REMEDIATION PROPOSAL

NORTH MONUMENT GRAYBURG
SAN ANDRES UNIT #603 (NMGSAU #603)
NMOCD 1RP# 1019
EPI REF: 240014

UL-C (NE¼ OF THE NW¼) OF SECTION 20 T19S R37E

~2 MILES NORTH-NORTHWEST OF MONUMENT

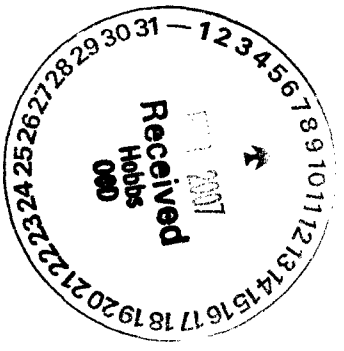
LEA COUNTY, NEW MEXICO

LATITUDE: N 32° 39' 04.30" LONGITUDE: W 103° 16' 33.43"

FEBRUARY 2006

PREPARED BY:

ENVIRONMENTAL PLUS, INC.
2100 AVENUE O
EUNICE, NEW MEXICO 88231



PREPARED FOR:

Apache CORPORATION

Distribution List

Apache Corporation – North Monument Grayburg San Andres Unit #603

NMOCD 1RP# 1019; EPI Ref: 240014

Name	Title	Company or Agency	Mailing Address	Contact Information
Larry Johnson	Environmental Engineer	NMOCD – Hobbs, NM	1625 French Drive Hobbs, NM 88240	larry.johnson@state.nm.us
David Woolf	Environmental Manager	Apache Corporation – Houston, TX	2000 Post Oak Blvd. Suite 100 Houston, TX 7056	david.woolf@apachecorp.com
Guinn Burks	EH&S Technician-South/Central Permian	Apache Corporation – Wink, TX	P.O. Box 848 Wink, TX 89789	guinn.burks@apachecorp.com
Mike Warren	Senior Production Foreman	Apache Corporation – Monument, NM	17 Hess Lane Monument, NM 88262	mike.warren@apachecorp.com
Jimmie T. Cooper	Landowner	- -	Box 55 Monument, NM 88256	505-397-2045 (Home) 505-369-7108 (Mobile)
File	- -	Environmental Plus, Inc.	P.O. Box 1558 Eunice, NM 88231	jstegemoller@envplus.net

STANDARD OF CARE

Delineation Proposal

North Monument Grayburg San Andres Unit #603

NMOCD 1RP # 1019

(EPI Ref. #240014)

The information provided in this report was collected consistent with the New Mexico Oil Conservation Division (NMOCD) *Guidelines for Remediation of Leaks, Spills and Releases* (August 13, 1993), the NMOCD *Unlined Surface Impoundment Closure Guidelines* (February, 1993) and Environmental Plus, Inc. (EPI) *Standard Operating Procedures and Quality Assurance/Quality Control Plan*. The conclusions are based on field observations and laboratory analytical reports as presented in the report. Recommendations follow NMOCD guidance and represent the professional opinions of EPI staff. These opinions were derived using currently accepted geologic, hydrogeologic and engineering practices at this time and location. The report was prepared or reviewed by a certified or registered professional with a background in engineering, environmental and/or natural sciences.

This report was prepared by:

Jason Stegemoller
Environmental Scientist

Feb 8, 2007
Date

This report was reviewed by:

David Duncan
Civil Engineer

2-08-07
Date

Table of Contents

1.0 PROJECT SYNOPSIS

Site Specific:

- ***Company Name:*** Apache Corporation
- ***Facility Name:*** North Monument Grayburg San Andres Unit #603
- ***Project Reference:*** NMOCD 1RP # 1019; EPI # 240014
- ***Company Contacts:*** Mike Warren
- ***Site Location:*** WGS84 N32° 39' 04.30"; W103° 16' 33.43"
- ***Legal Description:*** Unit Letter-C, (NE¼ of the NW¼), Section 20, T19S, R37E
- ***General Description:*** Approximately 2-miles north-northwest of Monument, New Mexico
- ***Elevation:*** 3,680-ft amsl
- ***Land Ownership:*** Jimmie T. Cooper
- ***EPI Personnel:*** Project Consultant – Jason Stegemoller

Release Specific:

- ***Product Released:*** Injection Water
- ***Volume Released:*** 85 barrels ***Volume Recovered:*** 60 barrels
- ***Time of Occurrence:*** July 16, 2006 a.m. ***Time of Discovery:*** July 16, 2006 @ 08:45 hrs
- ***Release Source:*** Plug blew out on injection line
- ***Initial Surface Area Affected:*** ~ 42,770 - square feet

Remediation Specific:

- ***Final Vertical extent of contamination:*** unknown
- ***Depth to Ground Water:*** Approximately 50-ft bgs (based on an average depth of wells nearest the release site)
- ***Water wells within 1,000-ft:*** None
- ***Private domestic water sources within 200-ft:*** None
- ***Surface water bodies within 1,000-ft:*** None at the point of release; however an ephemeral pond resides approximately 75-feet south of the southernmost point of the flowpath.
- ***NMOCD Site Ranking Index:*** 20 points
- ***Remedial goals for Soil:*** TPH – 100 mg/Kg; BTEX – 50 mg/Kg; Benzene – 10 mg/Kg; Chloride and sulfate residuals may not be capable of impacting groundwater above NMWQCC groundwater standards of 250 mg/L and 600 mg/L, respectively.
- ***RCRA Waste Classification:*** Exempt
- ***Remediation Option Selected:*** Not applicable
- ***Disposal Facility:*** Not applicable
- ***Volume disposed:*** Not applicable
- ***Project Completion Date:*** Ongoing

2.0 SITE AND RELEASE INFORMATION

2.1 ***Describe the land use and pertinent geographic features within 1,000 feet of the site.***
Land surrounding the area is rangeland in native grasses utilized for livestock grazing along with oilfield operations.

2.2 ***Identify and describe the source or suspected source(s) of the release.***
Plug on injection line blew out.

2.3 ***What is the volume of the release? (if known):*** approximately 85 ***barrels of*** injection water

2.4 ***What is the volume recovered? (if any):*** approximately 60 ***barrels***

2.5 ***When did the release occur? (if known):*** July 16, 2006

2.6 ***Geological Description***
The United States Geological Survey (USGS) Ground-Water Report 6, *"Geology and Ground-water Conditions in Southern Lea County, New Mexico," A. Nicholson and A. Clebsch, 1961*, describes the near surface geology of southern Lea County as "an intergrade of the Quaternary Alluvium (QA) sediments, i.e., fine to medium sand, with the mostly eroded Cenozoic Ogallala (CO) formation. Typically, the QA and CO formations in the area are capped by a thick interbed of caliche and generally overlain by sandy soil."

