

1R - 454

REPORTS

DATE:

8/2005



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ANALYTICAL RESULTS FOR
 EDDIE SEAY CONSULTING
 ATTN: EDDIE SEAY
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 HOBBS, NM 88242
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Receiving Date: 10/05/04
 Reporting Date: 10/06/04
 Project Owner: BP PIPELINE
 Project Name: BP DENTON
 Project Location: E. LOVINGTON, NM

Analysis Date: 10/05/04
 Sampling Date: SOIL
 Sample Type: SOIL
 Sample Condition: COOL & INTACT
 Sample Received By: AH
 Analyzed By: BC

LAB NUMBER	SAMPLE ID	TPH (mg/Kg)
H9203-1	STOCKPILE A	2200
H9203-2	STOCKPILE B	13800
H9203-3	STOCKPILE C	2650
H9203-4	STOCKPILE D	7950
H9203-5	STOCKPILE E	3700
H9203-6	STOCKPILE F	231
H9203-7	STOCKPILE G	340
H9203-8	STOCKPILE H	500
Quality Control		244
True Value QC		240
% Recovery		102
Relative Percent Difference		5.7

Rec'd 8.29.05
Larry
Here is analytical
from BP / Denton
Dan Angel split
Edw

METHOD: EPA 418.1

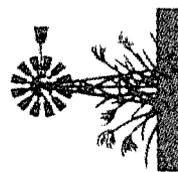
Bryan J. Cooke
 Chemist

10/6/04
 Date

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H9203.XLS

SITE INVESTIGATION REPORT
BP PIPELINES (NORTH AMERICA), INC.
DENTON GATHERING SYSTEM
SECTION 11, T15S, R37E
LOVINGTON, LEA COUNTY, NEW MEXICO
DELTA PROJECT NO. F003-003

1.0 INTRODUCTION

On behalf of BP Pipelines (North America), Inc. (BP), Delta Environmental Consultants, Inc. (Delta) is pleased to present the following Site Investigation Report (SIR) for BP's Denton Gathering System site, which is located south of New Mexico State Route 83, Section 11, T15S, R37E in Lea County, New Mexico.

Field activities discussed in this report were conducted in accordance with **Workplan for Monitor Well Installation** dated February 25, 2004 which was submitted to and approved by Mr. Larry Johnson of the New Mexico Oil Conservation Division (OCD). Proposed locations of groundwater monitoring wells to be installed during the investigation were selected by BP and approved by the OCD and Lea County Electric Co-op.

1.1 Background

On March 7, 2003 a surface indication of crude oil was observed along a gathering line located on the Darr Angell Ranch (Denton field). The source of the release was identified as a pipeline associated with the Denton field gathering system.

1.1.1 Previous Site Activities

Delta, in cooperation with representatives of the New Mexico Oil Conservation Division (NMOCD) supervised field activities undertaken in response to the release. Field activities consisted of excavation of approximately 5,000 cubic yards of hydrocarbon-affected soil. All soil containing Chemicals of Concern (COCs) in concentrations greater than Tier 1 Soil Target Levels were removed via excavation. Excavated soils are presently stockpiled on-site awaiting final disposition.

To complete the site investigation, the OCD requested a minimum of three groundwater monitoring wells be installed to determine if groundwater had been affected by the release.

1.2 Site Geology and Hydrogeology

The site is located on the USGS Prairie View Topographic Quadrangle in southeastern New Mexico at an elevation of approximately 3,800 feet above mean sea level. Land use in the vicinity of the site consists predominantly of rangeland interspersed with petroleum extraction activities.

The site is located within the High Plains (Ogallala) Aquifer as defined by the USGS. This aquifer system generally consists of near-surface deposits of unconsolidated or partly consolidated gravel, sand, or silt of Quaternary age. Sediments were deposited by a combination of river (valley-fill) and wind (dune sand and loess). The direction of groundwater flow is controlled by local topography.

Delta supervised the installation of four groundwater monitoring wells (MW-1 through MW-4) and one soil boring (SB-3) at the site on June 2 through June 4, 2004 (FIGURE 1). Soil borings and monitor wells were installed using a combination of hollow-stem auger and air rotary drilling methods.

MW-1 was installed near the source of the release (product gathering line). The ground surface at MW-1 is the floor of the excavation at this location which is approximately 4 feet below the undisturbed land surface at the site. Remaining groundwater monitor wells were installed east (MW-4), west (MW-2) and northwest (MW-3) of the excavation (FIGURE 1).

Sediments encountered from the ground surface to a depth of 5 to 10 feet below ground surface (bgs) consisted of dark gray clayey silt at all monitor well locations.

At MW-2, SB-3 and MW-3 a light-gray to light-brown dense limestone/dolomite mudstone was encountered beneath the silt. Air rotary drilling methods were required to penetrate this strata. However, at SB-3 (proposed location of MW-3) the auger could not be advanced through the dolomite and the boring was abandoned. MW-3 was installed approximately 15 ft northeast of

SB-3 using air rotary methods from ground surface to total depth. Hollow-stem auger and split spoon drilling/sampling methods were used beneath the mudstone to total boring depth at MW-2.

In MW-1 and MW-4 sediments beneath the surficial clayey silt consisted of a more friable limestone grainstone and these borings were sampled continuously using split spoon sampler and hollow-stem auger drilling methods from the ground surface to completion.

At approximately 25 to 35 ft bgs red to buff fine-grained sands and lightly lithified sandstone were encountered in all monitor well boreholes. These sediments continued to the total depth of each respective boring. Groundwater was encountered during drilling at depths between 59 and 60.5 ft bgs.

Following completion of monitor well installation activities the wells were developed using a combination of submersible pump and hand bailing. Boring logs are presented in APPENDIX A. Photographic documentation is presented in APPENDIX B.

2.0 SOIL SAMPLING and LABORATORY ANALYTICAL RESULTS

When hollow-stem auger drilling methods were used, soils were sampled continuously using a 5-ft split spoon. Soil samples were collected at ten foot intervals (9-10 ft bgs, 19-20 ft bgs, etc.), at the soil/groundwater interface or at depths where hydrocarbon impact was visually observed. Soil samples collected were split, with one portion being placed in a sealed plastic bag for field screening using an organic vapor meter (OVM) and the second portion placed in an ice-filled cooler.

The soil sample collected from above the soil/groundwater interface with the highest OVM reading and the sample collected at the soil/groundwater interface were submitted for laboratory analysis. If no OVM readings were observed in soil samples the sample collected at the soil/groundwater interface was submitted for laboratory analysis.

The necessity of using air rotary methods at MW-3 from ground surface to total depth precluded the collection of soil samples from MW-3. However, soil cuttings were monitored

continuously by a Delta geologist for olfactory or visual evidence of hydrocarbon impact. None were observed.

Standard chain-of-custody and sample handling procedures were followed. The samples were shipped to PACE Analytical Laboratories (PACE) in St. Rose Louisiana for analysis.

Samples were analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX) using EPA Method 8021B. Laboratory results were below the limit of laboratory quantitation of 0.025 milligrams per kilogram (mg/kg) for all samples submitted. Laboratory results are presented on FIGURE 2 and in TABLE 1. Laboratory reports are presented in APPENDIX C.

3.0 GROUNDWATER SAMPLING and LABORATORY ANALYTICAL RESULTS

On June 10, 2004, BNC Environmental Services, Inc. (BNC) at the direction of Delta mobilized to the site and sampled, gauged and surveyed the groundwater monitor wells installed on the site.

Each well was purged using a dedicated hand bailer until three well volumes were removed from the well or the well was bailed dry. Groundwater samples collected were placed in laboratory supplied sample containers which were then labeled and placed in an ice-filled cooler for shipment to PACE. Samples were analyzed for BTEX constituents using EPA Method 8021B.

Laboratory results were below the limits of laboratory quantitation of 0.001 milligram per Liter (mg/L) for all BTEX constituents in MW-2, MW-3 and MW-4. In MW-1, benzene, toluene, ethylbenzene and o-xylenes concentrations were also below limits of laboratory quantitation. However, m,p-xylenes were detected in the groundwater sample from MW-1 at a concentration of 0.00191 mg/L. This concentration is below the standard established in the New Mexico Water Quality Control Commission Regulations (20.6.2 NMAC) Subpart III, Section 3103 of 0.620 mg/L for total xylenes.

Laboratory analytical results for groundwater samples are presented on FIGURE 3 and in TABLE 2.

4.0 SITE SURVEY and WELL GAUGING

Prior to collection of groundwater samples each well was surveyed and groundwater elevations gauged using an oil/water interface probe. The site survey was conducted using transit and stadia rod with elevations tied to a site-specific benchmark that was given an arbitrary elevation of 100 feet. The site benchmark was selected as the southeast corner of the well pad of MW-1.

Groundwater gauging results are presented in TABLE 3 and indicate that the direction of groundwater flow at the site is to the southeast (FIGURE 4).

5.0 WASTE MANAGEMENT

Soil cuttings generated during site activities were placed on soil stockpiles present at the site for future disposal. Water generated from well development and sampling activities was placed in properly labeled 55-gallon DOT-approved drums which are presently staged at the site.

6.0 FINDINGS

Based on the results of the environmental investigations performed at the site by Delta, the following findings were identified:

- No detectable concentrations of BTEX constituents above the detection limit of 0.025 mg/kg were measured in the soil samples submitted for laboratory analysis.
- Groundwater samples collected from MW-2, MW-3 and MW-4 did not contain BTEX constituents at concentrations above the detection limit of 0.001 mg/L as established by the New Mexico Water Quality Control Commission Regulations.
- The groundwater sample collected from MW-1 did not contain benzene, toluene, ethylbenzene or m,p-xylenes at concentrations above 0.001 mg/L. Laboratory results indicate the concentration of o-xylenes was 0.00191 mg/L. This concentration is below the

standard of 0.620 mg/L established for this COC by the New Mexico Water Quality Control Commission Regulations, Subpart III, Section 3103.

- Based on field measurements collected on June 10, 2004 the direction of groundwater flow in the uppermost groundwater-bearing zone at the site is toward the southeast.

7.0 CONCLUSIONS

In response to a confirmed release of crude oil from a product gathering line located at the Denton Field an estimated total of 5,000 cubic yards of hydrocarbon-impacted soils were remediated via excavation. Confirmation soil samples were below OCD standards.

In an effort to assess the potential impact to environmental media Delta installed four groundwater monitor wells at the site. Soil samples collected from MW-1, MW-2 and MW-4 were below the limits of laboratory quantitation for benzene, toluene, ethylbenzene and total xylenes.

Analytical results for groundwater samples collected from groundwater monitor wells MW-2, MW-3 and MW-4 at the site were below the limits of laboratory quantitation for all BTEX constituents. The groundwater sample collected from MW-1 was below limits of laboratory quantitation for benzene, toluene, ethylbenzene and o-xylenes. Concentrations of m,p-xylenes were 0.00191 mg/L which is below the New Mexico Water Quality Control Commission Regulations standard of 0.62 mg/L.

Laboratory analytical results for soil and groundwater samples collected during this investigation were below Tier 1 Soil Target Levels and New Mexico Water Quality Control Commission standards, respectively. On the basis of laboratory analytical data it can be concluded that no residual soil or groundwater impacts above regulatory limits are present in environmental media at the site.

Based on these findings, Delta requests that closure of the site be granted to BP by the OCD.

8.0 REMARKS

The information presented in this report is based on currently available data and records, and is arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

This report was prepared by **DELTA ENVIRONMENTAL CONSULTANTS, INC.**

Barry Summers, P.G.
Geologist

Date _____

Reviewed by:

Mark Smith, P.G.
Senior Specialist

Date _____

TABLES

TABLE 1
Soil Analytical Data
BP Pipelines NA, Inc.
Denton Gathering Site
Lea County, New Mexico

Soil Boring / Monitor Well	Date Sampled	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	m,p-xylenes (mg/kg)	o-xylenes (mg/kg)
Soil Target Levels (mg/kg)			10	---	---	---	---
MW-1	6/2/04	54-55	<0.025	<0.025	<0.025	<0.025	<0.025
MW-1	6/2/04	59-60	<0.025	<0.025	<0.025	<0.025	<0.025
MW-2	6/4/04	60-61	<0.025	<0.025	<0.025	<0.025	<0.025
MW-4	6/2/04	59-60	<0.025	<0.025	<0.025	<0.025	<0.025

Notes:

mg/kg = milligrams per kilogram

Samples analyzed by EPA Method 8021B

*Detection limit for all BTEX constituents and samples was 0.025 mg/kg

TABLE 2
Groundwater Analytical Data
BP Pipelines NA, Inc.
Denton Gathering Site
Lea County, New Mexico

Soil Boring / Monitor Well	Date Sampled	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	m,p-xylenes (mg/L)	o-xylenes (mg/L)
NM WQCC Standard (mg/L)		0.01	0.75	0.75	0.62 (total xylenes)	
MW-1	6/10/04	<0.001	<0.001	<0.001	0.00191	<0.001
MW-2	6/10/04	<0.001	<0.001	<0.001	<0.001	<0.001
MW-3	6/10/04	<0.001	<0.001	<0.001	<0.001	<0.001
MW-4	6/10/04	<0.001	<0.001	<0.001	<0.001	<0.001
Trip Blank	---	<0.001	<0.001	<0.001	<0.001	<0.001

Notes:

NM WQCC = New Mexico Water Quality Control Commission
mg/L = milligrams per Liter
Samples analyzed by EPA Method 8021B
Detection limit for all samples and constituents was 0.001 mg/L

TABLE 3
Groundwater Elevation Data
BP Pipelines NA, Inc.
Denton Gathering Site
Lea County, New Mexico

Soil Boring / Monitor Well	Date Sampled	Top of Casing	Depth to Product	Depth to Water	Product Thickness	Elevation of Water
MW-1	6/10/04	96.28	NP	55.95	0	40.33
MW-2	6/10/04	100.10	NP	59.68	0	40.42
MW-3	6/10/04	100.15	NP	59.73	0	40.42
MW-4	6/10/04	99.82	NP	59.67	0	40.15

