Stockpile#8	08/15/96	---	-	-	-	-	-	800
TMW-1	10/01/96	5 - 6	ND	0.445	0.697	4.230	5.372	17,300
TMW-1	10/01/96	11 - 12	0.158	ND	ND	ND	0.158	240
TMW-2	10/01/96	7 - 8	1.630	8.707	2.060	14.520	26.917	32,700
TMW-2	10/01/96	11 - 12	ND	0.222	0.715	0.613	1.550	240
TMW-3	10/01/96	1 - 2	0.114	0.195	ND	ND	0.309	210
TMW-3	10/01/96	11 - 12	0.827	6.808	1.353	10.910	19.898	36,300
TMW-4	10/02/96	1 - 2	0.301	2.168	0.937	8.979	12.385	21,500
TMW-4	10/02/96	11 - 12	0.292	0.353	0.132	1.649	2.426	10
TMW-5	10/01/96	2.5 - 3.5	1.767	8.677	2.037	16.611	29.092	27,000
TMW-5	10/01/96	11 - 12	ND	ND	ND	ND	ND	100
TMW-6	10/01/96	1 - 2	0.900	5.332	1.644	12.545	20.421	37,600
TMW-6	10/01/96	11 - 12	ND	ND	ND	3.549	3.549	70
TMW-7	10/02/96	4.5 - 5.5	ND	4.554	1.491	11.766	17.811	18,100
TMW-8	10/01/96	3.5 - 4.5	1.721	5.514	1.180	7.132	15.547	86,200
TMW-9	10/01/96	5 - 6	0.944	5.614	1.413	14.596	22.567	34,100
TMW-10	10/02/96	5 - 6	ND	0.808	0.527	2.857	4.192	27,300
TMW-11	10/01/96	6 - 7	2.234	4.345	0.957	7.057	14.593	10,700

TABLE 2
MONITORING WELL MW-1
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)	PAH (mg/l)	TDS (mg/l)	CHLORIDES (mg/l)
06/27/95	-	-	-	06/27/95	ND	ND	ND	ND	ND	NT	ND	NT	191
09/20/95	39.86	3,650.58	-	-	-	-	-	-	-	-	-	-	-
09/22/95	39.62	3,6580.82	-	09/23/95	ND	ND	ND	ND	ND	-	-	-	-
10/03/95	40.78	3,649.66	-	-	-	-	-	-	-	-	-	-	-
10/17/95	41.27	3,649.17	-	-	-	-	-	-	-	-	-	-	-
12/08/95	42.61	3,647.83	-	-	-	-	-	-	-	-	-	-	-
01/04/96	42.50	3,647.94	-	01/08/96	19	ND	25	ND	215	-	ND	396	3,200
01/25/96	42.90	3,647.54	-	-	-	-	-	-	-	-	-	-	-
01/31/96	42.98	3,647.46	-	-	-	-	-	-	-	-	-	-	-
02/23/96	43.03	3,647.41	-	-	-	-	-	-	-	-	-	-	-
06/04/96	42.54	3,647.90	-	06/04/96	ND	ND	ND	ND	ND	ND	-	880	320
07/10/96	43.51	3,646.93	-	07/10/96	ND	ND	ND	8	8	ND	-	-	-
10/02/96	44.14	3,646.30	-	10/03/96	ND	ND	ND	ND	ND	ND	–	–	-
10/30/96	44.29	3,646.15	-	-	-	-	-	-	-	-	-	-	-

NOTES:

1. Elevation of PVC casing = 3,690.44 feet
2. Elevation of ground surface = 3,687.7 feet
3. A sample obtained from monitoring well MW-1 on 06/05/96 was determined to have a Total Dissolved Solids (TDS) co-e- of 880 mg/l.

TABLE 2
(continued)
MONITORING WELL MW-2
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)	PAH (mg/l)	TDS (mg/l)	CHLORIDES (mg/l)
06/27/95	-	-	-	06/27/95	ND	ND	ND	ND	ND	-	ND	-	85
09/20/95	40.42	3,647.81	-	-	-	-	-	-	-	-	-	-	-
09/22/95	40.26	3,647.97	-	09/22/95	ND	ND	ND	ND	ND	-	-	-	-
10/03/95	40.01	3,648.22	-	-	-	-	-	-	-	-	-	-	-
12/08/95	40.67	3,647.56	-	-	-	-	-	-	-	-	-	-	-
01/04/96	41.29	3,646.94	-	01/08/96	ND	ND	ND	6	6	-	ND	340	2,500
01/25/96	41.41	3,646.82	-	-	-	-	-	-	-	-	-	-	-
01/31/96	41.49	3,646.74	-	-	-	-	-	-	-	-	-	-	-
02/23/96	41.57	3,646.66	-	-	-	-	-	-	-	-	-	-	-
06/04/96	41.85	3,646.38	-	06/04/96	ND	ND	ND	ND	ND	ND	-	320	213
07/10/96	42.03	3,646.20	-	07/10/96	ND	ND	ND	ND	ND	ND	-	-	-
10/02/96	42.99	3,645.24		10/03/96	ND	ND	ND	ND	ND	ND	-	-	-

NOTES:

1. Elevation of PVC casing = 3,688.23 feet
2. Elevation of ground surface = 3,685.5 feet
3. A sample obtained from monitoring well MW-2 on 06/05/96 was determined to have a Total Dissolved Solids (TDS) co-e- of 320 mg/l.

TABLE 2
(continued)
MONITORING WELL MW-3
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)	PAH (mg/l)	TDS (mg/l)	CHLORIDES (mg/l)
06/27/95	-	-	-	06/27/95	ND	ND	ND	ND	ND	-	ND	-	64
09/20/95	39.87	3,648.16	-	-	-	-	-	-	-	-	-	-	-
09/22/95	39.71	3,648.32	-	09/22/95	ND	ND	ND	ND	ND	-	-	-	-
10/03/95	39.52	3,648.51	-	-	-	-	-	-	-	-	-	-	-
12/08/95	40.15	3,647.88	-	-	-	-	-	-	-	-	-	-	-
01/04/96	40.88	3,647.15	-	01/08/96	ND	27	ND	ND	27	-	ND	553	19,745
01/25/96	40.95	3,647.08	-	-	-	-	-	-	-	-	-	-	-
02/23/96	41.28	3,646.75	-	-	-	-	-	-	-	-	-	-	-
06/04/96	41.49	3,646.54	-	06/04/96	ND	ND	ND	ND	ND	ND	-	410	107
07/10/96	41.71	3,646.32	-	07/10/96	ND	ND	ND	ND	ND	ND	-	-	-
10/02/96	42.20	3,645.83	-	10/03/96	19	ND	3	ND	22	ND	-	-	-

?

NOTES:

1. Elevation of PVC casing = 3,688.03 feet
2. Elevation of ground surface = 3,685.3 feet
3. A sample obtained from monitoring well MW-3 on 06/05/96 was determined to have a Total Dissolved Solids (TDS) co-e- of 410 mg/l.

TABLE 2
(continued)
MONITORING WELL MW-4
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)	PAH (mg/l)	TDS (mg/l)	CHLORIDES (mg/l)
				10/17/95	ND	ND	ND	ND	ND	-	-	-	-
12/08/95	40.60	3,647.47	-	-	-	-	-	-	-	-	-	-	-
01/04/96	40.83	3,647.24	-	01/08/96	ND	ND	ND	ND	ND	-	ND	222	17,500
01/25/96	40.89	3,647.18	-	-	-	-	-	-	-	-	-	-	-
02/23/96	41.17	3,646.90	-	-	-	-	-	-	-	-	-	-	-
06/04/96	41.16	3,646.91	-	06/04/96	ND	ND	ND	ND	ND	ND	-	210	107
07/10/96	41.58	3,646.49	-	07/10/96	ND	ND	ND	ND	ND	ND	-	-	-
10/02/96	42.10	3,645.97		10/03/96	2	ND	3	ND	5	ND	-	-	-
10/30/96	42.24	6,645.83	-	-	-	-	-	-	-	-	-	-	-

NOTES:

1. Elevation of PVC casing = 3,688.07 feet
2. Elevation of ground surface = 3,685.7 feet
3. A sample obtained from monitoring well MW-4 on 06/05/96 was determined to have a Total Dissolved Solids (TDS) co-e- of 210 mg/l.

TABLE 2
(continued)
MONITORING WELL MW-5
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)	TDS (mg/l)	CHLORIDES (mg/l)
01/04/96	43.60	3,647.68	-	01/10/96	5	ND	ND	74	79	-	-	60
01/25/96	43.74	3,647.54	-	-	-	-	-	-	-	-	-	-
02/23/96	44.12	3,647.16	-	-	-	-	-	-	-	-	-	-
06/04/96	43.35	3,647.93	-	06/04/96	ND	ND	ND	ND	ND	ND	650	107
07/10/96	44.35	3,646.93	-	07/10/96	ND	ND	ND	ND	ND	ND	-	-
10/02/96	44.98	3,646.30		10/03/96	ND	ND	ND	ND	ND	ND	-	-
10/30/96	45.12	3,646.16	-	-	-	-	-	-	-	-	-	-

NOTES:

1. Elevation of PVC casing = 3,691.28 feet
2. Elevation of ground surface = 3,688.4 feet
3. A sample obtained from monitoring well MW-5 on 06/05/96 was determined to have a Total Dissolved Solids (TDS) co-e- of 650 mg/l.

TABLE 2
(continued)
MONITORING WELL MW-6
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l))	TPH (mg/l)	TDS (mg/l)	CHLORIDES (mg/l)
01/04/96	44.18	3,647.63	-	01/10/96	3	ND	ND	8	11	-	-	102
01/25/96	44.30	3,647.51	-	-	-	-	-	-	-	-	-	-
02/23/96	44.58	3,647.23	-	-	-	-	-	-	-	-	-	-
06/04/96	44.02	3,647.79	-	06/04/96	ND	ND	ND	ND	ND	ND	720	122
07/10/96	44.94	3,646.87	-	07/10/96	ND	ND	ND	ND	ND	ND	-	-
10/02/96	45.56	3,646.25	-	10/03/96	ND	ND	ND	ND	ND	ND	-	-
10/30/96	45.70	3,646.11	-	-	-	-	-	-	-	-	-	-

NOTES:

1. Elevation of PVC casing = 3,691.81 feet
2. Elevation of ground surface = 3,688.7 feet
3. A sample obtained from monitoring well MW-6 on 06/05/96 was determined to have a Total Dissolved Solids (TDS) co-e- of 720 mg/l.

TABLE 2
(continued)
MONITORING WELL MW-7
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)	PAH (mg/l)	TDS (mg/l)	CHLORIDES (mg/l)
01/04/96	43.86	3,647.62	-	01/08/96	ND	ND	ND	ND	ND	-	ND	806	2,800
01/25/96	43.97	3,647.51	-	-	-	-	-	-	-	-	-	-	-
02/23/96	44.20	3,647.28	-	-	-	-	-	-	-	-	-	-	-
06/04/96	43.92	3,647.56	-	06/04/96	ND	ND	ND	ND	ND	ND	-	850	373
07/10/96	44.68	3,646.80	-	07/10/96	ND	ND	ND	ND	ND	ND	-	-	-
10/02/96	45.28	3,646.20	-	10/03/96	ND	ND	ND	ND	ND	ND	-	-	-
10/30/96	45.42	4,646.06	-	-	-	-	-	-	-	-	-	-	-

NOTES:

1. Elevation of PVC casing = 3,691.48 feet
2. Elevation of ground surface = 3,689.0 feet
3. A sample obtained from monitoring well MW-7 on 06/05/96 was determined to have a Total Dissolved Solids (TDS) co-e- of 850 mg/l.

TABLE 2
(continued)
MONITORING WELL MW-8
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)	TDS (mg/l)	CHLORIDES (mg/l)
01/04/96	44.47	3,647.56	-	01/10/96	ND	ND	ND	11	11	-	-	210
01/25/96	44.58	3,647.45	-	-	-	-	-	-	-	-	-	-
02/23/96	44.70	3,647.33	-	-	-	-	-	-	-	-	-	-
06/04/96	44.90	3,647.13	-	06/04/96	ND	ND	ND	ND	ND	ND	310	107
07/10/96	45.38	3,646.65	-	07/10/96	ND	ND	ND	ND	ND	ND	-	-
10/02/96	45.96	3,646.07	-	10/03/96	ND	ND	ND	1	1	ND	-	-
10/30/96	46.07	3,645.96	-	-	-	-	-	-	-	-	-	-

NOTES:

1. Elevation of PVC casing = 3,692.03 feet
2. Elevation of ground surface = 3,689.4 feet
3. A sample obtained from monitoring well MW-8 on 06/05/96 was determined to have a Total Dissolved Solids (TDS) co-e- of 310 mg/l.

TABLE 2
(continued)
MONITORING WELL MW-9
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)	TDS (mg/l)	CHLORIDES (mg/l)
01/04/96	42.59	3,647.71	-	01/10/96	ND	ND	16	22	38	-	-	46
01/25/96	42.76	3,647.54	-	-	-	-	-	-	-	-	-	-
02/23/96	43.81	3,646.49	-	-	-	-	-	-	-	-	-	-
06/04/96	42.82	3,647.48	-	06/04/96	ND	ND	ND	ND	ND	1	420	107
07/10/96	43.45	3,646.85	-	07/10/96	ND	ND	ND	ND	ND	ND	-	-
10/02/96	44.01	3,646.29	-	10/03/96	ND	ND	ND	ND	ND	ND	-	-
10/30/96	44.15	3,646.15	-	-	-	-	-	-	-	-	-	-

NOTES:

1. Elevation of PVC casing = 3,690.30 feet
2. Elevation of ground surface = 3,687.5 feet
3. A sample obtained from monitoring well MW-9 on 06/05/96 was determined to have a Total Dissolved Solids (TDS) co-e- of 420 mg/l.

TABLE 2
(continued)
MONITORING WELL MW-10
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)	PAH (mg/l)	TDS (mg/l)	CHLORIDES (mg/l)
01/31/96	41.62	3,646.71	-	02/06/96	290	1,237	2,529	2,360	6,416	-	-	-	-
02/23/96	41.66	3,646.67	-	02/29/96	-	-	-	-	-	-	ND	636	24
06/04/96	41.38	3,646.95	-	06/04/96	ND	ND	ND	ND	ND	ND	-	660	107
07/10/96	41.84	3,646.49	-	07/10/96	ND	ND	16	25	41	ND	-	-	-
10/02/96	42.36	3,645.97	-	10/03/96	ND	ND	ND	ND	ND	ND	-	-	-
10/30/96	42.51	3,645.82	-	-	-	-	-	-	-	-	-	-	-

NOTES:

1. Elevation of PVC casing = 3,688.33 feet
2. Elevation of ground surface = 3,685.6 feet
3. A sample obtained from monitoring well MW-10 on 06/05/96 was determined to have a Total Dissolved Solids (TDS) co-e- of 660 mg/l.

TABLE 2
(continued)
MONITORING WELL MW-11
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)	TDS (mg/l)	CHLORIDES (mg/l)
01/31/96	42.71	3,646.40	-	02/06/96	ND	ND	ND	ND	ND	-	-	-
02/23/96	42.74	3,646.37	-	-	-	-	-	-	-	-	-	-
06/04/96	42.04	3,647.07	-	06/04/96	ND	ND	ND	ND	ND	1	620	213
07/10/96	42.58	3,646.53	-	07/10/96	ND	ND	ND	ND	ND	ND	-	-
10/02/96	43.12	3,645.99	-	10/03/96	9	3	1	3	16	1	-	-
10/30/96	43.26	3,645.85	-	-	-	-	-	-	-	-	-	-

NOTES:

1. Elevation of PVC casing = 3,689.11 feet
2. Elevation of ground surface = 3,686.3 feet
3. A sample obtained from monitoring well MW-11 on 06/05/96 was determined to have a Total Dissolved Solids (TDS) co-e- of 620 mg/l.

TABLE 2
(continued)
MONITORING WELL MW-12
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)	TDS (mg/l)	CHLORIDES (mg/l)
01/31/96	42.17	3,646.99	-	02/06/96	ND	ND	ND	4	4	-	-	-
02/23/96	42.25	3,646.91	-	-	-	-	-	-	-	-	-	-
06/04/96	41.91	3,647.25	-	06/04/96	2	2	3	4	11	2	1,010	266
07/10/96	42.58	3,646.58	-	07/10/96	ND	ND	12	7	19	1	-	-
10/02/96	43.13	3,646.03	-	10/03/96	ND	1	2	4	7	1	-	-
10/30/96	43.28	3,645.88	-	-	-	-	-	-	-	-	-	-

NOTES:

1. Elevation of PVC casing = 3,689.16 feet
2. Elevation of ground surface = 3,687.1 feet
3. A sample obtained from monitoring well MW-12 on 06/05/96 was determined to have a Total Dissolved Solids (TDS) co-e- of 1,010 mg/l.

TABLE 2
(continued)
JC-1
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)	PAH (mg/l)	TDS (mg/l)	CHLORIDES (mg/l)
01/31/96	32.43	3,647.68	-	02/06/96	ND	ND	ND	ND	ND	-	-	-	-
02/23/96	32.58	3,647.53	-	02/29/96	-	-	-	-	-	-	ND	748	38

NOTES:

1. Elevation of PVC casing = 3,680.11 feet
2. Elevation of ground surface = 3,677.5 feet
3. A sample obtained from JC-1 on 02/29/96 was determined to have a Total Dissolved Solids (TDS) co-e- of 748 mg/l.