The release site is located in the Laguna Valley physiographic subdivision, described by Nicholson & Clebsch as an area that "is a vast sand dune area, stable or semi-stable over most of the area, but which drifts locally. The surface is very irregular and has no drainage features except at the edges of several playas."

2.7 ***Ecological Description***
The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of sandy soil covered with short semi-arid grasses, interspersed with Honey Mesquite and forbs. Mammals represented include Orrd's and Merriam's Kangaroo Rats, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, Mule Deer, Bobcat, Red Fox and Coyote. Reptiles, amphibians and birds are numerous and typical of the area. A survey of Listed, Threatened or Endangered species was not conducted.

2.8 ***Area Groundwater***
The unconfined groundwater aquifer at this site is projected to be ~50 feet (ft) bgs based on water depth data obtained from the New Mexico State Engineers Office and the United States Geological Survey data base (reference *Table 2*).

2.9 ***Area Water Wells***
There are no wells within a 1,000-foot radius of the site. (reference *Table 1* and *Figure 2*).

2.10 ***Area Surface Water Features***
There are no surface water features within a 1,000-foot radius of the point of release (reference *Figure 2*). However, an ephemeral pond resides approximately 75-feet south of the southernmost portion of the flowpath.

3.0 NMOCD SITE RANKING

Contaminant delineation and remedial work done at this site indicate chemical parameters of the soil and physical parameters of the groundwater were characterized consistent with the characterization and remediation/abatement goals and objectives set forth in the following New Mexico Oil Conservation Division (NMOCD) publications:

- ***Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993)***
- ***Unlined Surface Impoundment Closure Guidelines (February, 1993)***
- ***Pit and Below-Grade Tank Guidelines (November, 2004)***

Acceptable thresholds for contaminants/constituents of concern (CoC) were determined based on the NMOCD Ranking Criteria as follows:

- *Depth to Groundwater (i.e., distance from the lower most acceptable concentration to ground-water);*
- *Wellhead Protection Area (i.e., distance from fresh water supply wells);*
- *Distance to Surface Water Body (i.e., horizontal distance to all down gradient surface water bodies).*

Based on the proximity of the site to protectable area water wells, surface water bodies, and depth to groundwater from the lower most contamination, the NMOCD ranking score for the site is twenty points with the soil remedial goals highlighted in the Site Ranking table presented below:

1. GROUNDWATER	2. WELLHEAD PROTECTION AREA	3. DISTANCE TO SURFACE WATER
Depth to GW <50 feet: **20 points**	If <1,000' from water source, or <200' from private domestic water source: ***20 points***	<200 horizontal feet: ***20 points***
Depth to GW 50 to 99 feet: ***10 points***		200-1,000 horizontal feet: ***10 points***
Depth to GW >100 feet: **0 points**	If >1,000' from water source, or >200' from private domestic water source: ***0 points***	>1,000 horizontal feet: ***0 points***
Site Rank (1+2+3) = 20 + 0 + 0 = **20 points**		

Total Site Ranking Score and Acceptable Remedial Goal Concentrations			
Parameter	20 or >	10	0
Benzene[1]	**10 ppm**	**10 ppm**	**10 ppm**
BTEX[1]	**50 ppm**	**50 ppm**	**50 ppm**
TPH	**100 ppm**	**1,000 ppm**	**5,000 ppm**

[1] A field soil vapor headspace measurement of 100 ppm can be substituted in lieu of laboratory analyses for benzene and BTEX.

4.0 EXCAVATED SOIL INFORMATION

4.1 Was soil excavated for off-site treatment or disposal? ☒ *Yes* ☐ *No*

Date excavated: July 25 through August 3, 2006

Total volume removed: Approximately 1,344-cubic yards

4.2 Indicated soil treatment type:

- ☒ ***Disposal***
- ☐ ***Land Treatement***
- ☐ ***Composting/Biopiling***
- ☐ ***Other*** ( )

Name and location of treatment/disposal facility:
Sundance Services, Eunice, New Mexico

5.0 SAMPLING INFORMATION

5.1 Briefly describe the field screening methods used to distinguish contaminated from uncontaminated soil.

Organic Vapor Concentrations – A portion of each soil sample was placed in a polyethylene bag and allowed sufficient time and temperature for organic vapors to volatilize. The detector portion of a Photoionization Detector equipped with a 10.6 electron volt lamp was placed in the bag to analyze organic vapor concentration.

Chloride Concentrations – A La Motte Chloride Test Kit was utilized for field chloride concentration analyses.

5.2 Briefly describe the soil analytical sampling and handling procedures used.

Soil samples collected from the excavation were collected utilizing hand and/or mechanical excavation equipment to gather the sample from at least 6-inches below/within the surface of the excavation. Prior to the collection of each sample, the sampling instrument was decontaminated with an Alconox solution.

Upon collection of each sample, a portion was immediately placed in a laboratory provided container, labeled and set on ice for transport to an independent laboratory for quantification of total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and total xylenes (BTEX), chloride and sulfate concentrations.

5.3 Discuss sample locations and provide rationale for their locations.

Soil samples were collected on July 25, 26 and 31 and August 1 and 2, 2006 from 26 locations within the excavation area utilizing a backhoe. Soil samples were collected at a depth of 1-ft bgs. Soil sample locations were chosen to provide the best representative example of soil within the excavation floor and sidewalls (reference *Figure 4*).

Soil samples were collected on November 29, 2006 from a series of four (4) soil borings (i.e., SB-1, SB-2, SB-3 and SB-4). Soil borings were advanced within the excavation floor, the pooling area west of the Lanexco pad and the center of the ephemeral pond area (reference *Figure 5*). Soil boring placement was chosen to allow collection of soil samples to delineate vertical extents of impacted soil.

6.0 ANALYTICAL RESULTS

6.1 Describe the vertical and horizontal extent and magnitude of soil contamination.

Laboratory analyses of the excavation soil samples indicated BTEX constituent concentrations were non-detectable (ND) at or above laboratory analytical method detection limits (MDL). TPH was reported as ND at or above laboratory analytical MDL, with the exception of the collected from BH-21 (6"). Analytical results of BH-21 (6") indicated TPH concentrations were 71 mg/Kg, below the NMOCD remedial threshold of 100 mg/Kg. Reported chloride concentrations ranged from 126 to 2,110 mg/Kg. Sulfate concentrations ranged from 17.6 to 2,380 mg/Kg (reference *Table 1* and *Figure 4*).

Laboratory analyses of soil samples collected during soil boring advancement indicated TPH and BTEX constituent concentrations were ND at or above laboratory MDL. Chloride concentrations were below the 250 mg/Kg remedial goal in all sampling intervals, with the exception of sample SB-1 (5') (i.e., 464 mg/Kg). Sulfate concentrations ranged from ND to 148 mg/Kg, below the 600 mg/Kg remedial goal.

