SITE INVESTAGATION & PROPOSED REMEDIATION WORK PLAN

devon
ENERGY PRODUCTION CO., LP
9900 W. I-20 Midland, Texas 79706
(915)563-0665

December 11, 2002

Bill Olson
New Mexico Energy, Minerals & Natural Resources
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Pasty #1 Site Clean-up

Dear Sirs,

Enclosed for your review and approval is a preliminary site investigation report and proposed remediation work plan for the Patsy #1 Tank Battery Site, which is located approximately 5 miles southwest of Monument, New Mexico.

In May of this year, I met with the BLM along with Larry Johnson and Paul Sheely of your Hobbs office at this site to review the location and devise plans to evaluate this site and propose a closure strategy.

This plan represents the culmination of Devon's efforts to this point, along with proposals that we believe will meet the expectations of the BLM and NMOCD with regard to closure of this site. On behalf of Devon, I am hopeful that you will find this plan adequate to meet your guidelines. Upon receipt of approval of this proposal, Devon is prepared to start work on this site.

Should you have any questions or require additional information, please don't hesitate to contact me at (915) 495-7279.

Sincerely,

David Purdy

David Purdy
EHS Specialist
Devon Energy Production Corporation
Midland, Texas 79711-0210

PRELIMINARY SITE INVESTIGATION REPORT
AND
REMEDIATION WORK PLAN

Devon Energy
Patsy #1
Tank Battery
Lea County, New Mexico

Prepared For:

Devon Energy
4200 North FM 1788
Midland, Texas 79701

ETGI Project # DE 2101

Prepared By:

Environmental Technology Group, Inc.
2540 W. Marland
Hobbs, New Mexico 88240

December 2002

Camille Reynolds
Project Manager

FOR
Ken Dutton
Project Manager

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1.0 INTRODUCTION

On behalf of Devon Energy Environmental Technology Group, Inc. (ETGI) is pleased to submit this *Preliminary Site Investigation and Remediation Work Plan* as a summary of activities completed to date and to establish future actions to be conducted at the Patsy #1 Tank Battery in Lea County, New Mexico. The site is located west of US Highway 8 at Latitude 32° 34' 40.4" North and Longitude 103° 17' 13.8" West, approximately 5 miles southwest of the city of Monument, New Mexico, in the NW ¼, NE ¼ of Section 18, Township 20 South, Range 37 East, in Lea County, New Mexico. For reference, a site location and site map, are provided as Figures 1 and 2, respectively. Site investigation activities completed to date were conducted to complete delineation of the vertical and lateral extent of possible soil and groundwater impaction at the site. The proposed remediation work plan included in this document has been designed to complete vertical and lateral delineation of impacted soil and groundwater in the area. In addition, the remediation work plan is designed to remediate impacted soils to acceptable New Mexico Oil Conservation Division (NMOCD) regulatory levels.

The remediation work plan, as outlined in this document, will facilitate remediation action levels required by the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases*, dated August 1993 (NMOCD, 1993). To reiterate the site closure strategy, Devon Energy intends to seek regulatory closure by the following means:

- Delineate the nature and extent of impacts to the soil and groundwater;
- Excavate saturated/contaminated soils and treat these excavated soils at the release site (to a maximum root zone depth of 3 feet) by shredding and the addition of nutrients;
- Conduct confirmation sampling of treated soils to ascertain that constituent concentrations are below the approved site action levels. Subsequently backfilling excavated area with treated soils and re-seeding the surface with native grasses;
- Evaluate groundwater quality/usage by advancing a temporary groundwater monitor well to collect a sample to be analyzed for total dissolved solids (TDS). If the TDS is $\leq$10,000 mg/L, submit a Stage 2 Abatement Plan, if necessary, designed to mitigate groundwater constituent levels to applicable New Mexico Water Quality Control Commission (WQCC) standards. If the TDS is $\geq$10,000 mg/L, prepare a Site Closure Request as per NMOCD regulations;
- Utilization of approved risk assessment methods to mitigate impacted soils and groundwater, if applicable.

Documentations supporting the aforementioned closure strategy will be submitted for NMOCD's approval at the appropriate time. Upon approval of this Preliminary Site Investigation and Remediation Work Plan by NMOCD, Devon Energy will commence remediation activities specified in this report at the site.

2.0 SUMMARY OF FIELD ACTIVITIES

ETGI was contracted to conduct a preliminary site investigation on May 9, 2002 by Mr. David Purdy of Devon Energy. As per Mr. Purdy's request temporary groundwater monitor wells were installed at this location to determine the vertical and lateral extent of subsurface impacts. The site includes a tank battery to the east with a visually stained area that measures approximately 90 feet by 70 feet and a heater treater to the west with what appears to be a former pit which measures approximately 220 feet by 90 feet, these areas are depicted on Figure 2. Initial site activities consisted of vertical and lateral delineation to determine the extent of hydrocarbon impact of the area. ETGI mobilized an air-rotary drilling rig operated by ECO Drilling of Midland, Texas on May 9, 2002, to delineate the lateral and vertical extent of subsurface impacts. ETGI completed seven temporary groundwater monitor wells at this location. The locations of the temporary groundwater monitor wells are depicted on Figure 2, and the boring logs are provided as Appendix A. As indicated on Figure 2, temporary groundwater monitor wells TMW-1, TMW-3, TMW-4 and TMW-7 were positioned to define the lateral extents of the subsurface impacted area to the east of the tank battery, as estimated from staining observed in the area. Temporary groundwater monitor well TMW-2 was installed in the approximate middle of the visually stained area to delineate the vertical extent of the impacted area. Temporary groundwater monitor wells TMW-5 and TMW-6 were positioned to define the lateral extent of the subsurface impacted area to the west of the heater treater in what appears to be a former pit. The temporary groundwater monitor wells were completed to a maximum depth of approximately 40 feet below ground surface (bgs). During the boring process, soil samples were collected at five-foot intervals utilizing either a split spoon or grab sampling methods. The soil samples were collected during the installation of the temporary groundwater monitor wells and field-screened with a photoionization detector (PID). Each sample collected was visually inspected and described as to soil type, grain size, sorting characteristics, odor and staining present. Soil samples collected from TMW-3, TMW-4, TMW-5, TMW-6, and TMW-7 did not exhibit any visual signs of staining, olfactory evidence or elevated PID readings during installation. The soil sample collected from TMW-1 at a depth of 30 to 35 feet bgs exhibited moderate staining and olfactory evidence with a PID reading of 69.5 parts per million (ppm), the remaining soil samples from this boring did not exhibit any evidence of hydrocarbon impaction. Soil samples collected from TMW-2 at depths of 25 to 30 feet bgs and 30 to 35 feet bgs exhibited staining, olfactory evidence and elevated PID readings of 789 ppm and 869 ppm, respectively. The soil samples collected from the surface to a depth of 20 to 25 feet bgs from TMW-2 exhibited no evidence of hydrocarbon impaction. Analytical results indicate elevated levels of chloride concentrations are present in all the temporary monitor wells. In June 2002, the temporary monitor wells were completed in accordance with New Mexico Oil Conservation Division standards as permanent monitor wells.

All soil samples that were submitted to Environmental Lab of Texas, Odessa, Texas were analyzed for Total Petroleum Hydrocarbons – Gasoline Range Organics/Diesel Range Organics (TPH-GRO/DRO) utilizing EPA Method SW 846-8015M; Benzene, Toluene, Ethyl benzene and Xylenes (BTEX), utilizing EPA Method SW 846-8021B/5030; and total chloride concentrations using EPA Method 9253. Groundwater samples were also submitted to Environmental Lab of Texas, and tested for BTEX using EPA Method SW 846-8021B/5030, total chlorides utilizing EPA Method 9253, and Total Dissolved Solids (TDS) using EPA

Method 160.1. The soil and groundwater analytical results are summarized in Tables 1 and 2, respectively and the laboratory results are provided as Appendix B.

Research was conducted on the New Mexico Office of the State Engineer's (NMOSE) Water Well Database for information on well locations and the average depth to groundwater in the area. The database indicated that there are no registered water wells within Section 18. The database indicated that there are 10 registered water wells within Section 7 and Section 19. The average depth to groundwater as determined from these wells is 36 and 35 feet bgs, respectively. A copy of the NMOSE Water Well Report is provided in Appendix C. Based on local knowledge, the prevailing gradient of the groundwater in the release area trends to the southeast.

3.0 SITE DESCRIPTION

3.1 Regional Geology/Hydrogeology

In the site vicinity, the surface is composed of unconsolidated, wind blown sands and finer materials associated with the Tertiary Ogallala Formation, which serves as a major aquifer for southeastern New Mexico and several high plains states. Unconfined groundwater is typically present in these sands at varying depths and generally flows from the northwest to the southeast. This aquifer is typically characterized by relatively high hydraulic conductivity and transmissivity.

The Ogallala is underlain by the Triassic Dockum Formation, locally referred to as the "red beds". While there are sand lenses within the Dockum Formation, it is more typically characterized by red silt and micaceous shale in which detectable groundwater is often absent or limited in extent. Where groundwater is present, the aquiclude is usually characterized by relatively low hydraulic conductivity and transmissivity.

The site is located in the Southern Desertic Basins, Plains, and Mountains physiographic feature as classified in the Lea County Soil Survey by the U.S. Department of Agriculture Soil Conservation Service, January 1974. The average surface elevation in the area ranges between 3,000 to 4,000 feet above sea level with the average surface topography sloping to the south and southeast at approximately 10 feet per mile. The groundwater gradient in the region appears to reflect the topography with a similar slope to the south and southeast with some local variations. The site is located on Berino-Cacique Association type soils. This soil complex is about 35 percent Berino soils and 25 percent Cacique soils. Maljamar, Midessa, Pyote, Simona, Jal, Tonuco, and Wink soils make up the remaining 40 percent. This association consists of nearly level and gently sloping, well-drained soils on uplands in the southern part of Lea County. The soils generally have a loamy fine sand surface layer and a sandy clay loam subsoil. Berino-Cacique Loamy Fine Sand is moderately permeable and runoff is very slow. It has a rapid water intake and the available water holding capacity is 7 to 10 inches. Soil blowing is a severe hazard in this region.

Data collected by the United States Weather Bureau indicate that the average annual precipitation in the site vicinity is approximately 10 to 13 inches. This amount occurs primarily as storm events during the period between June and October. Infiltration and

evaporation rates are generally high resulting in limited surface flow from these events. The primary utilization of these lands consists of range, wildlife habitat, and recreational areas.

3.2 Site Geology/Hydrology

At the site, the subsurface is composed primarily of unconsolidated sands, which vary in color from brown to tan. The sands are very fine grained, well-sorted and interspersed with calcareous nodules. A limited amount of sandstone and clay is also present at the site. The sand was dry to a depth of approximately 20 to 25 feet bgs. Groundwater was detected at a depth of approximately 31 to 32 feet bgs as depicted on the soil boring logs in Appendix A.

3.3 New Mexico Oil Conservation Division (NMOCD) Soil Classification

As stated in the previous section, field data have determined depth to groundwater at the site is approximately 31 to 32 feet bgs. As a result of this criterion a ranking score of twenty (20) points would be assigned to the site.

The water well database, maintained by the New Mexico State Engineer's Office, was accessed in order to determine the location and type of nearby water wells in the area. The data indicate that there are no known water wells located within 1,000 feet of the site. These site conditions result in no points assigned to the site as a result of this criterion.

As depicted on Figures 1 and 2, there are no bodies of surface water located within 1,000 feet of the site. These site conditions result in no points assigned to the site as a result of this criterion.

The NMOCD guidelines indicate that the site would have a Ranking Score of >19. The action levels for a site with a Ranking Score of >19 points are as follows:

Benzene - 10 ppm

BTEX - 50 ppm

TPH - 100 ppm

3.4 Distribution of Hydrocarbons in the Unsaturated Zone

Review of laboratory analysis of the soil samples collected from temporary monitor wells TMW-3, TMW-4, TMW-5, TMW-6, and TMW-7 indicate that the soil in these areas has not been impacted by oil and gas production activities. Analytical results obtained from soil samples of temporary monitor wells TMW-1 and TMW-2 indicate soils impacted above NMOCD criteria were identified at depths of 30 to 35 feet bgs in temporary monitor well TMW-1, and 25 to 35 feet bgs in temporary monitor well TMW-2. Analytical results are shown on Table 1.

The distribution of hydrocarbons in the unsaturated zone has been estimated by utilizing the following techniques:

- Visual observation of surface staining
- Visual observation of subsurface soil samples, and
- Review of laboratory analyses of selected soil samples.