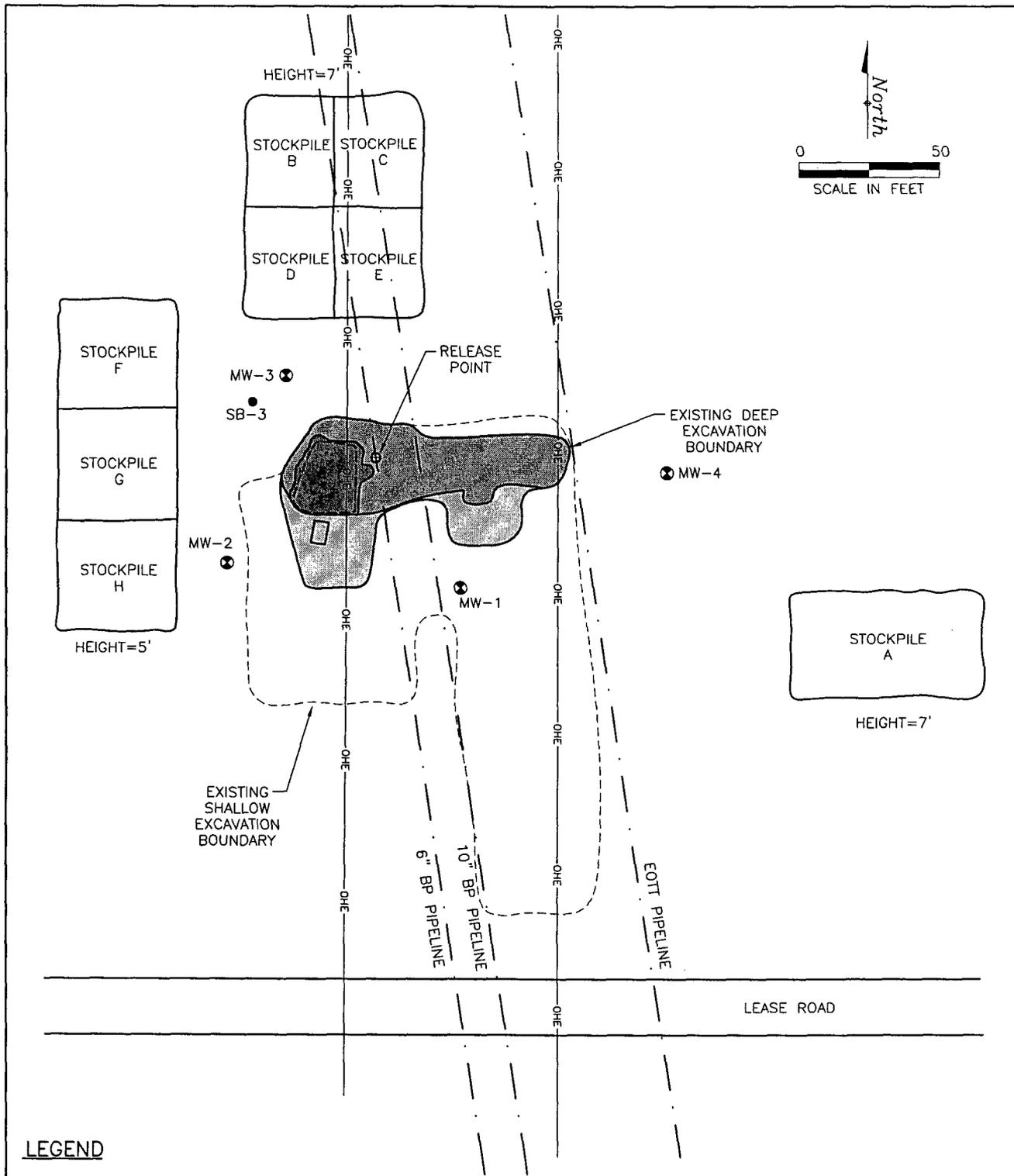
Notes:

Monitoring wells were surveyed based on a relative Benchmark of 100.00 feet on June 10, 2004.

Corrected Ground Water Elevation Based on PSH Specific Gravity = 0.75

NP = free product not present

FIGURES



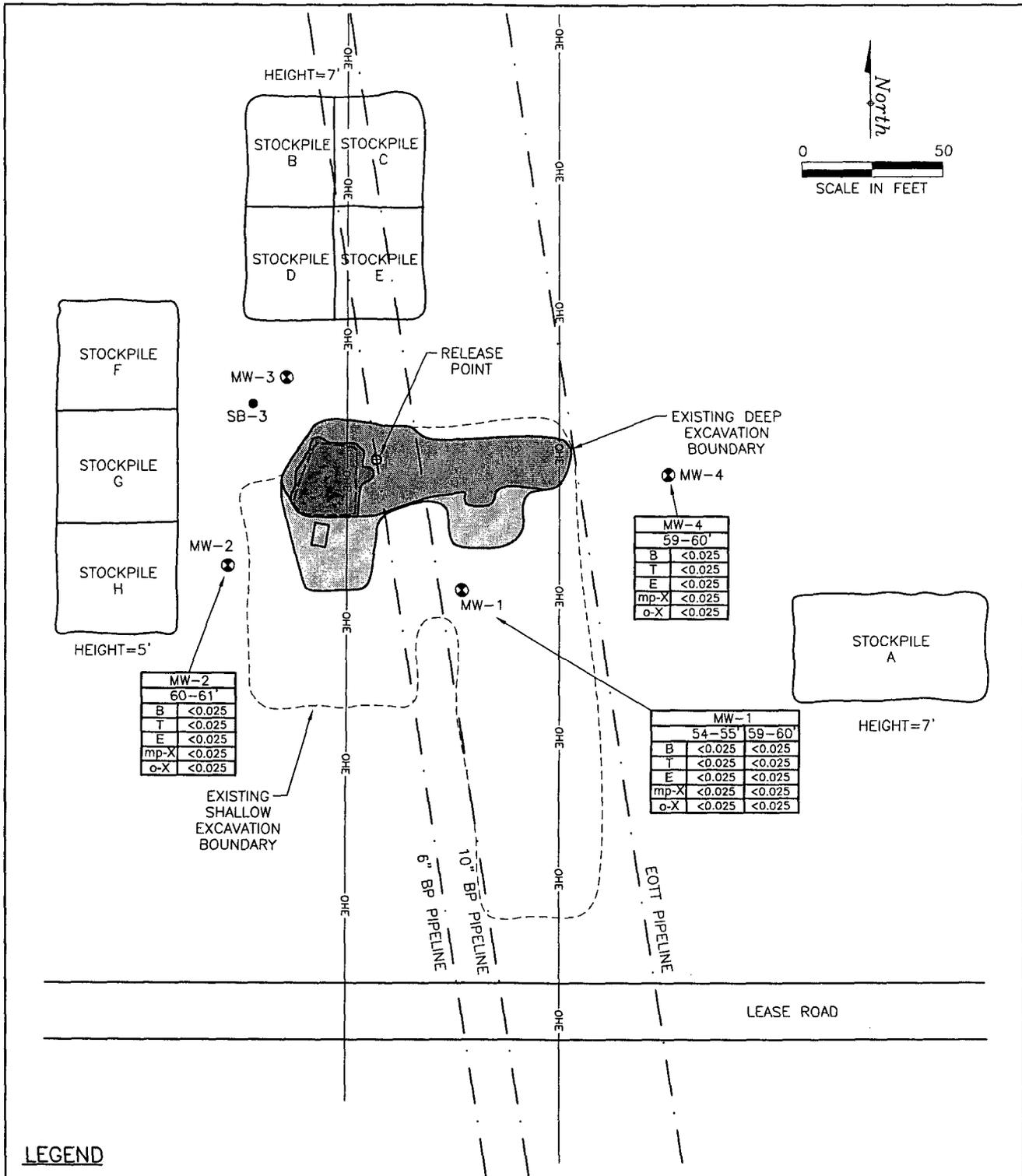
LEGEND

- ⊗ MONITOR WELL LOCATIONS
- SOIL BORING LOCATION
- OHE- OVERHEAD POWER LINE

FIGURE 1
SITE DETAIL MAP
BP PIPELINES (NORTH AMERICA)
DENTON GATHERING
LOVINGTON, NEW MEXICO

PROJECT NO. F003-003	PREPARED BY BS	DRAWN BY DD
DATE 7/12/04	REVIEWED BY	FILE NAME F003-003





MW-2	
60-61'	
B	<0.025
T	<0.025
E	<0.025
mp-X	<0.025
o-X	<0.025

MW-4	
59-60'	
B	<0.025
T	<0.025
E	<0.025
mp-X	<0.025
o-X	<0.025

MW-1		
54-55'	59-60'	
B	<0.025	<0.025
T	<0.025	<0.025
E	<0.025	<0.025
mp-X	<0.025	<0.025
o-X	<0.025	<0.025

LEGEND

- ⊗ MONITOR WELL LOCATIONS
- SOIL BORING LOCATION
- OHE— OVERHEAD POWER LINE

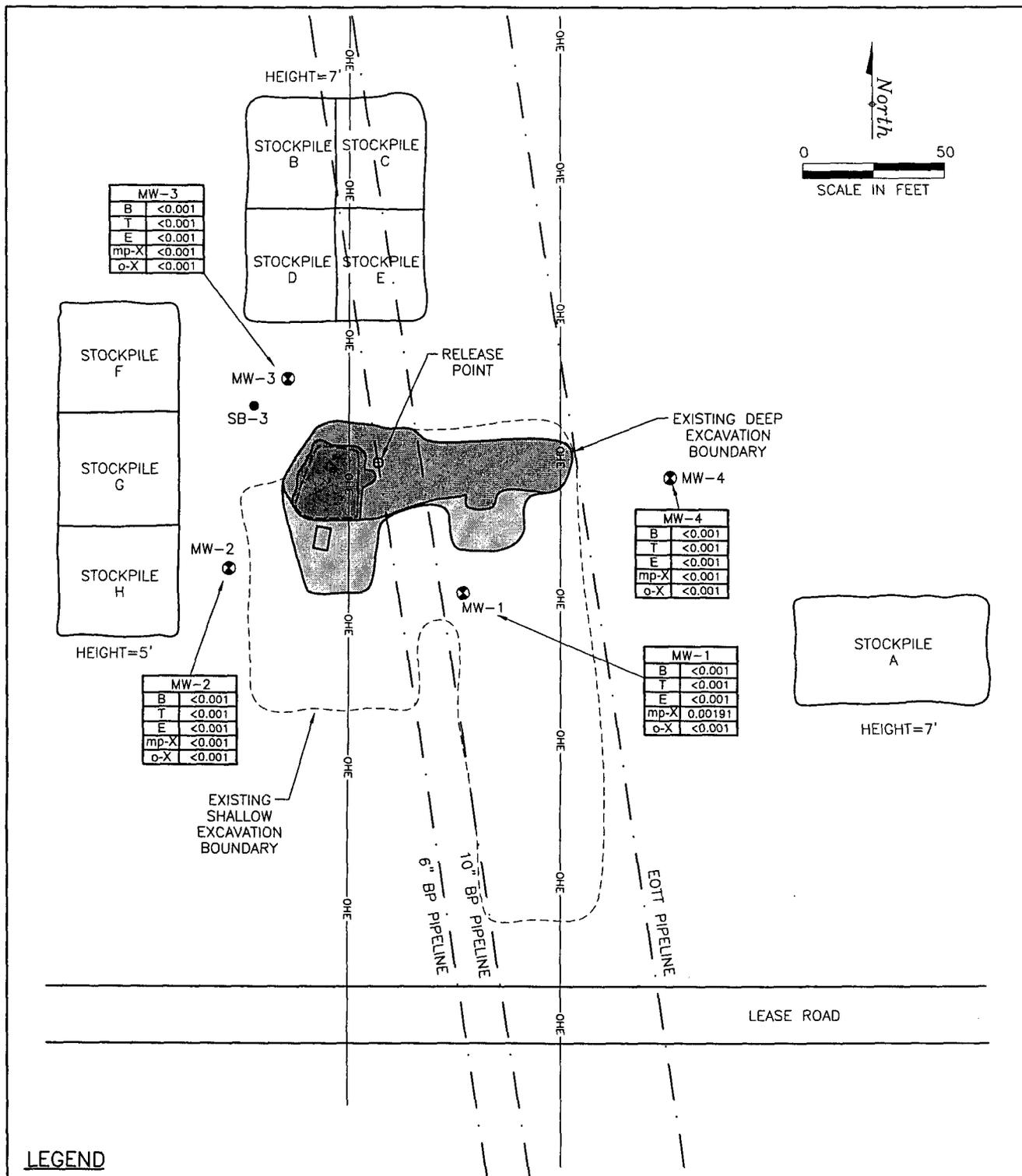
MW-2	
60-61'	SAMPLE LOCATION SAMPLE DEPTH (FT)
B	<0.025 BENZENE
T	<0.025 TOLUENE
E	<0.025 ETHYLBENZENE
mp-X	<0.025 mp-XYLENES
o-X	<0.025 o-XYLENES

RESULTS REPORTED IN
MILLIGRAMS PER KILOGRAM (mg/kg)

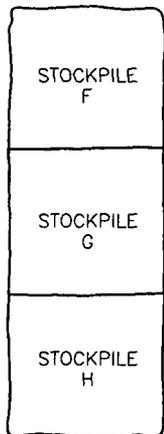
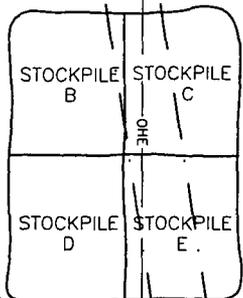
FIGURE 2
SOIL ANALYTICAL DATA
BP PIPELINES (NORTH AMERICA)
DENTON GATHERING
LOVINGTON, NEW MEXICO

PROJECT NO. FO03-003	PREPARED BY BS	DRAWN BY DD
DATE 7/12/04	REVIEWED BY	FILE NAME FO03-003





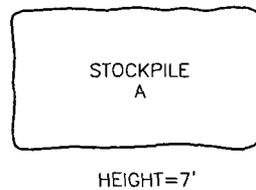
MW-3	
B	<0.001
T	<0.001
E	<0.001
mp-X	<0.001
o-X	<0.001