6.2 Is surface soil contamination present at the site (i.e., soil in the uppermost two feet that is visibly stained, contaminated at greater than 10 ppm (PID) or hydrocarbon saturated)?

☐ *yes* ☒ *no*

If yes, attach a site map identifying extent(s) of surface soil contamination.

Visibly stained soil was excavated and transported to Sundance Services for disposal.

7.0 DISCUSSION

7.1 ***Discuss the risks associated with the remaining soil contamination:***

Laboratory analytical results indicated TPH and BTEX constituent concentrations were below NMOCD remedial thresholds. Chloride residuals exist below the current excavation floor. Based on depth to groundwater (approximately 50- ft bgs), chloride residuals remaining in the soil may be capable of impacting groundwater above NMWQCC groundwater standards.

7.2 ***Discuss the risks associated with the impacted groundwater:*** Chloride residuals remaining in the soil may be capable of impacting local groundwater above the NMWQCC groundwater standard of 250 mg/L.

7.3 ***Discuss other concerns not mentioned above:*** NA

8.0 CONCLUSIONS AND RECOMMENDATIONS

8.1 Recommendation for the site:

- ☐ *Site Closure*
- ☐ *Additional Groundwater Monitoring*
- ☒ *Corrective Action*

8.2 Base the recommendation above on Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993). Describe below how you applied the policy to support your recommendation. If closure is recommended, please summarize significant site investigative events and describe how site specific risk issues have been adequately addressed or minimized to acceptable low risk levels.

Approximately 1,344 cubic yards of impacted soil were removed from an excavation area of approximately 42,770 square feet to a depth of 1-ft bgs in the pasture area and 6-inches bgs on the caliche well pad and road. Excavated soil was transported to Sundance Services for disposal.

Laboratory analytical results of soil samples collected by EPI personnel from the excavation floor indicate TPH and BTEX constituent concentrations were below each analytes' respective NMOCD remedial threshold. Chloride concentrations at 1-ft bgs were in excess of the remediation goal of 250 mg/Kg in 21 of 26 sample locations . Reported sulfate concentrations were below the 600 mg/Kg remedial goal in all sample locations, except sample BH-25 (6") (i.e., 2,300 mg/Kg).

Laboratory analyses of soil samples collected from soil boring SB-1 indicated chloride concentrations were in excess of chloride remedial goals to approximately 5-feet bgs. TPH, BTEX constituent, chloride and sulfate concentrations were below each analytes' respective remedial threshold or goal in all other soil boring soil samples.

Laboratory analyses of soil samples collected from soil boring SB-4 (i.e., ephemeral pond area) indicated TPH and BTEX constituent concentrations were ND at or above laboratory MDL. Chloride concentrations ranged from ND to 32 mg/Kg, below the 250 mg/Kg remedial goal. Sulfate concentrations ranged from ND to 134 mg/Kg, below the 600 mg/Kg remedial goal. Based on laboratory analyses the ephemeral pond area was not impacted from the injection water release (reference *Figure 5* and *Table 3*).

8.3 If additional groundwater monitoring is recommended, indicate the proposed monitoring schedule and frequency. Conduct quarterly monitoring until the NMOCD responds to this report. NA

8.4 If corrective action is recommended, provide a conceptual approach.

Based on laboratory analyses of soil samples collected from the excavation floor and during soil boring advancement, chloride impacted soil is limited to within 5-feet bgs in the initial release area. Laboratory analyses of soil samples collected from the excavation floor and soil borings indicate TPH and BTEX constituents were below each analytes' respective NMOCD remedial threshold.

Environmental Plus, Inc., on behalf of Apache Corporation, recommends the following remedial action:

1) Excavate impacted soil in the area of SB-1 (i.e., pooling area west of Lanexco pad) to approximately 5-feet bgs.

2) Excavate the remainder of the release area to a depth of approximately 2.5-feet bgs. Final excavation depth will be dictated by field analysis of chloride concentration.

3) Upon satisfactory field analyses indicating permissible chloride concentrations, collect soil samples and submit for laboratory analyses.

4) Transport excavated, impacted soil to Sundance Services, Inc. for disposal.

5) Upon receipt of laboratory analyses indicating remedial threshold/goals have been achieved, backfill the excavation with clean soil.

6) Seed area with blend approved by the landowner.