3.5 Distribution of Hydrocarbons in the Saturated Zone

Groundwater was encountered at depths varying from 31 to 32 feet bgs in the temporary monitor wells. Reviews of the analytical results from the groundwater samples collected indicate groundwater has not been impacted at the location, as shown on Table 2.

4.0 RECOMMENDATIONS

The visually stained area observed during the initial site investigation indicates that the hydrocarbon-impacted area is delineated to the extent of approximately 90 feet by 70 feet east of the former tank battery. The soil samples collected in the east stained area indicate the staining is limited to approximately 2 feet bgs. The visually stained area observed west of the former tank battery is approximately 220 feet by 90 feet. The soil samples collected in the west stained area indicate the staining is limited to approximately 2 feet bgs. Approximately 468 cubic yards of visually stained soil is located in the east area and 1,464 cubic yards are contained in the west area. During the excavation activities the soils will be blended and shredded with nutrients added to enhance the remediation process. A minimal amount of asphaltines are located on the site, and these soils will be transported to an approved NMOCD landfarm for disposal. Bottom confirmation samples will be collected upon completion of excavation of the east and west areas to determine contaminant level reduction. The blended soils will be landfarmed on-site and once contaminant levels are confirmed below regulatory limits, the remediated soil will be utilized to backfill the excavations, contoured to grade, and seeded with native grasses pursuant to Bureau of Land Management protocol.

Based on the analytical data from the soil samples it appears that the subsurface soil has not been impacted by petroleum operations on-site. The impacted soils appear to be from an upgradient source as the contaminants are located in the capillary fringe and not above the unsaturated zone with the exception of the shallow visually stained area. During the installation process, the subsurface soils appeared to be native and undisturbed. An area search was conducted which revealed numerous areas of stained soil and asphaltine impacted soil. The condition of the subsurface soil is consistent with numerous other sites in this area of Lea County.

The analytical results from groundwater samples indicate that all the monitor wells are either below detection limits or are below the regulatory standards established by NMOCD. It is recommended that four (4) consecutive sampling events be performed and if the groundwater samples remain below NMOCD regulatory standards the site be closed.

The current operator has indicated to Devon Energy that the tanks and associated production equipment has been removed from the site. Additionally, the production well located northwest of the site has been plugged and abandoned. Upon approval of this Preliminary

Site Investigation and Remediation Work Plan by NMOCD, Devon Energy will commence remediation activities specified in this report at the site.

5.0 QA/QC PROCEDURES

5.1 Soil Sampling

Samples of subsurface soils were obtained utilizing a split spoon sampler. Representative soil samples were divided into two separate portions using clean, disposable gloves and clean sampling tools. One portion of the soil sample was placed in a disposable sample bag. The bag was labeled and sealed for headspace analysis using a PID calibrated to a 100 ppm isobutylene standard. Each sample was allowed to volatilize for approximately thirty minutes at ambient temperature prior to conducting the analysis.

The other portion of the soil sample was placed in a sterile glass container equipped with a Teflon-lined lid furnished by the analytical laboratory. The container was filled to capacity to limit the amount of headspace present. Each container was labeled and placed on ice in an insulated cooler. Upon selection of samples for analysis, the cooler was sealed for shipment to the laboratory. Proper chain-of-custody documentation was maintained throughout the sampling process.

Soil samples were delivered to Environmental Lab of Texas, Inc., in Odessa, Texas for BTEX, TPH, and Total Chloride analyses using the methods described below. Samples were analyzed for BTEX, TPH-GRO/DRO, and Total Chloride concentration within fourteen days following the collection date.

The soil samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method 8260B/5030
- TPH concentrations in accordance with modified EPA Method 8015M GRO/DRO
- Total Chloride concentrations in accordance with EPA Method 9253

5.2 Groundwater Sampling

The temporary groundwater monitor wells were purged of approximately 3 well volumes of water or until the wells were dry using an electrical Grundfos Pump. Groundwater was allowed to recharge and samples were obtained using a disposable Telfon sampler. Water samples were stored in clean, glass containers provided by the laboratory and placed on ice in the field. Purge water was collected in a polystyrene tank and disposed of by Pate Trucking, Hobbs, New Mexico or Vista Trucking, Eunice, New Mexico utilizing a licensed disposal facility (NMOCD AO SWD-730). Groundwater samples were delivered to Environmental Lab of Texas, Odessa, Texas for analysis of BTEX, TDS, and Chlorides using the methods described below. All samples were analyzed within approved holding times following the collection date.

- BTEX concentrations in accordance with EPA Method 8260B/5030;
- TDS concentrations in accordance with EPA Method 160.1;
- Total chlorides concentrations in accordance with EPA Method 9253

5.3 Decontamination Of Equipment

The drilling crew utilized a high-pressure steam cleaning machine to wash the drilling and sampling equipment prior to drilling and prior to starting successive hole. Prior to use, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water. A single-use, clear, poly-liner was utilized for collection of each sample.

5.4 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form. These procedures were either transmitted with the laboratory reports or are on file at the laboratory.

6.0 LIMITATIONS

Environmental Technology Group, Inc. has prepared this Preliminary Site Investigation Report to the best of its ability. No other warranty, expressed or implied, is made or intended. Environmental Technology Group, Inc. has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Environmental Technology Group, Inc. has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. Environmental Technology Group, Inc. has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Environmental Technology Group, Inc. also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Devon Energy. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Environmental Technology Group, Inc. and/or Devon Energy.

DISTRIBUTION

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Midland, Texas 79703

COPY NO.: 2

Quality Control Reviewer

TABLES

TABLE 1

SOIL CHEMISTRY

DEVON ENERGY
PATSY #1
LEA COUNTY, NEW MEXICO
ETGI PROJECT # DV 2101

SAMPLE LOCATION	SAMPLE DATE	Methods: BTEX-EPA SW 846 8021B, 5030B				Methods: SW-846 8015M			Method: 9253
		BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	GRO (mg/Kg)	DRO (mg/Kg)	TOTAL TPH (mg/Kg)	CHLORIDES (mg/Kg)
TMW - 1 10-15'	05/09/02	<0.025	<0.025	<0.025	<0.025	<10.0	20.8	20.8	197
TMW - 1 25-30'	05/09/02	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	3280
TMW - 1 30-35'	05/09/02	<0.025	<0.025	0.046	0.239	114	175	289	248
TMW - 2 10-15'	05/09/02	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	62
TMW - 2 25-30'	05/09/02	0.099	0.401	0.456	2.353	673	701	1,374	26
TMW - 2 30-35'	05/09/02	0.337	0.555	0.466	2.119	873	872	1,745	80
TMW - 3 25-30'	05/09/02	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	62
TMW - 4 25-30'	05/09/02	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	71
TMW - 5 25-30'	05/09/02	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	47
TMW - 6 25-30'	05/09/02	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	138
TMW - 7 25-30'	05/02/02	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	89