TABLE 2
(continued)
BORING HOLE NO. BH-14
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
12/08/95	2.4	3,647.9	<0.05	-	-	-	-	-	-	-

NOTES:

1. Elevation of ground surface = 3,650.3 feet

TABLE 2
(continued)
BORING HOLE NO. BH-15
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
12/08/95	6.0	3,647.7	<0.05	-	-	-	-	-	-	-

NOTES:

1. Elevation of ground surface = 3,653.7 feet

TABLE 2
(continued)
BORING HOLE NO. BH-16
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
12/08/95	3.0	3,648.5	<0.05	-	-	-	-	-	-	-

NOTES:

1. Elevation of ground surface = 3,651.5 feet

TABLE 2
(continued)
BORING HOLE NO. BH-18
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
12/08/95	3.5	3,647.6	<0.05	-	-	-	-	-	-	-

NOTES:

1. Elevation of ground surface = 3,651.1 feet

TABLE 2
(continued)
BORING HOLE NO. BH-21
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
12/08/95	7.5	3,647.5	<0.05	-	-	-	-	-	-	-

TABLE 2
(continued)
TEMPORARY MONITORING WELL TMW-1
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
10/03/96	8.92		SHEEN	10/03/96	-	-	-	-	-	-
10/30/96	13.56		5.9	-	-	-	-	-	-	-

TABLE 2
(continued)
TEMPORARY MONITORING WELL TMW-2
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
10/03/96	8.65		SHEEN	10/03/96	3	2	5	19	29	-
10/30/96	10.05		2.2	-	-	-	-	-	-	-

TABLE 2
(continued)
TEMPORARY MONITORING WELL TMW-3
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
10/03/96	8.79		0.05	-	-	-	-	-	-	-
10/30/96	11.86		5.20	-	-	-	-	-	-	-

NOTES:

1. Elevation of ground surface = ** feet

TABLE 2
(continued)
TEMPORARY MONITORING WELL TMW-4
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
10/03/96	8.71		0.17	-	-	-	-	-	-	-
10/30/96	11.08		3.0	-	-	-	-	-	-	-

TABLE 2
(continued)
TEMPORARY MONITORING WELL TMW-5
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
10/03/96	8.49		0.21	-	-	-	-	-	-	-
10/30/96	12.74		5.0	-	-	-	-	-	-	-

TABLE 2
(continued)
TEMPORARY MONITORING WELL TMW-6
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
10/03/96	7.29		0.20	-	-	-	-	-	-	-
10/30/96	9.93		5.8	-	-	-	-	-	-	

TABLE 2
(continued)
TEMPORARY MONITORING WELL TMW-7
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
10/17/96	10.94		.02	-	-	-	-	-	-	-
10/30/96	11.09		2.10	-	-	-	-	-	-	-

TABLE 2
(continued)
TEMPORARY MONITORING WELL TMW-8
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
10-17/96	8.96		.02	-	-	-	-	-	-	-
10/30/96	8.98		0.10	-	-	-	-	-	-	-

TABLE 2
(continued)
TEMPORARY MONITORING WELL TMW-9
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
10/17/96	11.28		.01	-	-	-	-	-	-	-
10/30/96	11.60		0.70	-	-	-	-	-	-	-

TABLE 2
(continued)
TEMPORARY MONITORING WELL TMW-10
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
10/17/96	11.70		.02	-	-	-	-	-	-	-
10/30/96	11.94		2.0	-	-	-	-	-	-	-

TABLE 2
(continued)
TEMPORARY MONITORING WELL TMW-11
SUMMARY OF GROUND WATER MONITORING
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

DATE MEASURED	DEPTH TO WATER (feet)	ELEV. OF WATER (feet)	PSH THICKNESS (feet)	DATE SAMPLED	BENZENE (µg/l)	TOLUENE (µg/l)	ETHYL-BENZENE (µg/l)	XYLENES (µg/l)	BTEX (µg/l)	TPH (mg/l)
10/17/96	10.14		.02	-	-	-	-	-	-	-
10/30/96	10.19		Trace	-	-	-	-	-	-	

TABLE 3
SUMMARY OF GROUND WATER LABORATORY RESULTS
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

WELL NAME	DATE SAMPLED	SILVER (Ag)	ARSENIC (As)	BARIUM (Ba)	CADMIUM (Cd)	CHROMIUM (Cr)	MERCURY (Hg)	LEAD (Pb)	SELENIUM (Se)	BICARBONATE (HCO3)
MW-1	06/27/95	ND	ND	23.3	ND	ND	ND	0.07	ND	-
MW-2	06/27/95	ND	ND	17.5	ND	0.13	ND	0.06	ND	-
MW-3	06/27/95	ND	ND	20.0	ND	ND	ND	0.14	ND	-
MW-1	01/08/96	ND	0.005	0.107	ND	ND	ND	ND	ND	193
MW-2	01/08/96	ND	0.005	0.150	ND	ND	ND	ND	ND	200
MW-3	01/08/96	ND	ND	0.147	ND	ND	ND	ND	ND	245
MW-4	01/08/96	ND	0.006	0.132	ND	ND	0.003	ND	ND	149
MW-7	01/08/96	ND	ND	0.147	ND	ND	ND	ND	ND	506
MW-10	02/29/96	-	-	-	-	-	-	-	-	201
JC-1	02/29/96	ND	ND	1.46	ND	0.09	ND	ND	ND	235
TMW-1	10-03/96	ND	ND	0.12	.007	ND	.001	ND	ND	-
TMW-2	10/03/96	0.11	ND	ND	.023	ND	.003	0.10	ND	-

NOTES:

1. Metal analyses were conducted using EPA Methods 6010, 7060, 6010, 7191, or 7740.
2. All results are reported in parts per million (ppm).

TABLE 4
MAJOR CATIONS/ANIONS
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

WELL NAME	DATE SAMPLED	SO_4 (mg/l)	CO_3 (mg/l)	HCO_2 (mg/l)	HCO_3 (mg/l)	CA (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	PH (mg/l)	Conductivity (mg/l)
MW-1	06/27/95	125	ND	5.5	-	208	126	116	4.0	-	-
MW-2	06/27/95	38	ND	2.3	-	96	58	52	4.3	-	-
MW-3	06/27/95	150	ND	3.0	-	84	51	39	4.4	-	-
MW-1	01/08/96	73.9	ND	-	193	45.6	5.9	76.3	8.19	7.58	400
MW-2	01/08/96	62.3	ND	-	200	45.5	5.1	19.2	6.37	7.61	340
MW-3	01/08/96	123	ND	-	245	88.3	12.7	40.2	15.27	7.44	450
MW-4	01/08/96	26.3	ND	-	149	45.7	5.1	19.3	6.11	7.63	200
MW-7	01/08/96	77.3	ND	-	506	110.6	22.9	60.3	25.32	7.08	700
MW-10	02/29/96	199	ND	-	201	176.3	25.8	43.5	-	-	450
JC-1	02/29/96	171	ND	-	235	504.1	31.7	46.3	-	-	470
TMW-1	10/03/96	37.5	270	-	270	12.4	2.17	54.0	5.21	-	-
TMW-2	10/03/96	55	280	–	280	3.5	1.9	88.3	4.61	-	-

TABLE 5
WASTE CHARACTERIZATION ANALYSES
TEXAS-NEW MEXICO PIPE LINE COMPANY
SITE 16 (AKA SAUNDERS EXCAVATION, TNM-10-95)
SEC 18, T19S, R37E
LEA COUNTY, NEW MEXICO

	PIT SAMPLE 02/09/96	PIT SAMPLE 03/13/96	FRAK TANK 03/13/96
TCLP METALS (mg/l)			
Ag	0.26	-	0.02
As	0.002	-	ND
Ba	1.1	-	1.4
Cd	0.01	-	0.02
Cr	ND	-	ND
Hg	ND	-	ND
Pb	ND	-	0.11
Se	ND	-	ND
TCLP VOLATILES (mg/l)			
1-1 Dichloroethene	ND	ND	ND
2 Butanone	0.131	ND	0.144
Chloroform	ND	ND	ND
Benzene	ND	ND	0.015
1-2 Dichloroethene	ND	ND	ND
Vinyl Chloride	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND
Trichloroethene	ND	ND	ND
Tetrachloroethene	ND	ND	ND
Chlorobenzene	ND	ND	ND
1,4 Dichloroethene	ND	ND	ND
REACTIVITY			
H2S	<10	<10	<10
CN-	<2.5	<2.5	<2.5
Corrosivity (su)	7.05	6.85	6.85
Ignitability	>140° F	>140° F	>140° F
TPH (mg/l)	43	ND	8.4

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Jim Holly
Phone #:
FAX #:
Company Name & Address: Texas - New Mexico Pipe Line
Project #: #10 (6-23-95)
Project Name:
Project Location: New Mexico
Sampler Signature: Jim Holly

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX 8012D/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI
4375	MW1 19-19.5	1			X						X			6-21-95		X	X						
4376	MW1 39-40	1			X						X					X	X						
4377	MW2 25-27	1			X						X					X	X						
4378	MW2 40-42	1			X						X					X	X						
4379	MW3 30-32	1			X						X					X	X						
4380	MW3 40-42	1			X						X			↓		X	X						

Relinquished by:	Date:	Times:	Received by:
K.C. Offield	6-27-95	8:35 AM	
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory: Roland K Tuttle

REMARKS

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS-NEW MEXICO PIPE LINE
ATTN: MR. TONY SAVOIE
P.O. BOX 60028
SAN ANGELO, TEXAS 76906
FAX: 505-395-2636

Receiving Date:06/27/95
Sample Type: SOIL
Project :#10 (6-23-95)
Project Location: NEW MEXICO

Analysis Date: 06/27/95
Sampling Date: 06/21/95
Sample Condition: Intact /cool
Project Manager: JIM HOLLY

ELT# FIELD CODE	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	m,p-XYLENE (mg/kg)	o-XYLENE (mg/kg)	TPH (mg/kg)
4375 MW 1 19-19.5	<0.5	<0.5	<0.5	<0.5	<0.5	190
4376 MW 1 39-40	<0.5	<0.5	<0.5	<0.5	<0.5	230
4377 MW 2 25-27	<0.5	<0.5	<0.5	<0.5	<0.5	140
4378 MW 2 40-42	<0.5	<0.5	<0.5	<0.5	<0.5	190
4379 MW 3 30-32	<0.5	<0.5	<0.5	<0 5	<0.5	200
4380 MW 3 40-42	<0.5	<0.5	<0.5	<0.5	<0.5	160
RPD	0	0	5	4	4	0
%IA	102	96	92	96	95	90
BLANK	ND	ND	ND	ND	ND	ND

ND= NOT DETECTED

METHODS: SW 846-8020,5030 , EPA 418.1

Raland K Tuttle
Raland K. Tuttle

6-28-95
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ALLSTATE SERVICES
ATTN: MR. RANDY OFFIELD
P.O. BOX 11322
MIDLAND, TEXAS 79702
FAX: 915-682-4182

Receiving Date:07/03/95
Sample Type: SOIL
Project :E.J. SAUNDERS, TEXACO
Project Location: NONE GIVEN

Analysis Date: 07/03/95
Sampling Date: 06/29/95
Sampling Date: ** 06/30/95
Sample Conditin: Intact/ Cool
Revision: 7/10/95

ELT#	FIELD CODE	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	m,p-XYLENE (mg/kg)	o-XYLENE (mg/kg)	TPH (mg/kg)
4439	SB-1 40	<0.5	<0.5	<0.5	<0.5	<0.5	80
4440	SB-2 33	<0.5	<0.5	<0.5	<0.5	<0.5	30
4441	SB-2 40	<0.5	<0.5	<0.5	<0.5	<0.5	50
4442	SB-2 35	<0.5	<0.5	<0.5	<0.5	<0.5	40
4443	SB-3 30	<0.5	<0.5	<0.5	<0.5	<0.5	21700
4444	SB-3 21	<0.5	<0.5	<0.5	<0.5	<0.5	17500
4445	SB-5 35 **	<0.5	<0.5	<0.5	<0.5	<0.5	40
4446	SB-6 35 **	<0.5	<0.5	<0.5	<0.5	<0.5	90
4447	SB-8 35 **	<0.5	<0.5	<0.5	<0.5	<0.5	<10
4448	SB-9 35 **	<0.5	<0.5	<0.5	<0.5	<0.5	10
	RPD	3	1	0	9	2	0
	%IA	91	86	83	87	88	104
	BLANK	ND	ND	ND	ND	ND	ND

METHODS: SW 846-8020,5030 . EPA 418.1

Raland K Tuttle
Raland K. Tuttle

7-10-95
Date

ARDINAL LABORATORIES

118 S. Commercial Ave.
Farmington, NM 87401
505-326-4669
FAX 505-326-4535

101 E. Marland
Hobbs, NM 88240
505-393-2326
FAX 505-393-2476

Chain of Custody Record

Project I.D. Texaco Saunders Pit Excavation
Project Location 18-T19S-R37E, Lea Co. NM
Sampled By F. Wesley Root
Client Name Environmental Spill Control, Inc.
Address 1203 West Dunnam, Hobbs NM 88241
Telephone 505-392-6167 (FAX) 505-397-5085

Sample Number	Date	Time	Composite	Grab	Sample Location	Number of Containers	Analysis Required: BTEX 8020	TPH 418.1						Remarks (Type sample, preservation, etc.)
	10-4-95	11:10		V	MW-4 25'-26' H2237-1	1-4oz	V	V						Soil, ICE
	10-4-95	11:40		V	MW-4 36'-37' H2237-2	1-4oz	V	V						Soil, ICE

Released by: (Signature)	Date	Time	Received by: (Signature)
F. Wesley Root	10-12	11:50	
Released by: (Signature)	Date	Time	Received by: (Signature)

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240
PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

TPH/BTEX ANALYSIS REPORT

Company: Environmental Spill Control
Address: P.O. Box 5890
City, State: Hobbs, NM 88241

Date: 10/18/95
Lab #: H2237

Project Name: Texaco Saunders Pit Excavation
Location: 18-T19S-R37E, Lea Co., NM
Sampled by: WR Date: 10/4/95 Time: 11:10
Analyzed by: MI Date: 10/18/95 Time: 8:19
Sample Type: Soil Sample Condition: Intact Units: ppm

Samp #	Field Code	TRPHC	BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE	MTBE
1	MW-4 25-26'	50.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2	MW-4 36-32'	42.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	QC Recovery	625	0.898	0.887	0.979	0.927	0.958	0.932	0.757
	QC Spike	600	0.872	0.852	0.856	0.844	0.854	0.844	0.732
	Accuracy	104.1%	102 %	104 %	114 %	109 %	112 %	110 %	103 %
	Air Blank	***	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Methods - GAS CHROMOTOGRAPHY; INFRARED SPECTROSCOPY
- EPA SW-846; 8020, 418.1, 3510, 3540 or 3550

Mitch Irvin

Mitch Irvin

10/18/95

Date

ARDINAL LABORATORIES

118 S. Commercial Ave.
Farmington, NM 87401
505-326-4669
FAX 505-326-4535

101 E. Marland
Hobbs, NM 88240
505-393-2326
FAX 505-393-2476

Chain of Custody Record

Project I.D. Saunders Excavation (TNM No. 10)
Project Location Sec 18, T19S, R32E Lea Co. New Mexico
Sampled By F. Wesley Root (F. Wesley Root)
Client Name Environmental Spill Control, Inc.
Address P.O. Box 5890, Hobbs, New Mexico 88241
Telephone 505-392-6167 (FAX) 397-5085

Sample Number	Date	Time	Composite	Grab	Sample Location	Number of Containers	Analysis Required: BTEX 8020	Analysis Required: TPH 418.1						Remarks (Type sample, preservation, etc.)
1	1/24/96	10:05		V	MW-10 (25-27') H2392-1	1-4 oz	V	V						Soil, ICE
	1/24/96	10:35		V	MW-10 (35-36') H2392-2	1-4oz	V	V						Soil, ICE
	1/24/96	15:15		V	MW-11 (22-23') H2392-3	1-4oz	V	V						Soil, ICE
	1/24/96	16:00		V	MW-11 (39-40') H2392-4	1-4oz	V	V						Soil, ICE
	1/25/96	13:40		V	MW-12 (27-28') H2392-5	1-4oz	V	V						Soil, ICE
	1/25/96	14:10		V	MW-12 (39-40') H2392-6	1-4oz	V	V						Soil, ICE

Relinquished by: (Signature)	Date	Time	Received by: (Signature)
F. Wesley Root	1/24/96	11:44	Kay Moad
Relinquished by: (Signature)	Date	Time	Received by: (Signature)

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PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

TPH/BTEX ANALYSIS REPORT

Company: Environmental Spill Control, Control, Inc.
Address: PO Box 5890
City, State: Hobbs, New Mexico 88241

Date: 02/06/96
Lab #: H2392

Project Name: Saunders Excavation (TN No. 10)
Location: S-18 T-195 R-37E
Sampled by: F.W.R. Date: 1/24/96
Analyzed by: MI Date: 1/24/96 Time: 17:24
Sample Type: Soil Sample Condition: Intact
Units: mg/kg

Samp #	Field Code	TRPHC	BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE
1	MW-10 (25-27')	51	<0.001	<0.001	<0.001	<0.001	<0.001	0.004
2	MW-10 (35-36')	46	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
3	MW-11 (22-23')	66	<0.001	0.090	<0.001	<0.001	<0.001	<0.001
4	MW-11 (39-40')	98	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
5	MW-12 (27-28')	40	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
6	MW-12 (39-40')	41	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
QC Recovery		183	0.492	0.460	0.469	0.479	0.495	0.461
QC Spike		175	0.534	0.525	0.528	0.525	0.523	0.519
Accuracy		104.5%	92%	87%	89	91%	95%	89%
Blank		***	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Methods - GAS CHROMOTOGRAPHY; INFRARED SPECTROSCOPY
- EPA SW-846; 8020, 418.1, 3510, 3540 or 3550