FIGURES

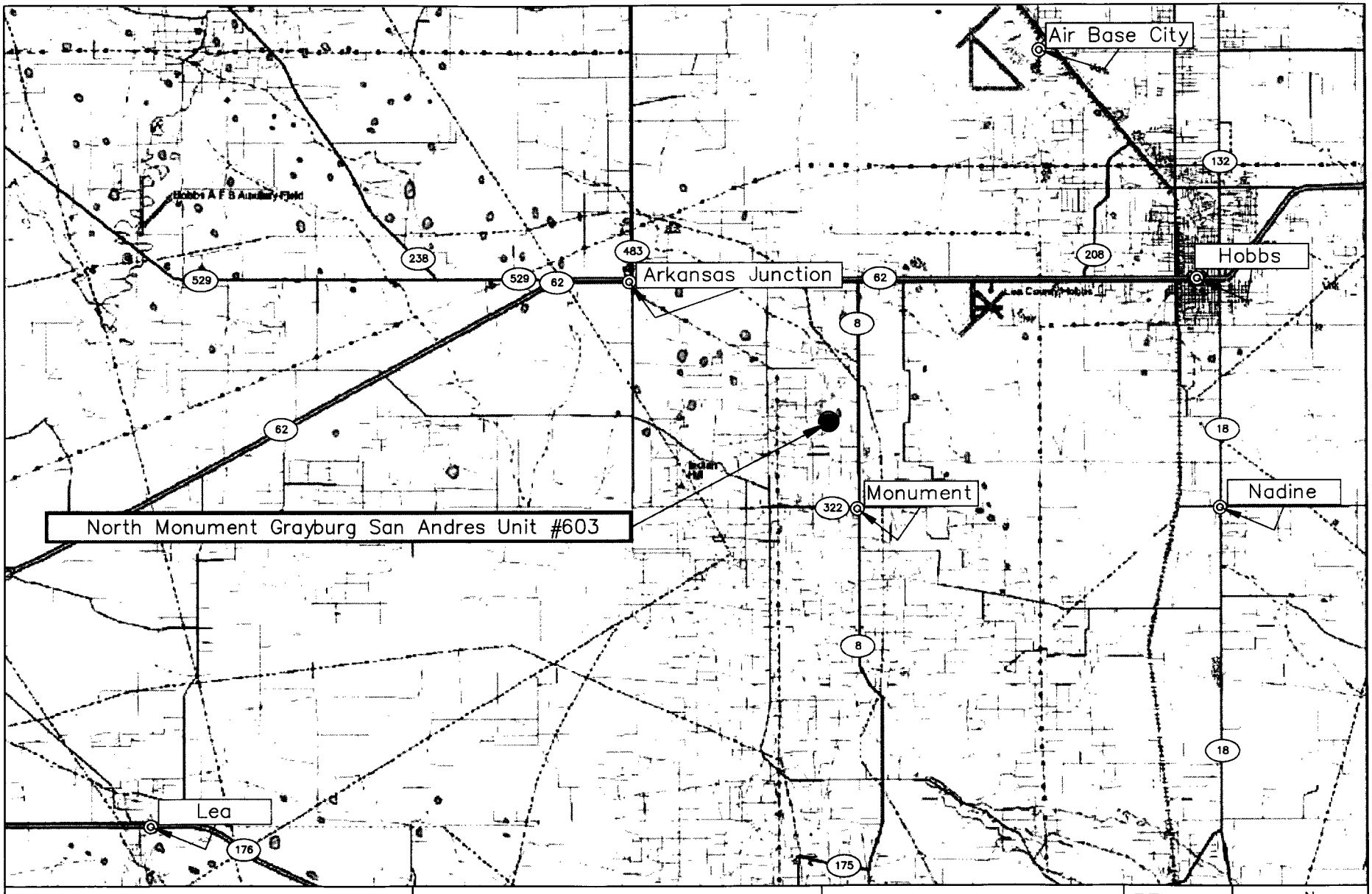


Figure 1
Area Map
Apache Corporation
North Monument Grayburg
San Andres Unit #603

Lea County, New Mexico
NE 1/4 of the NW 1/4, Sec. 20, T19S, R37E
N 32° 39' 04.3" W 103° 16' 33.43"
Elevation: 3,680 feet amsl

DWG By: Daniel Dominguez
July 2006

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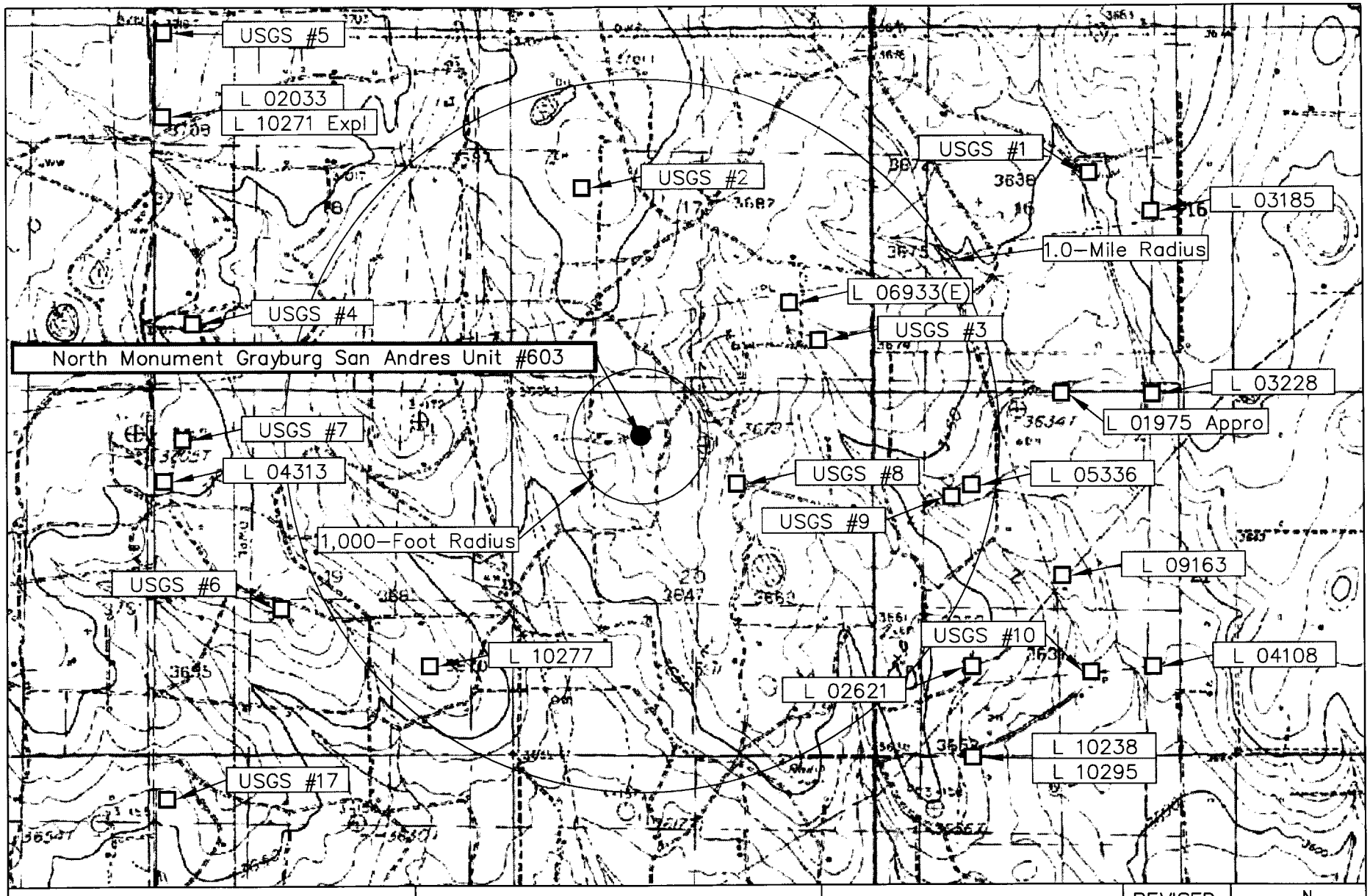

Figure 2
Site Location Map
Apache Corporation
North Monument Grayburg
San Andres Unit #603

Lea County, New Mexico
NE 1/4 of the NW 1/4, Sec. 20, T19S, R37E
N 32° 39' 04.3" W 103° 16' 33.43"
Elevation: 3,680 feet amsl