TABLE 2

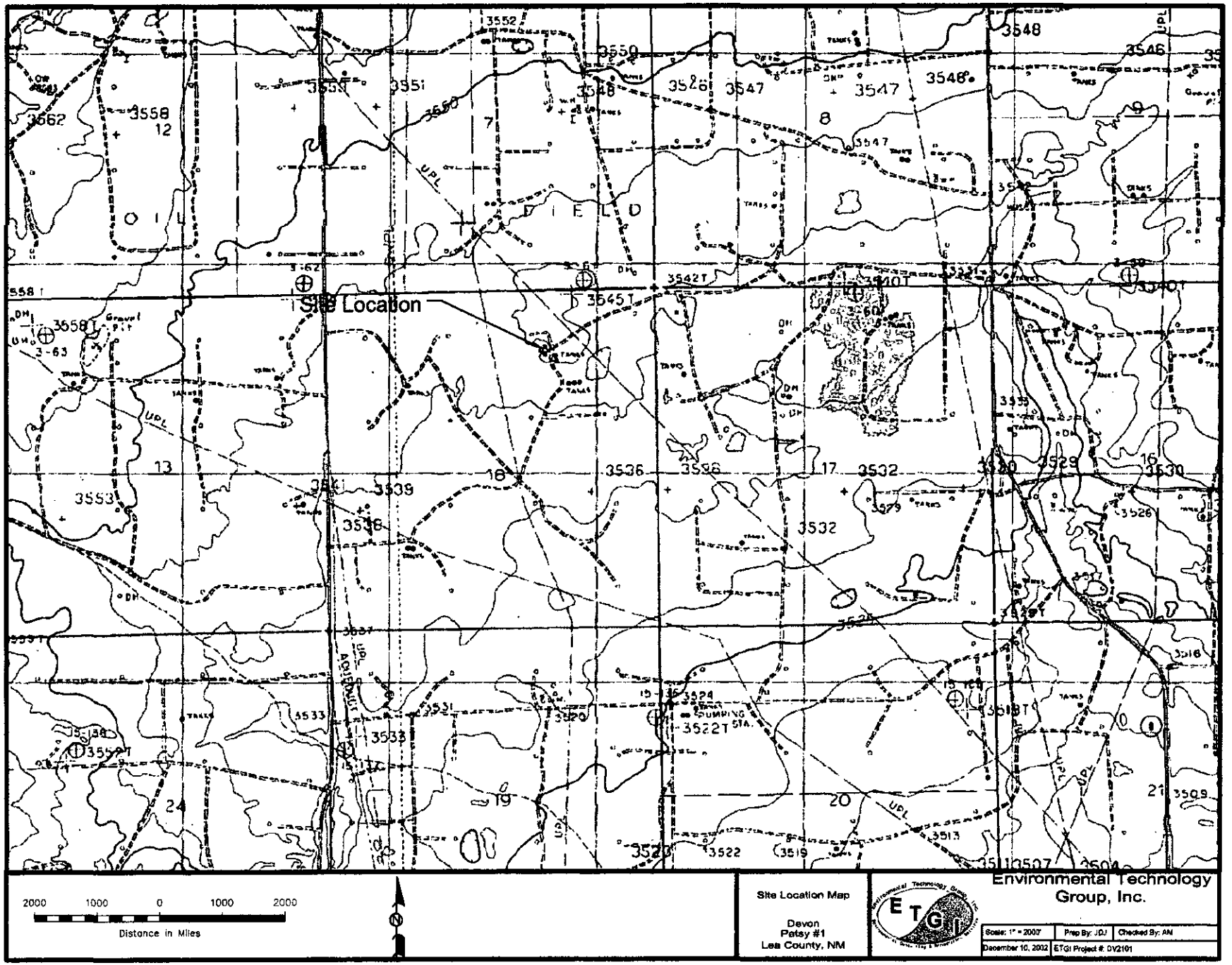
GROUNDWATER CHEMISTRY

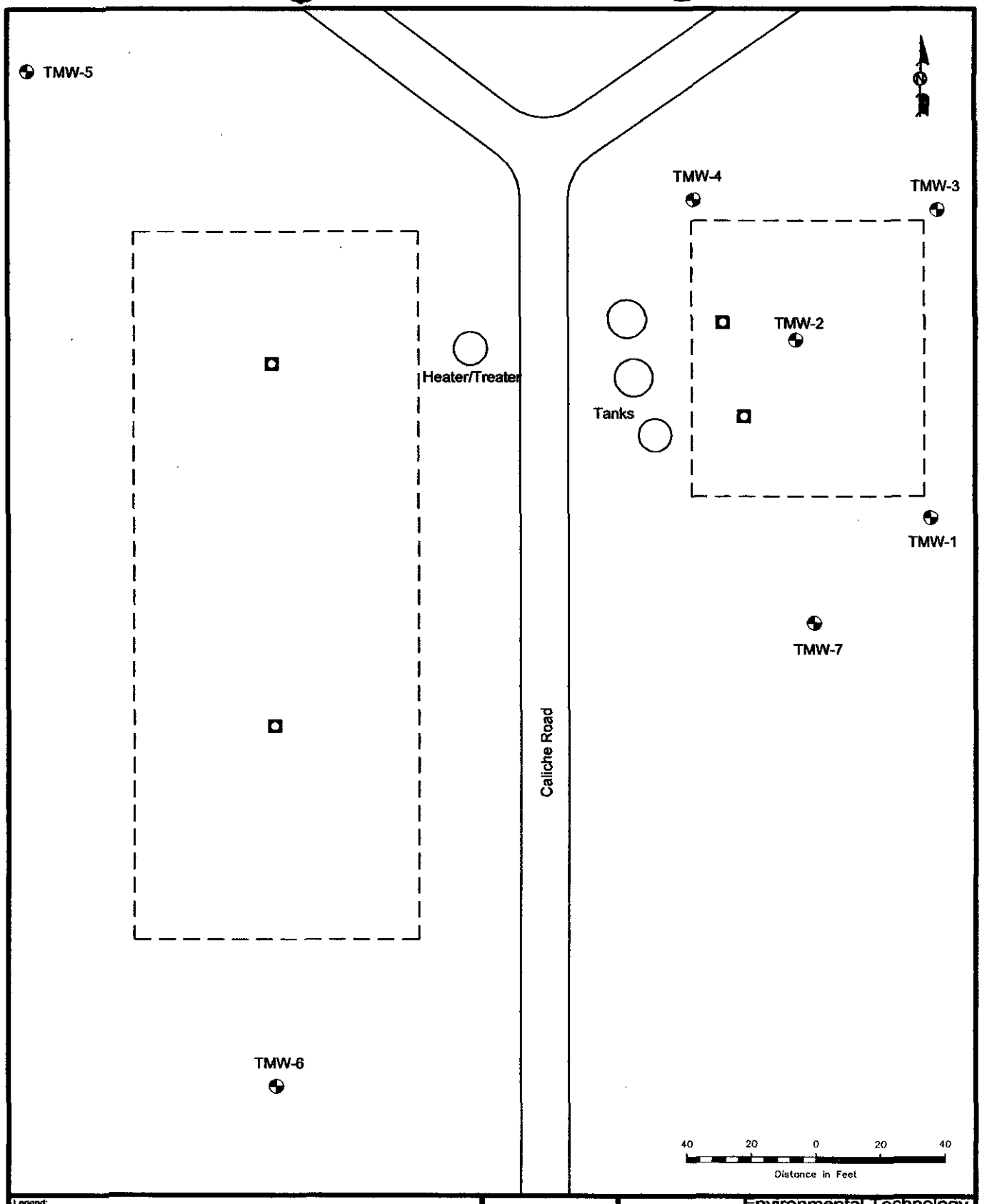
DEVON ENERGY
PATSY #1
LEA COUNTY, NEW MEXICO
ETGI PROJECT # DV 2101

All concentrations are in mg/L

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8021B, 5030				Method: 9253	Method: 160.1
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	CHLORIDES	TDS
TMW - 1	05/10/02	<0.001	<0.001	0.001	0.002	736	2,230
TMW - 2	05/10/02	0.003	0.003	0.003	0.011	727	2,250
TMW - 3	05/10/02	<0.001	<0.001	<0.001	<0.001	780	2,360
TMW - 4	05/10/02	<0.001	<0.001	<0.001	<0.001	744	2,270
TMW - 5	05/10/02	<0.001	<0.001	<0.001	<0.001	762	2,350
TMW - 6	05/10/02	<0.001	<0.001	<0.001	<0.001	1,100	3,170
TMW - 7	05/10/02	<0.001	<0.001	<0.001	<0.001	709	2,370

FIGURES


Site Location
2000 1000 0 1000 2000
Distance in Miles
N
Site Location Map
Devon
Patsy #1
Lea County, NM
Environmental Technology Group, Inc.
Scale: 1" = 2000'
Prep By: JDJ
Checked By: AN
December 10, 2002
ETGI Project #: 0V2101



Legend:
- Temporary Monitor Well Location
- Previous Non-ETGI Soil Boring Location
- Pit Area

Site Map

Devon Energy
Patsy #1
Lea County, NM

Environmental Technology Group, Inc.

Prep By: JDJ	Checked By: KD
May 13, 2002	Scale: 1" = 40'
ETGI Project #: DEV2101R	32° 34' 40"N 103° 17' 13"W

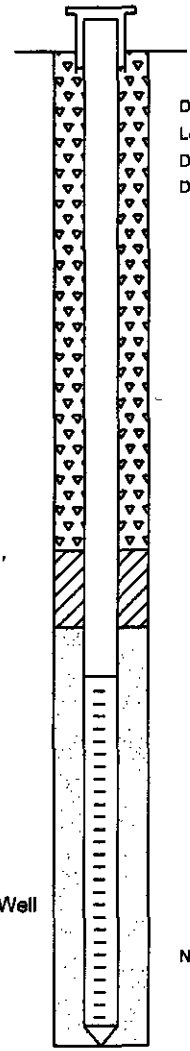
APPENDICES

APPENDIX A

Soil Boring Logs

Monitor Well MW-1

Depth (feet)	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
5	0.0	None	None	Sand (SP) - Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
10	0.0	None	None	
15	(0.0)	None	None	
20	0.0	None	None	Sand (SP) - Tan to Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
25	0.0	None	None	
30	(0.0)	None	None	Sand (SP) - Brown, Very Fine Grained, Well Sorted, Imbedded with Sandstone.
35	(69.5)	Moderate	Moderate	Sand (SP) - Dark Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
40				TD



Monitor Well Details

Date Drilled 5 - 9 - 02
Length of PVC Well Screen 15 ft
Depth of PVC Well 40 ft
Depth of Exploratory Well 40 ft

Grout Surface Seal

Bentonite Pellet Seal

Sand Pack

Screen

(0.0) Indicates samples selected for Laboratory Analysis.

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

Notes: The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

The depths indicated are referenced from the ground surface.

Hole was plugged with bentonite.

Soil Boring Log Details

MW-1

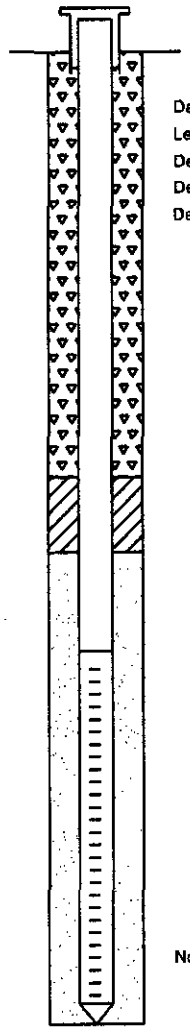
Devon Energy Patsy #1 Lea County, NM

Environmental Technology Group, Inc.

Prep By: JDJ	Checked By: KD
May 14, 2002	ETGI Project # DEV2101R

Monitor Well MW-2

Depth (feet)	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
5	0.0	Slight	Slight	Sand (SP) - Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
10	0.0	None	None	
15	(11.2)	Slight	None	
20	9.2	None	None	Sand (SP) - Tan to Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
25	0.0	Slight	None	
30 ▼	(789)	Moderate	Moderate	Sand (SP) - Dark Brown, Very Fine Grained, Well Sorted, Imbedded with Sandstone.
35	(869)	Heavy	Heavy	Sand (SP) - Dark Brown to Black, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
40				TD



Monitor Well Details

Date Drilled 5 - 9 - 02
Length of PVC Well Screen 15 ft
Depth of PVC Well 39 ft
Depth of Exploratory Well 39 ft
Depth to Groundwater 31 ft

Grout Surface Seal

Bentonite Pellet Seal

Sand Pack

Screen

▼ Indicates the groundwater level measured on date.

( ) Indicates samples selected for Laboratory Analysis.

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

Notes: The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

The depths indicated are referenced from the ground surface.

Hole was plugged with bentonite.

Soil Boring Log Details

MW-2

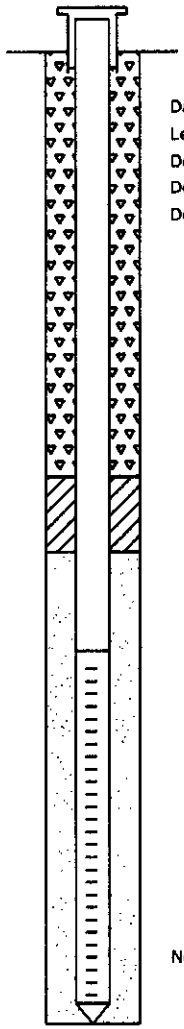
Devon Energy | Patsy #1 | Lea County, NM

Environmental Technology Group, Inc.

Prep By: JDJ	Checked By: KD
May 14, 2002	ETGI Project # DEV2101R

Monitor Well MW-3

Depth (feet)	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0				Sand (SP) - Brown, Very Fine Grained, Well Sorted.
5	0.0	None	None	
				Sand (SP) - Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
10	0.0	None	None	
15	0.0	None	None	Sand (SP) - Tan, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
20	0.0	None	None	
				Sand (SP) - Tan, Very Fine Grained, Well Sorted.
25	0.0	None	None	
				Sand (SP) - Tan to Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
30	(0.0)	None	None	
				Sand (SP) - Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
35	0.0	None	None	
40				TD



Monitor Well Details

Date Drilled 5 - 9 - 02
Length of PVC Well Screen 15 ft
Depth of PVC Well 39 ft
Depth of Exploratory Well 39 ft
Depth to Groundwater 32 ft

Grout Surface Seal

Bentonite Pellet Seal

Sand Pack

Screen

▼ Indicates the groundwater level measured on date.

⬭ Indicates samples selected for Laboratory Analysis.

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

Notes: The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

The depths indicated are referenced from the ground surface.

Hole was plugged with bentonite.

Soil Boring Log Details

MW-3

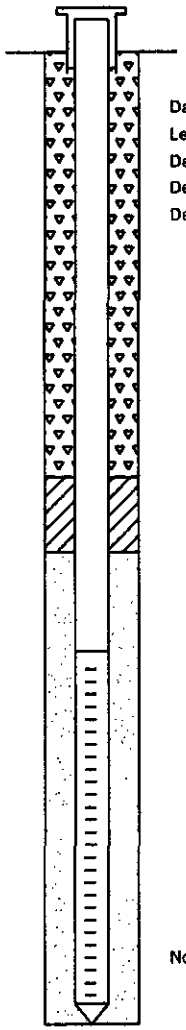
Devon Energy Patsy #1 Lea County, NM

Environmental Technology Group, Inc.

Prep By: JDJ	Checked By: KD
May 14, 2002	ETGI Project # DEV2101R

Monitor Well MW-4

Depth (feet)	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0				Sand (SP) - Tan to Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
5	0.0	None	None	
				Sand (SP) - Tan, Very Fine Grained, Well Sorted.
10	0.0	None	None	
15	0.0	None	None	
				Sand (SP) - Tan, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
20	0.0	None	None	
25	0.0	None	None	
				Sand (SP) - Tan to Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
30	(0.0)	None	None	
				Sand (SP) - Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
35	0.0	None	None	
40				TD



Monitor Well Details

Date Drilled 5 - 9 - 02
Length of PVC Well Screen 15 ft
Depth of PVC Well 39 ft
Depth of Exploratory Well 39 ft
Depth to Groundwater 31 ft

Grout Surface Seal

Bentonite Pellet Seal

Sand Pack

Screen

▼ Indicates the groundwater level measured on date.

(0.0) Indicates samples selected for Laboratory Analysis.

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

Notes: The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

The depths indicated are referenced from the ground surface.

Hole was plugged with bentonite.

Soil Boring Log Details

MW-4

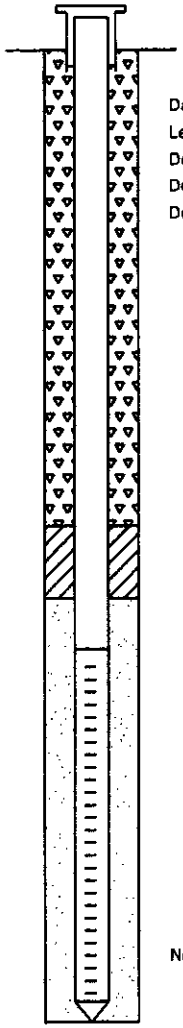
Devon Energy | Patsy #1 | Lea County, NM

Environmental Technology Group, Inc.

Prep By: JDJ	Checked By: KD
May 14, 2002	ETGI Project # DEV2101R

Monitor Well MW-5

Depth (feet)	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0				Sand (SP) - Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
5	0.0	None	None	
				Caliche Layer.
10	0.0	None	None	
				Sand (SP) - Tan to Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
15	0.0	None	None	
20	0.0	None	None	
				Sand (SP) - Tan, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
25	0.0	None	None	
30 ▼	(0.0)	None	None	
35	0.0	None	None	Sand (SP) - Tan to Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
40				TD



Monitor Well Details

Date Drilled 5 - 9 - 02
Length of PVC Well Screen 15 ft
Depth of PVC Well 39 ft
Depth of Exploratory Well 39 ft
Depth to Groundwater 31 ft

- Grout Surface Seal
- Bentonite Pellet Seal
- Sand Pack
- Screen

▼ Indicates the groundwater level measured on date.

(0.0) Indicates samples selected for Laboratory Analysis.

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

Notes: The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

The depths indicated are referenced from the ground surface.

Hole was plugged with bentonite.