Mitch Irvin

2/5/96
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE COMPANY
ATTN: MR. JOHNNY CHAPMAN
P.O. BOX 1018
EUNICE, NM 88231
FAX: 505-394-2591

Receiving Date: 01/26/96
Sample Type: SOIL
Project : TNM#58-95

Analysis Date: 02\01\96
Sampling Date: NONE GIVEN
Sample Condition: Intact

TCLP METALS (ppm)

ELT#	Field Code	Ag	As	Ba	Cd	Cr	Hg	Pb	Se
	EPA LIMIT	5.00	5.00	100.0	1.00	5.00	0.20	5.00	1.00
6860	SOIL	<0.01	<0.002	0.42	0.01	<0.05	<0.001	<0.10	<0.002
	MDL	0.01	0.002	0.10	0.01	0.05	0.001	0.10	0.002
	% IA	97	101	103	97	97	104	99	106
	% EA	95	87	102	98	82	97	100	96

MDL = Minimum Detection Limit

METHODS: EPA SW 846-1311, 7061, 7080, 7760, 7130, 7190, 7420, 7471,7741

Michael R. Fowler

2-7-96
Date

ENVIRONMENTAL LAB OF TEXAS, INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE COMPANY
ATTN: MR. JOHNNY CHAPMAN
P.O. BOX 1018
EUNICE, NM 88231
FAX: 505-394-2591

RECEIVING DATE: 01/26/96
SAMPLE TYPE: SOIL
PROJECT #: TNM #58-95

ANALYSIS DATE: 01/29/96
SAMPLING DATE: NONE GIVEN
SAMPLE CONDITION: INTACT

ELT#	FIELD CODE	IGNITABILITY (Deg. F)
6660	SOIL	>150

Methods: EPA SW 846-1010

Michael R. Fowler

2-2-96
Date

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

10150

ANALYSIS REQUEST —

Project Manager: MIKE HAWTHORNE
Phone #: 210 680 3767
FAX #: 210 680 3763

Company Name & Address: KEI, 5309 WURZBACH, STE 100, SAN ANTONIO TX 78238

Project #: 610062
Project Name: TNMPL

Project Location: SAUNDERS EXCAVATION
Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	BTEX 8020/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI
9111	TMW-1 5-6'	1	4oz		X						X			10/1/96	1425	X	X						
9112	TMW-1 11-12'													10/1/96	1450								
9113	TMW-2 7-8'													10/1/96	1825								
9114	TMW-2 11-12'													10/1/96	1835								
9115	TMW-3 1-2'													10/1/96	1330								
9116	TMW-3 11-12'													10/1/96	1400								
9117	TMW-4 1-2'													10/2/96	0815								
9118	TMW-4 11-12'													10/2/96	0850								
9119	TMW-5 2.5-3.5'													10/1/96	1740								
9120	TMW-5 11-12'													10/1/96	1800								
9121	TMW-6 1-2'	↓	↓		↓						↓			10/1/96	0930	↓	↓						

Relinquished by:	Date:	Times:	Received by:
	10/3/96	1730	
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory:

REMARKS

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST #10150

ANALYSIS REQUEST

Project Manager: Mike Hawthorne

Phone #: 210 680 3767

FAX #: 210 680 3763

Company Name & Address: KEI, 5309 Wurzbach, Ste 100, San Antonio TX 78238

Project #: 610062

Project Name: TNMP

Project Location: Sanders Excavation

Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	BTEX 8020/~~5030~~	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI
9122	TMW-6 11-12'	1	402		X						X			10/1/96	0955	X	X						
9123	TMW-7 4.5-5.5'													10/2/96	0940								
9124	TMW-8 3.5-4.5'													10/1/96	1655								
9125	TMW-9 5-6'													10/1/96	1620								
9126	TMW-10 5-6'													10/2/96	1010								
9127	TMW-11 6-7'													10/1/96	1600								

Relinquished by:	Date:	Times:	Received by:
	10/3/96	1730	Roland K Ford
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory:

REMARKS

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

KEI CONSULTANTS
MR. MIKE HAWTHORNE
5309 WURZBACH, STE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 10/03/96
Sample Type: SOIL
Project #: 610062
Project Location: SAUNDERS EXCAVATION

Analysis Date: TPH 10/04/96
Analysis Date: BTEX 10/07/96
Sampling Date: 10/01,02/96
Sample Condition: Intact/Iced

ELT#	FIELD CODE	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYLBENZENE (mg/Kg)	m,p-XYLENE (mg/Kg)	o-XYLENE (mg/Kg)	TPH (mg/kg)
9111	TMW-1 5-6'	<0.100	0.445	0.697	2.681	1.549	17,300
9112	TMW-1 11-12'	0.158	<0.100	<0.100	<.0100	<.0100	240
9113	TMW-2 7-8'	1.630	8.707	2.060	9.719	4.801	32,700
9114	TMW-2 11-12'	<0.100	0.222	0.715	0.613	<0.100	240
9115	TMW-3 1-2'	0.114	0.195	<0.100	<0.100	<0.100	210
9116	TMW-3 11-12'	0.827	6.808	1.353	7.153	3.757	36,300
9117	TMW-4 1-2'	0.301	2.168	0.937	5.944	3.035	21,500
9118	TMW-4 11-12'	0.292	0.353	0.132	0.617	1.032	10
9119	TMW-5 2.5-3.5'	1.767	8.677	2.037	11.910	4.701	27,000
9120	TMW-5 11-12'	<0.100	<0.100	<0.100	<0.100	<0.100	100
9121	TMW-6 1-2'	0.900	5.332	1.644	8.817	3.728	37,600
9122	TMW-6 11-12'	<0.100	<0.100	<0.100	1.608	1.941	70
9123	TMW-7 4.5-5.5'	<0.100	4.554	1.491	8.290	3.476	18,100
9124	TMW-8 3.5-4.5'	1.721	5.514	1.180	5.064	2.068	86,200
9125	TMW-9 5-6'	0.944	5.614	1.413	10.370	4.226	34,100
9126	TMW-10 5-6'	<0.100	0.808	0.527	2.170	0.687	27,300
9127	TMW-11 6-7'	2.234	4.345	0.957	5.229	1.828	10,700
	% IA	111	100	96	92	92	101
	% EA	104	96	80	78	77	
	BLANK	<0.001	<0.001	<0.001	<0.001	<0.001	<10

METHODS: SW 846-8020,5030 , EPA 418.1

Michael R. Fowler

10-8-96
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

KEI CONSULTANTS
MR. MIKE HAWTHORNE
5309 WURZBACH, STE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 10/03/96
Sample Type: SOIL
Project #: 610062
Project Location: SAUNDERS EXCAVATION

Analysis Date: TPH 10/04/96
Analysis Date: BTEX 10/07/96
Sampling Date: 10/01,02/96
Sample Condition: Intact/Iced

ELT#	FIELD CODE	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYLBENZENE (mg/Kg)	m,p-XYLENE (mg/Kg)	o-XYLENE (mg/Kg)	TPH (mg/kg)
9111	TMW-1 5-6'	<0.100	0.445	0.697	2.681	1.549	17,300
9112	TMW-1 11-12'	0.158	<0.100	<0.100	<.0100	<.0100	240
9113	TMW-2 7-8'	1.630	8.707	2.060	9.719	4.801	32,700
9114	TMW-2 11-12'	<0.100	0.222	0.715	0.613	<0.100	240
9115	TMW-3 1-2'	0.114	0.195	<0.100	<0.100	<0.100	210
9116	TMW-3 11-12'	0.827	6.808	1.353	7.153	3.757	36,300
9117	TMW-4 1-2'	0.301	2.168	0.937	5.944	3.035	21,500
9118	TMW-4 11-12'	0.292	0.353	0.132	0.617	1.032	10
9119	TMW-5 2.5-3.5'	1.767	8.677	2.037	11.910	4.701	27,000
9120	TMW-5 11-12'	<0.100	<0.100	<0.100	<0.100	<0.100	100
9121	TMW-6 1-2'	0.900	5.332	1.644	8.817	3.728	37,600
9122	TMW-6 11-12'	<0.100	<0.100	<0.100	1.608	1.941	70
9123	TMW-7 4.5-5.5'	<0.100	4.554	1.491	8.290	3.476	18,100
9124	TMW-8 3.5-4.5'	1.721	5.514	1.180	5.064	2.068	86,200
9125	TMW-9 5-6'	0.944	5.614	1.413	10.370	4.226	34,100
9126	TMW-10 5-6'	<0.100	0.808	0.527	2.170	0.687	27,300
9127	TMW-11 6-7'	2.234	4.345	0.957	5.229	1.828	10,700
	% IA	111	100	96	92	92	101
	% EA	104	96	80	78	77	
	BLANK	<0.001	<0.001	<0.001	<0.001	<0.001	<10

METHODS: SW 846-8020,5030 , EPA 418.1

Michael R. Fowler

10-8-96
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

KEI CONSULTING
ATTN: MR. MIKE HAWTHORNE
5309 WURZBACH, SUITE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 10/18/96
Sample Type: SOIL
Project: 610062 TNM 10-95
Project Location: SAUNDERS EXCAVATION, NEW MEXICO

Analysis Date: 10/25/96
Sampling Date: 10/17/96
Sample Condition: Intact/Iced
Extraction Date: 10/24/96

ELT# 9286

8270 COMPOUNDS	REPORTING LIMIT	SOIL A Concentration (mg/Kg)	QC	RPD	% EA	% IA
N-Nitrosodimethylamine	0.01	ND				
2-Picoline	0.01	ND				
Methyl methanesulfonate	0.01	ND				
Ethyl methanesulfonate	0.01	ND				
Phenol	0.01	ND	78	18	26	99
Aniline	0.05	ND				
bis(2-Chloroethyl)ether	0.05	ND				
2-Chlorophenol	0.05	ND		20	48	
1,3-Dichlorobenzene	0.01	ND				
1,4-Dichlorobenzene	0.01	ND	82	16	58	100
Benzyl alchohol	0.05	ND				
1,2-Dichlorobenzene	0.01	ND				
2-Methylphenol	0.01	ND				
bis(2-Chloroisopropyl)ether	0.05	ND				
4-Methylphenol/3-Methylphenol	0.01	ND				
Acetophenone	0.05	ND				
n-Nitrosodi-n-propylamine	0.01	ND		15	59	
Hexachloroethane	0.01	ND				
Nitrobenzene	0.01	ND				
N-Nitrosopiperidine	0.05	ND				
Isophorone	0.05	ND				
2-Nitrophenol	0.05	ND	83			104
2,4-Dimethylphenol	0.05	ND				
bis(2-Chloroethoxy)methane	0.01	ND				
Benzoic acid	0.1	ND				
2,4-Dichlorophenol	0.05	ND	84			98
1,2,4-Trichlorobenzene	0.01	ND		14	58	
a,a Dimethylphenethylamine	0.1	ND				
Naphthalene	0.01	ND				
4-Chloroaniline	0.05	ND				
2,6-Dichlorophenol	0.05	ND				
Hexachlorobutadiene	0.01	ND	79			99
N-Nitroso-di-n-butylamine	0.05	ND				
4-Chloro-3-methylphenol	0.05	ND	81	14	59	101

ELT# 9286 SOIL A

8270 COMPOUNDS	Reporting Limits	Concentration (mg/kg)	QC	RPD	%EA	%IA
2-Methylnaphthalene	0.01	ND				
1,2,4,5-Tetrachlorobenzene	0.01	ND				
Hexachlorocyclopentadiene	0.01	ND				
2,4,6-Trichlorophenol	0.05	ND	76			99
2,4,5-Trichlorophenol	0.05	ND				
2-Chloronaphthalene	0.01	ND				
1,-Chloronaphthalene	0.01	ND				
2-Nitroaniline	0.05	ND				
Dimethylphthalate	0.01	ND				
Acenaphthylene	0.01	ND				
2,6-Dinitrotoluene	0.01	ND				
3-Nitroaniline	0.05	ND				
Acenaphthene	0.01	ND	81	11	62	97
2,4-Dinitrophenol	0.05	ND				
Dibenzofuran	0.05	ND				
Pentachlorobenzene	0.01	ND				
4-Nitrophenol	0.05	ND		6	43	
1-Napthylamine	0.05	ND				
2,4-Dinitrotoluene	0.01	ND		5	61	
2-Napthylamine	0.05	ND				
2,3,4,6-Tetrachlorophenol	0.05	ND				
Fluorene	0.01	ND				
Diethylphthalate	0.01	ND				
4-Chlorophenyl-phenylether	0.01	ND				
4-Nitroaniline	0.05	ND				
4,6-Dinitro-2-methylphenol	0.01	ND				
n-Nitrosodipenlamine & Diphenylam	0.01	ND	82			95
Diphenylhydrazine	0.05	ND				
4-Bromophenyl-phenylether	0.01	ND				
Phenacetin	0.05	ND				
Hexachlorobenzene	0.01	ND				
4-Aminobiphenyl	0.05	ND				
Pentachlorophenol	0.05	ND	91	9	62	103
Pentachloronitrobenzene	0.05	ND				
Pronamide	0.01	ND				
Phenanthrene	0.01	ND				
Anthracene	0.01	ND				
Di-n-butylphthalate	0.01	ND				
Fluoranthene	0.01	ND	81			105
Benzidine	0.1	ND				
Pyrene	0.01	ND		7	84	
p-Dimethylaminoazobenzene	0.01	ND				
Butylbenzylphthalate	0.01	ND				
Benzo [a]anthracene	0.01	ND				
3,3-Dichlorobenzidine	0.01	ND				
Chrysene	0.01	ND				
bis (2-Ethylhexyl)phthalate	0.05	ND				

ELT# 9286 SOIL A

8270 COMPOUNDS	Reporting Limits	Concentration (mg/kg)	QC	RPD	%EA	%IA
Di-n- octlphthalate	0.01	ND	94			104
Benzo[b]fluoranthene	0.01	ND				
7,12-Dimethylbenz(a)anthracene	0.01	ND				
Benzo[k]fluoranthene	0.01	ND				
Benzo [a] pyrene	0.01	ND	83			99
3-Methylcholanthrene	0.01	ND				
Dibenzo (a,j) acridine	0.01	ND				
Indeno [1,2,3-cd] pyrene	0.01	ND				
Dibenz [a,h] anthracene	0.01	ND				
Benzo [g,h,i] perylene	0.01	ND				

METHOD: EPA SW 846-8270, 3551

SURROGATES	% RECOVERY
2-Fluorophenol SURR	98
Phenol-d6 SURR	86
Nitrobenzene-d5 SURR	89
2-Fluorobiphenyl SURR	87
2,4,6-Tribromophenol SURR	96
Terphenyl-d14 SURR	93

Michael R. Fowler

10-29-96
Date

ENVIRONMENTAL
LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

KEI CONSULTING
ATTN: MR. MIKE HAWTHORNE
5309 WURZBACH, SUITE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 10/18/96
Sample Type: SOIL
Project : 610062 TNM 10-95
Project Location: SAUNDERS EXCAVATION, NEW MEXICO

Analysis Date: 10/25/96
Sampling Date: 10/17/96
Sample Condition: Intact/Iced
Extraction Date: 10/24/96

ELT# 9287

8270 COMPOUNDS	REPORTING LIMIT	SOIL A' Concentration (mg/Kg)	QC	RPD	% EA	% IA
N-Nitrosodimethylamine	0.01	ND				
2-Picoline	0.01	ND				
Methyl methanesulfonate	0.01	ND				
Ethyl methanesulfonate	0.01	ND				
Phenol	0.01	ND	78	18	26	99
Aniline	0.05	ND				
bis(2-Chloroethyl)ether	0.05	ND				
2-Chlorophenol	0.05	ND		20	48	
1,3-Dichlorobenzene	0.01	ND				
1,4-Dichlorobenzene	0.01	ND	82	16	58	100
Benzyl alchohol	0.05	ND				
1,2-Dichlorobenzene	0.01	ND				
2-Methylphenol	0.01	ND				
bis(2-Chloroisopropyl)ether	0.05	ND				
4-Methylphenol/3-Methylphenol	0.01	ND				
Acetophenone	0.05	ND				
n-Nitrosodi-n-propylamine	0.01	ND		15	59	
Hexachloroethane	0.01	ND				
Nitrobenzene	0.01	ND				
N-Nitrosopiperidine	0.05	ND				
Isophorone	0.05	ND				
2-Nitrophenol	0.05	ND	83			104
2,4-Dimethylphenol	0.05	ND				
bis(2-Chloroethoxy)methane	0.01	ND				
Benzoic acid	0.1	ND				
2,4-Dichlorophenol	0.05	ND	84			98
1,2,4-Trichlorobenzene	0.01	ND		14	58	
a,a Dimethylphenethylamine	0.1	ND				
Naphthalene	0.01	ND				
4-Chloroaniline	0.05	ND				
2,6-Dichlorophenol	0.05	ND				
Hexachlorobutadiene	0.01	ND	79			99
N-Nitroso-di-n-butylamine	0.05	ND				
4-Chloro-3-methylphenol	0.05	ND	81	14	59	101

ELT# 9287 SOIL A'