DWG By: Daniel Dominguez
July 2006

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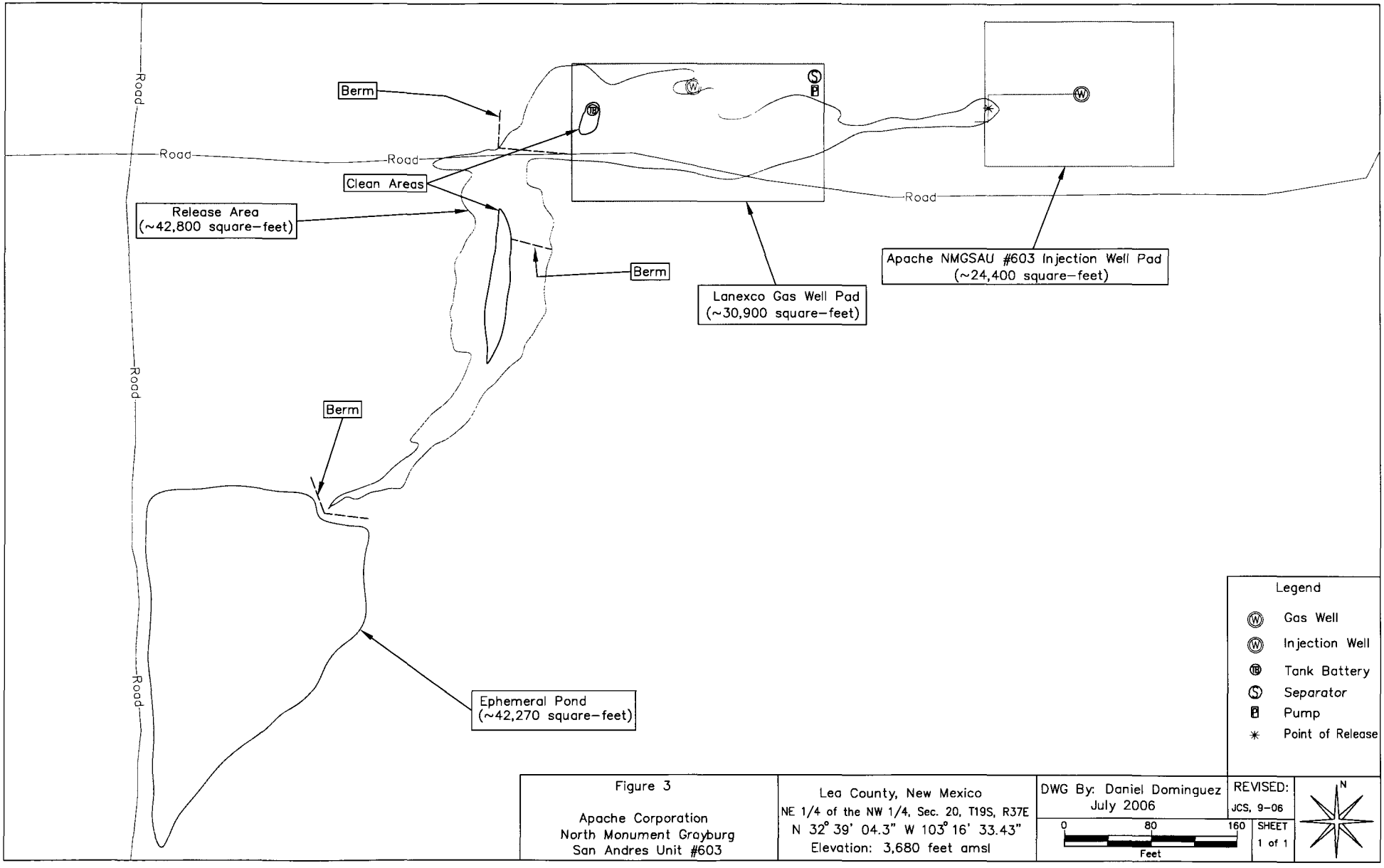
Road
Road
Road
Road
Road
Berm
Berm
Berm
Clean Areas
Release Area
(~42,800 square-feet)
Lanexco Gas Well Pad
(~30,900 square-feet)
Apache NMGSAU #603 Injection Well Pad
(~24,400 square-feet)
Ephemeral Pond
(~42,270 square-feet)
Legend
Gas Well
Injection Well
Tank Battery
Separator
Pump
Point of Release
Figure 3
Apache Corporation
North Monument Grayburg
San Andres Unit #603
Lea County, New Mexico
NE 1/4 of the NW 1/4, Sec. 20, T19S, R37E
N 32° 39' 04.3" W 103° 16' 33.43"
Elevation: 3,680 feet amsl
DWG By: Daniel Dominguez
July 2006
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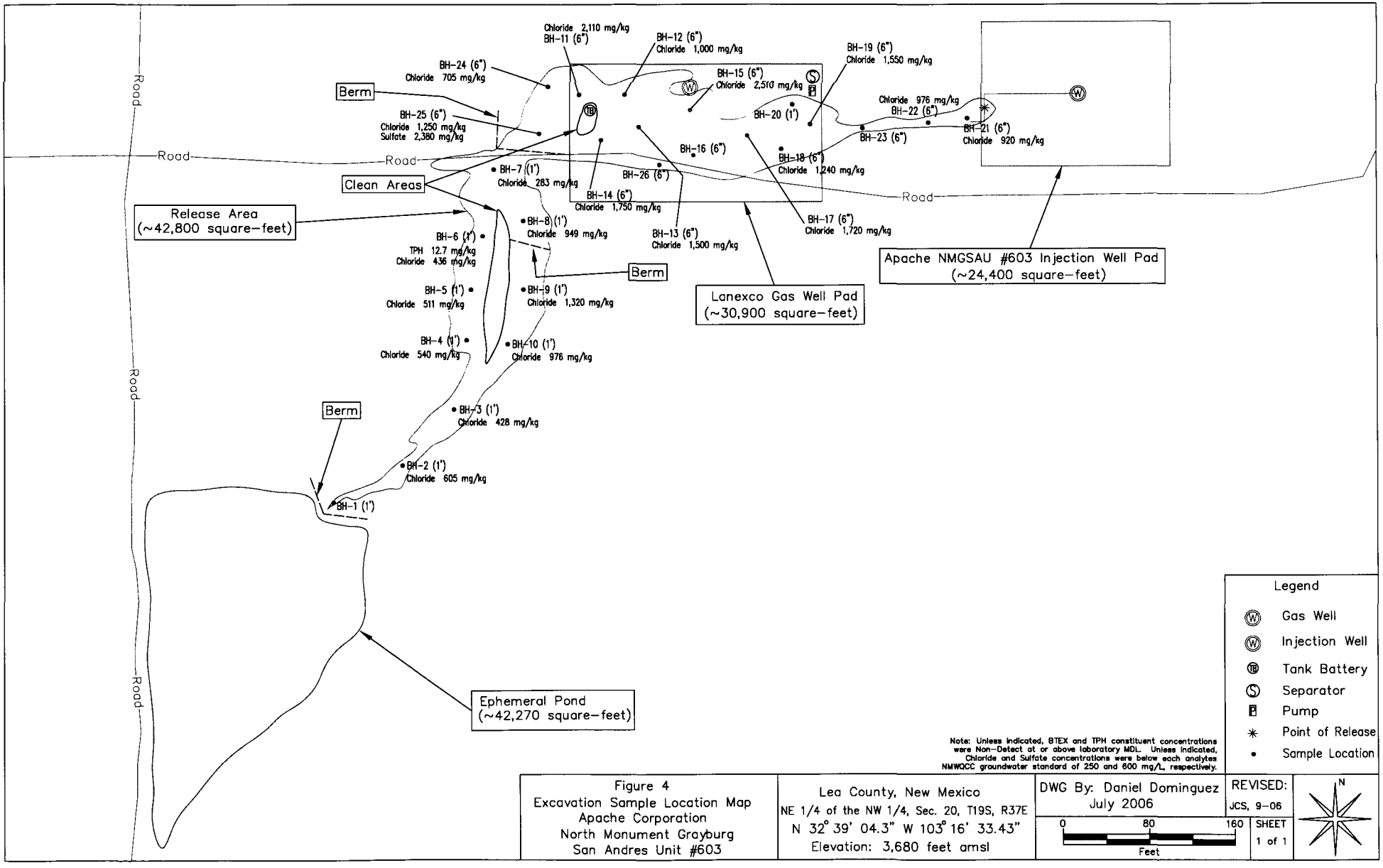
Chloride 2,110 mg/kg
BH-11 (6")
BH-12 (6")
Chloride 1,000 mg/kg
BH-19 (6")
Chloride 1,550 mg/kg
BH-24 (6")
Chloride 705 mg/kg
BH-15 (6")
Chloride 2,510 mg/kg
Berm
BH-25 (6")
Chloride 1,250 mg/kg
Sulfate 2,380 mg/kg
BH-20 (1')
Chloride 976 mg/kg
BH-22 (6")
BH-21 (6")
Chloride 920 mg/kg
BH-23 (6")
BH-16 (6")
BH-18 (6")
Chloride 1,240 mg/kg
Road
Road
Road
Road
Road
BH-7 (1')
Chloride 283 mg/kg
BH-26 (6")
Clean Areas
BH-14 (6")
Chloride 1,750 mg/kg
Release Area
(~42,800 square-feet)
BH-8 (1')
Chloride 949 mg/kg
BH-17 (6")
Chloride 1,720 mg/kg
BH-13 (6")
Chloride 1,500 mg/kg
BH-6 (1')
TPH 12.7 mg/kg
Chloride 436 mg/kg
Berm
Apache NMGSAU #603 Injection Well Pad
(~24,400 square-feet)
BH-5 (1')
Chloride 511 mg/kg
BH-9 (1')
Chloride 1,320 mg/kg
Lanexco Gas Well Pad