Soil Boring Log Details

MW-5

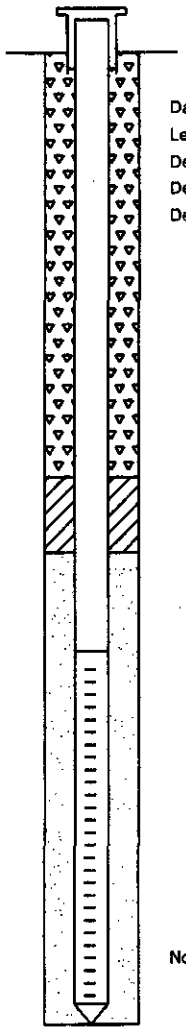
Devon Energy | Patsy #1 | Lea County, NM

Environmental Technology Group, Inc.

Prep By: JDJ	Checked By: KD
May 14, 2002	ETGI Project # DEV2101R

Monitor Well MW-6

Depth (feet)	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0				Sand (SP) - Tan to Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
5	0.0	None	None	
				Sand (SP) - Tan, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
10	0.0	None	None	
				Sand (SP) - Tan to Brown, Very Fine Grained, Well Sorted.
15	0.0	None	None	
20	0.0	None	None	Sand (SP) - Tan, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
25	0.0	None	None	
30	(0.0)	None	None	
				Sand (SP) - Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
35	0.0	None	None	
40				TD



Monitor Well Details

Date Drilled 5 - 9 - 02
Length of PVC Well Screen 15 ft
Depth of PVC Well 39 ft
Depth of Exploratory Well 39 ft
Depth to Groundwater 31 ft

Grout Surface Seal

Bentonite Pellet Seal

Sand Pack

Screen

▼ Indicates the groundwater level measured on date.

(0.0) Indicates samples selected for Laboratory Analysis.

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

Notes: The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

The depths indicated are referenced from the ground surface.

Hole was plugged with bentonite.

Soil Boring Log Details

MW-6

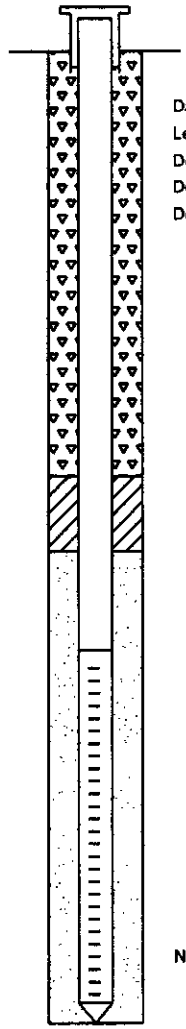
Devon Energy Patsy #1 Lea County, NM

Environmental Technology Group, Inc.

Prep By: JDJ	Checked By: KD
May 14, 2002	ETGI Project # DEV2101R

Monitor Well MW-7

Depth (feet)	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0				Sand (SP) - Tan to Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
5	0.0	None	None	
				Sand (SP) - Tan, Very Fine Grained, Well Sorted.
10	0.0	None	None	
15	0.0	None	None	
				Sand (SP) - Tan, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
20	0.0	None	None	
25	0.0	None	None	
				Sand (SP) - Tan to Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules.
30	(0.0)	None	None	
35	0.0	None	None	Sand (SP) - Brown, Very Fine Grained, Well Sorted.
40				TD



Monitor Well Details

Date Drilled 5 - 9 - 02
Length of PVC Well Screen 15 ft
Depth of PVC Well 39 ft
Depth of Exploratory Well 39 ft
Depth to Groundwater 31 ft

- Grout Surface Seal
- Bentonite Pellet Seal
- Sand Pack
- Screen
- Indicates the groundwater level measured on date.
- Indicates samples selected for Laboratory Analysis.
- PID Head-space reading in ppm obtained with a photo-ionization detector.

Notes: The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.

The depths indicated are referenced from the ground surface.

Hole was plugged with bentonite.

Soil Boring Log Details

MW-7

Devon Energy | Patsy #1 | Lea County, NM

Environmental Technology Group, Inc.

Prep By: JDJ	Checked By: KD
May 14, 2002	ETGI Project # DEV2101R

APPENDIX B

Laboratory Reports

ANALYTICAL REPORT

Prepared for:

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Project:	Patsy #1
Order#:	G0203327
Report Date:	05/14/2002

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240
505-397-4701

Order#: G0203327
Project: Dev 2101R
Project Name: Patsy #1
Location: Monument

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0203327-01	TMW-1 10-15'	Soil	5/9/02 9:20	5/10/02 15:07	4 oz glass	Ice
	Lab Testing: 8015M, 8021B/5030 BTEX, Chloride	**Rejected:** No		**Temp:** 1.5 C		
0203327-02	TMW-1 25-30'	Soil	5/9/02 9:31	5/10/02 15:07	4 oz glass	Ice
	Lab Testing: 8015M, 8021B/5030 BTEX, Chloride	**Rejected:** No		**Temp:** 1.5 C		
0203327-03	TMW-1 30-35'	Soil	5/9/02 9:47	5/10/02 15:07	4 oz glass	Ice
	Lab Testing: 8015M, 8021B/5030 BTEX, Chloride	**Rejected:** No		**Temp:** 1.5 C		
0203327-04	TMW-2 10-15'	Soil	5/9/02 10:50	5/10/02 15:07	4 oz glass	Ice
	Lab Testing: 8015M, 8021B/5030 BTEX, Chloride	**Rejected:** No		**Temp:** 1.5 C		
0203327-05	TMW-2 25-30'	Soil	5/9/02 10:57	5/10/02 15:07	4 oz glass	Ice
	Lab Testing: 8015M, 8021B/5030 BTEX, Chloride	**Rejected:** No		**Temp:** 1.5 C		
0203327-06	TMW-2 30-35'	Soil	5/9/02 11:15	5/10/02 15:07	4 oz glass	Ice
	Lab Testing: 8015M, 8021B/5030 BTEX	**Rejected:** No		**Temp:** 1.5 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240
505-397-4701

Order#: G0203327
Project: Dev 2101R
Project Name: Patsy #1
Location: Monument

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0203327-07	TMW-3 25-30'	Soil	5/9/02 14:20	5/10/02 15:07	4 oz glass	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 1.5 C		
	8015M					
	8021B/5030 BTEX					
	Chloride					
0203327-08	TMW-4 25-30'	Soil	5/9/02 16:25	5/10/02 15:07	4 oz glass	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 1.5 C		
	8015M					
	8021B/5030 BTEX					
	Chloride					
0203327-09	TMW-5 25-30'	Soil	5/9/02 17:35	5/10/02 15:07	4 oz glass	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 1.5 C		
	8015M					
	8021B/5030 BTEX					
	Chloride					
0203327-10	TMW-6 25-30'	Soil	5/9/02 18:27	5/10/02 15:07	4 oz glass	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 1.5 C		
	8015M					
	8021B/5030 BTEX					
	Chloride					
0203327-11	TMW-7 25-30'	Soil	5/9/02 19:44	5/10/02 15:07	4 oz glass	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 1.5 C		
	8015M					
	8021B/5030 BTEX					
	Chloride					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#: G0203327
Project: Dev 2101R
Project Name: Patsy #1
Location: Monument

Lab ID: 0203327-01
Sample ID: TMW-1 10-15'

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		5/10/02	1	1	CK	8015M

Parameter	Result mg/kg	RL
DRO, >C12-C35	**20.8**	10.0
GRO, C6-C12	**<10.0**	10.0
TOTAL, C6-C35	**20.8**	10.0

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001687-02		5/13/02 13:47	1	25	CK	8021B

Parameter	Result µg/kg	RL
Benzene	**<25.0**	25.0
Ethylbenzene	**<25.0**	25.0
Toluene	**<25.0**	25.0
p/m-Xylene	**<25.0**	25.0
o-Xylene	**<25.0**	25.0

Lab ID: 0203327-02
Sample ID: TMW-1 25-30'

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		5/10/02	1	1	CK	8015M

Parameter	Result mg/kg	RL
DRO, >C12-C35	**<10.0**	10.0
GRO, C6-C12	**<10.0**	10.0
TOTAL, C6-C35	**<10.0**	10.0

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#: G0203327
Project: Dev 2101R
Project Name: Patsy #1
Location: Monument

Lab ID: 0203327-02
Sample ID: TMW-1 25-30'

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001687-02		5/13/02 14:10	1	25	CK	8021B

Parameter	Result µg/kg	RL
Benzene	**<25.0**	25.0
Ethylbenzene	**<25.0**	25.0
Toluene	**<25.0**	25.0
p/m-Xylene	**<25.0**	25.0
o-Xylene	**<25.0**	25.0

Lab ID: 0203327-03
Sample ID: TMW-1 30-35'

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		5/10/02	1	1	CK	8015M

Parameter	Result mg/kg	RL
DRO, >C12-C35	**175**	10.0
GRO, C6-C12	**114**	10.0
TOTAL, C6-C35	**289**	10.0

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#: G0203327
Project: Dev 2101R
Project Name: Patsy #1
Location: Monument

Lab ID: 0203327-03
Sample ID: TMW-1 30-35'

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001687-02		5/13/02 14:32	1	25	CK	8021B

Parameter	Result µg/kg	RL
Benzene	**<25.0**	25.0
Ethylbenzene	**46.4**	25.0
Toluene	**<25.0**	25.0
p/m-Xylene	**188**	25.0
o-Xylene	**51.4**	25.0

Lab ID: 0203327-04
Sample ID: TMW-2 10-15'

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		5/10/02	1	1	CK	8015M

Parameter	Result mg/kg	RL
DRO, >C12-C35	**<10.0**	10.0
GRO, C6-C12	**<10.0**	10.0
TOTAL, C6-C35	**<10.0**	10.0

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#: G0203327
Project: Dev 2101R
Project Name: Patsy #1
Location: Monument

Lab ID: 0203327-04
Sample ID: TMW-2 10-15'

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001687-02		5/13/02 14:54	1	25	CK	8021B

Parameter	Result µg/kg	RL
Benzene	**<25.0**	25.0
Ethylbenzene	**<25.0**	25.0
Toluene	**<25.0**	25.0
p/m-Xylene	**<25.0**	25.0
o-Xylene	**<25.0**	25.0

Lab ID: 0203327-05
Sample ID: TMW-2 25-30'

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		5/10/02	1	5	CK	8015M

Parameter	Result mg/kg	RL
DRO, >C12-C35	**701**	50.0
GRO, C6-C12	**673**	50.0
TOTAL, C6-C35	**1374**	50.0

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#: G0203327
Project: Dev 2101R
Project Name: Patsy #1
Location: Monument

Lab ID: 0203327-05
Sample ID: TMW-2 25-30'

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001687-02		5/13/02 15:16	1	25	CK	8021B

Parameter	Result µg/kg	RL
Benzene	**98.6**	25.0
Ethylbenzene	**456**	25.0
Toluene	**401**	25.0
p/m-Xylene	**1940**	25.0
o-Xylene	**413**	25.0

Lab ID: 0203327-06
Sample ID: TMW-2 30-35'

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		5/10/02	1	5	CK	8015M

Parameter	Result mg/kg	RL
DRO, >C12-C35	**872**	50.0
GRO, C6-C12	**873**	50.0
TOTAL, C6-C35	**1745**	50.0

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#: G0203327
Project: Dev 2101R
Project Name: Patsy #1
Location: Monument

Lab ID: 0203327-06
Sample ID: TMW-2 30-35'

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001687-02		5/13/02 15:38	1	25	CK	8021B

Parameter	Result µg/kg	RL
Benzene	337	25.0
Ethylbenzene	466	25.0
Toluene	555	25.0
p/m-Xylene	1780	25.0
o-Xylene	339	25.0

Lab ID: 0203327-07
Sample ID: TMW-3 25-30'

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		5/10/02	1	1	CK	8015M

Parameter	Result mg/kg	RL
DRO, >C12-C35	<10.0	10.0
GRO, C6-C12	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#: G0203327
Project: Dev 2101R
Project Name: Patsy #1
Location: Monument

Lab ID: 0203327-07
Sample ID: TMW-3 25-30'

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001687-02		5/13/02 16:00	1	25	CK	8021B

Parameter	Result µg/kg	RL
Benzene	**<25.0**	25.0
Ethylbenzene	**<25.0**	25.0
Toluene	**<25.0**	25.0
p/m-Xylene	**<25.0**	25.0
o-Xylene	**<25.0**	25.0

Lab ID: 0203327-08
Sample ID: TMW-4 25-30'

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		5/10/02	1	1	CK	8015M

Parameter	Result mg/kg	RL
DRO, >C12-C35	**<10.0**	10.0
GRO, C6-C12	**<10.0**	10.0
TOTAL, C6-C35	**<10.0**	10.0

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#: G0203327
Project: Dev 2101R
Project Name: Patsy #1
Location: Monument

Lab ID: 0203327-08
Sample ID: TMW-4 25-30'

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001687-02		5/13/02 16:22	1	25	CK	8021B