8270 COMPOUNDS	Reporting Limits	Concentration (mg/kg)	QC	RPD	%EA	%IA
2-Methylnaphthalene	0.01	ND				
1,2,4,5-Tetrachlorobenzene	0.01	ND				
Hexachlorocyclopentadiene	0.01	ND				
2,4,6-Trichlorophenol	0.05	ND	76			99
2,4,5-Trichlorophenol	0.05	ND				
2-Chloronaphthalene	0.01	ND				
1,-Chloronaphthalene	0.01	ND				
2-Nitroaniline	0.05	ND				
Dimethylphthalate	0.01	ND				
Acenaphthylene	0.01	ND				
2,6-Dinitrotoluene	0.01	ND				
3-Nitroaniline	0.05	ND				
Acenaphthene	0.01	ND	81	11	62	97
2,4-Dinitrophenol	0.05	ND				
Dibenzofuran	0.05	ND				
Pentachlorobenzene	0.01	ND				
4-Nitrophenol	0.05	ND		6	43	
1-Napthylamine	0.05	ND				
2,4-Dinitrotoluene	0.01	ND		5	61	
2-Napthylamine	0.05	ND				
2,3,4,6-Tetrachlorophenol	0.05	ND				
Fluorene	0.01	ND				
Diethylphthalate	0.01	ND				
4-Chlorophenyl-phenylether	0.01	ND				
4-Nitroaniline	0.05	ND				
4,6-Dinitro-2-methylphenol	0.01	ND				
n-Nitrosodipenlamine & Diphenylam	0.01	ND	82			95
Diphenylhydrazine	0.05	ND				
4-Bromophenyl-phenylether	0.01	ND				
Phenacetin	0.05	ND				
Hexachlorobenzene	0.01	ND				
4-Aminobiphenyl	0.05	ND				
Pentachlorophenol	0.05	ND	91	9	62	103
Pentachloronitrobenzene	0.05	ND				
Pronamide	0.01	ND				
Phenanthrene	0.01	ND				
Anthracene	0.01	ND				
Di-n-butylphthalate	0.01	ND				
Fluoranthene	0.01	ND	81			105
Benzidine	0.1	ND				
Pyrene	0.01	ND		7	84	
p-Dimethylaminoazobenzene	0.01	ND				
Butylbenzylphthalate	0.01	ND				
Benzo [a]anthracene	0.01	ND				
3,3-Dichlorobenzidine	0.01	ND				
Chrysene	0.01	ND				
bis (2-Ethylhexyl)phthalate	0.05	ND				

ELT# 9287 SOIL A'

8270 COMPOUNDS	Reporting Limits	Concentration (mg/kg)	QC	RPD	%EA	%IA
Di-n- octiphthalate	0.01	ND	94			104
Benzo[b]fluoranthene	0.01	ND				
7.12-Dimethylbenz(a)anthracene	0.01	ND				
Benzo[k]fluoranthene	0.01	ND				
Benzo [a] pyrene	0.01	ND	83			99
3-Methylcholanthrene	0.01	ND				
Dibenzo (a,j) acridine	0.01	ND				
Indeno [1.2.3-cd] pyrene	0.01	ND				
Dibenz [a,h] anthracene	0.01	ND				
Benzo [g.h.i] perylene	0.01	ND				

METHOD: EPA SW 846-8270, 3551

SURROGATES	% RECOVERY
2-Fluorophenol SURR	95
Phenol-d6 SURR	91
Nitrobenzene-d5 SURR	94
2-Fluorobiphenyl SURR	93
2,4,6-Tribromophenol SURR	87
Terphenyl-d14 SURR	89

Michael R. Fowler

10-29-96
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

KEI CONSULTING
ATTN: MR. MIKE HAWTHORNE
5309 WURZBACH, SUITE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 10/18/96
Reporting Date: 10/28/96
Project Name: 610062, TNM 10-95
Sample I.D.: SOIL A'
Project Location: Saunders Excavation, New Mexico

Analysis Date: 10/23/96
Sampling Date: 10/17/96
Sample Type: Soil
Sample Condition: Intact/Iced

Volatiles EPA SW 846-8240, (ppm) Compounds	ELT# 9287	PQL	% IA	Method Blank	% EA
Chloromethane	ND	0.1	93	ND	
Vinyl chloride	ND	0.1	89	ND	
Bromomethane	ND	0.1	104	ND	
Chloroethane	ND	0.1	104	ND	
Trichlorofluoromethane	ND	0.1	102	ND	
Acetone	ND	1	102	ND	
1,1-Dichloroethane	ND	0.1	119	ND	44*
Iodomethane	ND	1	111	ND	
Vinyl Acetate	ND**	1	96	ND	
Carbon Disulfide	ND	0.1	110	ND	
Methylene Chloride	ND	0.1	114	ND	
trans-1,2-Dichloroethene	ND	0.1	100	ND	
1,1-Dichloroethane	ND	0.1	100	ND	
2-Butanone	6.226	1	112	ND	
Chloroform	ND	0.1	93	ND	
1,1,1-Trichloroethane	ND	0.1	116	ND	
Carbon Tetrachloride	ND	0.1	100	ND	
Benzene	ND	0.1	100	ND	88
1,2 Dichloroethane	ND	0.1	107	ND	
Trichloroethene	ND	0.1	117	ND	91
1,2-Dichloropropane	ND	0.1	108	ND	
Dibromomethane	ND	0.1	100	ND	
Bromochloromethane	ND	0.1	106	ND	
2-Chloroethyl Vinyl ether	ND	1	107	ND	
4-Methyl 2-Pentanone	ND	1	114	ND	
cis 1,3 Dichloropropene	ND	0.1	104	ND	
Toluene	ND	0.1	105	ND	85
trans 1,3-Dichloropropene	ND	0.1	108	ND	
1,1,2-Trichloroethane	ND	0.1	106	ND	
Dibromochloromethane	ND	0.1	111	ND	
Tetrachloroethene	ND	0.1	117	ND	
Chlorobenzene	ND	0.1	108	ND	84

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Receiving Date: 10/18/96
Reporting Date: 10/28/96
Project Name: 610062, TNM 10-95
Sample I.D.: SOIL A'
Project Location: Saunders Excavation, New Mexico

Analysis Date: 10/23/96
Sampling Date: 10/17/96
Sample Type: Soil
Sample Condition: Intact/Iced

Volatiles EPA SW 846-8240, (ppm) Compounds	ELT# 9287	PQL	% IA	Method Blank	% EA
Ethylbenzene	ND	0.1	103	ND	
m&p Xylene	0.123	0.1	103	ND	
o-Xylene	ND	0.1	105	ND	
Styrene	ND	0.1	108	ND	
Bromoform	ND	0.1	119	ND	
1,1,2,2-Tetrachloroethane	ND	0.1	106	ND	
1,2,3-Trichloropropane	ND	0.1	110	ND	

** Detected but <PQL
*Matrix Interference

SYSTEM MONITORING COMPOUNDS	% RECOVERY
Dibromofluoromethane	96
Toluene-d8	108
4-Bromofluorobenzene	90

ND=<PQL

Michael R. Fowler

10-29-96
Date

ENVIRONMENTAL
LAB OF , INC.
"Don't Treat Your Soil Like Dirt!"

KEI CONSULTING
ATTN: MR. MIKE HAWTHORNE
5309 WURZBACH, SUITE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 10/18/96
Reporting Date: 10/28/96
Project Name: 610062, TNM 10-95
Sample I.D.: SOIL A
Project Location: Saunders Excavation, New Mexico

Analysis Date: 10/23/96
Sampling Date: 10/17/96
Sample Type: Soil
Sample Condition: Intact/Iced

Volatiles EPA SW 846-8240, (ppm) Compounds	ELT# 9286	PQL	% IA	Method Blank	% EA
Chloromethane	ND	0.1	93	ND	
Vinyl chloride	ND	0.1	89	ND	
Bromomethane	ND	0.1	104	ND	
Chloroethane	ND	0.1	104	ND	
Trichlorofluoromethane	ND	0.1	102	ND	
Acetone	ND	1	102	ND	
1,1-Dichloroethane	ND	0.1	119	ND	44*
Iodomethane	ND	1	111	ND	
Vinyl Acetate	3.429	1	96	ND	
Carbon Disulfide	ND	0.1	110	ND	
Methylene Chloride	ND	0.1	114	ND	
trans-1,2-Dichloroethene	ND	0.1	100	ND	
1,1-Dichloroethane	ND	0.1	100	ND	
2-Butanone	4.056	1	112	ND	
Chloroform	ND	0.1	93	ND	
1,1,1-Trichloroethane	ND	0.1	116	ND	
Carbon Tetrachloride	ND	0.1	100	ND	
Benzene	ND	0.1	100	ND	88
1,2 Dichloroethane	ND	0.1	107	ND	
Trichloroethene	ND	0.1	117	ND	91
1,2-Dichloropropane	ND	0.1	108	ND	
Dibromomethane	ND	0.1	100	ND	
Bromochloromethane	ND	0.1	106	ND	
2-Chloroethyl Vinyl ether	ND	1	107	ND	
4-Methyl 2-Pentanone	ND	1	114	ND	
cis 1,3 Dichloropropene	ND	0.1	104	ND	
Toluene	ND	0.1	105	ND	85
trans 1,3-Dichloropropene	ND	0.1	108	ND	
1,1,2-Trichloroethane	ND	0.1	106	ND	
Dibromochloromethane	ND	0.1	111	ND	
Tetrachloroethene	ND	0.1	117	ND	
Chlorobenzene	ND	0.1	108	ND	84

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FAX: 210-680-3763

Receiving Date: 10/18/96
Reporting Date: 10/28/96
Project Name: 610062, TNM 10-95
Sample I.D.: SOIL A
Project Location: Saunders Excavation, New Mexico

Analysis Date: 10/23/96
Sampling Date: 10/17/96
Sample Type: Soil
Sample Condition: Intact/Iced

Volatiles EPA SW 846-8240, (ppm) Compounds	ELT# 9286	PQL	% IA	Method Blank	% EA
Ethylbenzene	ND	0.1	103	ND	
m&p Xylene	ND	0.1	103	ND	
o-Xylene	ND	0.1	105	ND	
Styrene	ND	0.1	108	ND	
Bromoform	ND	0.1	119	ND	
1,1,2,2-Tetrachloroethane	ND	0.1	106	ND	
1,2,3-Trichloropropane	ND	0.1	110	ND	

** Detected but <PQL
*Matrix Interference

SYSTEM MONITORING COMPOUNDS	% RECOVERY
Dibromofluoromethane	115
Toluene-d8	120
4-Bromofluorobenzene	101

ND=<PQL

Michael R. Fowler

10-28-96
Date

January 4, 1996

To: Mr. Bill Olson
NMOCD Santa Fe
2040 South Pacheco
Santa Fe N.M. 87505

Re: Texas New Mexico Pipeline Co. (TNMPL) Spill & Remediation
Site TNMPL #10 located 2 miles NW of Monument, N.M.
nw/4 se/4 sec 18-Ts 19s-R 37e

Dear Bill,

TNMPL and Texaco Exploration & Producing Inc. (TEPI) met December 6, 1995 to discuss the ongoing pit remediation and the possibility of TNMPL determining the vertical and horizontal extent of contamination around the original excavation. Environmental Spill Control, Inc. was already on site for TEPI doing soil borings and monitor well installations. TNMPL in order to determine the full extent of vertical and horizontal contamination 9 soil borings were done indicated on the map ref. borings #1 through #9.

Crude oil samples collected from 3 different locations have been sent to Texaco Research and Development lab in Port Arthur, Texas. The results of these samples and the results of the soil borings will be discussed in a meeting planned for the week of January 8th. with TEPI. A work plan to continue remediation of the site will be developed and should be ready to present for OCD approval by January 29, 1996.

If you have any questions , please call me at 505-395-2705

Sincerely yours,

J. A. Savoie

cc: Wayne Price- Environmental Engineer
Mr. J.W. Chapman-TNMPL
Mr. Marc Oler-TTTI

ENVIRONMENTAL SPILL CONTROL, INC.
1203 West Dunnam
P.O. Box 5890
Hobbs, NM 88241
(505) 392-6167 (800) 390-6167

SOIL ANALYSIS REPORT

DATE: 12/20/95
CLIENT: Texas-New Mexico Pipeline
SUPERVISOR: Stoney Thomas

FACILITY: C.J. Saunders Federal Pit
Test Method: Modified 4018.1
Matrix: Soil

	TPH		DEPTH	LOCATION
SAMPLE NO. 01	349	PPM	18'	Boring # 1
SAMPLE NO. 02	3090	PPM	10'	Boring # 2
SAMPLE NO. 03	227	PPM	18'	Boring # 2
SAMPLE NO. 04	8440	PPM	7'	Boring # 3
SAMPLE NO. 05	2610	PPM	10'	Boring # 3
SAMPLE NO. 06	1230	PPM	18'	Boring # 3
SAMPLE NO. 07	12250	PPM	10'	Boring # 4
SAMPLE NO. 08	702	PPM	18'	Boring # 4
SAMPLE NO. 09	475	PPM	18'	Boring # 5 at a 45° angle East Wall
SAMPLE NO. 10	4680	PPM	10'	Boring # 6
SAMPLE NO. 11	512	PPM	18'	Boring # 6
SAMPLE NO. 12	32000	PPM	7'	Boring # 7
SAMPLE NO. 13	27000	PPM	10'	Boring # 7
SAMPLE NO. 14	399	PPM	18'	Boring # 7
SAMPLE NO. 15	3610	PPM	10'	Boring # 8
SAMPLE NO. 16	555	PPM	18'	Boring # 8
SAMPLE NO. 17	3240	PPM	10'	Boring # 9
SAMPLE NO. 18	366	PPM	18'	Boring # 9

COMMENTS:Between 7:00 am and 1:00 pm on December 20, nine holes were drilled in the Southeast corner of the pit. Samples were taken above the sandstone layer at 7 foot. Seven samples were taken at 10 feet right below the sandstone layer. Nine samples were taken at 18 feet (8 feet into the water). Borings are numbered in the order that they were drilled and tested.

Analysis Request and Chain of Custody Record

Environmental Lab

Huntingdon

A member of the HIH group of companies

☐ **HOUSTON EAS** 222 CAVALCADE ST., HOUSTON, TEXAS 77009 (713) 692-9151
☐ **DALLAS EAS** 2575 LONE STAR DR., DALLAS, TEXAS 75212 (214) 631-2700
☐ **MIDLAND EAS** 1703 WEST INDUSTRIAL, MIDLAND, TEXAS 79701 (915) 683-3349

Project no.: TNM-1095

Client/Project:

Lab ID No.	Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid Sludge, Etc.)	Preservative	ANALYSIS REQUESTED	LABORATORY REMARKS
4391	TNM-1095 MW304	6-27-95 2:10PM	✓		40mL	water	HCL	BTEX	
4391	TNM-1095 MW305	6-27-95 2:10PM	✓		40mL	Water	HCL	BTEX	
4390	TNM-1095 MW204	6-27-95 1:55PM	✓		40 mL	Water	HCL	BTEX	
4390	TNM-1095 MW205	6-27-95 1:55PM	✓		40mL	Water	HCL	BTEX	
4389	TNM-1095 MW104	6-27-95 1145AM	✓		40 mL	water	HCL	BTEX	
4389	TNM-1095 MW105	6-27-95 1145AM	✓		40mL	Water	HCL	BTEX	
					~~40mL~~				

Samplers: (Print): Ernest J. Richarte

Affiliation:

Relinquished by: (Signature)	Date: 6-27-95 Time: 1645	Received by (Signature)	Date: 6-27-95 Time: 16:46	COC Seal No.
Relinquished by: (Signature)	Date: 6-28-95 Time: 8:10A	Received by: (Signature)	Date: Time:	REC'D. ON ICE Yes ____ No ____
Relinquished by: (Signature)	Date: Time:	Received by Laboratory: (Signature)	Date: 6-28-95 Time: 9:10 AM	Intact:

Results by: ____

Rush Charges Authorized

Yes ____ No ____

REMARKS:

Data Results To:

1.

2.

Laboratory No.

Analysis Request and Chain of Custody Record

Environmental Lab

Huntingdon

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☐ **HOUSTON EAS** 222 CAVALCADE ST., HOUSTON, TEXAS 77009 (713) 692-9151
☐ **DALLAS EAS** 2575 LONE STAR DR., DALLAS, TEXAS 75212 (214) 631-2700
☑ **MIDLAND EAS** 1703 WEST INDUSTRIAL, MIDLAND, TEXAS 79701 (915) 683-3349

Project no. | Client/Project

Lab ID No.	Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid Sludge, Etc.)	Preservative	ANALYSIS REQUESTED	LABORATORY REMARKS
43911	TNM-1095MW301	6-27-95 2:10PM	✓		L/glass	water		Semi-volatiles	
43911	TNM-1095MW302	6-27-95 2:10PM	✓		2 L/plastic	water		Major-Minerals	
43911	TNM-1095MW303	6-27-95 2:10PM	✓		L/plastic	water		Metals	
43900	TNM-1095MW201	6-27-95 1:55PM	✓		L/glass	water		Semi-volatiles	
43900	TNM-1095MW202	6-27-95 1:55PM	✓		L/plastic	Water		Major-Minerals	
43900	TNM-1095MW203	6-27-95 1:55PM	✓		L/plastic	water		Metals	
43889	TNM-1095MW101	6-27-95 1145AM	✓		L/~~plastic~~ glass	water		Semi-volatiles	
43889	TNM-1095MW102	6-2795 1145AM	✓		L/plastic	water		Major-Minerals	
43889	TNM-1095MW103	6-27-95 1145AM	✓		L/plastic	water		Metals	

Samplers: (Print)	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	COC Seal No.
Ernest J. Richarte	Ernest J. Richarte	6-27-95 1645		6-27-95 16:46	
Affiliation	Relinquished by: (Signature)	Date: 6-28-95 Time: 9:10 A	Received by: (Signature)	Date: Time:	REC'D. ON ICE Yes ___ No ___
	Relinquished by: (Signature)	Date: 6-28-95 Time: 9:10 Am	Received by Laboratory: (Signature) Roland K Just	Date: 6-28-95 Time: 9 10 Am	Intact:

Results by _____

Rush Charges Authorized

Yes ___ No ___

REMARKS:

Data Results To:

1.

2.

Laboratory No.