MW-2	
B	<0.001
T	<0.001
E	<0.001
mp-X	<0.001
o-X	<0.001

MW-4	
B	<0.001
T	<0.001
E	<0.001
mp-X	<0.001
o-X	<0.001

MW-1	
B	<0.001
T	<0.001
E	<0.001
mp-X	0.00191
o-X	<0.001



LEGEND

- ⊙ MONITOR WELL LOCATIONS
- SOIL BORING LOCATION
- OHE— OVERHEAD POWER LINE

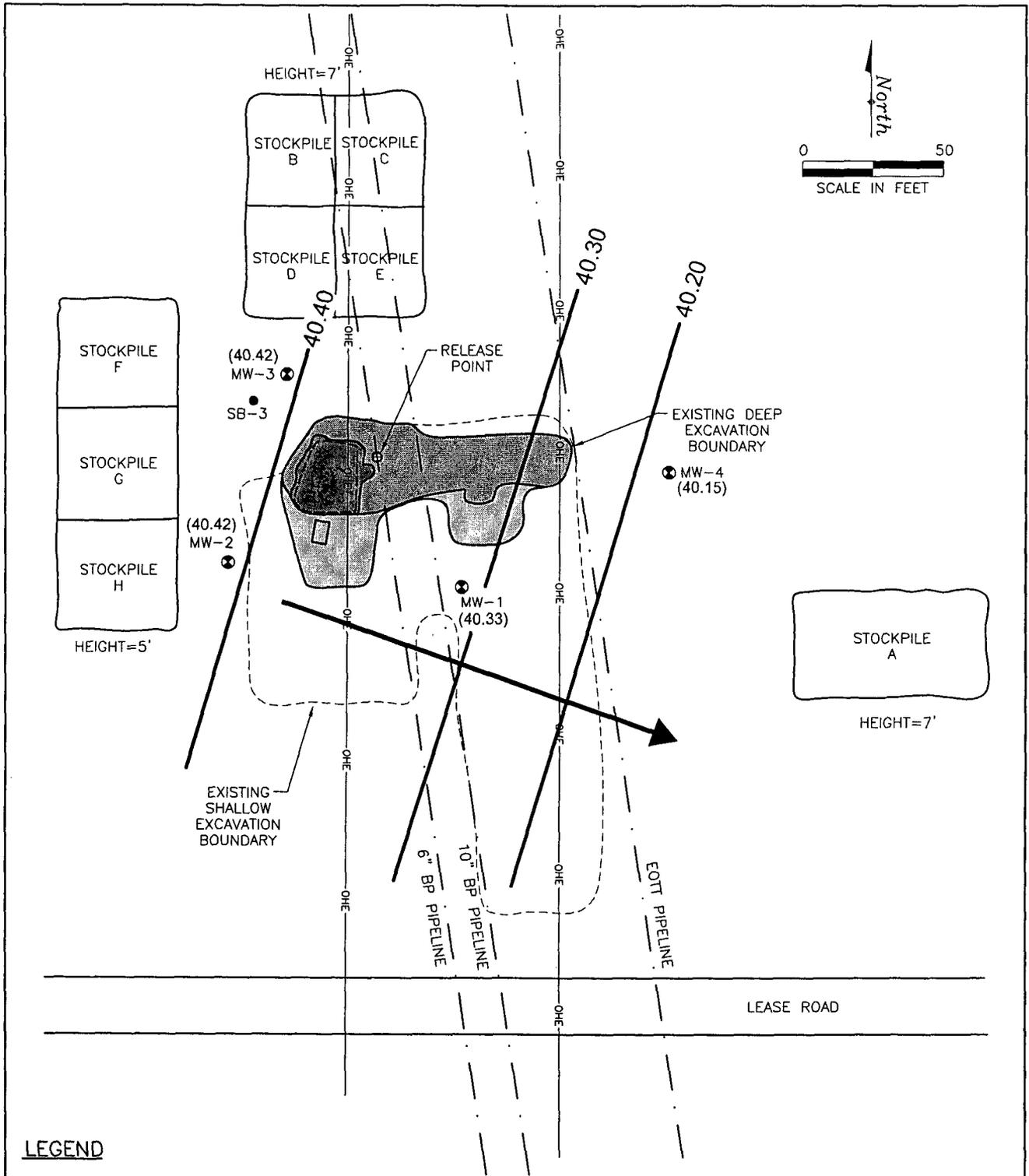
MW-2	
B	<0.001
T	<0.001
E	<0.001
mp-X	<0.001
o-X	<0.001

RESULTS REPORTED IN MILLIGRAMS PER LITER (mg/L)

FIGURE 3
GROUNDWATER ANALYTICAL DATA
BP PIPELINES (NORTH AMERICA)
DENTON GATHERING
LOVINGTON, NEW MEXICO

PROJECT NO. F003-003	PREPARED BY BS	DRAWN BY DD
DATE 7/12/04	REVIEWED BY	FILE NAME F003-003





LEGEND

- ⊕ MONITOR WELL LOCATIONS
- SOIL BORING LOCATION
- OHE- OVERHEAD POWER LINE
- (40.33) GROUNDWATER ELEVATION (FT.)
- 40.20 GROUNDWATER CONTOUR LINE
- ➔ GROUNDWATER FLOW DIRECTION

GROUNDWATER ELEVATION MEASUREMENTS COLLECTED ON 6/10/04

FIGURE 4
GROUNDWATER POTENTIOMETRIC SURFACE
BP PIPELINES (NORTH AMERICA)
DENTON GATHERING
LOVINGTON, NEW MEXICO

PROJECT NO. F003-003	PREPARED BY BS	DRAWN BY DD	
DATE 7/12/04	REVIEWED BY	FILE NAME F003-003	

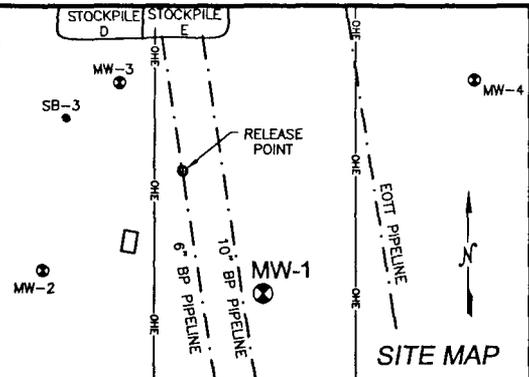
APPENDICES

APPENDIX A
BORING LOGS



MW-1
BP PIPELINES NA
 DENTON GATHERING
 LEA COUNTY, NM
 DELTA PROJECT NO. F003-003

STOCKPILE F
 STOCKPILE G
 STOCKPILE H



DRILLING CO.: ECO DRILLING DRILLING METHOD: HOLLOW STEM AUGER
 DRILLER: MIKE H. SAMPLE METHOD: 5 FT. SPLIT SPOON
 DELTA REP: B. SUMMERS DATE STARTED: 6/02/04
 BORING IN EXCAVATION APPROX. 4' DATE COMPLETED: 6/02/04
 LOCATION: BELOW GROUND SURFACE

DEPTH (FT)	SAMPLE	REC %	OVM (ppm)	SAMPLE TIME	SURFACE ELEVATION:		REMARKS:	WELL CONSTRUCTION
						LITHOLOGIC DESCRIPTION		
5		60		1100				<p>59 FT. RISER GROUT TO SURFACE 59' 64' 5 FT. BENTONITE 5 FT. SCREEN SAND</p>
10	1	30	0.0	1111			SLIGHTLY LITHIFIED ZONES AT 41-43 AND 44-44.5 FEET.	
15		90		1132				
20	2	90	0.0	1144				
25		95		1158				
30	3	90	2.0	1216				
35		90		1222				
40	4	90	0.0	1300				
45		85		1316				
50	5	80	0.0	1333				
55	6	80	113	1346				
60	7	90	2.3	1421				
65		85		1457				
70					END OF BORING			▽ = WATER LEVEL



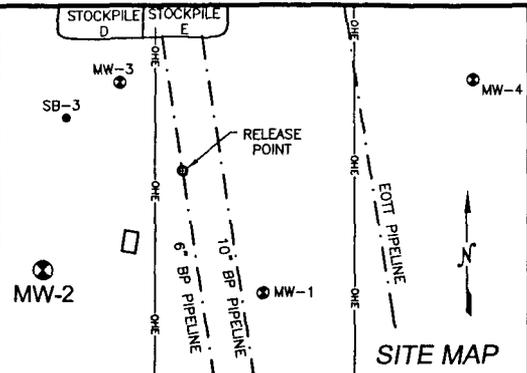
MW-2

BP PIPELINES NA

DENTON GATHERING
LEA COUNTY, NM

DELTA PROJECT NO. F003-003

STOCKPILE F
STOCKPILE G
STOCKPILE H



DRILLING CO.: ECO DRILLING DRILLING METHOD: HOLLOW STEM AUGER
 DRILLER: MIKE H. SAMPLE METHOD: 5 FT. SPLIT SPOON
 DELTA REP: B. SUMMERS DATE STARTED: 6/02/04
 BORING LOCATION: 25 FEET WEST OF EXCAVATION DATE COMPLETED: 6/04/04

DEPTH (FT)	SAMPLE	REC %	OVM (ppm)	SAMPLE TIME	SURFACE ELEVATION:		REMARKS:	WELL CONSTRUCTION
						LITHOLOGIC DESCRIPTION		
5		30		1645				
8	8	35	0.0	1654				
10		40		1706				
15		40		1724				
20	9	40	0.0	1724				
25		95		1158				
6/3/04								
30								
35								
40	16	30	0.0	1720				
45		10		1732				
6/4/04								
50	17	60	0.0	717				
55		50		729				
60	18	50	2.2	748				
65	19	40		805				
70		40		832				

END OF BORING

▽ = WATER LEVEL

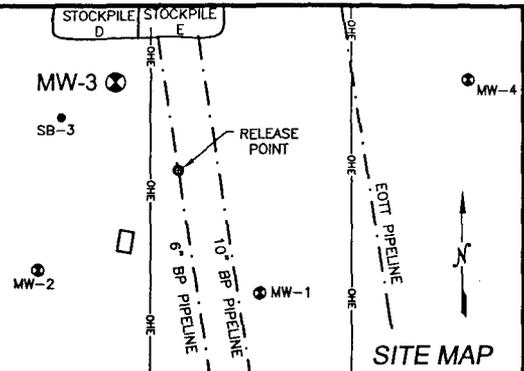


MW-3

BP PIPELINES NA
DENTON GATHERING
LEA COUNTY, NM

DELTA PROJECT NO. F003-003

- STOCKPILE F
- STOCKPILE G
- STOCKPILE H



DRILLING CO.: ECO DRILLING	DRILLING METHOD: AIR ROTARY
DRILLER: MIKE H.	SAMPLE METHOD: NO SAMPLES
DELTA REP: B. SUMMERS	DATE STARTED: 6/04/04
BORING LOCATION: MOVED 15 FT. NE OF SB-3	DATE COMPLETED: 6/04/04

DEPTH (FT)	SAMPLE	REC %	OVM (ppm)	SAMPLE TIME	SURFACE ELEVATION:		REMARKS:	WELL CONSTRUCTION
					LITHOLOGIC DESCRIPTION			
5		30		1645	DARK GRAY CLAYEY SILT, DRY		NO SAMPLE DATA AVAILABLE BECAUSE WELL WAS INSTALLED USING AIR ROTARY DRILLING METHOD 55' RISER GROUT TO SURFACE 55' 70' 2 FT. BENTONITE SAND 15' SCREEN GROUNDWATER AT 60 FT.	
					LIGHT BUFF SILTY CLAY, SLIGHTLY MOIST			
10	8	35	0.0	1654	BUFF LIMESTONE (MUDSTONE) CRYSTALLINE			
					LIGHT GRAY CRYSTALLINE MUDSTONE			
15		40		1706	PINK TO RED DOLOMITE			
					INTERBEDDED LIGHT GRAY MUDSTONE AND PINK DOLOMITE (DENSE)			
20	9	40	0.0	1724	INTERBEDDED LIGHT GRAY MUDSTONE AND PINK DOLOMITE (DENSE)			
25		95		1158	LIGHT REDDISH-BROWN FINE-GRAINED SAND, 10% FINE-GRAIN GRAVEL, SLIGHTLY MOIST			
					RED-BROWN FINE TO VERY FINE-GRAINED SAND WITH THIN ZONES OF PARTIALLY LITHIFIED SANDSTONE			
35					SAME AS ABOVE			
40	16	30	0.0	1720	LIGHT TAN FINE TO VERY FINE-GRAINED SAND WITH VERY FINE-GRAINED GRAVEL (10%), DRY			
45		10		1732	LIGHT RED TO BROWN FINE TO VERY FINE-GRAINED SAND WITH VERY FINE-GRAINED GRAVEL (10%), DRY			
50	17	60	0.0	717	LIGHT RED-BROWN FINE TO VERY FINE-GRAINED SAND WITH 10% FINE-GRAINED ROUNDED GRAVEL, SLIGHTLY MOIST			
55		50	113	729	LIGHT RED-BROWN FINE TO VERY FINE-GRAINED SAND WITH FINE-GRAINED ROUND TO SUBANGULAR GRAVEL (15%), MOIST			
60	18	50	2.2	748	LIGHT RED-BROWN FINE TO VERY FINE-GRAINED SAND WITH FINE-GRAINED ROUND TO SUBANGULAR GRAVEL (15%), MOIST			
65	19	40		805	RED BROWN FINE TO VERY FINE-GRAINED SAND, 5-10% COARSE SAND, VERY MOIST TO DAMP AT 60 TO 63 FEET			
70		40		832	RED BROWN FINE TO VERY FINE-GRAINED SAND, WET			

END OF BORING

▽ = WATER LEVEL

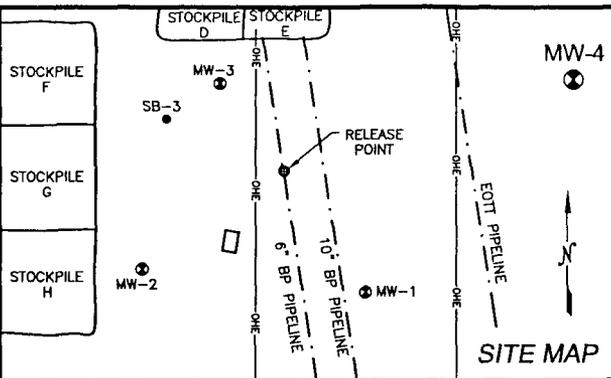


MW-4

BP PIPELINES NA

DENTON GATHERING
LEA COUNTY, NM

DELTA PROJECT NO. F003-003



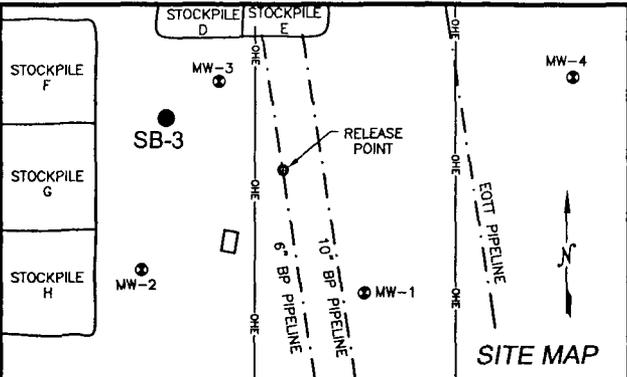
DRILLING CO.: ECO DRILLING	DRILLING METHOD: HOLLOW STEM AUGER
DRILLER: MIKE H.	SAMPLE METHOD: 5 FT. SPLIT SPOON
DELTA REP: B. SUMMERS	DATE STARTED: 6/03/04
BORING LOCATION: 30 FEET EAST OF EXCAVATION	DATE COMPLETED: 6/03/04