Parameter	Result µg/kg	RL
Benzene	<25.0	25.0
Ethylbenzene	<25.0	25.0
Toluene	<25.0	25.0
p/m-Xylene	<25.0	25.0
o-Xylene	<25.0	25.0

Lab ID: 0203327-09
Sample ID: TMW-5 25-30'

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		5/10/02	1	1	CK	8015M

Parameter	Result mg/kg	RL
DRO, >C12-C35	<10.0	10.0
GRO, C6-C12	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#:	G0203327
Project:	Dev 2101R
Project Name:	Patsy #1
Location:	Monument

Lab ID: 0203327-09
Sample ID: TMW-5 25-30'

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001687-02		5/13/02 16:44	1	25	CK	8021B

Parameter	Result µg/kg	RL
Benzene	**<25.0**	25.0
Ethylbenzene	**<25.0**	25.0
Toluene	**<25.0**	25.0
p/m-Xylene	**<25.0**	25.0
o-Xylene	**<25.0**	25.0

Lab ID: 0203327-10
Sample ID: TMW-6 25-30'

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		5/10/02	1	1	CK	8015M

Parameter	Result mg/kg	RL
DRO, >C12-C35	**<10.0**	10.0
GRO, C6-C12	**<10.0**	10.0
TOTAL, C6-C35	**<10.0**	10.0

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#: G0203327
Project: Dev 2101R
Project Name: Patsy #1
Location: Monument

Lab ID: 0203327-10
Sample ID: TMW-6 25-30'

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001687-02		5/13/02 17:06	1	25	CK	8021B

Parameter	Result µg/kg	RL
Benzene	<25.0	25.0
Ethylbenzene	<25.0	25.0
Toluene	<25.0	25.0
p/m-Xylene	<25.0	25.0
o-Xylene	<25.0	25.0

Lab ID: 0203327-11
Sample ID: TMW-7 25-30'

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		5/10/02	1	1	CK	8015M

Parameter	Result mg/kg	RL
DRO, >C12-C35	<10.0	10.0
GRO, C6-C12	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#:	G0203327
Project:	*Dev 2101R*
Project Name:	Patsy #1
Location:	Monument

Lab ID: 0203327-11
Sample ID: TMW-7 25-30'

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001687-02		5/13/02 17:28	1	25	CK	8021B

Parameter	Result µg/kg	RL
Benzene	<25.0	25.0
Ethylbenzene	<25.0	25.0
Toluene	<25.0	25.0
p/m-Xylene	<25.0	25.0
o-Xylene	<25.0	25.0

Approval: Celey D. Keene 5/15/02
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#: G0203327
Project: *Dev 2101R*
Project Name: Patsy #1
Location: Monument

Lab ID: 0203327-01
Sample ID: TMW-1 10-15'

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	197	mg/kg	1	5.00	9253	5/13/02	SB

Lab ID: 0203327-02
Sample ID: TMW-1 25-30'

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	3280	mg/kg	1	5.00	9253	5/13/02	SB

Lab ID: 0203327-03
Sample ID: TMW-1 30-35'

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	248	mg/kg	1	5.00	9253	5/13/02	SB

Lab ID: 0203327-04
Sample ID: TMW-2 10-15'

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	62.0	mg/kg	1	5.00	9253	5/13/02	SB

Lab ID: 0203327-05
Sample ID: TMW-2 25-30'

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	26.0	mg/kg	1	5.00	9253	5/13/02	SB

Lab ID: 0203327-06
Sample ID: TMW-2 30-35'

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	80.0	mg/kg	1	5.00	9253	5/13/02	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#: G0203327
Project: Dev 2101R
Project Name: Patsy #1
Location: Monument

Lab ID: 0203327-07
Sample ID: TMW-3 25-30'

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	62.0	mg/kg	1	5.00	9253	5/13/02	SB

Lab ID: 0203327-08
Sample ID: TMW-4 25-30'

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	71.0	mg/kg	1	5.00	9253	5/13/02	SB

Lab ID: 0203327-09
Sample ID: TMW-5 25-30'

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	47.0	mg/kg	1	5.00	9253	5/13/02	SB

Lab ID: 0203327-10
Sample ID: TMW-6 25-30'

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	138	mg/kg	1	5.00	9253	5/13/02	SB

Lab ID: 0203327-11
Sample ID: TMW-7 25-30'

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	89.0	mg/kg	1	5.00	9253	5/13/02	SB

Approval: Celey D. Keene 5/15/02
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8015M

Order#: G0203327

BLANK Soil	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0001674-02			<10		
MS Soil	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
TOTAL, C6-C35-mg/kg	0203327-07	0	952	1060	111.3%	
MSD Soil	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
TOTAL, C6-C35-mg/kg	0203327-07	0	952	1170	122.9%	9.9%
SRM Soil	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
TOTAL, C6-C35-mg/kg	0001674-05		1000	1090	109.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0203327

BLANK SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-µg/kg	0001687-02			<25.0		
Ethylbenzene-µg/kg	0001687-02			<25.0		
Toluene-µg/kg	0001687-02			<25.0		
p/m-Xylene-µg/kg	0001687-02			<25.0		
o-Xylene-µg/kg	0001687-02			<25.0		
MS SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-µg/kg	0203298-03	0	100	112	112.%	
Ethylbenzene-µg/kg	0203298-03	0	100	111	111.%	
Toluene-µg/kg	0203298-03	0	100	108	108.%	
p/m-Xylene-µg/kg	0203298-03	0	200	224	112.%	
o-Xylene-µg/kg	0203298-03	0	100	112	112.%	
MSD SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-µg/kg	0203298-03	0	100	111	111.%	0.9%
Ethylbenzene-µg/kg	0203298-03	0	100	114	114.%	2.7%
Toluene-µg/kg	0203298-03	0	100	109	109.%	0.9%
p/m-Xylene-µg/kg	0203298-03	0	200	223	111.5%	0.4%
o-Xylene-µg/kg	0203298-03	0	100	112	112.%	0.%
SRM SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-µg/kg	0001687-05		100	112	112.%	
Ethylbenzene-µg/kg	0001687-05		100	110	110.%	
Toluene-µg/kg	0001687-05		100	106	106.%	
p/m-Xylene-µg/kg	0001687-05		200	226	113.%	
o-Xylene-µg/kg	0001687-05		100	111	111.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0203327

BLANK Soil	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg	0001692-01			<5.00		
MS Soil	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0203312-01	19500	5000	24500	100.%	
MSD Soil	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0203312-01	19500	5000	24500	100.%	0.%
SRM Soil	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0001692-04		5000	5050	101.%	

COC #064
1 of 2

Environmental Lab of Texas I, Ltd.

12600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Ken Dutton
Company Name: ETGT
Company Address: 2540 West Marland
City/State/Zip: Hobbs, New Mexico 88240
Telephone No: (505) 397-4682
Fax No: (505) 397-4771
Sampler Signature: Camille Reynolds

Project Name: Patsy #7
Project #: Oer 210.12
Project Loc: Monument
PO #:

LAB # (lab use only)	FIELD CODE	Date Sampled (2002)	Time Sampled	No. of Containers	Preservative: Ice	HNO3	HCl	NaOH	H2SO4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify)	Analyze For: TCLP: TPH: 418.1 / 8015M 1005 1006	Calions (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B 5030	RCI	RUSH TAT (Pre-Schedule)	Standard TAT
0203327-01	TMW-1 10'-15'	5-9	0920	1	X									X		X		X					X			X
02	TMW-1 25-30'		0931																							
03	TMW-1 30-35'		0947																							
04	TMW-2 10-15'		1050																							
05	TMW-2 25-30'		1057																							
06	TMW-2 30-35'		1115																							
07	TMW-3 25-30		1420																							
08	TMW-4 25-30		1625																							
09	TMW-5 25-30		1735																							
10	TMW-6 25-30	↓	1827	↓	↓									↓		↓		↓					↓			↓

Special Instructions:

Sample Containers Intact? (Y) N
Temperature Upon Receipt: 1.5°C
Laboratory Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
Camille Reynolds	5-10-02	1140	Simon Casas	5-10-02	1140
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
Simon Casas	5-10-02	1507	Sandra Biggs	5/10/02	1507

COC #064
2 of 2

Environmental Lab of Texas I, Ltd.

12600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Ken Dutton
Company Name: ETGI
Company Address: 2540 West Marland
City/State/Zip: Hobbs, NM 88240
Telephone No: (505) 397-4882 Fax No: (505) 397-4701
Sampler Signature: Camille Reynolds

Project Name: Patsy #1
Project #: Der2101R
Project Loc: Monument, NM
PO #:

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	Preservative: HNO_3	Preservative: HCl	Preservative: NaOH	Preservative: H_2SO_4	Preservative: None	Preservative: Other (Specify)	Matrix: Water	Matrix: Sludge	Matrix: Soil	Analyze For: Other (specify)	TPH: 418.1 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO_4, CO_3, HCO_3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se (TCLP / TOTAL)	Volatiles	Semivolatiles	BTEX 8021B 5030	RCI	RUSH TAT (Pre-Schedule)	Standard TAT
0203321-11	TMW-7 25-30	5-9-02	1944	1	X									X		X		X					X			X

Special Instructions:

Sample Containers Intact? (Y) N
Temperature Upon Receipt: 1.5°C
Laboratory Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
Camille Reynolds	5-10-02	1140	Simon Casas	5/10/02	1140
Simon Casas	5-10-02	1507	Received by ELOT: Sandra Biggs	5/10/02	1507

ANALYTICAL REPORT

Prepared for:

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Project:	Patsy #1
Order#:	G0203328
Report Date:	05/15/2002

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240
505-397-4701

Order#: G0203328
Project: DEV 2101R
Project Name: Patsy #1
Location: Monument, NM

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0203328-01	TMW1	WATER	5/10/02 12:46	5/10/02 15:07	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 1.5 C		
	8021B/5030 BTEX					
	Chloride					
	Total Dissolved Solids (TDS)					
0203328-02	TMW2	WATER	5/10/02 13:00	5/10/02 15:07	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 1.5 C		
	8021B/5030 BTEX					
	Chloride					
	Total Dissolved Solids (TDS)					
0203328-03	TMW3	WATER	5/10/02 12:30	5/10/02 15:07	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 1.5 C		
	8021B/5030 BTEX					
	Chloride					
	Total Dissolved Solids (TDS)					
0203328-04	TMW4	WATER	5/10/02 12:17	5/10/02 15:07	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 1.5 C		
	8021B/5030 BTEX					
	Chloride					
	Total Dissolved Solids (TDS)					
0203328-05	TMW5	WATER	5/10/02 11:30	5/10/02 15:07	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 1.5 C		
	8021B/5030 BTEX					
	Chloride					
	Total Dissolved Solids (TDS)					
0203328-06	TMW6	WATER	5/10/02 11:45	5/10/02 15:07	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 1.5 C		
	8021B/5030 BTEX					
	Chloride					

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240
505-397-4701

Order#: G0203328
Project: DEV 2101R
Project Name: Patsy #1
Location: Monument, NM

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
	Total Dissolved Solids (TDS)					
0203328-07	TMW7	WATER	5/10/02 12:00	5/10/02 15:07	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 1.5 C		
	8021B/5030 BTEX					
	Chloride					
	Total Dissolved Solids (TDS)					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#: G0203328
Project: DEV 2101R
Project Name: Patsy #1
Location: Monument, NM

Lab ID: 0203328-01
Sample ID: TMW1

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001704-02		5/14/02 16:16	1	1	CK	8021B

Parameter	Result µg/L	RL
Benzene	<1.00	1.00
Ethylbenzene	1.00	1.00
Toluene	<1.00	1.00
p/m-Xylene	2.23	1.00
o-Xylene	<1.00	1.00

Lab ID: 0203328-02
Sample ID: *TMW2*

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001704-02		5/14/02 16:39	1	1	CK	8021B

Parameter	Result µg/L	RL
Benzene	2.61	1.00
Ethylbenzene	2.81	1.00
Toluene	3.08	1.00
p/m-Xylene	9.77	1.00
o-Xylene	1.28	1.00

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#: G0203328
Project: DEV 2101R
Project Name: Patsy #1
Location: Monument, NM

Lab ID: 0203328-03
Sample ID: TMW3

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001704-02		5/14/02 11:56	1	1	CK	8021B

Parameter	Result µg/L	RL
Benzene	<1.00	1.00
Ethylbenzene	<1.00	1.00
Toluene	<1.00	1.00
p/m-Xylene	<1.00	1.00
o-Xylene	<1.00	1.00

Lab ID: 0203328-04
Sample ID: TMW4

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001704-02		5/14/02 12:18	1	1	CK	8021B