(~30,900 square-feet)
BH-4 (1')
Chloride 540 mg/kg
BH-10 (1')
Chloride 976 mg/kg
Berm
BH-3 (1')
Chloride 428 mg/kg
BH-2 (1')
Chloride 605 mg/kg
BH-1 (1')
Ephemeral Pond
(~42,270 square-feet)
Legend
Gas Well
Injection Well
Tank Battery
Separator
Pump
Point of Release
Sample Location
Note: Unless indicated, BTEX and TPH constituent concentrations were Non-Detect at or above laboratory MDL. Unless indicated, Chloride and Sulfate concentrations were below each analytes NMWQCC groundwater standard of 250 and 600 mg/L, respectively.
Figure 4
Excavation Sample Location Map
Apache Corporation
North Monument Grayburg
San Andres Unit #603
Lea County, New Mexico
NE 1/4 of the NW 1/4, Sec. 20, T19S, R37E
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Feet
SHEET
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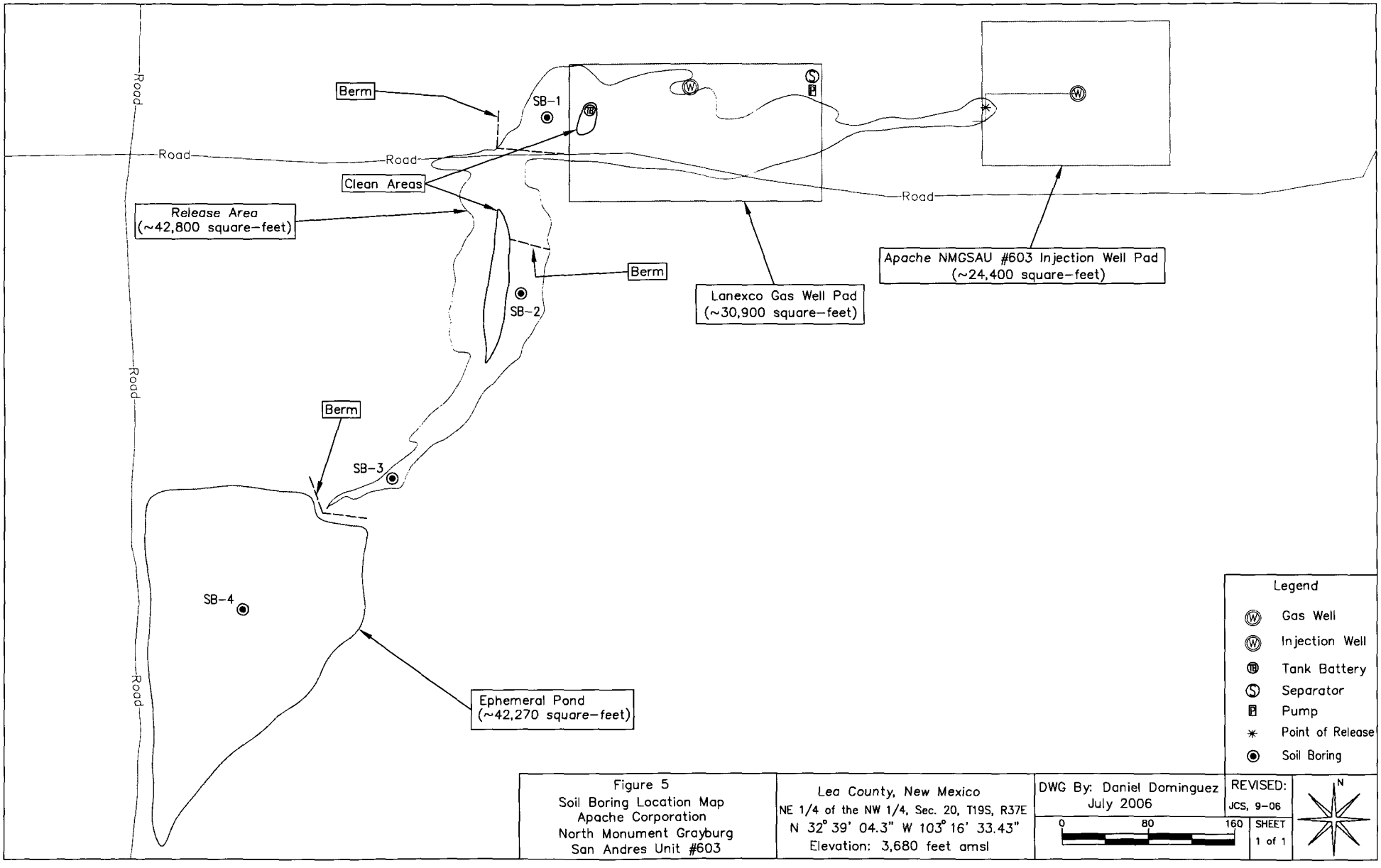
Road
Road
Road
Road
Road
Berm
SB-1
Clean Areas
Release Area
(~42,800 square-feet)
Berm
SB-2
Lanexco Gas Well Pad
(~30,900 square-feet)
Apache NMGSAU #603 Injection Well Pad
(~24,400 square-feet)
Berm
SB-3
SB-4
Ephemeral Pond
(~42,270 square-feet)
Legend
Gas Well
Injection Well
Tank Battery
Separator
Pump
Point of Release
Soil Boring
Figure 5
Soil Boring Location Map
Apache Corporation
North Monument Grayburg
San Andres Unit #603
Lea County, New Mexico
NE 1/4 of the NW 1/4, Sec. 20, T19S, R37E
N 32° 39' 04.3" W 103° 16' 33.43"
Elevation: 3,680 feet amsl
DWG By: Daniel Dominguez
July 2006
REVISED:
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TABLES