DEPTH (FT)	SAMPLE	REC %	OVM (ppm)	SAMPLE TIME	SURFACE ELEVATION:		REMARKS:	WELL CONSTRUCTION
					LITHOLOGIC DESCRIPTION			
5		75		950	DARK GRAY CLAYEY SILT, DRY		55 FT. RISER	
10	10	30	0.0	1015	BUFF CLAY WITH 15% FINE TO MEDIUM-GRAINED SUBANGULAR LIMESTONE GRAVEL, DRY			
15		30		1024	PINK FRIABLE LIMESTONE BUFF LIMESTONE WITH 80% INTERGRANULAR AND 20% VUGGY POROSITY		GROUT TO SURFACE	
20	11	30	0.0	1032	SAME AS ABOVE WITH 15% MEDIUM-GRAINED ANGULAR TO SUBANGULAR GRAVEL OF LIGHT GRAY REWORKED LIMESTONE			
25		25		1045	LIGHT RED FINE-GRAINED SAND, MOIST		55'	
30	12	100	2.3	1051	LIGHT BROWN FINE-GRAINED SAND, MOIST			
35		100		1105	LIGHT BROWN FINE-GRAINED SAND, SLIGHTLY MOIST		70'	
40	13	80	0.2	1113	LIGHT REDDISH BROWN FINE-GRAINED SAND			
45		90		1125	SAME AS ABOVE WITH 20% LARGE SUBANGULAR LIMESTONE (GRAINSTONE) GRAVEL, SLIGHTLY MOIST		LITHIFIED 46 TO 47 FEET	
50	14	95	0.6	1137	LIGHT REDDISH BROWN FINE-GRAINED SAND SAME AS ABOVE (SLIGHTLY LITHIFIED)			
55		90		1144	LIGHT BROWN FINE-GRAINED SAND, SLIGHTLY MOIST		LITHIFIED 54 TO 55 FEET	
60	15	85	2.3	1158	SAME AS ABOVE WITH 25% SUBANGULAR MEDIUM-GRAINED SANDSTONE GRAVEL			
65		70		1216	SAME AS ABOVE BECOMING REDDISH BROWN, MOIST		2 FT. BENTONITE	
70		80		1234	RED BROWN CLAYEY SAND, SATURATED LIGHT BROWN FINE-GRAINED SAND, WET			
					CLAYEY SAND, SATURATED AT 65 TO 66 FEET		15 FT. SCREEN	
					SAME AS ABOVE BUT MOIST			
					END OF BORING		▽ = WATER LEVEL	



SB-3
BP PIPELINES NA
 DENTON GATHERING
 LEA COUNTY, NM

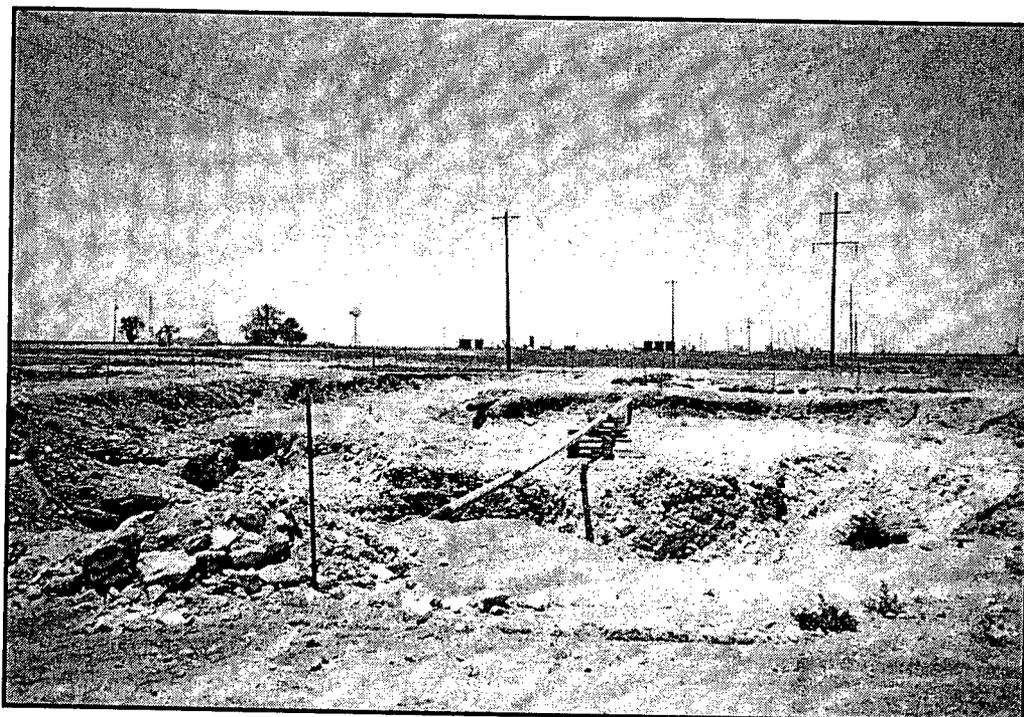
DELTA PROJECT NO. F003-003



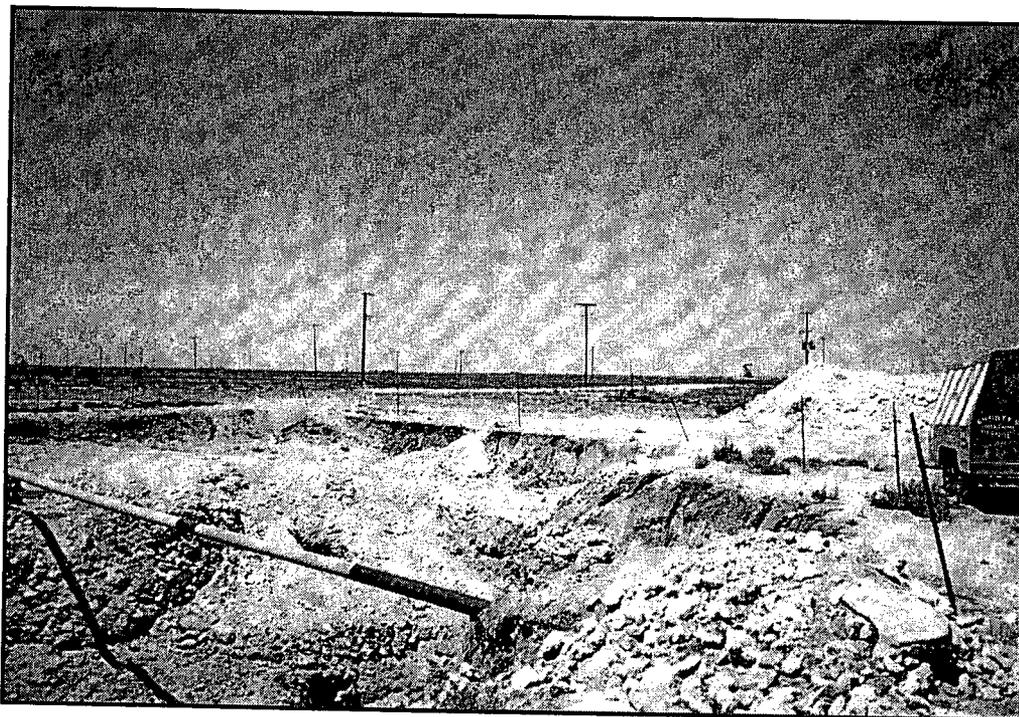
DRILLING CO.: ECO DRILLING	DRILLING METHOD: HOLLOW STEM AUGER
DRILLER: MIKE H.	SAMPLE METHOD: 5 FT. SPLIT SPOON
DELTA REP: B. SUMMERS	DATE STARTED: 6/04/04
	DATE COMPLETED: 6/04/04

DEPTH (FT)	SAMPLE	REC %	OVM (ppm)	SAMPLE TIME	SURFACE ELEVATION:		REMARKS:
					LITHOLOGIC DESCRIPTION		
		60		1046	DARK GRAY CLAYEY SILT, DRY		
5					FRAGMENTS OF LIGHT GRAY LIMESTONE (GRAINSTONE), VERY DENSE		
10	20	30	0.0	1052	LIGHT RED TO BUFF CRYSTALLINE DOLOMITE, 10% VUG POROSITY LIGHT BROWN CRYSTALLINE MUDSTONE WITH SUSPENDED GRAINS, VERY DENSE		
					END OF BORING		<p>COULD ONLY ADVANCE TO 8-9 FT. WITH HOLLOW STEM. SWITCHED TO AIR</p> <p>COULD NOT GET HOLLOW STEM BIT THROUGH AIR ROTARY BOREHOLE. CHANCE OF BREAKING DRIVE GEAR ON DRILL SHAFT.</p> <p>HAD TO ABANDON BOREHOLE, TWO TEETH BROKE OFF AND REMAIN IN BOREHOLE.</p>
15							
20							
25							
30							
35							
40							
45							
50							
55							
60							
65							
70							

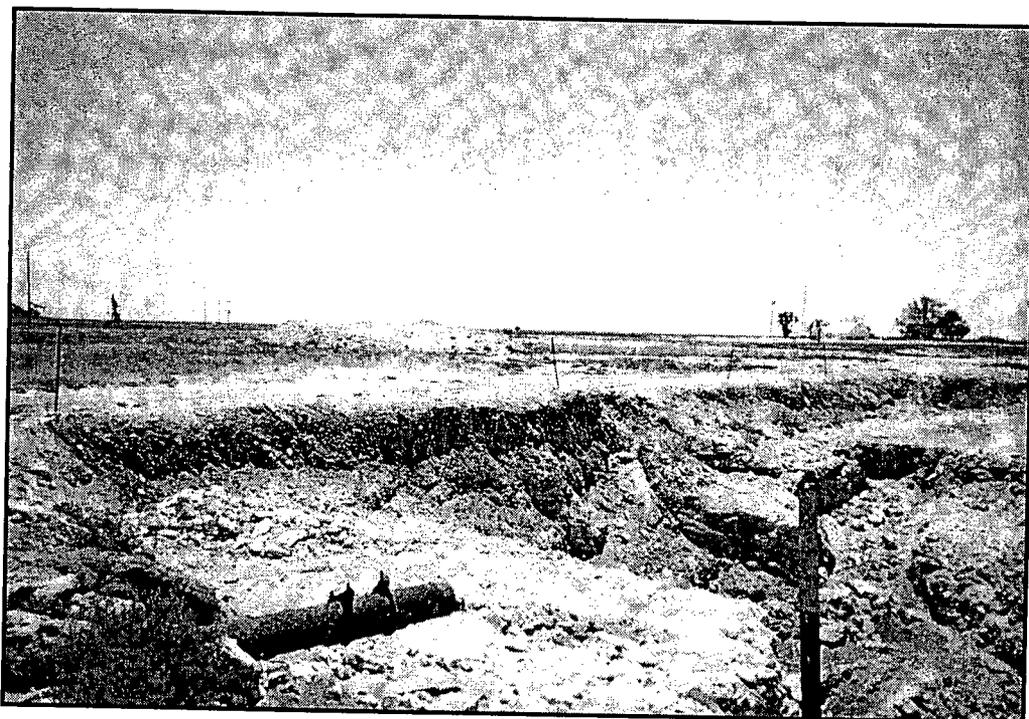
APPENDIX B
PHOTOGRAPHIC DOCUMENTATION



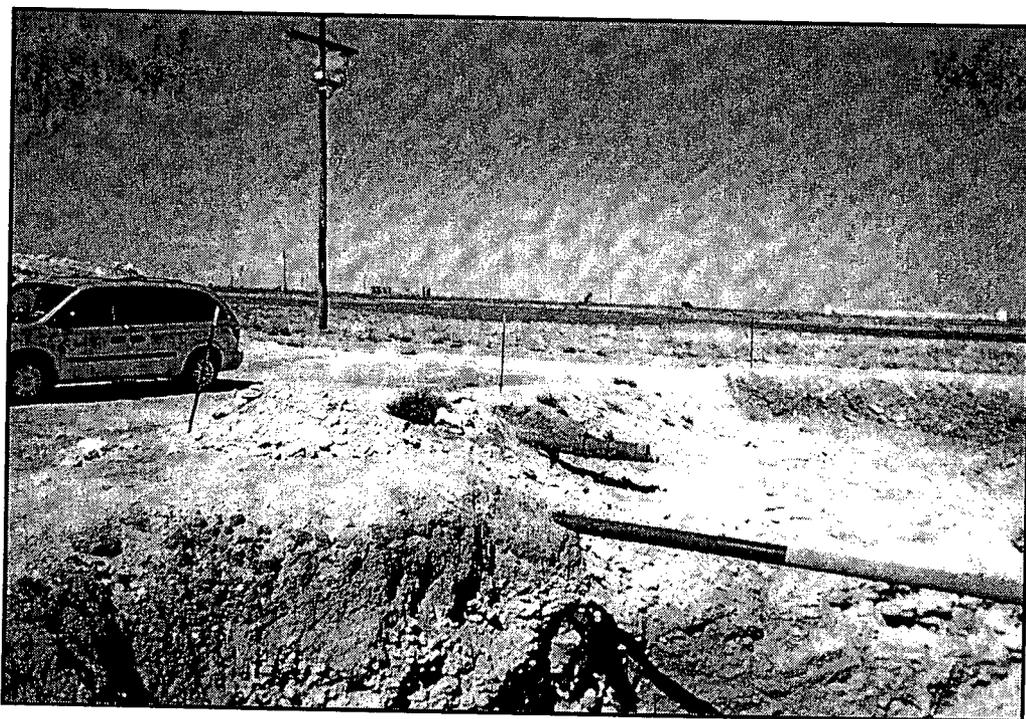
Photograph 1. View of site looking south from northern edge of excavation
(Note rolled fencing, staged for removal).



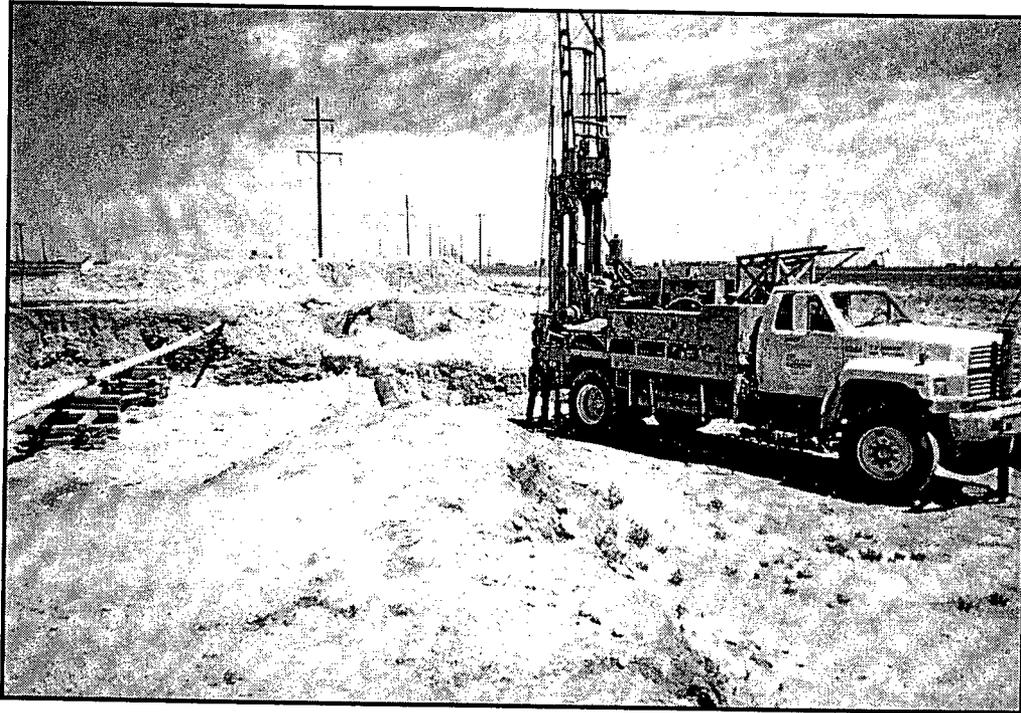
Photograph 2. View of site looking west.