Parameter	Result µg/L	RL
Benzene	<1.00	1.00
Ethylbenzene	<1.00	1.00
Toluene	<1.00	1.00
p/m-Xylene	<1.00	1.00
o-Xylene	<1.00	1.00

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#: G0203328
Project: DEV 2101R
Project Name: Patsy #1
Location: Monument, NM

Lab ID: 0203328-05
Sample ID: TMW5

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001704-02		5/14/02 17:01	1	1	CK	8021B

Parameter	Result µg/L	RL
Benzene	<1.00	1.00
Ethylbenzene	<1.00	1.00
Toluene	<1.00	1.00
p/m-Xylene	<1.00	1.00
o-Xylene	<1.00	1.00

Lab ID: 0203328-06
Sample ID: TMW6

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001704-02		5/14/02 13:02	1	1	CK	8021B

Parameter	Result µg/L	RL
Benzene	<1.00	1.00
Ethylbenzene	<1.00	1.00
Toluene	<1.00	1.00
p/m-Xylene	<1.00	1.00
o-Xylene	<1.00	1.00

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#:	G0203328
Project:	DEV 2101R
Project Name:	Patsy #1
Location:	Monument, NM

Lab ID: 0203328-07
Sample ID: TMW7

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0001704-02		5/14/02 13:25	1	1	CK	8021B

Parameter	Result µg/L	RL
Benzene	<1.00	1.00
Ethylbenzene	<1.00	1.00
Toluene	<1.00	1.00
p/m-Xylene	<1.00	1.00
o-Xylene	<1.00	1.00

Approval: Celey D. Keene 5/15/02
Date

Raland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#: G0203328
Project: DEV 2101R
Project Name: Patsy #1
Location: Monument, NM

Lab ID: 0203328-01
Sample ID: TMW1

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	736	mg/L	1	5.00	9253	5/10/02	SB
Total Dissolved Solids (TDS)	2230	mg/L	1	5.00	160.1	5/13/02	SB

Lab ID: 0203328-02
Sample ID: TMW2

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	727	mg/L	1	5.00	9253	5/10/02	SB
Total Dissolved Solids (TDS)	2250	mg/L	1	5.00	160.1	5/13/02	SB

Lab ID: 0203328-03
Sample ID: TMW3

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	780	mg/L	1	5.00	9253	5/10/02	SB
Total Dissolved Solids (TDS)	2360	mg/L	1	5.00	160.1	5/13/02	SB

Lab ID: 0203328-04
Sample ID: TMW4

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	744	mg/L	1	5.00	9253	5/10/02	SB
Total Dissolved Solids (TDS)	2270	mg/L	1	5.00	160.1	5/13/02	SB

Lab ID: 0203328-05
Sample ID: TMW5

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	762	mg/L	1	5.00	9253	5/10/02	SB
Total Dissolved Solids (TDS)	2350	mg/L	1	5.00	160.1	5/13/02	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

KEN DUTTON
Environmental Technology Group, Inc.
2540 W. MARLAND
HOBBS, NM 88240

Order#:	**G0203328**
Project:	***DEV 2101R***
Project Name:	**Patsy #1**
Location:	**Monument, NM**

Lab ID: *0203328-06*
Sample ID: **TMW6**

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	1100	mg/L	1	5.00	9253	5/10/02	SB
Total Dissolved Solids (TDS)	3170	mg/L	1	5.00	160.1	5/13/02	SB

Lab ID: **0203328-07**
Sample ID: **TMW7**

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	709	mg/L	1	5.00	9253	5/10/02	SB
Total Dissolved Solids (TDS)	2370	mg/L	1	5.00	160.1	5/13/02	SB

Approval: Celey D. Keene 5/15/02
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0203328

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-µg/L	0001704-02			<1.00		
Ethylbenzene-µg/L	0001704-02			<1.00		
Toluene-µg/L	0001704-02			<1.00		
p/m-Xylene-µg/L	0001704-02			<1.00		
o-Xylene-µg/L	0001704-02			<1.00		
MS WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-µg/L	0203328-07	0	100	110	110.%	
Ethylbenzene-µg/L	0203328-07	0	100	106	106.%	
Toluene-µg/L	0203328-07	0	100	104	104.%	
p/m-Xylene-µg/L	0203328-07	0	200	217	108.5%	
o-Xylene-µg/L	0203328-07	0	100	106	106.%	
MSD WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-µg/L	0203328-07	0	100	107	107.%	2.8%
Ethylbenzene-µg/L	0203328-07	0	100	104	104.%	1.9%
Toluene-µg/L	0203328-07	0	100	102	102.%	1.9%
p/m-Xylene-µg/L	0203328-07	0	200	212	106.%	2.3%
o-Xylene-µg/L	0203328-07	0	100	104	104.%	1.9%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-µg/L	0001704-05		100	108	108.%	
Ethylbenzene-µg/L	0001704-05		100	106	106.%	
Toluene-µg/L	0001704-05		100	103	103.%	
p/m-Xylene-µg/L	0001704-05		200	214	107.%	
o-Xylene-µg/L	0001704-05		100	105	105.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0203328

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0001693-01			<5.00		
Total Dissolved Solids (TDS)-mg/L	0001702-01			<5.00		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Total Dissolved Solids (TDS)-mg/L	0203328-01	2230		2270		1.8%
MS WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0203328-01	736	500	1240	100.8%	
MSD WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0203328-01	736	500	1230	98.8%	0.8%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0001693-04		5000	5050	101.%	

COC 065 1 of 1

Environmental Lab of Texas, Inc.

12600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: KEN DUTTON
Company Name: E. T. G. I.
Company Address: 2540 W MARLAND
City/State/Zip: HOBBS NM 88240
Telephone No: (505) 397-4882 Fax No: (505) 397-4701
Sampler Signature: Anna Casas

Project Name: PATSY #1
Project #: DEV 2101R
Project Loc: MONUMENT NM
PO #:

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO3	HCl 40 mL	NaOH	H2SO4	None 500 mL HDPE	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify)	Analyze For: TCLP/TOTAL: TDS CL SAR / EC	TPH 418.1	TPH TX 1005/1006	TPH 8015M GRO/DRO	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030	RUSH TAT (Pre-Schedule)	Standard TAT
0203328-01	TMW 1	5-10-02	1246	3	X		X			X		X				X							X		X
02	TMW 2		1300																						
03	TMW 3		1230																						
04	TMW 4		1217																						
05	TMW 5		1130																						
06	TMW 6		1145																						
07	TMW 7	↓	1200	↓	↓		↓			↓		↓				↓							↓		↓

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Anna Casas	5-10-02	1507			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Jennifer Rivera	5/10/02	1507

Sample Containers Intact? (Y) N
Temperature Upon Receipt: 1.5°C
Laboratory Comments:

APPENDIX C

New Mexico Office of the State Engineer Water Well Database Report and Record of Communication

New Mexico Office of the State Engineer
Well Reports and Downloads

Township: 20S Range: 37E Sections: 18,7,8,17,19,20

NAD27 X: Y: Zone: Search Radius:

County: LE Basin: Number: Suffix:

Owner Name: (First) (Last) ○ Non-Domestic ○ Domestic ◉ All

Well / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | WATERS Menu | Help

WELL / SURFACE DATA REPORT 12/10/2002

(acre ft per annum) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are biggest to smallest) X Y are in Feet

DB File Nbr	Use	Diversion	Owner	Well Number	Source	Tws	Rng	Sec	q	q	q	Zone	X
L 01253	PRO	3	GULF OIL CORPORATION	L 01253		20S	37E	08	2	3	1		
L 02139	PRO	3	GACKLE DRILLING CO.	A 02139	Shallow	20S	37E	08	2	2	2		
				L 02139 APPRO	Shallow	20S	37E	08	2	2	2		
L 02274	PRO	3	SINCLAIR OIL & GAS CO.	L 02274	Shallow	20S	37E	08	1	3			
				L 02274 APPRO	Shallow	20S	37E	08	1	3			
L 02274 (1)	PRO	0	SINCLAIR OIL AND GAS COMPANY	L 02274 (1)		20S	37E	08	1	3			
L 02450	PRO	3	THE TEXAS CO.	L 02450	Shallow	20S	37E	19	2	2			
				L 02450 APPRO	Shallow	20S	37E	19	2	2			
L 02451	PRO	3	THE TEXAS CO.	L 02451	Shallow	20S	37E	19	1	1			
				L 02451 APPRO	Shallow	20S	37E	19	1	1			
L 02460	PRO	3	MORAN DRILLING CO.	L 02460	Shallow	20S	37E	07	2	1			
				L 02460 APPRO	Shallow	20S	37E	07	2	1			
L 02463	PRO	3	AMERADA PETROLEUM CORPORATION	L 02463	Shallow	20S	37E	08	3	2	1		
				L 02463 APPRO	Shallow	20S	37E	08	3	2	1		
L 02483	PRO	3	MORAN DRILLING CO.	L 02483	Shallow	20S	37E	08	1	4	4		
				L 02483 APPRO	Shallow	20S	37E	08	1	4	4		
L 02533	PRO	0	MORAN DRILLING CO.	L 02533	Shallow	20S	37E	07	2	3			
				L 02533 APPRO	Shallow	20S	37E	07	2	3			
L 04410	SRO	500	BURGUNDY OIL & GAS OF NM, INC	L 04410	Shallow	20S	37E	19	2	4			
				L 04410 S	Shallow	20S	37E	19	2	1	4		
L 09590	DOM	3	JIMMY COOPER	L 09590	Shallow	20S	37E	08	4				
L 09594	DOM		JIMMY COOPER	L 09594 EXP		20S	37E	08	4	2			
L 09890	EXP	0	JIMMY COOPER	L 09890	Shallow	20S	37E	08	4				

Record Count: 23

New Mexico Office of the State Engineer
Well Reports and Downloads

Township: 20S Range: 36E Sections: 12,13,24

NAD27 X: Y: Zone: Search Radius:

County: LE Basin: Number: Suffix:

Owner Name: (First) (Last) ○ Non-Domestic ○ Domestic ◉ All

Well / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | WATERS Menu | Help

WELL / SURFACE DATA REPORT 12/10/2002

DB File Nbr	Use	(acre ft per annum) Diversion	Owner	Well Number	Source	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are biggest to smallest) Tws	Rng	Sec	q	q	q	X Y are in Feet Zone	X

No Records found, try again

New Mexico Office of the State Engineer
Well Reports and Downloads

Township: 20S Range: 37E Sections: 18,7,8,17,19,20

NAD27 X: Y: Zone: Search Radius:

County: LE Basin: Number: Suffix:

Owner Name: (First) (Last) ○ Non-Domestic ○ Domestic ◉ All

Well / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | WATERS Menu | Help

AVERAGE DEPTH OF WATER REPORT 12/10/2002

Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth Water in Feet) Min	Max	Avg
A	20S	37E	08				1	38	38	38
L	20S	37E	07				4	34	38	36
L	20S	37E	08				9	30	38	35
L	20S	37E	19				6	35	35	35

Record Count: 20

New Mexico Office of the State Engineer
Well Reports and Downloads

Township: 20S Range: 36E Sections: 12,13,24

NAD27 X: Y: Zone: Search Radius:

County: LE Basin: Number: Suffix:

Owner Name: (First) (Last) ○ Non-Domestic ○ Domestic ◉ All

Well / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | WATERS Menu | Help

AVERAGE DEPTH OF WATER REPORT 12/10/2002

Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth Water in Feet) Min	Max	Avg

No Records found, try again

devon

Devon Energy Corporation
20 North Broadway
Oklahoma City, Oklahoma 73102-8260

RECEIVED
JUL 26 2002
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

July 25, 2002

Federal Express

Mr. William C. Olson
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Notification of Remediation of Historical Spills
John H. Hendrix Federal Patsy #1 Tank Battery

In accordance with Rule 19, Prevention and Abatement of Water Pollution and Guidelines for Remediation of Leaks, Spills and Releases, Devon Energy Production Company, L.P. (Devon) is notifying New Mexico Oil Conservation Division (NMOCD) of the discovery of evidence of historical spills or releases of hydrocarbons at the former John H. Hendrix Federal Patsy #1 tank battery and our initial activities to delineate the extent of any subsurface impact. A monitoring well has been installed by Environmental Technology Group, Inc. (ETGI), of Midland, Texas in an area of suspected impact. Samples from the monitoring well contained an elevated benzene level. However, the concentration of benzene did not exceed the New Mexico Water Quality Standards. Additionally, no phase-separated hydrocarbon (PSH) was evident nor has PSH appeared in the monitoring well as of this date.