TEXAS-NEW MEXICO
PIPE LINE COMPANY

205 E. BENDER
P.O. BOX 2528
HOBBS, NM 88241

HOBBS DISTRICT
(505) 393-2135

Samples Collected 6/27/95
Water & Soil
During & After Installation & Completion of the First 3 Monitor wells @ TNM-10-95

Field Code Info

mw-104 = m.w. 1
204 = m.w. 2
304 = m.w. 3
mw-103 = m.w. 1
203 = m.w. 2
303 = m.w. 3

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE
ATTN: MR. TONY SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX : 505-395-2636

Receiving Date:06/28/95
Sample Type: WATER
Project :TNM 1095
Project Location: NONE GIVEN

Analysis Date: 06/29/95
Sampling Date: 06/27/95
Sample Condition: Intact

ELT#	FIELD CODE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	m,p-XYLENE (mg/L)	o-XYLENE (mg/L)
4389	TNM 1095 MW 104	<0.5	<0.5	<0.5	<0.5	<0.5
4390	TNM 1095 MW 204	<0.5	<0.5	<0.5	<0.5	<0.5
4391	TNM 1095 MW 304	<0.5	<0.5	<0.5	<0.5	<0.5
	%EA	100	97	95	96	99
	%IA	104	96	94	98	99
	BLANK	ND	ND	ND	ND	ND

METHODS: SW 846-8020,5030

Raland K. Tuttle

Raland K. Tuttle

7-10-95
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE
ATTN: MR. TONY SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

Receiving Date: 06/28/95
Sample Type: WATER
Project : TNM 1095
Project Location: NONE GIVEN

Analysis Date: 07/03/95
Sampling Date: 06/27/95
Sample Condition: Intact/Cool

TOTAL METALS (mg/l)

ELT#	Field Code	As	Se	Cr	Cd	Pb	Ag	Ba	Hg
4389	TNM 1095 MW 103	<1	<1	<0.1	<0.1	0.07	<0.1	23.3	<0.02
4390	TNM 1095 MW 203	<1	<1	0.13	<0.1	0.06	<0.1	17.5	<0.02
4391	TNM 1095 MW 303	<1	<1	<0.1	<0.1	0.14	<0.1	20.0	<0.02
	Detection Limit	1.0	1.0	0.1	0.1	0.1	0.1	0.1	0.02
	% EXTRACTION ACCURACY	121	110	105	89	85	115	70	80
	% INSTRUMENT ACCURACY	111	93	95	96	102	98	105	105

METHODS: EPA SW 846-7000,7471

Raland K Tuttle
Raland K. Tuttle

7-6-95
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE
ATTN: MR. TONY SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

Receiving Date: 06/28/95
Sample Type: WATER
Project : TNM 1095
Project Location: NONE GIVEN

Analysis Date: 07/03/95
Sampling Date: 06/27/95
Sample Condition: Intact

ELT#	Field Code	Cl (mg/L)	SO4 (mg/L)	CO3 (mg/L)	HCO2 (mg/L)	Ca (mg/L	Mg (mg/L)	Na (mg/L)	K (mg/L)
4389	TNM 1095 MW 102	191	125	<5	5.5	208	126	116	4.0
4390	TNM 1095 MW 202	85	38	<5	2.3	96	58	52	4.3
4391	TNM 1095 MW 302	64	150	<5	3.0	84	51	39	4.4

METHODS: EPA 325, 375, 310, 215.2, 258.1

Raland K Tuttle
Raland K. Tuttle

7-10-95
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE
ATTN: MR. TONY SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

Receiving Date: 06/28/95
Sample Type: WATER
Project #: TNM 1095
Project Location: NONE GIVEN
Field Code: TNM 1095 MW 101

Analysis Date: 07/03/95
Sampling Date: 06/27/95
Sample Condition: Intact/ Cool

PAH (mg/L)	DETECTION LIMIT	ELT# 4389	BLANK	%EA	%IA
Naphthalene	0.002	ND	ND		111
Acenaphthylene	0.002	ND	ND		99
Acenaphthene	0.002	ND	ND	75	97
Fluorene	0.002	ND	ND		116
Phenanthrene	0.002	ND	ND		97
Anthracene	0.002	ND	ND		98
Fluoranthene	0.002	ND	ND		94
Pyrene	0.002	ND	ND	129	127
Benzo[a]anthracene	0.002	ND	ND		98
Chrysene	0.002	ND	ND		109
Benzo[b]fluoranthene	0.002	ND	ND		105
Benzo[k]fluoranthene	0.002	ND	ND		103
Benzo [a]pyrene	0.002	ND	ND		104
Indeno[1,2,3-cd]pyrene	0.002	ND	ND		86
Dibenz[a,h]anthracene	0.002	ND	ND		90
Benzo[g,h,i]perylene	0.002	ND	ND		87

SYSTEM MONITORING COMPOUNDS	% Recovery
2-Fluorophenol	49
Phenol-d5	55
Nitrobenzene-d5	62
2-Fluorobiphenyl	64
2,4,6-Tribromophenol	64
Terphenyl-d14	112

Method: SW 846-8270
ND= NOT DETECTED

Raland K. Tuttle

7-10-95
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE
ATTN: MR. TONY SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

Receiving Date: 06/28/95
Sample Type: WATER
Project #: TNM 1095
Project Location: NONE GIVEN
Field Code: TNM 1095 MW 201

Analysis Date: 07/03/95
Sampling Date: 06/27/95
Sample Condition: Intact/ Cool

PAH (mg/L)	DETECTION LIMIT	ELT# 4390	BLANK	%EA	%IA
Naphthalene	0.002	ND	ND		111
Acenaphthylene	0.002	ND	ND		99
Acenaphthene	0.002	ND	ND	75	97
Fluorene	0.002	ND	ND		116
Phenanthrene	0.002	ND	ND		97
Anthracene	0.002	ND	ND		98
Fluoranthene	0.002	ND	ND		94
Pyrene	0.002	ND	ND	129	127
Benzo[a]anthracene	0.002	ND	ND		98
Chrysene	0.002	ND	ND		109
Benzo[b]fluoranthene	0.002	ND	ND		105
Benzo[k]fluoranthene	0.002	ND	ND		103
Benzo [a]pyrene	0.002	ND	ND		104
Indeno[1,2,3-cd]pyrene	0.002	ND	ND		86
Dibenz[a,h]anthracene	0.002	ND	ND		90
Benzo[g,h,i]perylene	0.002	ND	ND		87

SYSTEM MONITORING COMPOUNDS	% Recovery
2-Fluorophenol	40
Phenol-d5	40
Nitrobenzene-d5	50
2-Fluorobiphenyl	57
2,4,6-Tribromophenol	50
Terphenyl-d14	123

Method: SW 846-8270
ND= NOT DETECTED

Raland K. Tuttle

7-10-95
Date

ENVIRONMENTAL
LAB OF , INC.
"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE
ATTN: MR. TONY SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

Receiving Date: 06/28/95
Sample Type: WATER
Project #: TNM 1095
Project Location: NONE GIVEN
Field Code: TNM 1095 MW 301

Analysis Date: 07/03/95
Sampling Date: 06/27/95
Sample Condition: Intact/ Cool

PAH (mg/L)	DETECTION LIMIT	ELT# 4391	BLANK	%EA	%IA
Naphthalene	0.002	ND	ND		111
Acenaphthylene	0.002	ND	ND		99
Acenaphthene	0.002	ND	ND	75	97
Fluorene	0.002	ND	ND		116
Phenanthrene	0.002	ND	ND		97
Anthracene	0.002	ND	ND		98
Fluoranthene	0.002	ND	ND		94
Pyrene	0.002	ND	ND	129	127
Benzo[a]anthracene	0.002	ND	ND		98
Chrysene	0.002	ND	ND		109
Benzo[b]fluoranthene	0.002	ND	ND		105
Benzo[k]fluoranthene	0.002	ND	ND		103
Benzo [a]pyrene	0.002	ND	ND		104
Indeno[1,2,3-cd]pyrene	0.002	ND	ND		86
Dibenz[a,h]anthracene	0.002	ND	ND		90
Benzo[g,h,i]perylene	0.002	ND	ND		87

SYSTEM MONITORING COMPOUNDS	% Recovery
2-Fluorophenol	50
Phenol-d5	56
Nitrobenzene-d5	63
2-Fluorobiphenyl	69
2,4,6-Tribromophenol	57
Terphenyl-d14	126

Method: SW 846-8270
ND= NOT DETECTED

Raland K Tuttle
Raland K. Tuttle

7-10-95
Date

Environmental Analytical Services

ARDINAL LABORATORIES

118 S. Commercial Ave.
Farmington, NM 87401
505-326-4669
FAX 505-326-4535

101 E. Marland
Hobbs, NM 88240
505-393-2326
FAX 505-393-2476

Chain of Custody Record

Project I.D. Saunders P/F
Project Location Monument
Sampled By Thomas Stoney
Client Name Texaco
Address Western Enviro. Consulting
Telephone 392-6167

Sample Number	Date	Time	Composite	Grab	Sample Location	Number of Containers	Analysis Required: See ATTACHED LISTING	Remarks (Type sample, preservation, etc.)
1	1-8-96			✓	Monitorwell #1	3		
2	1-8-96			✓	" #7	3		
3	1-8-96			✓	" #4	3		
4	1-8-96			✓	" #2	3		
5	1-8-96			✓	" #3	3		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Stoney Thomas	1-8	5:40pm	[signature]
Relinquished by: (Signature)	Date	Time	Received by: (Signature)

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PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

FINAL ANALYSIS REPORT

Company:	Western Environmental Consulting	Date:	01/12/96
Address:	1588 Cordoba	Lab #:	H2361-1
City, State:	Hobbs, New Mexico 88240		
Project Name:	Saunders Pit		
Location:	Monument, New Mexico		
Sampled by:	ST	Date:	01/08/96
Sample Type:	Water	Sample Condition:	intact
Sample ID:	Monitor Well #1	Units:	ppm

POLYNUCLEAR AROMATIC HYDROCARBONS

PARAMETER	RESULT
Acenaphtene	<0.002
Acenaphthylene	<0.002
Anthracene	<0.002
Benzo(a)anthracene	<0.002
Benzo(a)pyrene	<0.002
Benzo(b)flouranthene	<0.002
Benzo(k)flouranthene	<0.002
Benzo(ghi)perylene	<0.002
Chrysene	<0.002
Dibenz(a,h)anthracene	<0.002
Flouranthene	<0.002
Fluorene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Naphthalene	<0.002
Phenanthrene	<0.002
Pyrene	<0.002

METHODS- EPA SW 846-8270/ EPA 625

Mitch Irvin

1/12/96
Date

CARDINAL LABORATORIES

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FINAL ANALYSIS REPORT

Company:	Western Environmental Consulting	Date:	01/12/96
Address:	1588 Cordoba	Lab #:	H2361-2
City, State:	Hobbs, New Mexico 88240		
Project Name:	Saunders Pit		
Location:	Monument, New Mexico		
Sampled by:	ST	Date:	01/08/96
Sample Type:	Water	Sample Condition:	intact
Sample ID:	Monitor Well #2	Units:	ppm

POLYNUCLEAR AROMATIC HYDROCARBONS

PARAMETER	RESULT
Acenaphtene	<0.002
Acenaphthylene	<0.002
Anthracene	<0.002
Benzo(a)anthracene	<0.002
Benzo(a)pyrene	<0.002
Benzo(b)flouranthene	<0.002
Benzo(k)flouranthene	<0.002
Benzo(ghi)perylene	<0.002
Chrysene	<0.002
Dibenz(a,h)anthracene	<0.002
Flouranthene	<0.002
Fluorene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Naphthalene	<0.002
Phenanthrene	<0.002
Pyrene	<0.002

METHODS- EPA SW 846-8270/ EPA 625

Mitch Irvin

1/12/96
Date

CARDINAL LABORATORIES

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PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

FINAL ANALYSIS REPORT

Company:	Western Environmental Consulting	Date:	01/12/96
Address:	1588 Cordoba	Lab #:	H2361-3
City, State:	Hobbs, New Mexico 88240		
Project Name:	Saunders Pit		
Location:	Monument, New Mexico	Date:	01/08/96
Sampled by:	ST	Sample Condition:	intact
Sample Type:	Water		
Sample ID:	Monitor Well #3	Units:	ppm

POLYNUCLEAR AROMATIC HYDROCARBONS

PARAMETER	RESULT
Acenaphtene	<0.002
Acenaphthylene	<0.002
Anthracene	<0.002
Benzo(a)anthracene	<0.002
Benzo(a)pyrene	<0.002
Benzo(b)flouranthene	<0.002
Benzo(k)flouranthene	<0.002
Benzo(ghi)perylene	<0.002
Chrysene	<0.002
Dibenz(a,h)anthracene	<0.002
Flouranthene	<0.002
Fluorene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Naphthalene	<0.002
Phenanthrene	<0.002
Pyrene	<0.002

METHODS- EPA SW 846-8270/ EPA 625

Mitch Irvin

1/12/96
Date

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240
PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

FINAL ANALYSIS REPORT

Company:	Western Environmental Consulting	Date:	01/12/96
Address:	1588 Cordoba	Lab #:	H2361-4
City, State:	Hobbs, New Mexico 88240		
Project Name:	Saunders Pit		
Location:	Monument, New Mexico	Date:	01/08/96
Sampled by:	ST	Sample Condition:	intact
Sample Type:	Water		
Sample ID:	Monitor Well #4	Units:	ppm

POLYNUCLEAR AROMATIC HYDROCARBONS

PARAMETER	RESULT
Acenaphtene	<0.004
Acenaphthylene	<0.004
Anthracene	<0.004
Benzo(a)anthracene	<0.004
Benzo(a)pyrene	<0.004
Benzo(b)flouranthene	<0.004
Benzo(k)flouranthene	<0.004
Benzo(ghi)perylene	<0.004
Chrysene	<0.004
Dibenz(a,h)anthracene	<0.004
Flouranthene	<0.004
Fluorene	<0.004
Indeno(1,2,3-cd)pyrene	<0.004
Naphthalene	<0.016
Phenanthrene	<0.004
Pyrene	<0.004

METHODS- EPA SW 846-8270/ EPA 625

Mitch Irvin

1/12/96
Date

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240
PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

FINAL ANALYSIS REPORT

Company:	Western Environmental Consulting	Date:	01/12/96
Address:	1588 Cordoba	Lab #:	H2361-5
City, State:	Hobbs, New Mexico 88240		
Project Name:	Saunders Pit		
Location:	Monument, New Mexico		
Sampled by:	ST	Date:	01/08/96
Sample Type:	Water	Sample Condition:	intact
Sample ID:	Monitor Well #7	Units:	ppm

POLYNUCLEAR AROMATIC HYDROCARBONS

PARAMETER	RESULT
Acenaphtene	<0.002
Acenaphthylene	<0.002
Anthracene	<0.002
Benzo(a)anthracene	<0.002
Benzo(a)pyrene	<0.002
Benzo(b)flouranthene	<0.002
Benzo(k)flouranthene	<0.002
Benzo(ghi)perylene	<0.002
Chrysene	<0.002
Dibenz(a,h)anthracene	<0.002
Flouranthene	<0.002
Fluorene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Naphthalene	<0.002
Phenanthrene	<0.002
Pyrene	<0.002

METHODS- EPA SW 846-8270/ EPA 625

Mitch Irvin

1/12/96
Date

Environmental Analytical Services

ARDINAL LABORATORIES

118 S. Commercial Ave.
Farmington, NM 87401
505-326-4669
FAX 505-326-4535

101 E. Marland
Hobbs, NM 88240
505-393-2326
FAX 505-393-2476

Chain of Custody Record

Project I.D. Saunders Pit
Project Location Monument
Sampled By Thomas Stoney
Client Name Western Enviro. Consulting
Address
Telephone 392-6167

Sample Number	Date	Time	Composite	Grab	Sample Location	Number of Containers	Analysis Required: BTEX	Pb	Chlorides	Remarks (Type sample, preservation, etc.)
1	1-10	10:00		✓	monitor well #9	1				H2365-1
2	1-10	10:10		✓	# 5	1				H2365-2
3	1-10	10:15		✓	# 6	1				H2365-3
4	1-10	10:20		✓	# 8	1				H2365-4
					↑					
					the above samples were labeled 1, 2, 3, 4)					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Stoney Thomas	1-10		
Relinquished by: (Signature)	Date	Time	Received by: (Signature)

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PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

BTEX ANALYSIS REPORT

Company: Western Environmental Consultants
Address: 1588 Cordoba
City, State: Hobbs, New Mexico 88240

Date: 01/15/96
Lab: H2365

Project Name: Saunders Pit
Location: Monument
Sampled by: ST
Analyzed by: MI
Sample Type: water

Date: 01/10/96
Date: 01/11/96
Sample Condition: intact
Units: ppm

****

Samp #	Field Code	BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE
1	Monitor Well #9	<0.001	<0.001	0.016	0.004	<0.001	0.018
2	Monitor Well #5	0.005	<0.001	<0.001	<0.001	0.062	0.012
3	Monitor Well #6	0.003	<0.001	<0.001	<0.001	<0.001	0.008
4	Monitor Well #8	<0.001	<0.001	<0.001	0.004	0.007	<0.001
	QC Recovery	0.567	0.575	0.601	0.585	0.567	0.523
	QC Spike	0.534	0.525	0.528	0.525	0.523	0.519
	Accuracy	106%	109%	113%	111%	108%	101%
	Air Blank	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Methods - GAS CHROMOTOGRAPHY
- EPA SW-846; 8020

Mitch Irvin

1-17-96
Date

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CHEMICAL ANALYSIS OF WATER

Company : Western Environmental Consultants
City : 1588 Cordoba
State : Hobbs, New Mexico 88240
Proj.Name : Saunders Pit
Location : Monument NM