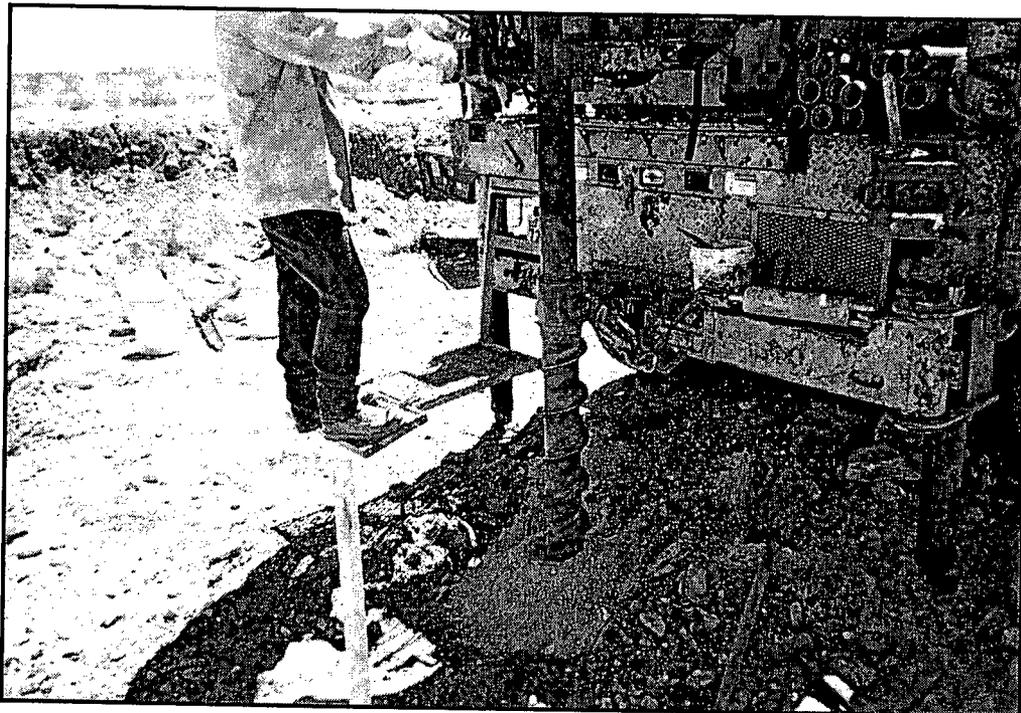
Photograph 3. View of site looking east.



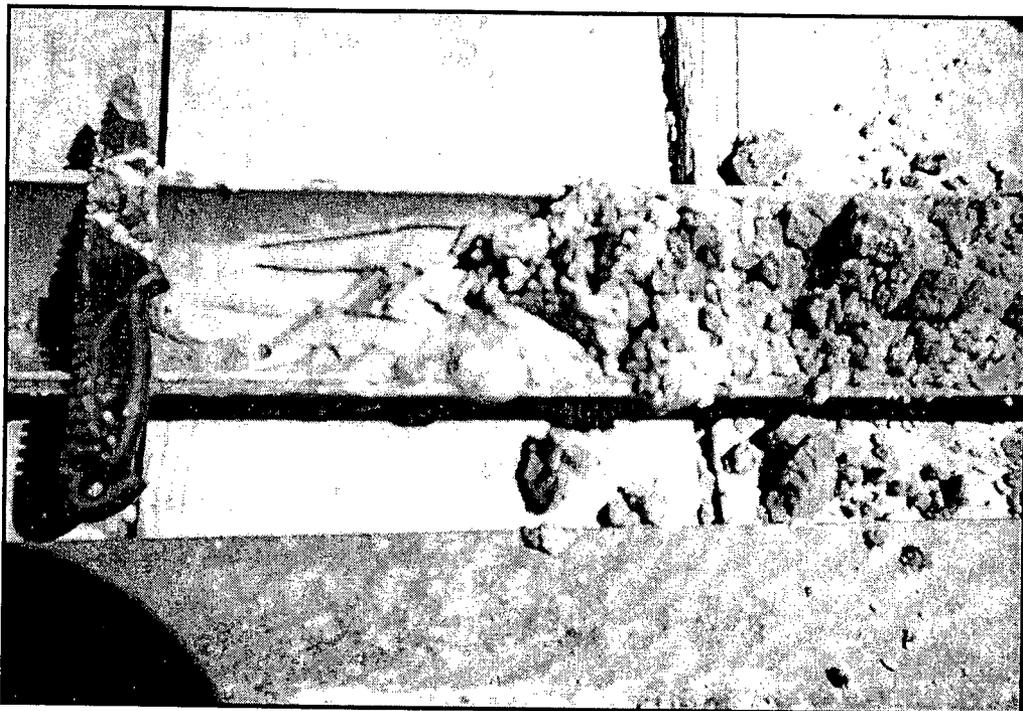
Photograph 4. View of site looking northeast.



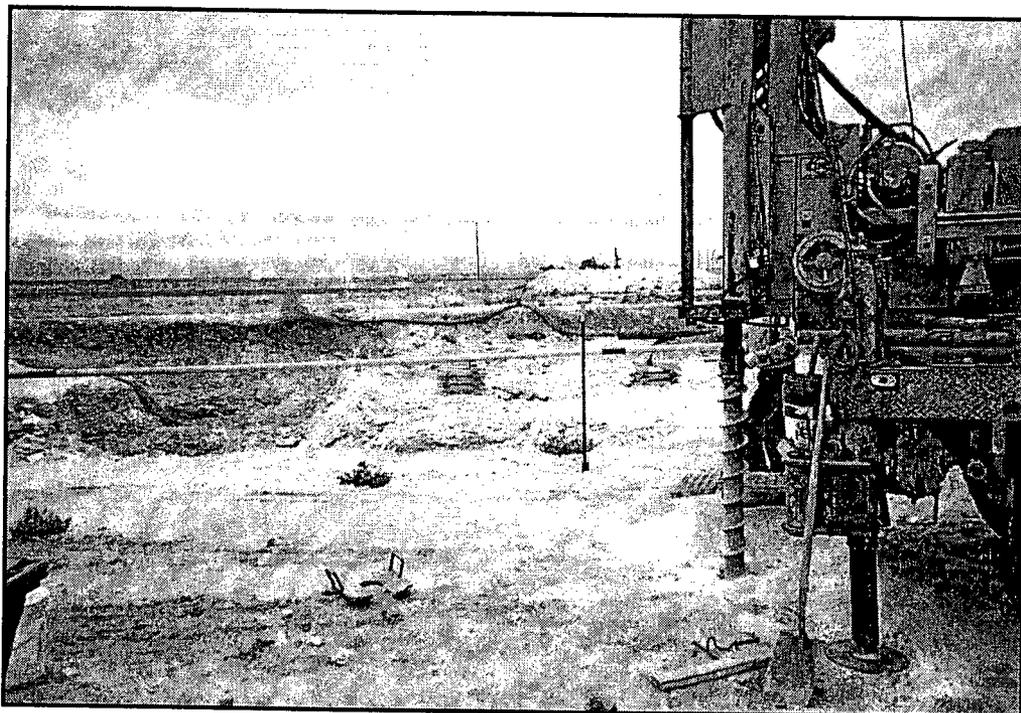
Photograph 5. Drill rig set up at location of MW-1.



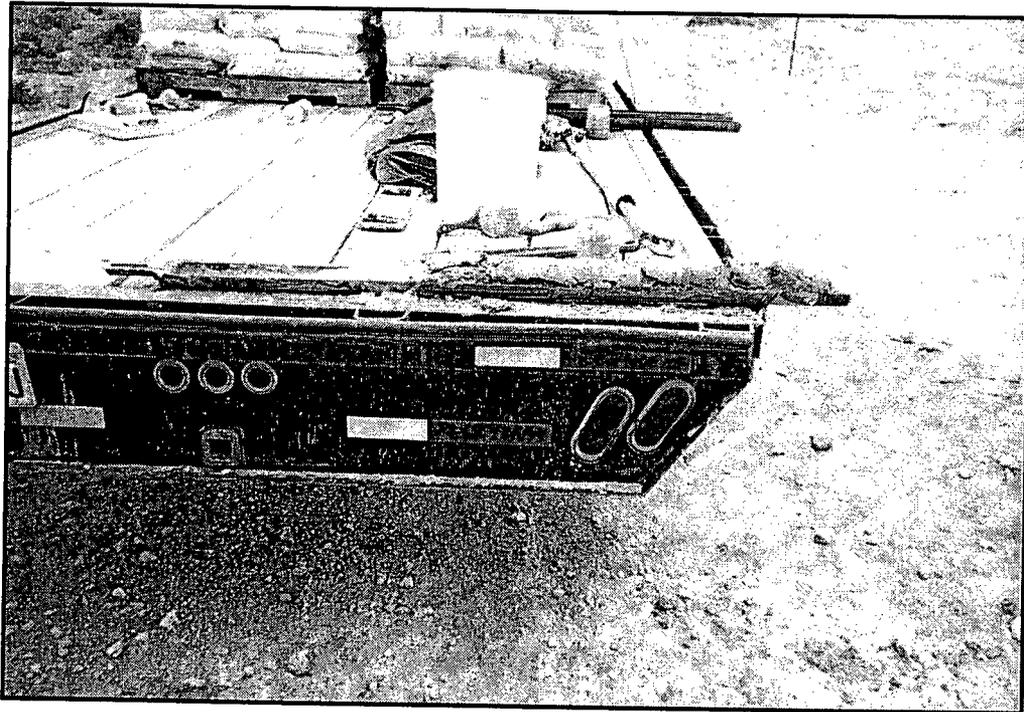
Photograph 6. Installation of MW-1.



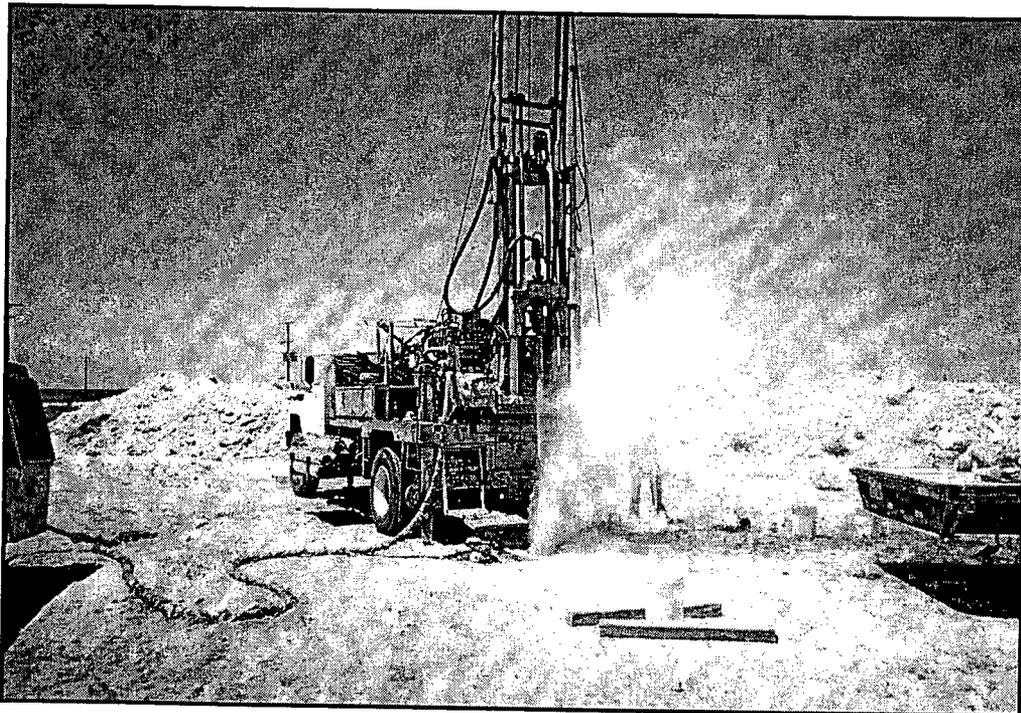
Photograph 7. Soil-Water Interface at MW-1.