This issue was discovered after the John H. Hendrix Corporation ("Hendrix") was notified by the Bureau of Land Management (BLM) of a possible on-site surface restoration issue. The BLM representative indicated that the restoration standards to be utilized were the NMOCD standards. The NMOCD representative indicated that groundwater impact was a concern and required delineation, which has been accomplished.

The site is a former tank battery located in Lea County, New Mexico, in NW ¼ of the NE ¼ of Section 18, Township 20 South, Range 37 East. The former tank battery is located on BLM property. Research of BLM records by ETGI indicates the current surface lessee is unknown. The latitude and longitude are 32° 34′ 40″ north and 103° 17′ 13.8″ west. The site was sold by Concho to another party, and ultimately was sold to Hendrix prior to Concho's merger into Devon in 2001. At this time, Devon is beginning remediation on the property. However, if at a later date it is determined that a different party is liable for cleanup of the above referenced property, Devon reserves the right to transfer the cleanup obligation to said party.

Appropriate reports and a remediation plan will be forwarded to NMOCD as required by Rule 19 and NMOCD Guidelines for Remediation of Leaks, Spills and Releases.

Sincerely,

Ronald D. Truelove
Environmental Manager

cc: Mr. Chris Williams
NMOCD District 1, Hobbs Office
1625 North French Drive
Hobbs, New Mexico 88240

Jennifer Day, Devon
Chuck Horsman, Devon
Brandon McGinley, Devon
David Purdy, Devon

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

Price, Wayne

From: Price, Wayne
Sent: Friday, April 30, 1999 2:54 PM
To: Williams, Donna; Williams, Chris
Subject: Concho Resources, Inc. Cooper & Pasty Batteries

Recommend they include Chlorides in soil the soil tests.

HANDLED BY DISTRICT
OFFICE ONLY!

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

From: System Administrator
Sent: Friday, April 30, 1999 2:54 PM
Subject: Delivered: Concho Resources, Inc. Cooper & Pasty Batteries

Your message

To: Williams, Donna; Williams, Chris
Subject: Concho Resources, Inc. Cooper & Pasty Batteries
Sent: 4/30/99 2:54:05 PM

was delivered to the following recipient(s):

Williams, Donna on 4/30/99 2:54:05 PM

Williams, Chris on 4/30/99 2:54:05 PM

Highlander Environmental Corp.

Midland, Texas

April 27, 1999

Mr. Wayne Price
Environmental Bureau
Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Work Plan for Environmental Investigation, Concho Resources, Inc., Cooper B and Patsy Batteries, Lea County, New Mexico.

Dear Wayne:

Enclosed is a copy of the above-mentioned work plan that had been submitted to Chris Williams. I will contact Chris Williams and inform him of our conversation earlier this morning pertaining to you possibly working with Donna Williams on this project. Thank you for your help in this matter. Please contact me if you have any questions or require any additional information.

Very truly yours,

Tim Reed

Timothy M. Reed, REM
Vice President

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

Highlander Environmental Corp.

Midland, Texas

November 30, 1998

Mr. Chris Williams
Environmental Bureau
Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Department
P. O. Box 1980
Hobbs, New Mexico 88241

Re: Scope of Work for Environmental Investigation, Concho Resources, Inc., Cooper and Patsy Batteries, Lea County, New Mexico

Dear Mr. Williams:

Highlander Environmental Corp. (Highlander) has been requested by Concho Resources, Inc. (Concho) to prepare a scope of work to investigate a complaint of oilfield contamination at its Cooper and Patsy Batteries (Sites), located in Lea County, New Mexico. The Sites are located southwest of Monument, New Mexico, in the northeast quarter (NE/4) of Section 12, Township 20 South, Range 36 East (Cooper Battery) and the northeast quarter (NE/4) of Section 18, Township 20 South, Range 37 East (Patsy Battery). Figure 1 presents a location and topographic map for the Sites.

1.0 Background

In 1997, Concho acquired the Sites from Costilla Energy, Inc., which are operated by Concho as oilfield tank battery locations. Each of the Sites contains two (2) aboveground tanks for crude oil and produced water storage, and associated equipment (i.e., separators, heater treater, piping, etc.). Figure 2 presents a drawing for the Cooper Battery. Figure 3 presents a drawing for the Patsy Battery.

In July 1998, the New Mexico Oil Conservation Division (OCD) received a landowner complaint concerning oilfield contamination at the Sites. An inspection was performed by the OCD, and on July 15, 1998, the OCD issued a letter to Concho requested that a work plan to address contamination at the Sites. Appendix A presents a copy of the letter.

On July 22, 1998, Concho personnel, accompanied by Highlander personnel, conducted an inspection of the Sites. Areas of oily and asphalt hydrocarbon contamination were witnessed, as well as what appeared to be former pit locations. Later, Highlander personnel participated in a telephone conference call with Concho personnel and Mr. Wayne Price with the OCD to discuss the letter.

2.0 SITE SETTING

2.1 Topography

The Cooper and Patsy Batteries are situated at elevations of approximately 3560 and 3540 feet above mean sea level (AMSL), respectively. The regional topography generally slopes to the southeast toward Monument Draw, which is located southeast of the Sites.

2.2 Geology

The Sites are underlain by alluvium and drift sand of Pleistocene to recent-age. The alluvium consists of sand and gravel deposits along dry washes and silts and sand in lakebeds. The drift sand locally produces dunes from 20 to 40 feet in height. The alluvium and drift sand is underlain by the Tertiary-age Ogallala Formation. The Ogallala Formation consists of interbedded, poorly to well-cemented sand, clay, silt and gravel. Regionally, the Ogallala Formation is nearly 300 feet thick. Red and green claystone, siltstone and fine-grained sandstone of the Triassic-age Chinle Formation underlie the Ogallala Formation.

2.3 Groundwater

Groundwater occurs in the Ogallala Formation, commonly referred to as the Ogallala aquifer. Based on published information, groundwater occurs at about 30 to 35 feet below ground surface (BGS). Water wells in the area range in depth from about 40 to 170 feet BGS. Groundwater flow is generally to the southeast at a gradient of approximately 0.004 feet per foot.

3.0 SCOPE OF WORK

3.1 Soil Sampling and Analysis

Highlander personnel will collect soil samples from areas with visual hydrocarbon contamination and from the suspected pit locations. The soil samples will be collected using a hand auger, trowel or shovel. The soil samples will be collected as composite samples from areas showing visual contamination, identified as composite groups on Figure 2 and Figure 3, for the Cooper and Patsy Batteries, respectively. At each composite group, approximately two (2) to six (6) locations will be randomly selected for collection of soil samples. At each sample location, the sample will be collected at depth intervals of 0 to 1 feet, 4 to 5 feet, 9 to 10 feet BGS, etc. Samples will be collected until visual examination and soil headspace gas analysis indicates that the vertical extent of impact has been defined, or refusal of the sampling devise is obtained. At sample locations exhibiting asphalt soil conditions, soil sampling will begin beneath the asphalt crust. The soil samples for each sample interval within the composite group will be compiled into a single sample.

The soil samples will be collected in accordance with the OCD's guidance document titled, "Guidelines for Remediation of Leaks, Spills and Releases", dated August 13, 1993. The soil samples will be field screened for petroleum hydrocarbons using the ambient temperature headspace method, as described in the above-referenced document. Soil samples exhibiting soil headspace gas readings of 100 parts per million (ppm) or less will not be submitted for laboratory analysis of benzene and total BTEX (benzene, toluene, ethylbenzene and xylene). However, samples exhibiting soil headspace gas readings above 100 ppm will be analyzed for benzene and total BTEX. All samples will be tested for total petroleum hydrocarbons (TPH). The soil samples will be submitted to an approved laboratory, under chain-of-custody control.

All sampling equipment will be thoroughly decontaminated between each sample interval using a laboratory grade detergent wash, followed by rinsing with distilled water.

3.2 Monitor Well Installation

If soil sample results for the Sites indicates that impact to groundwater has occurred, a groundwater monitoring well may be installed. The monitor well will be drilled using a truck-mounted rotary drilling rig. Drill cuttings will be examined for lithologic properties and preparation of a borehole log. Drill cuttings will be stockpiled adjacent to the borehole until disposal is arranged.

The borehole will be extended into the groundwater approximately 15 feet, and the well will be constructed using two (2) inch diameter schedule 40 PVC threaded casing and factory slotted screen. The well screen, approximately twenty (20) feet in length, will be installed in the borehole with about five (5) feet of screen above the groundwater and about fifteen (15) feet into the groundwater, depending on groundwater conditions at the Site. The well screen will be surrounded with a graded silica sand to a depth approximately 2 feet above the screen. A layer of bentonite pellets, approximately 2 feet thick, will be placed in the annulus above the sand pack and hydrated with potable water. The remainder of the annulus will be filled with cement and bentonite grout to about one foot below ground. The well will be secured with a locking cap and steel protector anchored in a concrete pad measuring approximately 3 feet by 3 feet.

The well will be developed to remove fine grained sediment disturbed during drilling and prior to collection of groundwater samples. The well will be developed by bailing or pumping with a submersible pump. Water removed from the well will be placed in an appropriate container (i.e., 55-gallon drums, portable tank, etc.) and stored at the Site until disposal is arranged. After development, groundwater samples will be collected and analyzed for BTEX, major cations and anions, total dissolved solids (TDS), dissolved metals (RCRA 8) and polynuclear aromatic hydrocarbons (PAH). Samples for metals will be filtered in the field prior to submittal to the laboratory. The well will be inspected for the presence of phase-separated hydrocarbons (PSH) and, if present, a sample will be collected and analyzed by gas chromatography (GC) to determine Mr.

composition. If PSH is detected in the monitor well, groundwater samples will not be collected from the well until the PSH is removed. All samples will be delivered to the laboratory via overnight delivery and under chain of custody control. Quality Assurance/Quality Control (QA/QC) samples (i.e., duplicate, trip blank, field blank, etc.) will be collected during the investigation for data validation.

All down-hole equipment (i.e., drill rods, bit, split-spoon sampler, etc.) will be thoroughly decontaminated between each use with a high pressure hot water wash and rinse. Also, equipment contacting groundwater (i.e., water level indicator, interface probe, submersible pump, etc.) will be thoroughly decontaminated using a laboratory grade detergent wash, followed by rinsing with distilled water.

4.0 DATA EVALUATION AND REPORTING

Following receipt of the laboratory report, Highlander personnel will review the soil sample analyses and compare the observed concentrations with the OCD's Recommended Remediation Action Levels (RRAL's), presented in the above-referenced document. If groundwater samples are collected, Highlander personnel will compare the laboratory analysis to applicable New Mexico Water Quality Control Commission (WQCC) action levels or cleanup standards. Following completion of the data review, Highlander personnel will prepare a report summarizing the investigation results. A copy of the report will also be submitted to the OCD office in Santa Fe, New Mexico.

Please call if you have questions.

Respectfully yours,
Highlander Environmental Corp.

Mark J. Larson
Senior Project Manager

Encl.

cc: Mr. David Copeland, Concho Resources, Inc.