Lab #: H2365
Date Received: 01/10/96
Date Analyzed: 01/12/96

Sample 1 : Monitor Well #9
Sample 2 : Monitor Well #5
Sample 3 : Monitor Well #6
Sample 4 : Monitor Well #8

Units: mg/L

PARAMETER	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4
Chloride	46	60	102	210
pH	12.41	7.27	7.30	7.45

Mitch Irvin

1-17-96
Date

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PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

CHEMICAL ANALYSIS OF WATER

Company : Western Environmental Consulting
Address : 1533 Cordoba 88260
City/St : Hobbs, New MExico 88240
Project name: Saunders Pit
Location : Saunders Pit

Date : 02/05/96
Lab# : H2361

Sample 1 : Monitor Well #1
Sample 2 : Monitor Well #7
Sample 3 : Monitor Well #4
Sample 4 : Monitor Well #2
Sample 5 : Monitor Well #3

PARAMETER	RESULT 1	RESULT 2	RESULT 3	RESULT 4	RESULT 5
pH	7.58	7.08	7.63	7.61	7.44
Carbonate (CO_3)	-0-	-0-	-0-	-0-	-0-
Bicarbonate (HCO_3)	193	506	149	200	245
Calcium (Ca)	45.6	110.6	45.7	45.5	88.3
Chloride (Cl)	3,200	2,800	17,500	2,500	19,745
Sulfate (SO_4)	73.9	77.3	26.3	62.3	123
Nitrate (NO_3)	2.17	3.36	0.18	2.14	1.53
Magnesium (Mg)	5.9	22.9	5.1	5.1	12.7
Sodium (Na)	76.3	60.3	19.3	19.2	40.2
Potassium	8.19	25.32	6.11	6.37	15.27
TDS	396	806	222	395	553
Conductivity	400	700	200	340	450

Methods: 200.7

Mitch Irvin

2-5-96
Date

ARDINAL LABORATORIES

118 S. Commercial Ave.
Farmington, NM 87401
505-326-4669
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Hobbs, NM 88240
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FAX 505-393-2476

Chain of Custody Record

Project I.D. TEXAS - NEW MEXICO PIPELINE

Project Location Saunders Pit

Sampled By JUSTIN HUTCHINS

Client Name WESTERN ENVIRONMENTAL ~~Spill Control, Inc~~

Address 1203 W DUNNAM

Telephone (505) 392-6167 FAX (505) 397-5085

Sample Number	Date	Time	Composite	Grab	Sample Location	Number of Containers	Analysis Required: B-TEX							Remarks (Type sample, preservation, etc.)
1	2/5/96	12:15 Pm		X	MW-10	2	X							
2	2/5/96	11:45 Am		X	MW-11	2	X							
3	2/5/96	11:20 Am		X	MW-12	2	X							
4	2/5/96	10:30 Am		X	JC-1	2	X							

Released by: (Signature)	Date	Time	Received by: (Signature)
[signature]	2-6	9:20	[signature]
Released by: (Signature)	Date	Time	Received by: (Signature)

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BTEX ANALYSIS REPORT

Company: Western Environmental Consulting
Address: 1533 Cordoba
City, State: Hobbs, New Mexico 88241

Date: 02/08/96
Lab #: H2399

Project Name: Texas NM Pipeline
Location: Saunders Pit
Sampled by: JH
Analyzed by: MI
Sample Type: Water

Date: 2[illegible]/06/96
Date: 2[illegible]/06/96 Time: 14:53
Sample Condition: Intact
Units: mg/L

Samp #	Field Code		BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE
1	MW-10	12:15	0.290	1.237	2.529	0.173	1.218	0.969
2	MW-11	11:45	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
3	MW-12	11:20	<0.001	<0.001	<0.001	<0.001	<0.001	0.004
4	JC-1	10:30	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	QC Recovery		0.505	0.507	0.537	0.536	0.552	0.516
	QC Spike		0.534	0.525	0.528	0.525	0.523	0.519
	Accuracy		95%	96%	102%	102%	106%	99%
	Blank		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Methods - GAS CHROMOTOGRAPHY; INFRARED SPECTROSCOPY
- EPA SW-846; 8020, 418.1, 3510, 3540 or 3550

Mitch Irvin

2/9/96
Date

Environmental Lab of Texas, Inc. 12600 West I-20 East Odessa, Texas

(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: John A. Savoie

Phone #:

FAX #: 505-395-2636

Company Name & Address: Texas-N.M. Pipeline Co.

Project #: TNM-10-95

Project Name: Saunders Pit

Project Location: 2 miles North of Monument

Sampler Signature: John A. Savoie

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX 8020/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI
6732	TNM-10-95 Pit	4		✓									✓	2/9/96	0700	✓	✓	✓		✓			✓
													BT										

Relinquished by:	Date:	Times:	Received by:
John A. Savoie	2/9/96	11:30 a.m.	Roland K. Tuttle
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory:

REMARKS

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE COMPANY
ATTN: MR. JOHN A. SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

Receiving Date: 02/09/96
Sample Type: WATER
Project : TNM-10-95
Project Loction: 2 MILES NORTH OF MONUMENT

Reporting Date: 02/23/96
Sampling Date: 02/09/96
Sample Condition: Intact/Iced
Analysis Date: 02/15/96

TCLP METALS (ppm)

ELT#	Field Code	Ag	As	Ba	Cd	Cr	Hg	Pb	Se
	EPA LIMIT	5.00	5.00	100.0	1.00	5.00	0.20	5.00	1.00
6732	TNM-10-95 PIT	0.26	0.002	1.1	0.01	<0.05	<0.002	<0.10	<0.002
	Minimum Detection Level	0.01	0.002	0.1	0.01	0.05	0.002	0.1	0.002
	% IA	100	100	97	97	89	94	101	107
	% EA	80	125	90	82	62	80	70	68

METHODS: EPA SW 846-1311, 7061, 7080, 7760, 7130, 7190, 7420, 7471,7741

Michael R. Fowler

2-23-96
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE COMPANY
ATTN: MR. JOHN A. SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

RECEIVING DATE: 02/09/96
SAMPLE TYPE: WATER
PROJECT : TNM-10-95
FIELD CODE: TNM-10-95 PIT

ANALYSIS DATE: 02/14/96
SAMPLING DATE: 02/09/96
SAMPLE CONDITION: Intact/Iced

TCLP VOLATILES (ppm)	SAMPLE 6732	PQL	BLANK	%EA	%IA
1,1-Dichloroethene	ND	0.005	ND	116	100
2-Butanone	0.131	0.100	ND		104
Chloroform	ND	0.005	ND		106
Benzene	ND	0.005	ND		106
1,2-Dichloroethane	ND	0.005	ND		106
Vinyl Chloride	ND	0.005	ND	100	105
Carbon Tetrachloride	ND	0.005	ND		101
Trichloroethene	ND	0.005	ND		98
Tetrachloroethene	ND	0.005	ND		115
Chlorobenzene	ND	0.005	ND	94	103
1,4-Dichlorobenzene	ND	0.005	ND		95

SYSTEM MONITORING COMPOUNDS	% RECOVERY
dibromofluoromethane	0
toluene-d8	120
4-bromofluorobenzene	90

ND = < PQL
PQL = PRACTICAL QUANTITATION LIMIT
Methods: EPA SW 846-8240, 1311

Michael R. Fowler

2-23-96
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE COMPANY
ATTN: MR. JOHN A. SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

Receiving Date: 02/09/96
Sample Type: WATER
Project: TNM-10-95
Project Location: 2 MILES NORTH OF MONUMENT

Analysis Date: 02/21/96
Sampling Date: 02/09/96
Sample Condition: Intact/Iced

ELT#	Field Code	REACTIVITY H2S	REACTIVITY CN-	CORROSIVITY (s.u.)	IGNITABILITY
		NON-REACTIVE		NON-CORROSIVE	
		(ppm)	(ppm)		
6732	TNM 10-95 PIT	<10	<2.5	7.05	>140 deg. F
	RPD	0	0	0	0
	% PRECISION	100	100		
	% INSTRUMENT ACCURACY			100	

METHODS: EPA SW-846-2.1.3,2.1.2,2.1.1

Michael R. Fowler

2-23-96
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE COMPANY
ATTN: MR. JOHN A. SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

RECEIVING DATE: 02/09/96
SAMPLE TYPE: WATER
PROJECT #: TNM-10-95
PROJECT LOCATION: 2 MILES NORTH OF MONUMENT

ANALYSIS DATE: 02/13/96
SAMPLING DATE: 02/09/96
SAMPLE CONDITION: INTACT/COOL

ELT#	FIELD CODE	TPH (mg/l)
6732	TNM-10-95 PIT	43
	QUALITY CONTROL	58
	TRUE VALUE	60
	% PRECISION	97

Methods: EPA 418.1

Michael R. Fowler

2-23-96
Date

12600 West I-20 East • Odessa, Texas 79765 • (915) 563-1800 • Fax (915) 563-1713

ARDINAL LABORATORIES

Chain of Custody Record

118 S. Commercial Ave.
Farmington, NM 87401
505-326-4669
FAX 505-326-4535

101 E. Marland
Hobbs, NM 88240
505-393-2326
FAX 505-393-2476

Project I.D. SAUNDERS EXCAVATION (TNM No. 10)
Project Location S35-T24S-R37E LEA Co, NM
Sampled By JUSTIN HUTCHINS
Client Name ENVIRONMENTAL SPILL CONTROL, INC.
Address 17?. ... HOBBS
Telephone (505) 392-6167 FAX (505) 397-5085

Sample Number	Date	Time	Composite	Grab	Sample Location	Number of Containers	Analysis Required: Major Cations/Anions	TDS 160.1	Specific Conductivity 120.1	PAH's 8100	Total Metals			Remarks (Type sample, preservation, etc.)
1	2/28/96	4:45 pm		X	MW-10 — H2436-1	1	X	X						H_2O, ICE
2	2/28/96	4:50 p.m		X	MW-10 — H2436-2	1			X	X				H_2O, ICE
3	2/28/96	4:00 pm		X	JC-1 1 H2436-3	1	X	X						H_2O, ICE
4	2/28/96	4:05 pm		X	JC-1 2 H2436-4	1					X			H_2O, HNO_3, ICE
5	2/28/96	4:10 pm		X	JC-1 3 H2436-5	1			X	X				H_2O, ICE

Released by: (Signature)	Date	Time	Received by: (Signature)
Justin Hutchins	2/29	8:30	Kay Sneed
Released by: (Signature)	Date	Time	Received by: (Signature)

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FINAL ANALYSIS REPORT

Company:	Environmental Spill Control, Inc	Date:	03/11/96
Address:	PO Box 5890	Lab #:	H2436
City, State:	Hobbs, NM 88240		
Project Name:	Saunders Excavation		
Location:	S35 T 24S R 37E		
Sampled by:	JH	Date:	02/29/96
Sample Type:	Water	Sample Condition:	intact
Sample #2:	MW-10 4:50pm	Units:	mg/L
Sample #5:	JC-1 4:10pm		

****

POLYNUCLEAR AROMATIC HYDROCARBONS

PARAMETER	RESULT 2	RESULT 5
Acenapthene	<0.004	<0.004
Acenaphthylene	<0.004	<0.004
Anthracene	<0.004	<0.004
Benzo(a)anthracene	<0.004	<0.004
Benzo(a)pyrene	<0.004	<0.004
Benzo(b)flouranthene	<0.004	<0.004
Benzo(k)flouranthene	<0.004	<0.004
Benzo(ghi)perylene	<0.004	<0.004
Chrysene	<0.004	<0.004
Dibenz(a,h)anthracene	<0.004	<0.004
Flouranthene	<0.004	<0.004
Fluorene	<0.004	<0.004
Indeno(1,2,3-cd)pyrene	<0.004	<0.004
Naphthalene	<0.004	<0.004
Phenanthrene	<0.004	<0.004
Pyrene	<0.004	<0.004

METHODS- EPA SW 846-8270

Manuel Garbalena

3-11-96
Date

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PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

FINAL ANALYSIS REPORT

Company: Environmental Spill Control, Inc.
Address: PO Box 5890
City, State: Hobbs, NM 88240
Location: S35 T 24S R 37 E
Sampled by: JH
Sample Type: Water

Date : 03/11/96
Lab# : H2436
Date: 02/29/96
Sample Condition: intact
Units: mg/L

Sample #1: MW-10 4:45
#2: MW-10 4:50
#3: JC-1 4:00
#4: JC-1 4:05
#5: JC-1 4:10

****

CHEMICAL ANALYSIS OF WATER

	SAMPLE 1	SAMPLE 3
Carbonate	-0-	-0-
Bicarbonate (HCO_3)	201	235
Calcium (Ca)	176.3	504.1
Chloride (Cl)	24	38
Sulfate (SO_4)	199	171
Magnesium (Mg)	25.8	31.7
Sodium (Na)	43.5	46.3
TDS	636	748
Conductivity (umhos/cm)	450	470

TCLP INORGANICS (Leachate)

PARAMETER	RESULT 4	EPA LIMIT	UNITS
Arsenic	<0.02	5	ppm
Silver	<0.02	5	ppm
Barium	1.46	100	ppm
Cadmium	<0.02	1	ppm
Chromium	0.09	5	ppm
Mercury	<0.001	0.2	ppm
Lead	<0.02	5	ppm
Selenium	<0.02	1	ppm

METHODS: EPA 600/4-91/010

Manuel Garbalena

3-13-96
Date

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: John A. Sawyer

Phone #:

FAX #: 915-[illegible]36

Company Name & Address: Texas-New Mexico Pipeline Co.

Project #: TNM-10-95

Project Name: Saunders

Project Location: 2 mi North of Monument NM

Sampler Signature: John A. Sawyer

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX 8020/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI
6992	TNM-10-95 Frak Tank	2	40 mL	✓							✓			3/13/96	0852					✓			
6992	" " " " "	1	250mL	✓							✓			"	"		✓	✓					
6992	" " " " "	1	250mL	✓							✓			"	"								✓

Relinquished by:	Date:	Time:	Received by:
John A. Sawyer	3/13/96	1413	[signature]
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by Laboratory:

REMARKS

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE COMPANY
ATTN: MR. JOHN A. SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

Receiving Date: 03/13/96
Sample Type: WATER
Project: TNM 10-95, SAUNDERS
Project Location: 2 mi N. of MONUMENT, NM

Analysis Date: 03/20/96
Sampling Date: 03/13/96
Sample Condition: Intact/Iced

ELT#	Field Code	REACTIVITY H2S	REACTIVITY CN-	CORROSIVITY (s.u.)	IGNITABILITY
		NON-REACTIVE (ppm)	NON-REACTIVE (ppm)	NON-CORROSIVE	
6992	TNM-10-95 FRAK TANK	<10.0	<2.5	6.85	>140 deg. F
	RPD	0	0	0	0
	% PRECISION				
	% INSTRUMENT ACCURACY			100	

METHODS: EPA SW-846-2.1.3,2.1.2,2.1.1

Raland K Tuttle
Raland K. Tuttle

3-22-96
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE COMPANY
ATTN: MR. JOHN A. SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

Receiving Date: 03/13/96
Sample Type: WATER
Project: TNM-10-95
Project Location: 2 MI. NORTH OF MONUMENT, NM

Analysis Date: 03/18/96
Sampling Date: 03/13/96
Sample Condition: Intact/Iced

TCLP METALS (ppm)

ELT#	Field Code	Ag	As	Ba	Cd	Cr	Hg	Pb	Se
	EPA LIMIT	5.00	5.00	100.0	1.00	5.00	0.20	5.00	1.00
6992	TNM-10-95 FRAK TANK	0.02	<0.002	1.4	0.02	<0.05	<0.002	0.11	<0.002
	MDL	0.02	0.002	0.50	0.01	0.1	0.002	0.05	0.002
	% IA	99	105	102	98	93	83	100	98
	% EA	95	93	94	91	57	114	97	76

METHODS: EPA SW 846-1311, 7061, 7080, 7760, 7130, 7190, 7420, 7471,7741

Raland K. Tuttle

Raland K. Tuttle

3-22-96

Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE COMPANY
ATTN: MR. JOHN A. SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

RECEIVING DATE: 03/13/96
SAMPLE TYPE: WATER
PROJECT: TNM 10-95, SAUNDERS
FIELD CODE: TNM 10-95 FRAK TANK

ANALYSIS DATE: 03/14/96
SAMPLING DATE: 03/13/96
SAMPLE CONDITION: Intact/Iced

TCLP VOLATILES (ppm)	SAMPLE 6992	PQL	BLANK	%EA	%IA
1,1-Dichloroethene	ND	0.005	ND	98	122
2-Butanone	0.144	0.100	ND		95
Chloroform	ND	0.005	ND		106
Benzene	0.015	0.005	ND	111	95
1,2-Dichloroethane	ND	0.005	ND		100
Vinyl Chloride	ND	0.005	ND		99
Carbon Tetrachloride	ND	0.005	ND		117
Trichloroethene	ND	0.005	ND		121
Tetrachloroethene	ND	0.005	ND		105
Chlorobenzene	ND	0.005	ND	100	110
1,4-Dichlorobenzene	ND	0.005	ND		119

SYSTEM MONITORING COMPOUNDS	% RECOVERY
dibromofluoromethane	110
toluene-d8	110
4-bromofluorobenzene	94

ND = < PQL
PQL = PRACTICAL QUANTITATION LIMIT
Methods: EPA SW 846-8240, 1311

Raland K. Tuttle

Raland K. Tuttle

3-22-96

Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE COMPANY
ATTN: MR. JOHN A. SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

RECEIVING DATE: 03/13/96
SAMPLE TYPE: WATER
PROJECT #: TNM 10-35, SAUNDERS
PROJECT LOCATION: 2MI NORTH OF MONUMENT

ANALYSIS DATE: 03/18/96
SAMPLING DATE: 03/13/96
SAMPLE CONDITION: INTACT/ICED

ELT#	FIELD CODE	TPH (mg/l)
6992	TNM-10-35 FRAK TANK	3.4

QUALITY CONTROL	58
TRUE VALUE	60
% PRECISION	97

Methods: EPA 418.1

Raland K. Tuttle — Raland K. Tuttle

3-22-96 — Date

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: John A. Savoie

Phone #:

FAX #: 563-7136

Company Name & Address: Texas New Mex. Pipeline Co.