APPENDICES

TABLE 1

Well Data

Apache Corporation - North Monument Grayburg San Andres Unit #603 (Ref. # 240014)

Well Number	Diversion[A]	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Surface Elevation[B]	Depth to Water (ft bgs)
L 01975 APPRO	3	O & W DRLG. CO.	PRO	19S	37E	16 4 3	N32° 39' 10.30"	W103° 15' 21.56"	12-Feb-53	3,638	20
L 03185	3	CARPER DRILLING CO.	PRO	19S	37E	16 2 4	N32° 39' 36.37"	W103° 15' 6.16"	24-Apr-56	3,668	45
L 03228	3	MAKIN DRILLING COMPANY	PRO	19S	37E	16 4 4	N32° 39' 10.26"	W103° 15' 6.14"	18-Jun-56	3,641	42
L 06933 (E)	0	GULF OIL CORPORATION	PRO	19S	37E	17 4 2 3	N32° 39' 23.47"	W103° 16' 7.86"	12-Apr-72	3,678	65
L 02033	0	MONUMENT WATER USERS	DOM	19S	37E	18 1 1 1	N32° 39' 50.42"	W103° 17' 55.35"	12-Sep-47	3,717	35
L 10271 EXPL	0	INC. SNYDER RANCHES	EXP	19S	37E	18 1 1 1	N32° 39' 50.42"	W103° 17' 55.35"	13-Jul-92	3,717	70
L 04313	3	MCVAY AND STAFFORD DRILLING CO	PRO	19S	37E	19 1 1	N32° 38' 58.03"	W103° 17' 55.36"	23-Oct-59	3,704	52
L 10277	3	INC. SNYDER RANCHES	STK	19S	37E	19 4 2 2	N32° 38' 31.48"	W103° 17' 9.65"	10-Jul-92	3,678	40
L 02621	3	LA MANCE DRILLING COMPANY	PRO	19S	37E	21 3 2 3	N32° 38' 31.20"	W103° 15' 37.02"	14-Sep-54	3,642	40
L 04108	3	R.H. HUSTON	PRO	19S	37E	21 4 2	N32° 38' 31.15"	W103° 15' 6.17"	01-Apr-59	3,619	22
L 05336	0	GULF OIL CORPORATION	PRO	19S	37E	21 1 2 4	N32° 38' 57.29"	W103° 15' 37.00"	15-Feb-64	3,639	30
L 09163	3	LEROY LOTT	DOM	19S	37E	21 2 3 2	N32° 38' 44.21"	W103° 15' 21.58"	16-Apr-83	3,632	47
L 10238	3	W. S. ISRAEL	DOM	19S	37E	21 3 4 3	N32° 38' 18.16"	W103° 15' 37.03"	19-Mar-92	3,637	30
L 10295	3	TERRY ISRAEL	DOM	19S	37E	21 3 4 3	N32° 38' 18.16"	W103° 15' 37.03"	29-Oct-92	3,637	30
USGS #1				19S	37E	16 2 3 3			08-Mar-91	3,648	26.94
USGS #2				19S	37E	17 1 3 4			27-Feb-96	3,706	62.54
USGS #3				19S	37E	17 4 3 1			24-Apr-91	3,670	36.96
USGS #4				19S	37E	18 3 3 1			18-Mar-54	3,701	51.93
USGS #5				19S	37E	18 1 1 1			22-Feb-91	3,716	63.87
USGS #6				19S	37E	19 3 2 1			21-Feb-91	3,670	58.43
USGS #7				19S	37E	19 1 1 3			06-Mar-96	3,702	57.31
USGS #8				19S	37E	20 2 3 1			19-Apr-68	3,662	47.85
USGS #9				19S	37E	21 1 3 2			29-Feb-96	3,640	24.13
USGS #10				19S	37E	21 4 3 1			09-Jan-86	3,614	16.19
USGS #17				19S	37E	30 1 1 1			11-Feb-66	3,654	26.88

TABLE 1

Well Data

Apache Corporation - North Monument Grayburg San Andres Unit #603 (Ref. # 240014)