FIGURES

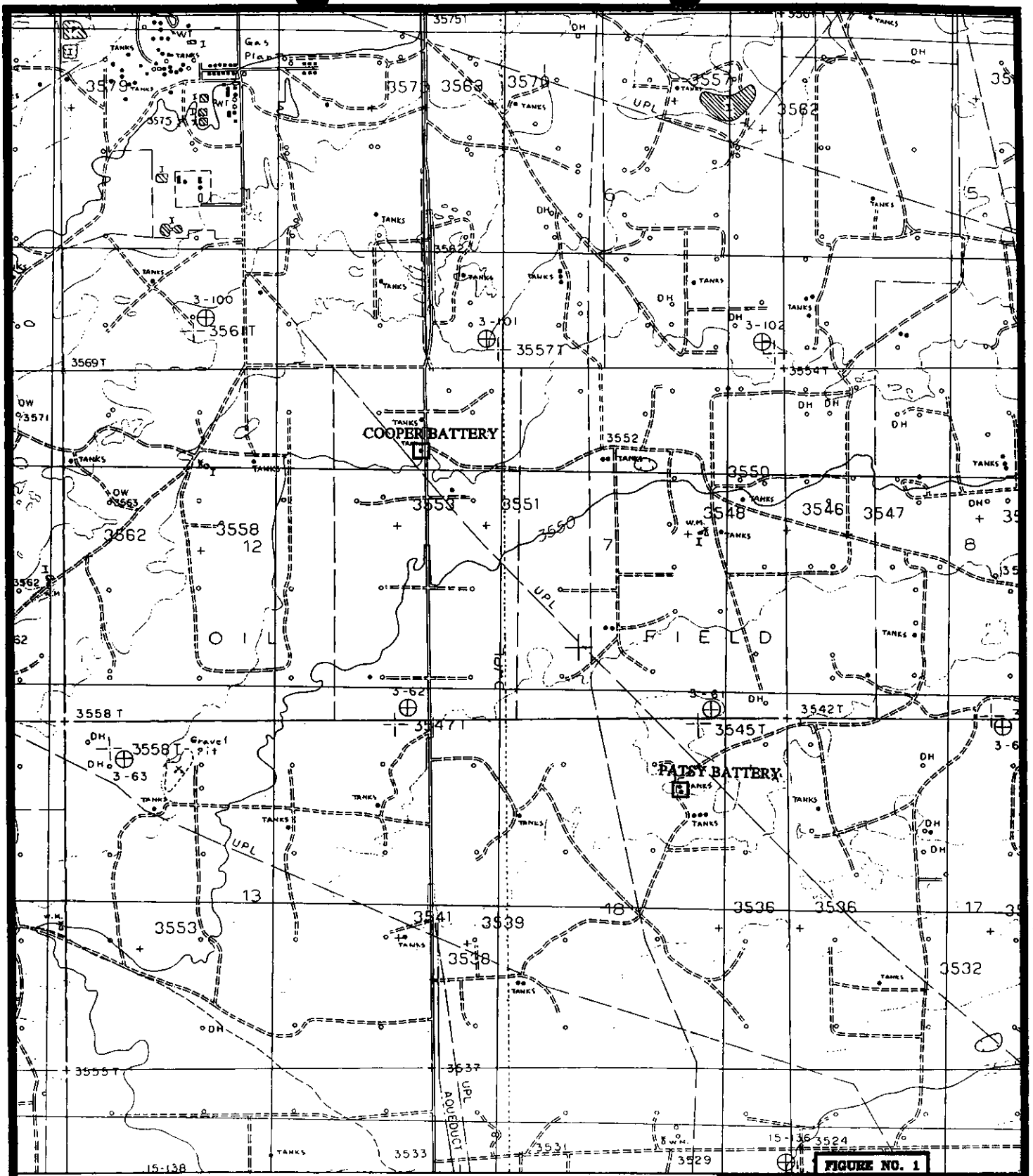


FIGURE NO. 1

LEA COUNTY, NEW MEXICO

CONCHO RESOURCES, INC.

TOPOGRAPHIC MAP

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

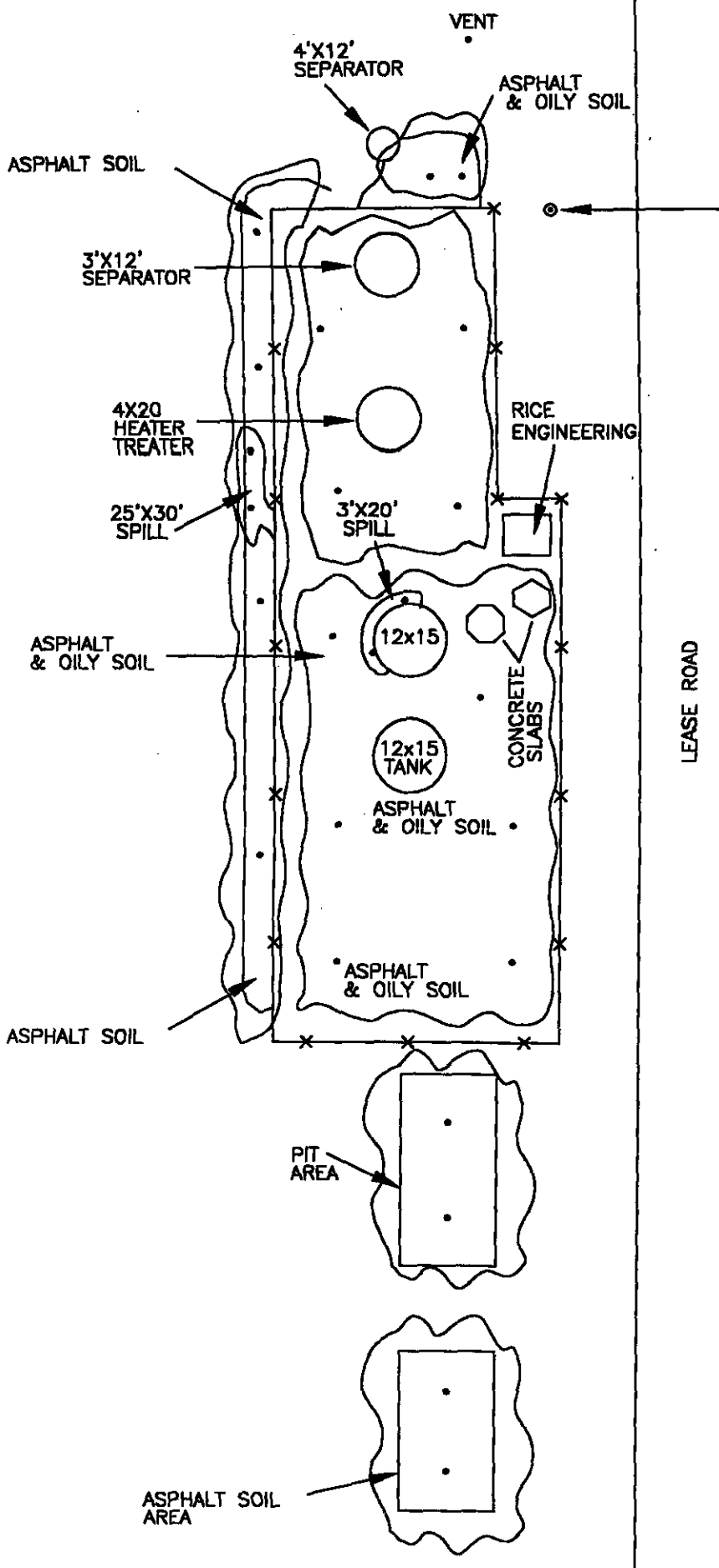
TAKEN FROM U.S.G.S.
MONUMENT SOUTH, NEW MEXICO
7.5' QUADRANGLES

N

LEGEND

☐ SITE LOCATION

SCALE: 1"=2,000'



• = TENATIVE SOIL SAMPLE LOCATION

—×—×— = FENCE

= COMPOSITE GROUP

SCALE: 1"=50' APPROXIMATELY

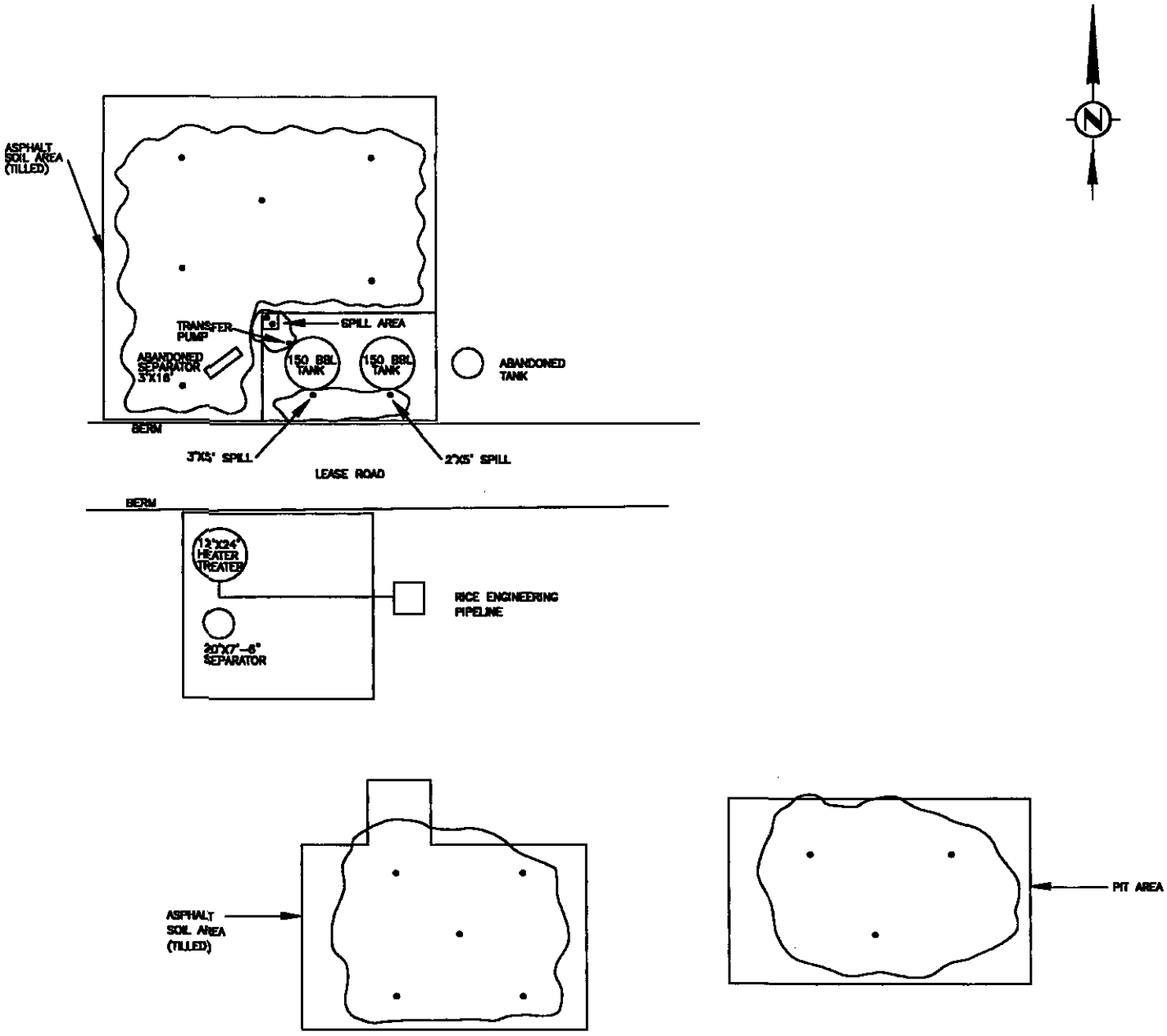
FIGURE NO. 2

CONCHO RESOURCES, INC.

COOPER BATTERY
SITE DRAWING
LEA COUNTY, NEW MEXICO

DATE: 8/12/98
DWN. BY: JDA
FILE: 1160\COOPER-BAT

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS



LEGEND

• = TENATIVE SAMPLE LOCATION

= COMPOSITE GROUP

SCALE: 1"=50' APPROXIMATELY

FIGURE NO. 3

CONCHO RESOURCES, INC.

PATSY BATTERY
SITE DRAWING
LEA COUNTY, NEW MEXICO

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

DATE: 8/12/98
DRN. BY: JDA
FILE:

APPENDIX A

OCD Correspondence
July 15, 1998

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
DISTRICT I HOBBS
PO BOX 1980, Hobbs, NM 88241
(505) 393-6161
FAX (505) 393-0720

Jennifer A. Salisbury
CABINET SECRETARY

July 15, 1998

Concho Resources Inc. (CRI)
110 W. Louisiana, Suite 410
Midland, Tx 79701

Re: Cooper Battery UL H Sec 12-Ts20s-R36e
Patsy Battery UL B- Sec 18-Ts20s-R37e

Attention Operator:

New Mexico Oil Conservation Division (NMOCD) has received a complaint concerning oilfield contamination at the two above referenced facilities. The NMOCD has made subsequent field trips and have taken pictures, copies enclosed for your review.

Please note there is visual appearance that oilfield contamination exits at both sites. The complainant also indicated he owns shallow water wells in the area and he is concerned about his groundwater. The NMOCD researched groundwater records and it appears the depth to groundwater is quite shallow from 25-35 feet below ground surface.

Therefore the NMOCD request that Concho Resources Inc. (CRI) conduct an environmental investigation for the two sites above pursuant to the NMOCD guidelines (copy enclosed). Please provide this information to this office no later than September 1, 1998. If your sampling results exceed the NMOCD guidelines CRI will be asked to provide a clean-up plan for NMOCD approval.

Please note if CRI wishes to forgo the preliminary site assessment and sampling results, and would like instead to submit a clean-up plan that includes this activity for NMOCD approval, NMOCD will accept this procedure. Please submit this plan by September 15, 1998.

Please note at the Patsy location there was evidence of a fresh leak & spill. If you have failed to submit a C-141 for this release please do so. Please find enclosed a C-141 form with a copy of Rule 116 on the back. Please submit this within 15 days of receipt of this letter if applicable.

If you require any further information or assistance please do not hesitate to call (505-393-6161) or write this office.

Sincerely Yours,

Wayne Price

Wayne Price-Environmental Engineer

cc: Chris Williams-NMOCD District I Supervisor
Jimmy Cooper- Landowner

file: wp98/concho

attachments- photos, guidelines