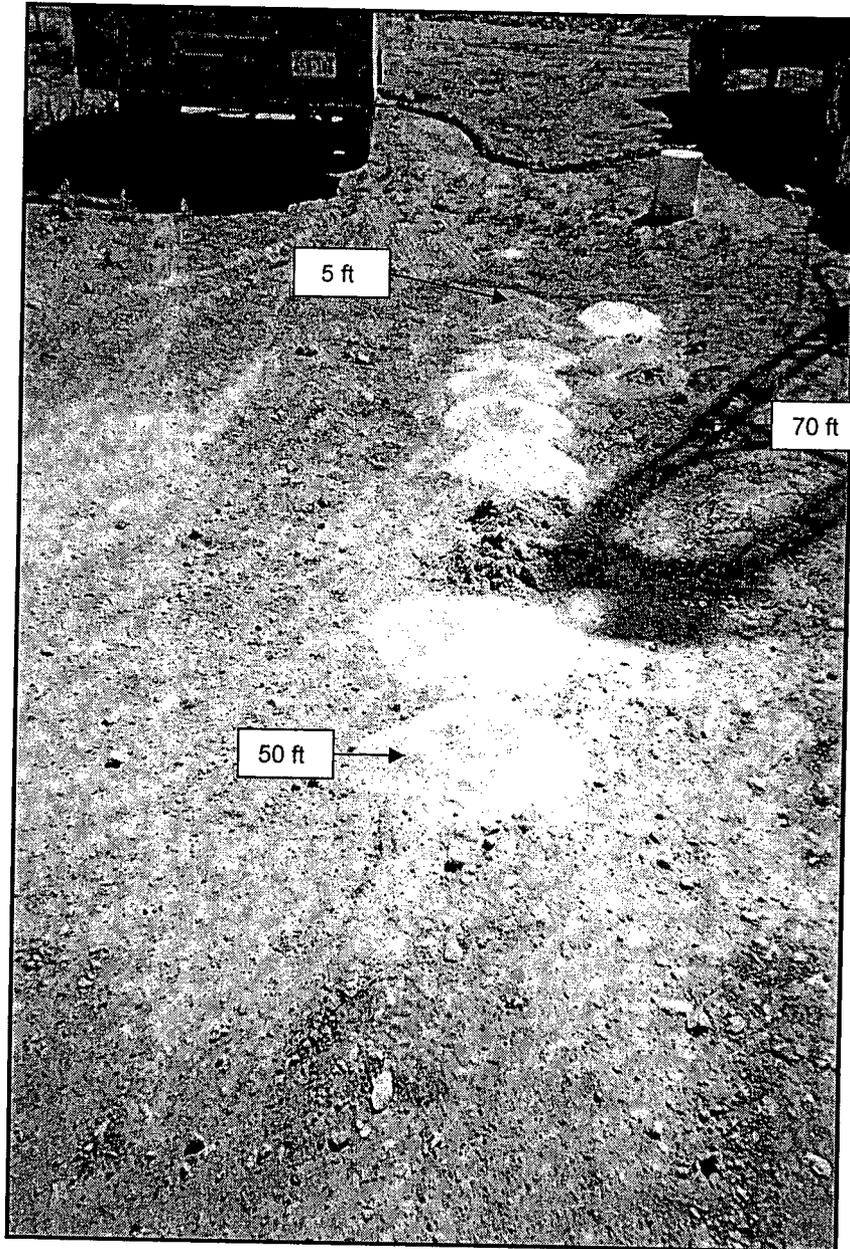
Photograph 8. Location of MW-2.



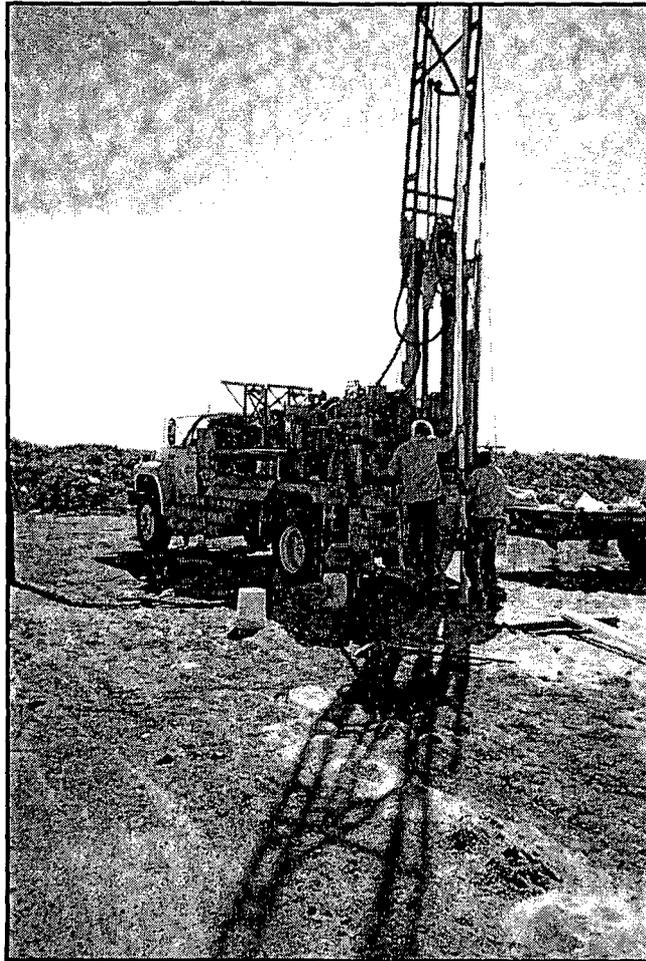
Photograph 9. Water-bearing strata at MW-2.



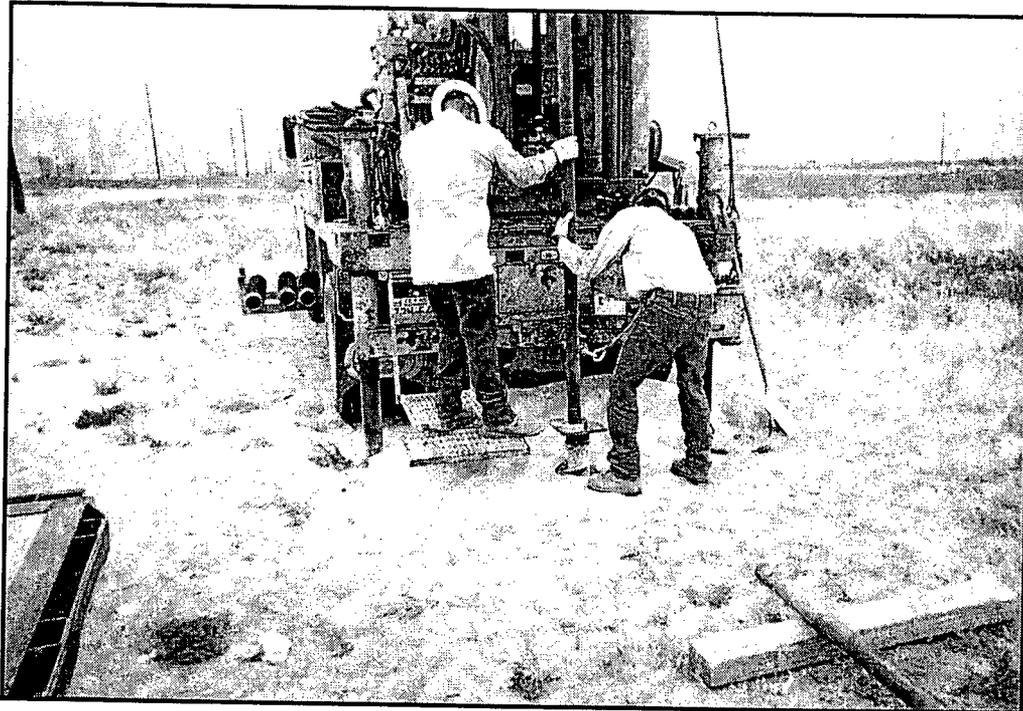
Photograph 10. Use of air rotary at MW-3.



Photograph 11. View of drill cuttings from MW-3 (Five foot intervals).



Photograph 12. Installation of well screen/riser at MW-3.



Photograph 13. Rig at location of MW-4.



Photograph 14. View of pre-pack screen used in site monitor wells.

APPENDIX C
LABORATORY ANALYTICAL REPORTS

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

DEMON GARDNER



Report of Laboratory Analysis
Project Number: 2033977





Sample Cross Reference Report

PASI New Orleans

www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Client: DELTA ENVIRONMENTAL CONSULTING

Project: GLN/Denton Gathering/F003-003

Project No.: 2033977

Sample ID	Lab ID	Matrix	Collection Date/Time		Received Date/Time	
MW-1 54-55FT	20262299	Soil	06/02/2004	13:46	06/04/2004	10:15
MW-1 59-60FT	20262300	Soil	06/02/2004	14:21	06/04/2004	10:15
MW-4 59-60FT	20262301	Soil	06/02/2004	11:58	06/04/2004	10:15

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - EB7595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)

6/17/2004 18:05:14



Report of Laboratory Analysis

PASI New Orleans

www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Client: DELTA ENVIRONMENTAL CONSULTING

Client ID: MW-1 54-55FT

Site: None

Project: GLN/Denton Gathering/F003-003

Project No.: 2033977

Sample Qu:

Lab ID: 20262299

Matrix: Soil

% Moisture: Not Corrected

Description: None

Prep Level: Soil

Batch: 44309

Method: SW 8021 BTEX

Units: ug/kg

Target List: BTEXMED

Collected: 06/02/04

Received: 06/04/04

Prep Factor: 1

Leached: n/a

Prepared: 06/15/04

Analyzed: 06/15/04 17:30 CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		25.0	
100-41-4	Ethylbenzene	1	ND		25.0	
108-88-3	Toluene	1	ND		25.0	
1330-20-7	m,p-Xylene	1	ND		25.0	
95-47-6	o-Xylene	1	ND		25.0	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)

6/17/2004 18:05:29



Report of Laboratory Analysis

PASI New Orleans

www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Client: DELTA ENVIRONMENTAL CONSULTING

Client ID: MW-1 59-60FT

Site: None

Project: GLN/Denton Gathering/F003-003

Project No.: 2033977

Sample Qu:

Lab ID: 20262300

Matrix: Soil

% Moisture: Not Corrected

Description: None

Prep Level: Soil

Batch: 44309

Method: SW 8021 BTEX

Units: ug/kg

Target List: BTEXMED

Collected: 06/02/04

Received: 06/04/04

Prep Factor: 1

Leached: n/a

Prepared: 06/15/04

Analyzed: 06/15/04 17:52 CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		25.0	
100-41-4	Ethylbenzene	1	ND		25.0	
108-88-3	Toluene	1	ND		25.0	
1330-20-7	m,p-Xylene	1	ND		25.0	
95-47-6	o-Xylene	1	ND		25.0	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP INELAP WW/HZI - 02006
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Foreign Soil Import (U.S. Territories)

6/17/2004 18:05:29

Report of Laboratory Analysis

PASI New Orleans

www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087
Phone: 504.469.0333
Fax: 504.469.0555

Client: DELTA ENVIRONMENTAL CONSULTING

Client ID: MW-4 59-60FT

Site: None

Project: GLN/Denton Gathering/F003-003

Project No.: 2033977

Sample Qu:

Lab ID: 20262301

Matrix: Soil

% Moisture: Not Corrected

Description: None

Prep Level: Soil

Batch: 44309

Method: SW 8021 BTEX

Units: ug/kg

Target List: BTEXMED

Collected: 06/02/04

Received: 06/04/04

Prep Factor: 1

Leached: n/a

Prepared: 06/15/04

Analyzed: 06/15/04 18:14 CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		25.0	
100-41-4	Ethylbenzene	1	ND		25.0	
108-88-3	Toluene	1	ND		25.0	
1330-20-7	m,p-Xylene	1	ND		25.0	
95-47-6	o-Xylene	1	ND		25.0	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E07595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)

6/17/2004 18:05:29

Report of Quality Control

PASI New Orleans

www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Method: Med Soil GC Volatile Organics

Project No.: 2033977

Batch: 44309

Units: ug/kg

Parameter Name	LCS	LCS	LCSD	LCS	MS	MS	MSD	(1)MS	DUP	QC Limits		Max	Qu
	Spike	%Rec	%Rec	RPD	Spike	%Rec	%Rec	RPD	RPD	LCS	MS/MSD	RPD	
Benzene	1000	96			1000					70 - 128	51 - 134	50	
Benzene	1000				1000	114	102	9		70 - 128	51 - 134	50	
Ethylbenzene	1000	101			1000					81 - 131	50 - 153	50	
Ethylbenzene	1000				1000	146	108	18		81 - 131	50 - 153	50	
Toluene	1000	100			1000					80 - 132	57 - 139	50	
Toluene	1000				1000	124	100	10		80 - 132	57 - 139	50	
m,p-Xylene	2000	106			2000					88 - 139	61 - 148	50	
m,p-Xylene	2000				2000	183 *	109	22		88 - 139	61 - 148	50	Q1
o-Xylene	1000	107			1000					88 - 134	50 - 164	50	
o-Xylene	1000				1000	170 *	102	21		88 - 134	50 - 164	50	Q1

10 compound(s) reported

* denotes recovery outside of QC limits.

MS spike concentrations are not corrected for moisture content of the spiked sample.

(1) MS RPD is calculated via SW-846 rules; on the basis of spiked sample concentrations rather than spike recoveries.

6/17/2004 18:05:29

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)

Report of Batch Surrogate Recovery

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555



PASI New Orleans

www.pacelabs.com

Method: Med Soil GC Volatile Organics

Report: 2033977

Batch: 44309

Lab ID	Type and Qualifiers	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
20262299	Sample G1	191*	241*						
20262300	Sample	79	78						
20262301	Sample	71	71						
20262441	Sample D1	0D	0D						
20262442	Sample D1	0D	0D						
20262443	Sample D1	0D	0D						
20262444	Sample D1	0D	0D						
20262445	Sample D1	0D	0D						
20262446	Sample	101	94						
20262447	Sample	72	74						
20262448	Sample D1	0D	0D						
20262449	Sample M1	58*	59*						
20262449RE	Re-run	67*	68*						
20262450	Sample M1	57*	58*						
20262450RE	Re-run	61*	61*						
20262660	Sample	74	73						
20262661	Sample	70	71						
20262662	Sample	80	80						
20263360	Sample	76	76						
20263891	Sample D1	0D	0D						
20264098	Sample D1	0D	0D						
44309B1	Blank	78	78						
44309MS	Spike	120	108						
44309MSD	Spike Dup	111	101						
44309S1	LCS	100	102						

QC limits: 70-130 70-130

Sur 1: 4-Bromofluorobenzene (PID) (S)
Sur 2: 4-Bromofluorobenzene (PID) confirmat

* denotes surrogate recovery outside of QC limits.
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.
A Lab ID consisting of a batch number with a B suffix is a method blank.
A Lab ID consisting of a batch number with a S suffix is an LCS.
A Lab ID with a MS suffix is a matrix spike.
A Lab ID with a MSD suffix is a matrix spike duplicate.

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
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U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)



Report of Method Blank

PASI New Orleans

www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Lab ID: 44309B1

Description: Med Soil Method Blan

Project No.: 2033977

Method: Med Soil GC Volatile Organics

Batch: 44309

Units: ug/kg

Prep Factor: 1

Leached:

Prepared: 15-Jun-04

Analyzed: 15-Jun-04 14:46

CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
71-43-2	Benzene	1	ND		25.0
100-41-4	Ethylbenzene	1	ND		25.0
108-88-3	Toluene	1	ND		25.0
1330-20-7	m,p-Xylene	1	ND		25.0
95-47-6	o-Xylene	1	ND		25.0

5 compound(s) reported

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

6/17/2004 18:05:30

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)



Report Qualifiers
PASI New Orleans
www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087
Phone: 504.469.0333
Fax: 504.469.0555

Project No.: 2033977

Analyte Qualifiers

Qualifier	Qualifier Description
GI	Interferences are present which caused poor surrogate recovery.

QC Qualifiers

Qualifier	Qualifier Description
Q1	The matrix spike recoveries are poor. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample recovery.