Project #: TNM-10-95

Project Name: Saunders

Project Location: 2 mi. North of Monument

Sampler Signature: John A. Savoie

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX 8120/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI
6793	TNM-10-95 (Pit)	2	40 ml	✓							✓			3/13/96	0916		✓			✓			
6794	TNM-10-95 (Field Blank)	1	40 ml	✓							✓			"	"		✓			✓			

Relinquished by:	Date:	Time:	Received by:	REMARKS
John A. Savoie	3/13/96	1415	Mike Tafoya	
Relinquished by:	Date:	Time:	Received by:	
Relinquished by:	Date:	Time:	Received by Laboratory:	

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE COMPANY
ATTN: MR. JOHN A. SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

RECEIVING DATE: 03/13/96
SAMPLE TYPE: WATER
PROJECT #: TNM 10-95, SAUNDERS
PROJECT LOCATION: 2MI NORTH OF MONUMENT

ANALYSIS DATE: 03/18/96
SAMPLING DATE: 03/13/96
SAMPLE CONDITION: INTACT/ICED

ELT#	FIELD CODE	TPH (mg/l)
6993	TNM 10-95 (FIT)	<5
6994	TNM 10-95 (FIELD BLANK)	<11

QUALITY CONTROL	53
TRUE VALUE	60
% PRECISION	97

Methods: EPA 418.1

Michael R. Fowler

3-20-96
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE COMPANY
ATTN: MR. JOHN A. SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

RECEIVING DATE: 03/13/96
SAMPLE TYPE: WATER
PROJECT : TNM 10-95, SAUNDERS
FIELD CODE: TNM 10-95 (PIT)

ANALYSIS DATE: 03/14/96
SAMPLING DATE: 03/13/96
SAMPLE CONDITION: Intact/Iced

TCLP VOLATILES (ppm)	SAMPLE 6993	PQL	BLANK	%SA	%A
1,1-Dichloroethene	ND	0.005	ND	98	122
2-Butanone	ND*	0.100	ND		95
Chloroform	ND	0.005	ND		106
Benzene	ND	0.005	ND	111	95
1,2-Dichloroethane	ND	0.005	ND		100
Vinyl Chloride	ND	0.005	ND		99
Carbon Tetrachloride	ND	0.005	ND		117
Trichloroethene	ND	0.005	ND		121
Tetrachloroethene	ND	0.005	ND		105
Chlorobenzene	ND	0.005	ND	100	110
1,4-Dichlorobenzene	ND	0.005	ND		119

SYSTEM MONITORING COMPOUNDS	% RECOVERY
dibromofluoromethane	110
toluene-d8	108
4-bromofluorobenzene	94

* = Detected but less than PQL
ND = < PQL
PQL = PRACTICAL QUANTITATION LIMIT
Methods: EPA SW 846-8240, 1311

Michael R. Fowler

Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TEXAS NEW MEXICO PIPE LINE COMPANY
ATTN: MR. JOHN A. SAVOIE
P.O. BOX 1030
JAL, NM 88252
FAX: 505-395-2636

RECEIVING DATE: 03/13/96
SAMPLE TYPE: WATER
PROJECT : TNM 10-95, SAUNDERS
FIELD CODE: TNM 10-95 (TNM FIELD BLANK)

ANALYSIS DATE: 03/14/96
SAMPLING DATE: 03/13/96
SAMPLE CONDITION: Intact/Iced

TCLP VOLATILES (ppm)	SAMPLE 6994	PQL	BLANK	%EA	%A
1,1-Dichloroethene	ND	0.005	ND	98	122
2-Butanone	ND	0.100	ND		95
Chloroform	ND	0.005	ND		106
Benzene	ND	0.005	ND	111	95
1,2-Dichloroethane	ND	0.005	ND		100
Vinyl Chloride	ND	0.005	ND		99
Carbon Tetrachloride	ND	0.005	ND		117
Trichloroethene	ND	0.005	ND		121
Tetrachloroethene	ND	0.005	ND		105
Chlorobenzene	ND	0.005	ND	100	110
1,4-Dichlorobenzene	ND	0.005	ND		119

SYSTEM MONITORING COMPOUNDS	% RECOVERY
dibromofluoromethane	102
toluene-d8	107
4-bromofluorobenzene	93

ND = < PQL
PQL = PRACTICAL QUANTITATION LIMIT
Methods: EPA SW 846-8240, 1311

Michael R. Fowler

3-20-96
Date

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

COC# 9990

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Mike Hawthorne
Phone #: 210 680-3767
FAX #: 210 680-3763

Company Name & Address: KEI CONSULTANTS 5309 Wurzbach, Suite 100 San Antonio, TX 78238

Project #: 610062
Project Name: TNM PLCO TNM-10

Project Location: Monument, New Mexico
Sampler Signature: David F. Hutchinson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME
7648	MW-1	3		X							X			6/4/96	1640
7649	MW-2														1915
7650	MW-3														1940
7651	MW-4														1910
7652	MW-5														1700
7653	MW-6														1720
7654	MW-7														1745
7655	MW-8														1815
7656	MW-9														1615
7657	MW-10														1855
7658	MW-11														1840
7659	MW-12														1825

ANALYSIS REQUEST

BTEX 8111211/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI	chlorides
X	X					X		X

Relinquished by:	Date:	Times:	Received by:
David F. Hutchinson	6/5/96	8:30 am	Paland K Jaub
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory:

REMARKS

please fax results to: Mike Hawthorne

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

KEI CONSULTANTS
ATTN: MR. MIKE HAWTHORNE
5309 WURZBACH, SUITE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 06/05/96
Sample Type: WATER
Project # : 610062
Project Name: TNM PLCO TNM-10
Project Location: MONUMENT, NEW MEXICO

Analysis Date: 06/05/96
Sampling Date: 06/05/96
Sample Condition: Intact /Iced

ELT#	FIELD CODE	BENZENE (mg/l)	TOLUENE (mg/l)	ETHYLBENZENE (mg/l)	m,p-XYLENE (mg/l)	o-XYLENE (mg/l)	TPH (mg/l)
7648	MW-1	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7649	MW-2	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7650	MW-3	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7651	MW-4	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7652	MW-5	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7653	MW-6	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7654	MW-7	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7655	MW-8	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7656	MW-9	<0.001	<0.001	<0.001	<0.001	<0.001	1
7657	MW-10	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7658	MW-11	<0.001	<0.001	<0.001	<0.001	<0.001	1
7659	MW-12	0.002	0.002	0.003	0.004	<0.001	2
	% IA	95	88	92	93	93	102
	% EA	94	91	90	91	92	—
	BLANK	<0.001	<0.001	<0.001	<0.001	<0.001	<1

METHODS: SW 846-8020,5030 , EPA 418.1

Michael R. Fowler
Michael R. Fowler

6-6-96
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

KEI CONSULTANTS
ATTN: MR. MIKE HAWTHORNE
5309 WURZBACH, SUITE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 06/05/96
Sample Type: WATER
Project # : 610062
Project Name: TNM PLCO TNM-10
Project Location: MONUMENT, NEW MEXICO

Analysis Date: 06/05/96
Sampling Date: 06/05/96
Sample Condition: Intact /Iced

ELT#	FIELD CODE	Total Dissolved Solids (mg/l)	Chlorides (mg/l)
7648	MW-1	880	320
7649	MW-2	320	213
7650	MW-3	410	107
7651	MW-4	210	107
7652	MW-5	650	107
7653	MW-6	720	122
7654	MW-7	850	373
7655	MW-8	310	107
7656	MW-9	420	107
7657	MW-10	660	107
7658	MW-11	620	213
7659	MW-12	1,010	266
	QUALITY CONTROL	1,380	2,343
	TRUE VALUE	1,382	2,232
	% PRECISION	100	105

METHODS: EPA 160.1, 325

Michael R. Fowler

Michael R. Fowler

6-6-96

Date

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Mike Hawthorne

Phone #: 210 680 3767

FAX #: 210 680 3763

Company Name & Address: KEE CONSULTANTS 5301 Wurzbach Ste 100 SA, TX 78238

Project #: 610062

Project Name: TNM-10

Project Location: Monument, New Mexico

Sampler Signature: David F. Hutchinson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	BTEX 8020/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI
7891	MW-1	3	1 Hr 2 voa	X								X		7/10/96	2050	X	X						
7892	MW-2														2005								
7893	MW-3														1950								
7894	MW-4														2120								
7895	MW-5														2045								
7896	MW-6														2040								
7897	MW-7														2030								
7898	MW-8														2025								
7899	MW-9														2015								
7900	MW-10														2110								
7901	MW-11														2105								
7902	MW-12														2100								

Relinquished by:	Date:	Times:	Received by:
David F. Hutchinson	7/11/96	9:30 am 7/11/96	Mick Fowler
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory:

REMARKS

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

#10150

Project Manager: MIKE HAWTHORNE

Phone #: 210-680-3767

FAX #: 210-680-3763

Company Name & Address: KEI / 5304 WURZBACH STE 100 SAN ANTONIO TX 78238

Project #: 610062

Project Name: TNMR

Project Location: SAUNDERS EXCAVATION

Sampler Signature:

ANALYSIS REQUEST — Page 3 of 4

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	BTEX 8020/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI
9128	MW-1	3		X					X		X			10/3/96	0900	X	X						
9129	MW-2														0915								
9130	MW-3														0930								
9131	MW-4														0945								
9132	MW-5														1000								
9133	MW-6														1015								
9134	MW-7														1030								
9135	MW-8														1045								
9136	MW-9														1100								
9137	MW-10														1115								
9138	MW-11	↓		↓					↓		↓			↓	1130	↓	↓						

Relinquished by:	Date:	Times:	Received by:
	10/3/96	1730	
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory:

REMARKS

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST # 10150

ANALYSIS REQUEST P. 4 of 4

Project Manager: MIKE HAWTHORNE

Phone #: 210 680 3767
FAX #: 210 680 3763

Company Name & Address: KCE 5309 WURZBACH STE 100 SAN ANTONIO TX 78238

Project #: 610062

Project Name: TNMPL

Project Location: SAUNDERS EXCAVATION

Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	BTEX 8020/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI	CATIONS & ANIONS	VOC	SVOC
9139	MW-12	3		X					X		X			10/3/96	1145	X	X									
9140	TMW-1	5		X										10/3/96	1215	X	X		X			X		X	X	X
9141	TMW-2	5		X										10/3/96	1245	X			X			X		X	X	X

Relinquished by:	Date:	Times:	Received by:
	10/3/96	1730	Roland K Jutt
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory:

REMARKS

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

KEI CONSULTANTS
ATTN: MR. MIKE HAWTHORNE
5309 WURZBACH, SUITE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 07/11/96
Sample Type: WATER
Project # : 610062
Project Name: TNM-10
Project Location: MONUMENT, NEW MEXICO

Analysis Date: 07/11/96
Sampling Date: 07/10/96
Sample Condition: Intact /Iced

ELT#	FIELD CODE	BENZENE (mg/l)	TOLUENE (mg/l)	ETHYLBENZENE (mg/l)	m,p-XYLENE (mg/l)	o-XYLENE (mg/l)	TPH (mg/l)
7891	MW-1	<0.001	<0.001	<0.001	0.008	<0.001	<1
7892	MW-2	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7893	MW-3	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7894	MW-4	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7895	MW-5	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7896	MW-6	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7897	MW-7	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7898	MW-8	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7899	MW-9	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7900	MW-10	<0.001	<0.001	0.016	<0.001	0.025	<1
7901	MW-11	<0.001	<0.001	<0.001	<0.001	<0.001	<1
7902	MW-12	<0.001	<0.001	0.012	0.007	<0.001	1
	% IA	104	108	105	108	107	102
	% EA	101	99	98	100	102	101
	BLANK	<0.001	<0.001	<0.001	<0.001	<0.001	<1

METHODS: SW 846-8020,5030 , EPA 418.1

Michael R. Fowler

Michael R. Fowler

7-12-96

Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

OCT 2 4 1996

KEI CONSULTING
ATTN: MR. MIKE HAWTHORNE
5309 WURZBACH, SUITE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 10/03/96
Reporting Date: 10/17/96
Project Name: TNMPL # 610062
Sample I.D.: TMW-1

Analysis Date: 10/10/96
Sampling Date: 10/03/96
Sample Type: WATER
Sample Condition: C&I

Volatiles EPA SW 846-8240, (ppm) Compounds	ELT# 9140	PQL	% IA	Method Blank	% EA
Chloromethane	ND	0.005	95	ND	
Vinyl chloride	ND	0.002	94	ND	
Bromomethane	ND	0.005	105	ND	
Chloroethane	ND	0.002	111	ND	
Trichlorofluoromethane	ND	0.002	104	ND	
Acetone	0.036	0.01	102	ND	
1,1-Dichloroethane	ND	0.002	102	ND	117
Iodomethane	ND	0.05	106	ND	
Vinyl Acetate	ND	0.01	94	ND	
Carbon Disulfide	ND	0.002	104	ND	
Methylene Chloride	ND	0.002	95	5.2	
trans-1,2-Dichloroethene	ND	0.002	104	ND	
1,1-Dichloroethane	ND	0.002	104	ND	
2-Butanone	ND	0.01	121	ND	
Chloroform	ND	0.002	86	ND	
1,1,1-Trichloroethane	ND	0.002	98	ND	
Carbon Tetrachloride	ND	0.002	113	ND	
Benzene	ND	0.002	117	ND	109
1,2 Dichloroethane	ND	0.002	90	ND	
Trichloroethene	ND	0.002	97	ND	117
1,2-Dichloropropane	ND	0.002	94	ND	
Dibromomethane	ND	0.002	97	ND	
Bromochloromethane	ND	0.002	88	ND	
2-Chloroethyl Vinyl ether	ND	0.01	108	ND	
4-Methyl 2-Pentanone	ND	0.05	118	ND	
cis 1,3 Dichloropropene	ND	0.002	90	ND	
Toluene	ND	0.002	92	ND	111
trans 1,3-Dichloropropene	ND	0.002	95	ND	
1,1,2-Trichloroethane	ND	0.002	93	ND	
Dibromochloromethane	ND	0.002	100	ND	
Tetrachloroethene	ND	0.002	92	ND	
Chlorobenzene	ND	0.002	94	ND	110

KEI CONSULTING
ATTN: MR. MIKE HAWTHORNE
5309 WURZBACH, SUITE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 10/03/96
Reporting Date: 10/17/96
Project Name: TNMPL # 610062
Sample I.D.: TMW-1

Analysis Date: 10/10/96
Sampling Date: 10/03/96
Sample Type: WATER
Sample Condition: C&I

Volatiles EPA SW 846-8240, (ppm) Compounds	ELT# 9140	PQL	% IA	Method Blank	% EA
Ethylbenzene	ND	0.002	90	ND	
m&p Xylene	ND	0.002	91	ND	
o-Xylene	ND	0.002	90	ND	
Styrene	ND	0.002	92	ND	
Bromoform	ND	0.002	100	ND	
1,1,2,2-Tetrachloroethane	ND	0.002	100	ND	
1,2,3-Trichloropropane	ND	0.002	105	ND	

SYSTEM MONITORING COMPOUNDS	% RECOVERY
Dibromofluoromethane	104
Toluene-d8	103
4-Bromofluorobenzene	100

ND=<PQL

Michael R. Fowler

Michael R. Fowler

Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

KEI CONSULTING
ATTN: MR. MIKE HAWTHORNE
5309 WURZBACH, SUITE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 10/03/96
Reporting Date: 10/17/96
Project Name: TNMPL # 610062
Sample I.D.: TMW-2

Analysis Date: 10/10/96
Sampling Date: 10/03/96
Sample Type: WATER
Sample Condition: C&I

Volatiles EPA SW 846-8240, (ppm) Compounds	ELT# 9141	PQL	% IA	Method Blank	% EA
Chloromethane	ND	0.005	95	ND	
Vinyl chloride	ND	0.002	94	ND	
Bromomethane	ND	0.005	105	ND	
Chloroethane	ND	0.002	111	ND	
Trichlorofluoromethane	ND	0.002	104	ND	
Acetone	0.084	0.01	102	ND	
1,1-Dichloroethane	ND	0.002	102	ND	117
Iodomethane	ND	0.05	106	ND	
Vinyl Acetate	ND	0.01	94	ND	
Carbon Disulfide	ND	0.002	104	ND	
Methylene Chloride	ND	0.002	95	5.2	
trans-1,2-Dichloroethene	ND	0.002	104	ND	
1,1-Dichloroethane	ND	0.002	104	ND	
2-Butanone	0.034	0.01	121	ND	
Chloroform	ND	0.002	86	ND	
1,1,1-Trichloroethane	ND	0.002	98	ND	
Carbon Tetrachloride	ND	0.002	113	ND	
Benzene	0.003	0.002	117	ND	109
1,2 Dichloroethane	ND	0.002	90	ND	
Trichloroethene	ND	0.002	97	ND	117
1,2-Dichloropropane	ND	0.002	94	ND	
Dibromomethane	ND	0.002	97	ND	
Bromochloromethane	ND	0.002	88	ND	
2-Chloroethyl Vinyl ether	ND	0.01	108	ND	
4-Methyl 2-Pentanone	0.030	0.05	118	ND	
cis 1,3 Dichloropropene	ND	0.002	90	ND	
Toluene	0.002	0.002	92	ND	111
trans 1,3-Dichloropropene	ND	0.002	95	ND	
1,1,2-Trichloroethane	ND	0.002	93	ND	
Dibromochloromethane	ND	0.002	100	ND	
Tetrachloroethene	ND	0.002	92	ND	
Chlorobenzene	ND	0.002	94	ND	110

KEI CONSULTING
ATTN: MR. MIKE HAWTHORNE
5309 WURZBACH, SUITE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 10/03/96
Reporting Date: 10/17/96
Project Name: TNMPL # 610062
Sample I.D.: TMW-2

Analysis Date: 10/10/96
Sampling Date: 10/03/96
Sample Type: WATER
Sample Condition: C&I

Volatiles EPA SW 846-8240, (ppm) Compounds	ELT# 9141	PQL	% IA	Method Blank	% EA
Ethylbenzene	0.005	0.002	90	ND	
m&p Xylene	0.017	0.002	91	ND	
o-Xylene	0.002	0.002	90	ND	
Styrene	ND	0.002	92	ND	
Bromoform	ND	0.002	100	ND	
1,1,2,2-Tetrachloroethane	ND	0.002	100	ND	
1,2,3-Trichloropropane	ND	0.002	105	ND	

SYSTEM MONITORING COMPOUNDS	% RECOVERY
Dibromofluoromethane	120
Toluene-d8	106
4-Bromofluorobenzene	106

ND=<PQL

Michael R. Fowler

10-17-96
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ENVIRONMENTAL LAB OF , INC.