6/17/2004 18:05:30

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555



Report of Laboratory Analysis
Project Number: 2034127





Sample Cross Reference Report

PASI New Orleans

www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Client: DELTA ENVIRONMENTAL CONSULTING

Project: GLN/Denton Gathering

Project No.: 2034127

Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
MW-2 60-GIFT #19	20263360	Soil	06/04/2004 08:05	06/08/2004 09:30

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)

6/18/2004 03:49:57



Report of Laboratory Analysis

PASI New Orleans

www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Client: DELTA ENVIRONMENTAL CONSULTING

Client ID: MW-2 60-GIFT #19
Project: GLN/Denton Gathering
Lab ID: 20263360
Description: None
Method: SW 8021 BTEX

Site: None
Project No.: 2034127 Sample Qu:
Matrix: Soil % Moisture: Not Corrected
Prep Level: Soil Batch: 44309
Units: ug/kg Target List: BTEXMED
Collected: 06/04/04 Received: 06/08/04
Prepared: 06/15/04 Analyzed: 06/17/04 12:00 CCW

Prep Factor: 1 Leached: n/a

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		25.0	
100-41-4	Ethylbenzene	1	ND		25.0	
108-88-3	Toluene	1	ND		25.0	
1330-20-7	m,p-Xylene	1	ND		25.0	
95-47-6	o-Xylene	1	ND		25.0	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)

6/18/2004 03:50:15



Report of Quality Control

PASI New Orleans

www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Method: Med Soil GC Volatile Organics

Project No.: 2034127

Batch: 44309

Units: ug/kg

Parameter Name	LCS	LCS	LCSD	LCS	MS	MS	MSD	(1)MS	DUP	QC Limits		Max	Qu
	Spike	%Rec	%Rec	RPD	Spike	%Rec	%Rec	RPD	RPD	LCS	MS/MSD	RPD	
Benzene	1000	96			1000					70 - 128	51 - 134	50	
Benzene	1000				1000	114	102	9		70 - 128	51 - 134	50	
Ethylbenzene	1000	101			1000					81 - 131	50 - 153	50	
Ethylbenzene	1000				1000	146	108	18		81 - 131	50 - 153	50	
Toluene	1000	100			1000					80 - 132	57 - 139	50	
Toluene	1000				1000	124	100	10		80 - 132	57 - 139	50	
m,p-Xylene	2000	106			2000					88 - 139	61 - 148	50	
m,p-Xylene	2000				2000	183 *	109	22		88 - 139	61 - 148	50	Q1
o-Xylene	1000	107			1000					88 - 134	50 - 164	50	
o-Xylene	1000				1000	170 *	102	21		88 - 134	50 - 164	50	Q1

10 compound(s) reported

* denotes recovery outside of QC limits.

MS spike concentrations are not corrected for moisture content of the spiked sample.

(1) MS RPD is calculated via SW-846 rules: on the basis of spiked sample concentrations rather than spike recoveries.

6/18/2004 03:50:17

Laboratory Certifications:

Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
 Florida Dept. of Health/Hazardous Waste - E87595
 Kansas Dept. of Health & Environment/ELWHW - E-10266
 LELAP (NELAP WW/HZ) - 02006
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Report of Batch Surrogate Recovery

PASI New Orleans

www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Method: Med Soil GC Volatile Organics

Report: 2034127

Batch: 44309

Lab ID	Type and Qualifiers	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
20262299	Sample G1	191*	241*						
20262300	Sample	79	78						
20262301	Sample	71	71						
20262441	Sample D1	0D	0D						
20262442	Sample D1	0D	0D						
20262443	Sample D1	0D	0D						
20262444	Sample D1	0D	0D						
20262445	Sample D1	0D	0D						
20262446	Sample	101	94						
20262447	Sample	72	74						
20262448	Sample D1	0D	0D						
20262449	Sample M1	58*	59*						
20262449RE	Re-run	67*	68*						
20262450	Sample M1	57*	58*						
20262450RE	Re-run	61*	61*						
20262660	Sample	74	73						
20262661	Sample	70	71						
20262662	Sample	80	80						
20263360	Sample	76	76						
20263891	Sample D1	0D	0D						
20264098	Sample D1	0D	0D						
44309B1	Blank	78	78						
44309MS	Spike	120	108						
44309MSD	Spike Dup	111	101						
44309S1	LCS	100	102						

QC limits: 70-130 70-130

Sur 1: 4-Bromofluorobenzene (PID) (S)
Sur 2: 4-Bromofluorobenzene (PID) confirmat

* denotes surrogate recovery outside of QC limits.
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.
A Lab ID consisting of a batch number with a B suffix is a method blank.
A Lab ID consisting of a batch number with a S suffix is an LCS.
A Lab ID with a MS suffix is a matrix spike.
A Lab ID with a MSD suffix is a matrix spike duplicate.

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
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Report of Method Blank

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Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70067

Phone: 504.469.0333
Fax: 504.469.0555

Lab ID: 44309B1

Description: Med Soil Method Blan

Project No.: 2034127

Method: Med Soil GC Volatile Organics

Batch: 44309

Units: ug/kg

Prep Factor: 1

Leached:

Prepared: 15-Jun-04

Analyzed: 15-Jun-04 14:46

CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
71-43-2	Benzene	1	ND		25.0
100-41-4	Ethylbenzene	1	ND		25.0
108-88-3	Toluene	1	ND		25.0
1330-20-7	m,p-Xylene	1	ND		25.0
95-47-6	o-Xylene	1	ND		25.0

5 compound(s) reported

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

6/18/2004 03:50:21

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)

Project No.: 2034127

QC Qualifiers

Qualifier	Qualifier Description
-----------	-----------------------

Q1	The matrix spike recoveries are poor. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample recovery.
----	---

6/18/2004 03:50:23

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)

*Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087*

*Phone: 504.469.0333
Fax: 504.469.0555*



Report of Laboratory Analysis
Project Number: 2034127





Sample Cross Reference Report

PASI New Orleans

www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Client: DELTA ENVIRONMENTAL CONSULTING

Project: GLN/Denton Gathering

Project No.: 2034127

Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
MW-2 60-GIFT #19	20263360	Soil	06/04/2004 08:05	06/08/2004 09:30

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)

6/18/2004 03:49:57

Report of Laboratory Analysis

PASI New Orleans

www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Client: DELTA ENVIRONMENTAL CONSULTING

Client ID: MW-2 60-GIFT #19

Site: None

Project: GLN/Denton Gathering

Project No.: 2034127

Sample Qu:

Lab ID: 20263360

Matrix: Soil

% Moisture: Not Corrected

Description: None

Prep Level: Soil

Batch: 44309

Method: SW 8021 BTEX

Units: ug/kg

Target List: BTEXMED

Collected: 06/04/04

Received: 06/08/04

Prep Factor: 1

Leached: n/a

Prepared: 06/15/04

Analyzed: 06/17/04 12:00 CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		25.0	
100-41-4	Ethylbenzene	1	ND		25.0	
108-88-3	Toluene	1	ND		25.0	
1330-20-7	m,p-Xylene	1	ND		25.0	
95-47-6	o-Xylene	1	ND		25.0	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
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Foreign Soil Import (U.S. Territories)

6/18/2004 03:50:15



Report of Quality Control

PASI New Orleans

www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Method: Med Soil GC Volatile Organics

Project No.: 2034127

Batch: 44309

Units: ug/kg

Parameter Name	LCS	LCS	LCS	LCS	MS	MS	MSD	(1)MS	DUP	QC Limits		Max	Qu
	Spike	%Rec	%Rec	RPD	Spike	%Rec	%Rec	RPD	RPD	LCS	MS/MSD	RPD	
Benzene	1000	96			1000						70 - 128	51 - 134	50
Benzene	1000				1000	114	102	9			70 - 128	51 - 134	50
Ethylbenzene	1000	101			1000						81 - 131	50 - 153	50
Ethylbenzene	1000				1000	146	108	18			81 - 131	50 - 153	50
Toluene	1000	100			1000						80 - 132	57 - 139	50
Toluene	1000				1000	124	100	10			80 - 132	57 - 139	50
m,p-Xylene	2000	106			2000						88 - 139	61 - 148	50
m,p-Xylene	2000				2000	183 *	109	22			88 - 139	61 - 148	50 Q1
o-Xylene	1000	107			1000						88 - 134	50 - 164	50
o-Xylene	1000				1000	170 *	102	21			88 - 134	50 - 164	50 Q1

10 compound(s) reported

* denotes recovery outside of QC limits.
MS spike concentrations are not corrected for moisture content of the spiked sample.
(1) MS RPD is calculated via SW-846 rules: on the basis of spiked sample concentrations rather than spike recoveries.

6/18/2004 03:50:17

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - EB7595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/H2) - 02006
EQB - Certified Puerto Rico Chemist
U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
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Report of Batch Surrogate Recovery

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087



PASI New Orleans

www.pacelabs.com

Phone: 504.469.0333
Fax: 504.469.0555

Method: Med Soil GC Volatile Organics

Report: 2034127

Batch: 44309

Lab ID	Type and Qualifiers	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
20262299	Sample GI	191*	241*						
20262300	Sample	79	78						
20262301	Sample	71	71						
20262441	Sample DI	0D	0D						
20262442	Sample DI	0D	0D						
20262443	Sample DI	0D	0D						
20262444	Sample DI	0D	0D						
20262445	Sample DI	0D	0D						
20262446	Sample	101	94						
20262447	Sample	72	74						
20262448	Sample DI	0D	0D						
20262449	Sample MI	58*	59*						
20262449RE	Re-run	67*	68*						
20262450	Sample MI	57*	58*						
20262450RE	Re-run	61*	61*						
20262660	Sample	74	73						
20262661	Sample	70	71						
20262662	Sample	80	80						
20263360	Sample	76	76						
20263891	Sample DI	0D	0D						
20264098	Sample DI	0D	0D						
44309B1	Blank	78	78						
44309MS	Spike	120	108						
44309MSD	Spike Dup	111	101						
44309S1	LCS	100	102						

QC limits: 70-130 70-130

Sur 1: 4-Bromofluorobenzene (PID) (S)
Sur 2: 4-Bromofluorobenzene (PID confirmat

* denotes surrogate recovery outside of QC limits.

D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.

Lab ID consisting of a batch number with a B suffix is a method blank.

Lab ID consisting of a batch number with a S suffix is an LCS.

Lab ID with a MS suffix is a matrix spike.

Lab ID with a MSD suffix is a matrix spike duplicate.

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
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6/18/2004 03:50:19



Report of Method Blank

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Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Lab ID: 44309B1

Description: Med Soil Method Blan

Project No.: 2034127

Method: Med Soil GC Volatile Organics

Batch: 44309

Units: ug/kg

Prep Factor: 1

Leached:

Prepared: 15-Jun-04

Analyzed: 15-Jun-04 14:46

CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
71-43-2	Benzene	1	ND		25.0
100-41-4	Ethylbenzene	1	ND		25.0
108-88-3	Toluene	1	ND		25.0
1330-20-7	m,p-Xylene	1	ND		25.0
95-47-6	o-Xylene	1	ND		25.0

5 compound(s) reported

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

6/18/2004 03:50:21

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/VELWW - E-10266
LELAP (NELAP WW/HZ) - 02006
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U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)



Report Qualifiers

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Saint Rose, LA 70087

Phone: 504.469.0333

Fax: 504.469.0555

Project No.: 2034127

QC Qualifiers

Qualifier	Qualifier Description
Q1	The matrix spike recoveries are poor. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample recovery.

6/18/2004 03:50:23

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)

Required Client Information:
 Company: **Delta Env Consultants Inc**
 Address: **840 Central Pkwy East**
Suite 120
Plano TX 75074
 Phone: _____ Fax: _____

Required Client Information:
 Report To: **Mark Smith**
 Copy To: **Michael Henn**
 Invoice To: **Mark Smith**
 P.O. **F003-003**
 Project Name: **Denton Catering**
 Project Number: **F003-003**

To Be Completed by Pace Analytical and Client
 Quote Reference: **834757**
 Section C
 Project Manager: _____
 Project #: **8034127**
 Profile #: _____
 Requested Analysis: **BTEX 80218**

Section D Required Client Information:
SAMPLE ID
 One character per box.
 (A-Z, 0-9 / -)
 Sample IDs MUST BE UNIQUE

Valid Matrix Codes
 MATRIX CODE
 WATER WT
 SOIL SL
 OIL OL
 WIPE WP
 AIR AR
 TISSUE TS
 OTHER OT

DATE COLLECTED mm/dd/yy
 TIME COLLECTED hh:mm@p
 # Containers
 Preservatives
 Unpreserved
 H₂SO₄
 HNO₃
 HCl
 NaOH
 Na₂S₂O₃
 Methanol
 Other

ITEM #	M	W	2	0	-	6	1	f	MATRIX CODE	DATE COLLECTED	TIME COLLECTED	# Containers	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	Remarks / Lab ID	
1									WT	6/4/04	0805	1	X									802633(d)
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

REGULATORY AGENCY
 NC SC GA NPDES GROUND WATER DRINKING WATER
 Other RCRA Other

SAMPLE NOTES
 Temp in °C: **49**
 Received on Ice: **YN** Ice Packs
 Sealed Cooler: **YN**
 Samples Intact: **YN**
 Additional Comments: _____

REL INQUIRED BY / AFFILIATION **DATE** **TIME** **ACCEPTED BY / AFFILIATION** **DATE** **TIME**
 Barry ShumDelta 6/16/04 0824 UPS
 KAPZON 6/18/04 0930

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **Barry Summers**
 SIGNATURE of SAMPLER: *Barry Summers*
 DATE Signed: (MM/DD/YY) **6/17/04**

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555



Report of Laboratory Analysis
Project Number: 2034467



Sample Cross Reference Report

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555



PASI New Orleans

www.pacelabs.com

Client: DELTA ENVIRONMENTAL CONSULTING

Project: GLN/ DENTON GATHERING

Project No.: 2034467

Sample ID	Lab ID	Matrix	Collection Date/Time		Received Date/Time	
MW-1	20265375	Water	06/10/2004	15:00	06/12/2004	09:30
MW-2	20265376	Water	06/10/2004	14:30	06/12/2004	09:30
MW-3	20265377	Water	06/10/2004	14:45	06/12/2004	09:30
MW-4	20265378	Water	06/10/2004	14:15	06/12/2004	09:30
TRIP BLANK	20265383	Water	06/10/2004		06/12/2004	09:30

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)

6/25/2004 07:06:03

Report of Laboratory Analysis

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Pace Analytical™
New Orleans Laboratory

PASI New Orleans

www.pacelabs.com

Phone: 504.469.0333
Fax: 504.469.0555

Client: DELTA ENVIRONMENTAL CONSULTING

Client ID: MW-1

Site: None

Project: GLN/DENTON GATHERING

Project No.: 2034467

Sample Qu:

Lab ID: 20265375

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 44851

Method: SW 8021 Aromatic Volatile Organics

Units: ug/L

Target List: SR1050G02WAT

Collected: 06/10/04

Received: 06/12/04

Prep Factor: 1

Leached: n/a

Prepared:

Analyzed: 06/23/04 22:12 CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		1.00	
100-41-4	Ethylbenzene	1	ND		1.00	
108-88-3	Toluene	1	ND		1.00	
1330-20-7	m,p-Xylene	1	1.91		1.00	
95-47-6	o-Xylene	1	ND		1.00	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
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Foreign Soil Import (U.S. Territories)

6/25/2004 07:06:18

Report of Laboratory Analysis

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

**Pace Analytical**[™]
New Orleans Laboratory

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www.pacelabs.com

Client: DELTA ENVIRONMENTAL CONSULTING

Client ID: MW-2

Site: None

Project: GLN/ DENTON GATHERING

Project No.: 2034467

Sample Qu:

Lab ID: 20265376

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 44851

Method: SW 8021 Aromatic Volatile Organics

Units: ug/L

Target List: SR1050G02WAT

Collected: 06/10/04

Received: 06/12/04

Prep Factor: 1

Leached: n/a

Prepared:

Analyzed: 06/23/04 22:34 CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		1.00	
100-41-4	Ethylbenzene	1	ND		1.00	
108-88-3	Toluene	1	ND		1.00	
1330-20-7	m,p-Xylene	1	ND		1.00	
95-47-6	o-Xylene	1	ND		1.00	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
EQB - Certified Puerto Rico Chemist
U.S. Dept. of Agriculture Animal & Plant Health Inspection Services -
Foreign Soil Import (U.S. Territories)

6/25/2004 07:06:18



Report of Laboratory Analysis

PASI New Orleans

www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Client: DELTA ENVIRONMENTAL CONSULTING

Client ID: MW-3

Site: None

Project: GLN/ DENTON GATHERING

Project No.: 2034467

Sample Qu:

Lab ID: 20265377

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 44851

Method: SW 8021 Aromatic Volatile Organics

Units: ug/L

Target List: SR1050G02WAT

Collected: 06/10/04

Received: 06/12/04

Prep Factor: 1

Leached: n/a

Prepared:

Analyzed: 06/23/04 22:55 CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		1.00	
100-41-4	Ethylbenzene	1	ND		1.00	
108-88-3	Toluene	1	ND		1.00	
1330-20-7	m,p-Xylene	1	ND		1.00	
95-47-6	o-Xylene	1	ND		1.00	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030813
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
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Report of Laboratory Analysis

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Client: DELTA ENVIRONMENTAL CONSULTING

Client ID: MW-4

Site: None

Project: GLN/ DENTON GATHERING

Project No.: 2034467

Sample Qu:

Lab ID: 20265378

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 44851

Method: SW 8021 Aromatic Volatile Organics

Units: ug/L

Target List: SR1050G02WAT

Prep Factor: 1

Leached: n/a

Collected: 06/10/04

Received: 06/12/04

Prepared:

Analyzed: 06/23/04 23:18 CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		1.00	
100-41-4	Ethylbenzene	1	ND		1.00	
108-88-3	Toluene	1	ND		1.00	
1330-20-7	m,p-Xylene	1	ND		1.00	
95-47-6	o-Xylene	1	ND		1.00	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
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Report of Laboratory Analysis

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Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

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Client: DELTA ENVIRONMENTAL CONSULTING

Client ID: TRIP BLANK

Site: None

Project: GLN/ DENTON GATHERING

Project No.: 2034467

Sample Qu:

Lab ID: 20265383

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 44851

Method: SW 8021 Aromatic Volatile Organics

Units: ug/L

Target List: SR1050G02WAT

Collected: 06/10/04

Received: 06/12/04

Prep Factor: 1

Leached: n/a

Prepared:

Analyzed: 06/23/04 23:40 CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		1.00	
100-41-4	Ethylbenzene	1	ND		1.00	
108-88-3	Toluene	1	ND		1.00	
1330-20-7	m,p-Xylene	1	ND		1.00	
95-47-6	o-Xylene	1	ND		1.00	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

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Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - EB7595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
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Report of Quality Control

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Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Method: Water GC Volatile Organics

Project No.: 2034467

Batch: 44851

Units: ug/L

Parameter Name	LCS	LCS	LCSD	LCS	MS	MS	MSD (1)	MS	DUP	QC Limits		Max	Qu
	Spike	%Rec	%Rec	RPD	Spike	%Rec	%Rec	RPD	RPD	LCS	MS/MSD	RPD	
Benzene	20	97			20					78 - 127	52 - 142	25	
Benzene	20	98			20	102	103	1		78 - 127	52 - 142	25	
Ethylbenzene	20	105			20					87 - 129	54 - 147	25	
Ethylbenzene	20	106			20	106	106	0		87 - 129	54 - 147	25	
Toluene	20	104			20					85 - 131	61 - 145	25	
Toluene	20	105			20	105	107	2		85 - 131	61 - 145	25	
m,p-Xylene	40	119			40					90 - 135	56 - 153	25	
m,p-Xylene	40	119			40	110	110	0		90 - 135	56 - 153	25	
o-Xylene	20	114			20					91 - 133	61 - 149	25	
o-Xylene	20	114			20	114	113	0		91 - 133	61 - 149	25	

10 compound(s) reported

* denotes recovery outside of QC limits.
MS spike concentrations are not corrected for moisture content of the spiked sample.
(1) MS RPD is calculated via SW-846 rules: on the basis of spiked sample concentrations rather than spike recoveries.

6/25/2004 07:06:18

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
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Kansas Dept. of Health & Environment/ELWHW - E-10266
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Report of Batch Surrogate Recovery
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 www.pacelabs.com

Pace Analytical Services, Inc.
 1000 Riverbend Blvd, Suite F
 Saint Rose, LA 70087
 Phone: 504.469.0333
 Fax: 504.469.0555

Method: Water GC Volatile Organics

Report: 2034467

Batch: 44851

Lab ID	Type and Qualifiers	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
20264731	Sample	113	112						
20264731DL	Dilution D1	108	98						
20264732	Sample	77	78						
20264733	Sample	80	81						
20264734	Sample	112	110						
20264734DL	Dilution D1	106	96						
20264735	Sample	81	82						
20264761	Sample	129	121						
20264761DL	Dilution D1	99	106						
20264762	Sample	73	75						
20264763	Sample	72	75						
20264764	Sample	128	122						
20264764DL	Dilution D1	98	106						
20264765	Sample	71	75						
20264846	Sample	79	81						
20264851	Sample	75	76						
20265253	Sample M1	73	63*						
20265253RE	Re-run	80	69*						
20265254	Sample	75	77						
20265375	Sample	100	109						
20265376	Sample	87	87						
20265377	Sample	77	79						
20265378	Sample	76	78						
20265383	Sample	75	77						
44851B1	Blank	72	71						
44851B2	Blank	72	71						
44851B3	Blank	75	74						
44851B4	Blank	73	71						
44851B5	Blank	73	73						
44851MS	Spike	97	98						
44851MSD	Spike Dup	97	97						
44851S1	LCS	94	96						
44851S2	LCS	96	99						

* denotes surrogate recovery outside of QC limits.
 D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.
 A Lab ID consisting of a batch number with a B suffix is a method blank.
 A Lab ID consisting of a batch number with a S suffix is an LCS.
 A Lab ID with a MS suffix is a matrix spike.
 A Lab ID with a MSD suffix is a matrix spike duplicate.

Laboratory Certifications:
 Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
 Florida Dept. of Health/Hazardous Waste - EB7595
 Kansas Dept. of Health & Environment/ELWHW - E-10266
 NELAP (NELAP WW/HZ - 02006
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Report of Batch Surrogate Recovery

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Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Method: Water GC Volatile Organics

Report: 2034467

Batch: 44851

Lab ID	Type and Qualifiers	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
QC limits:		70-130	70-130						
Sur 1: 4-Bromofluorobenzene (PID) (S)									
Sur 2: 4-Bromofluorobenzene (PID confirmat									

* denotes surrogate recovery outside of QC limits.
 D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.
 A Lab ID consisting of a batch number with a B suffix is a method blank.
 A Lab ID consisting of a batch number with a S suffix is an LCS.
 A Lab ID with a MS suffix is a matrix spike.
 A Lab ID with a MSD suffix is a matrix spike duplicate.

Laboratory Certifications:
 Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
 Florida Dept. of Health/Hazardous Waste - E87595
 Kansas Dept. of Health & Environment/ELWHW - E-10268
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Report of Method Blank

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Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Lab ID: 44851B1

Description: Water Method Blank

Project No.: 2034467

Method: Water GC Volatile Organics

Batch: 44851

Units: ug/L

Prep Factor: 1

Leached:

Prepared:

Analyzed: 23-Jun-04 15:13

CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
71-43-2	Benzene	1	ND		0.500
100-41-4	Ethylbenzene	1	ND		0.500
108-88-3	Toluene	1	ND		0.500
1330-20-7	m,p-Xylene	1	ND		0.500
95-47-6	o-Xylene	1	ND		0.500

5 compound(s) reported

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

6/25/2004 07:06:19

Laboratory Certifications:
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Report of Method Blank

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Saint Rose, LA 70087
Phone: 504.469.0333
Fax: 504.469.0555

Lab ID: 44851B2

Description: Water Method Blank

Project No.: 2034467

Method: Water GC Volatile Organics

Batch: 44851

Units: ug/L

Prep Factor: 1

Leached:

Prepared:

Analyzed: 23-Jun-04 20:44 CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
71-43-2	Benzene	1	ND		0.500
100-41-4	Ethylbenzene	1	ND		0.500
108-88-3	Toluene	1	ND		0.500
1330-20-7	m,p-Xylene	1	ND		0.500
95-47-6	o-Xylene	1	ND		0.500

5 compound(s) reported

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

6/25/2004 07:06:19

Laboratory Certifications:
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Kansas Dept. of Health & Environment/ELWHRW - E-10266
LELAP (NELAP WW/HZ) - 02006
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New Orleans Laboratory

Lab ID: 44851B3

Description: Water Method Blank

Project No.: 2034467

Method: Water GC Volatile Organics

Batch: 44851

Units: ug/L

Prep Factor: 1

Leached:

Prepared:

Analyzed: 24-Jun-04 01:30

CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
71-43-2	Benzene	1	ND		0.500
100-41-4	Ethylbenzene	1	ND		0.500
108-88-3	Toluene	1	ND		0.500
1330-20-7	m,p-Xylenc	1	ND		0.500
95-47-6	o-Xylenc	1	ND		0.500

5 compound(s) reported

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

6/25/2004 07:06:19

Laboratory Certifications:
Louisiana Dept. of Health and Hospitals (ELAP)/Drinking Water LA 030013
Florida Dept. of Health/Hazardous Waste - E87595
Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
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Report of Method Blank

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1000 Riverbend Blvd, Suite F
Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Lab ID: 44851B4

Description: Water Method Blank

Project No.: 2034467

Method: Water GC Volatile Organics

Batch: 44851

Units: ug/L

Prep Factor: 1

Leached:

Prepared:

Analyzed: 24-Jun-04 05:54 CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
71-43-2	Benzene	1	ND		0.500
100-41-4	Ethylbenzene	1	ND		0.500
108-88-3	Toluene	1	ND		0.500
1330-20-7	m,p-Xylene	1	ND		0.500
95-47-6	o-Xylene	1	ND		0.500

5 compound(s) reported

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

6/25/2004 07:06:19

Laboratory Certifications:
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Kansas Dept. of Health & Environment/ELWHW - E-10266
LELAP (NELAP WW/HZ) - 02006
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Report of Method Blank

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Saint Rose, LA 70087

Phone: 504.469.0333
Fax: 504.469.0555

Lab ID: 44851B5

Description: Water Method Blank

Project No.: 2034467

Method: Water GC Volatile Organics

Batch: 44851

Units: ug/L

Prep Factor: 1

Leached:

Prepared:

Analyzed: 24-Jun-04 13:13 CCW

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
71-43-2	Benzene	1	ND		0.500
100-41-4	Ethylbenzene	1	ND		0.500
108-88-3	Toluene	1	ND		0.500
1330-20-7	m,p-Xylene	1	ND		0.500
95-47-6	o-Xylene	1	ND		0.500

5 compound(s) reported

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

6/25/2004 07:06:19

Laboratory Certifications:
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LELAP (NELAP WW/HZ) - 02006
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Foreign Soil Import (U.S. Territories)



Chain of Custody Record

Project Name Denton Gathering

BP BU/GEM CO Portfolio:

BP Laboratory Contract Number:

Date: 6-10-04

Requested Due Date (mm/dd/yy) Standard TAT

On-Site Time: 1300 Temp: 95
Off-site Time: _____ Temp: _____
Sky Conditions: Clear and hot
Meteorological Events: _____
Wind Speed: 20-30 mph Direction: West

Send To:
 Lab Name: Pace Analytical
 Lab Address: 1000 River Bend Blvd Ste F
St. Rose, La 70087
 Lab PM: Cindy OLIVERSEN - Karen Brown
 Tele/Fax: 504/469-0333
 Report Type & QC Level:
 BP/GEM Account No.:

BP/GEM Facility No.:
 BP/GEM Facility Address:
 Site ID No. Denton Gathering
 Site Lat/Long:
 California Global ID #:
 BP/GEM PM Contact:
 Address: Lea County, New Mexico
 Tele/Fax:

Consultant/Contractor: Delta Env.
 Address: 840 Central Parkway East, Ste 120
Plano, Texas / 75074
 e-mail EDD: msm.th.Cdeltaenv.com
 Consultant/Contractor Project No.: FO03-003
 Consultant/Contractor Tele/Fax: 972/516-0890
 Consultant/Contractor PM: Mark Smith
 Invoice to: Consultant/Contractor or BP/GEM (Circle one)
 BP/GEM Work Release No.:

Item No.	Sample Description	Time	Matrix			No. of containers	Preservatives				Requested Analysis				Sample Point Lat/Long and Comments
			Soil/Solid	Water/Liquid	Sediments		Air	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	BTEX 8021	BTEX/TPH	EPA 8260	
1	MW-1	1500		X					X						00265375
2	MW-2	1430		X					X						376
3	MW-3	1445		X					X						377
4	MW-4	1415		X					X						378
5	Trip Blank			X											383
6	Temp Blank			X											
7															
8															
9															
10															

Relinquished By / Affiliation: Carroll
 Date: 6-11-04
 Accepted By / Affiliation: K. Brown
 Date: 6/12/04
 Time: 0900
 Time: 0930

Sampler's Name: Aaron Hale
 Sampler's Company: BNC Environmental
 Shipment Date: 6-11-04
 Shipment Method: Fed Ex
 Shipment Tracking No: 841832195984

Special Instructions:

Cooler Temperature on Receipt 3 °F/C Trip Blank Yes No
 Temperature Blank Yes No
 Custody Seals In Place Yes No