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KEI CONSULTING
ATTN: MR. MIKE HAWTHORNE
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SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 10/03/96
Sample Type: WATER
Project : 610062, TNMPL
Project Location: SAUNDERS EXCAVATION

Analysis Date: 10/10/96
Sampling Date: 10/03/96
Sample Condition: Intact/Iced

ELT# 9140

8270 COMPOUNDS	REPORTING LIMIT	TMW-1 Concentration (mg/Kg)	QC	RPD	% EA	% IA
N-Nitrosodimethylamine	0.01	ND				
2-Picoline	0.01	ND				
Methyl methanesulfonate	0.01	ND				
Ethyl methanesulfonate	0.01	ND				
Phenol	0.01	ND	76	21	20	95
Aniline	0.05	ND				
bis(2-Chloroethyl)ether	0.05	ND				
2-Chlorophenol	0.05	ND		23	40	
1,3-Dichlorobenzene	0.01	ND				
1,4-Dichlorobenzene	0.01	ND	79	19	35	99
Benzyl alchohol	0.05	ND				
1,2-Dichlorobenzene	0.01	ND				
2-Methylphenol	0.01	ND				
bis(2-Chloroisopropyl)ether	0.05	ND				
4-Methylphenol/3-Methylphenol	0.01	ND				
Acetophenone	0.05	ND				
n-Nitrosodi-n-propylamine	0.01	ND		17	46	
Hexachloroethane	0.01	ND				
Nitrobenzene	0.01	ND				
N-Nitrosopiperidine	0.05	ND				
Isophorone	0.05	ND				
2-Nitrophenol	0.05	ND	86			108
2,4-Dimethylphenol	0.05	ND				
bis(2-Chloroethoxy)methane	0.01	ND				
Benzoic acid	0.1	ND				
2,4-Dichlorophenol	0.05	ND	77			96
1,2,4-Trichlorobenzene	0.01	ND		21	44	
a,a Dimethylphenethylamine	0.1	ND				
Naphthalene	0.01	ND				
4-Chloroaniline	0.05	ND				
2,6-Dichlorophenol	0.05	ND				
Hexachlorobutadiene	0.01	ND	77			96
N-Nitroso-di-n-butylamine	0.05	ND				
4-Chloro-3-methylphenol	0.05	ND	76	21	44	95

ELT# 9140

TMW-1

8270 COMPOUNDS	Reporting Limits	Concentration (mg/kg)	QC	RPD	%EA	%IA
2-Methylnaphthalene	0.01	ND				
1,2,4,5-Tetrachlorobenzene	0.01	ND				
Hexachlorocyclopentadiene	0.01	ND				
2,4,6-Trichlorophenol	0.05	ND	75			94
2,4,5-Trichlorophenol	0.05	ND				
2-Chloronaphthalene	0.01	ND				
1,-Chloronaphthalene	0.01	ND				
2-Nitroaniline	0.05	ND				
Dimethylphthalate	0.01	ND				
Acenaphthylene	0.01	ND				
2,6-Dinitrotoluene	0.01	ND				
3-Nitroaniline	0.05	ND				
Acenaphthene*	0.01	ND	80	19	45*	100
2,4-Dinitrophenol	0.05	ND				
Dibenzofuran	0.05	ND				
Pentachlorobenzene	0.01	ND				
4-Nitrophenol	0.05	ND		9	27	
1-Napthylamine	0.05	ND				
2,4-Dinitrotoluene	0.01	ND		3	57	
2-Napthylamine	0.05	ND				
2,3,4,6-Tetrachlorophenol	0.05	ND				
Fluorene	0.01	ND				
Diethylphthalate	0.01	ND				
4-Chlorophenyl-phenylether	0.01	ND				
4-Nitroaniline	0.05	ND				
4,6-Dinitro-2-methylphenol	0.01	ND				
n-Nitrosodipenlamine & Diphenylam	0.01	ND	75			94
Diphenylhydrazine	0.05	ND				
4-Bromophenyl-phenylether	0.01	ND				
Phenacetin	0.05	ND				
Hexachlorobenzene	0.01	ND				
4-Aminobiphenyl	0.05	ND				
Pentachlorophenol	0.05	ND	89	13	57	111
Pentachloronitrobenzene	0.05	ND				
Pronamide	0.01	ND				
Phenanthrene	0.01	ND				
Anthracene	0.01	ND				
Di-n-butylphthalate	0.01	ND				
Fluoranthene	0.01	ND	80			100
Benzidine	0.1	ND				
Pyrene	0.01	ND		6	80	
p-Dimethylaminoazobenzene	0.01	ND				
Butylbenzylphthalate	0.01	ND				
Benzo [a]anthracene	0.01	ND				
3,3-Dichlorobenzidine	0.01	ND				
Chrysene	0.01	ND				
bis (2-Ethylhexyl)phthalate	0.05	ND				

ELT# 9140 TMW-1

8270 COMPOUNDS	Reporting Limits	Concentration (mg/kg)	QC	RPD	%EA	%IA
Di-n- octlphthalate	0.01	ND	92			115
Benzo[b]fluoranthene	0.01	ND				
7,12-Dimethylbenz(a)anthracene	0.01	ND				
Benzo[k]fluoranthene	0.01	ND				
Benzo [a] pyrene	0.01	ND	77			96
3-Methylcholanthrene	0.01	ND				
Dibenzo (a,j) acridine	0.01	ND				
Indeno [1,2,3-cd] pyrene	0.01	ND				
Dibenz [a,h] anthracene	0.01	ND				
Benzo [g,h,i] perylene	0.01	ND				

* Estimated Concentration, Spike Recovery Out of Limits

METHOD: EPA SW 846-8270, 3551

SURROGATES	% RECOVERY
2-Fluorophenol SURR	64
Phenol-d6 SURR	60
Nitrobenzene-d5 SURR	66
2-Fluorobiphenyl SURR	66
2,4,6-Tribromophenol SURR	72
Terphenyl-d14 SURR	72

Michael R. Fowler

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10-18-96

Date

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KEI CONSULTING
ATTN: MR. MIKE HAWTHORNE
5309 WURZBACH, SUITE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 10/03/96
Sample Type: WATER
Project : 610062, TNMPL
Project Location: SAUNDERS EXCAVATION

Analysis Date: 10/10/96
Sampling Date: 10/03/96
Sample Condition: Intact/Iced

ELT# 9141

8270 COMPOUNDS	REPORTING LIMIT	TMW-2 Concentration (mg/Kg)	QC	RPD	% EA	% IA
N-Nitrosodimethylamine	0.01	ND				
2-Picoline	0.01	ND				
Methyl methanesulfonate	0.01	ND				
Ethyl methanesulfonate	0.01	ND				
Phenol	0.01	ND	76	21	20	95
Aniline	0.05	ND				
bis(2-Chloroethyl)ether	0.05	ND				
2-Chlorophenol	0.05	ND		23	40	
1,3-Dichlorobenzene	0.01	ND				
1,4-Dichlorobenzene	0.01	ND	79	19	35	99
Benzyl alchohol	0.05	ND				
1,2-Dichlorobenzene	0.01	ND				
2-Methylphenol	0.01	ND				
bis(2-Chloroisopropyl)ether	0.05	ND				
4-Methylphenol/3-Methylphenol	0.01	ND				
Acetophenone	0.05	ND				
n-Nitrosodi-n-propylamine	0.01	ND		17	46	
Hexachloroethane	0.01	ND				
Nitrobenzene	0.01	ND				
N-Nitrosopiperidine	0.05	ND				
Isophorone	0.05	ND				
2-Nitrophenol	0.05	ND	86			108
2,4-Dimethylphenol	0.05	ND				
bis(2-Chloroethoxy)methane	0.01	ND				
Benzoic acid	0.1	ND				
2,4-Dichlorophenol	0.05	ND	77			96
1,2,4-Trichlorobenzene	0.01	ND		21	44	
a,a Dimethylphenethylamine	0.1	ND				
Naphthalene	0.01	ND				
4-Chloroaniline	0.05	ND				
2,6-Dichlorophenol	0.05	ND				
Hexachlorobutadiene	0.01	ND	77			96
N-Nitroso-di-n-butylamine	0.05	ND				
4-Chloro-3-methylphenol	0.05	ND	76	21	44	95

ELT# 9141 TMW-2

8270 COMPOUNDS	Reporting Limits	Concentration (mg/kg)	QC	RPD	%EA	%IA
2-Methylnaphthalene	0.01	ND				
1,2,4,5-Tetrachlorobenzene	0.01	ND				
Hexachlorocyclopentadiene	0.01	ND				
2,4,6-Trichlorophenol	0.05	ND	75			94
2,4,5-Trichlorophenol	0.05	ND				
2-Chloronaphthalene	0.01	ND				
1,-Chloronaphthalene	0.01	ND				
2-Nitroaniline	0.05	ND				
Dimethylphthalate	0.01	ND				
Acenaphthylene	0.01	ND				
2,6-Dinitrotoluene	0.01	ND				
3-Nitroaniline	0.05	ND				
Acenaphthene*	0.01	ND	80	19	45*	100
2,4-Dinitrophenol	0.05	ND				
Dibenzofuran	0.05	ND				
Pentachlorobenzene	0.01	ND				
4-Nitrophenol	0.05	ND		9	27	
1-Napthylamine	0.05	ND				
2,4-Dinitrotoluene	0.01	ND		3	57	
2-Napthylamine	0.05	ND				
2,3,4,6-Tetrachlorophenol	0.05	ND				
Fluorene	0.01	ND				
Diethylphthalate	0.01	ND				
4-Chlorophenyl-phenylether	0.01	ND				
4-Nitroaniline	0.05	ND				
4,6-Dinitro-2-methylphenol	0.01	ND				
n-Nitrosodipenlamine & Diphenylam	0.01	ND	75			94
Diphenylhydrazine	0.05	ND				
4-Bromophenyl-phenylether	0.01	ND				
Phenacetin	0.05	ND				
Hexachlorobenzene	0.01	ND				
4-Aminobiphenyl	0.05	ND				
Pentachlorophenol	0.05	ND	89	13	57	111
Pentachloronitrobenzene	0.05	ND				
Pronamide	0.01	ND				
Phenanthrene	0.01	ND				
Anthracene	0.01	ND				
Di-n-butylphthalate	0.01	ND				
Fluoranthene	0.01	ND	80			100
Benzidine	0.1	ND				
Pyrene	0.01	ND		6	80	
p-Dimethylaminoazobenzene	0.01	ND				
Butylbenzylphthalate	0.01	ND				
Benzo [a]anthracene	0.01	ND				
3,3-Dichlorobenzidine	0.01	ND				
Chrysene	0.01	ND				
bis (2-Ethylhexyl)phthalate	0.05	ND				

ELT# 9141

TMW-2

8270 COMPOUNDS	Reporting Limits	Concentration (mg/kg)	QC	RPD	%EA	%IA
Di-n- octlphthalate	0.01	ND	92			115
Benzo[b]fluoranthene	0.01	ND				
7,12-Dimethylbenz(a)anthracene	0.01	ND				
Benzo[k]fluoranthene	0.01	ND				
Benzo [a] pyrene	0.01	ND	77			96
3-Methylcholanthrene	0.01	ND				
Dibenzo (a,j) acridine	0.01	ND				
Indeno [1,2,3-cd] pyrene	0.01	ND				
Dibenz [a,h] anthracene	0.01	ND				
Benzo [g,h,i] perylene	0.01	ND				

* Estimated Concentration, Spike Recovery Out of Limits

METHOD: EPA SW 846-8270, 3551

SURROGATES	% RECOVERY
2-Fluorophenol SURR	56
Phenol-d6 SURR	52
Nitrobenzene-d5 SURR	58
2-Fluorobiphenyl SURR	56
2,4,6-Tribromophenol SURR	62
Terphenyl-d14 SURR	66

Michael R. Fowler

10-18-96
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

KEI CONSULTANTS
ATTN: MR. MIKE HAWTHORNE
5309 WURZBACH STE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 10/03/96
Sample Type: WATER
Project : TNMPL
Project #: 610062
Project Location: Saunders Excavation

Analysis Date: 10/09/96
Sampling Date: 10/03/96
Sample Condition: Intact/Iced

TOTAL METALS (ppm)

ELT#	Field Code	Ag	As	Ba	Cd	Cr	Hg	Pb	Se
9140	TMW-1	<0.01	<0.002	0.12	0.007	<0.03	0.001	<0.10	<0.002
9141	TMW-2	0.11	<0.002	<0.10	0.023	<0.03	0.003	0.10	<0.002
	MDL	0.01	0.002	0.1	0.005	0.03	0.001	0.10	0.002
	% IA	101	108	95	98	100	105	101	108
	% EA	90	105	91	97	101	128	107	94

METHODS: EPA SW 846- 3010, 7760, 7062, 7080, 7130, 7190, 7470, 7420, 7742

Michael R. Fowler

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10-18-96
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ENVIRONMENTAL LAB OF , INC.

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KEI CONSULTANTS, INC.
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5309 WURZBACH STE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 10/03/96
Sample Type: WATER
Project : TNMPL
Project #: 610062
Project Location: SAUNDERS EXCAVATION

Analysis Date: LISTED BELOW
Sampling Date: 10/03/96
Sample Condition: Intact/Iced

Analyte	ELT# Analysis Date	9140 TMW-1 (mg/l)	9141 TMW-2 (mg/l)	RPD	QC	% IA
TDS	10/7/96	400	604	5	--	--
Chlorides	10/8/96	32	32	8	2446	110
Carbonates	10/8/96	270	280	0	--	--
Bicarbonates	10/8/96	<1	<1	0	--	--
Sulfate	10/8/96	37.5	55	5	5.0	100
Calcium	10/15/96	12.4	3.5	--	4.97	101
Magnesium	10/15/96	2.17	1.9	--	0.472	99
Sodium	10/15/96	54.0	88.3	--	25.13	103
Potassium	10/15/96	5.21	4.61	--	10.12	106

METHODS: EPA 160.1, 325, 310.2 ; SW 846-9038,7140, 7460, 7770, 7610

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KEI CONSULTANTS, INC.
ATTN: MR. MIKE HAWTHORNE
5309 WURZBACH STE 100
SAN ANTONIO, TEXAS 78238
FAX: 210-680-3763

Receiving Date: 10/03/96
Sample Type: WATER
Project : TNMPL
Project #: 610062
Project Location: SANDERS EXCAVATION

Analysis Date: BTEX 10/04/96
Analysis Date: TPH 10/07/96
Sampling Date: 10/03/96
Sample Condition: Intact/Iced

ELT#	FIELD CODE	BENZENE (mg/l)	TOLUENE (mg/l)	ETHYLBENZENE (mg/l)	m,p-XYLENE (mg/l)	o-XYLENE (mg/l)	TPH (mg/l)
9128	MW-1	<0.001	<0.001	<0.001	<0.001	<0.001	<1
9129	MW-2	<0.001	<0.001	<0.001	<0.001	<0.001	<1
9130	MW-3	0.019	<0.001	0.003	<0.001	<0.001	<1
9131	MW-4	0.002	<0.001	0.004	<0.001	<0.001	<1
9132	MW-5	<0.001	0.001	<0.001	0.001	<0.001	<1
9133	MW-6	<0.001	<0.001	<0.001	<0.001	<0.001	<1
9134	MW-7	<0.001	<0.001	<0.001	<0.001	<0.001	<1
9135	MW-8	<0.001	<0.001	<0.001	0.001	<0.001	<1
9136	MW-9	<0.001	<0.001	<0.001	<0.001	<0.001	<1
9137	MW-10	<0.001	<0.001	<0.001	<0.001	<0.001	<1
9138	MW-11	0.009	0.003	0.001	0.002	0.001	1
9139	MW-12	<0.001	0.001	0.002	0.004	<0.001	1
	% IA	112	100	99	93	94	100
	% EA	111	100	98	92	92	—
	BLANK	<0.001	<0.001	<0.001	<0.001	<0.001	<1

METHODS: SW 846-8020,5030; EPA 418.1

Michael R. Fowler

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10-18-96

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