Well Number	Diversion[A]	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Surface Elevation[B]	Depth to Water (ft bgs)
L 02596	3	M[illegible]KIN DRILLING COMPAN[illegible]	PRO	19S	[illegible]7E	29 3 2	N32° 37' 39.11"	W103° 16' 38.84"	20-Jul-54	3,609	20
L 03[illegible]	3	R.L. LEWIS	DOM	19S	37E	29 [illegible]	N32° 37' 25.94"	W10[illegible] 52.53"	14-Jun-58	3,606	[illegible]
L [illegible]	3	LILLI[illegible]	DOM	19S	[illegible]	30 4 [illegible]	N32° 37' [illegible]	W103° 17' 9.72"	12-Aug-58	3,599	20
L [illegible]	[illegible]	ROBE[illegible]	DOM	19S	[illegible]	30 [illegible]	N32° 37' [illegible].16"	W103° 17' 9.72"	11-Aug-[illegible]	3,599	20
L 03922	[illegible]	LEON D[illegible]ERSON	DOM	[illegible]	37E	29 [illegible]	N32° 3[illegible] 26.10"	W103° 16' 54[illegible]	11-Aug-[illegible]	3,596	[illegible]
L 03949	[illegible]	ROY L. WHEELER	DOM	19S	37E	29 [illegible]	N32° 37' 26.10"	W103° 16' 5[illegible]28"	12-Aug-58	3,596	18
L 03954	3	K. W[illegible]TLE	DOM	19S	37E	30 [illegible]	N32° 37' 26.16"	W103° 17' 9.72"	10-Aug-5[illegible]	3,599	20
L 03956	3	DENN[illegible] C. SMITH	DOM	[illegible]	37E	29 [illegible]	N32° 37' 26.10"	W103° 16' 54[illegible]	13-Aug-58	3,596	20
L 03982 APPR[illegible]			[illegible]	19S	37E	[illegible] 3 3	N32° 37' 25.94"	W103° 15' 5[illegible]53"	10-Nov-58	3,606	31
L 03995	3	W. E. COPE[illegible]	[illegible]	19S	37E	30 4 4	N32° 37' 2[illegible]	W103° 17' 9.72"	26-Sep-58	3,599	20
L [illegible]	[illegible]	H. L. STEPHENS	DOM	19S	37E	30 [illegible]	N32° 37' [illegible]6.16"	W103° 17' 9.72"	04-Aug-66	3,599	23
USGS #11				19S	[illegible]	[illegible] 4 2 4			18-Apr-91		20.30
USGS #12				19S	[illegible]	29 3 2 2			16-Jan-81		17.50
USGS #13				19S	37E	29 3 4 [illegible]			2[illegible]-Mar-60		21.[illegible]
USGS #14				19S	[illegible]	29 4 4 4			[illegible]2-Feb-80		34.45
USGS #15				19S	37E	[illegible]9 4 4 4			19-Jan-71		35.05
USGS #16				19S	37E	29 3 3 3			18-Apr-91		13.01

[A] = In acre feet per annum
[B] = Elevation interpolated from USGS topographical map based on referenced location.
PRO = Prospecting or development of natural resource
DOM = Domestic
EXP = Exploration
STK= Livestock watering
quarters are 1=NW, 2=NE, 3=SW, 4=SE; quarters are biggest to smallest
Shaded areas indicate wells not shown on Figure 2

TABLE 2

Summary of Excavation Soil Sample Laboratory Analytical Results

Apache Corporation - North Monument Grayburg San Andres Unit #603 (Ref. #240014)

Sample I.D.	Depth (feet)	PID analysis	Field Chloride Analysis	Soil Status	Sample Date	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	Carbon C6-C12 Range (mg/Kg)	Carbon C12-C28 Range (mg/Kg)	Carbon C28-C35 Range (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)	Sulfate (mg/Kg)
BH-1 (1')	1	8.9	240	In Situ	26-Jul-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	126	43.0
BH-2 (1')	1	12.4	960	In Situ	26-Jul-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	605	111
BH-3 (1')	1	0.0	520	In Situ	26-Jul-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	7.91 [B]	<10.0	<10.0	428	63.6
BH-4 (1')	1	18.8	900	In Situ	25-Jul-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	540	151
BH-5 (1')	1	18.9	560	In Situ	25-Jul-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	511	98.5
BH-6 (1')	1	4.0	560	In Situ	25-Jul-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	12.7	8.53 [B]	12.7	436	117
BH-7 (1')	1	18.9	500	In Situ	25-Jul-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	283	49.3
BH-8 (1')	1	0.0	1,200	In Situ	26-Jul-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	4.45 [B]	1.98 [B]	<10.0	949	131
BH-9 (1')	1	0.0	1,760	In Situ	26-Jul-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	1,320	172
BH-10 (1')	1	8.3	800	In Situ	26-Jul-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	976	134
BH-11 (6")	0.5	4.3	2,000	In Situ	31-Jul-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	2,110	281
BH-12 (6")	0.5	4.1	960	In Situ	31-Jul-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	1,000	74.5
BH-13 (6")	0.5	4.3	1,200	In Situ	31-Jul-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	1,500	178
BH-14 (6")	0.5	4.1	1,760	In Situ	31-Jul-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	1,750	216

TABLE 2

Summary of Excavation Soil Sample Laboratory Analytical Results

Apache Corporation - North Monument Grayburg San Andres Unit #603 (Ref. #240014)

Sample I.D.	Depth (feet)	PID analysis	Field Chloride Analysis	Soil Status	Sample Date	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	Carbon C6-C12 Range (mg/Kg)	Carbon C12-C28 Range (mg/Kg)	Carbon C28-C35 Range (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)	Sulfate (mg/Kg)
BH-15 (6")	0.5	11.1	2,000	In Situ	01-Aug-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	**2,510**	146
BH-16 (6")	0.5	0.0	400	In Situ	01-Aug-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	226	84.6
BH-17 (6")	0.5	0.0	1,600	In Situ	01-Aug-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	**1,720**	290
BH-18 (6")	0.5	0.0	1,200	In Situ	01-Aug-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	**1,240**	176
BH-19 (6")	0.5	0.0	1,360	In Situ	01-Aug-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	**1,550**	253
BH-20 (6")	0.5	0.0	160	In Situ	01-Aug-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	7.20	21.8
BH-21 (6")	0.5	0.0	1,280	In Situ	02-Aug-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	13.4	57.8	<10.0	71.2	**920**	168
BH-22 (6")	0.5	0.0	1,280	In Situ	02-Aug-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	**976**	121
BH-23 (6")	0.5	0.0	120	In Situ	02-Aug-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	6.09	17.6
BH-24 (6")	0.5	18.3	1,440	In Situ	02-Aug-06	<0.0250	<0.0250	<0.0250	0.0361	0.0361	<10.0	<10.0	<10.0	<10.0	**705**	65.3
BH-25 (6")	0.5	19.5	1,040	In Situ	02-Aug-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	**1,250**	**2,380**
BH-26 (6")	0.5	0.0	320	In Situ	02-Aug-06	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<10.0	<10.0	136	151
NMOCD Remedial Thresholds						**10**				**50**				**100**	**250** [A]	**600** [A]

Bolded values are in excess of NMOCD Remediation Thresholds

-- =Not Analyzed

[A] *Chloride and Sulfate residuals may not be capable of impacting local groundwater above the NMWQCC standards of 250 mg/L and 650 mg/L respectively.*

[B] = *Estimated value, analyte detected below reporting limit .*

TABLE 3

Summary of Soil Boring Analytical Results

Apache Corporation - North Monument Grayburg San Andres Unit #603 (Ref. #240014)

Sample I.D.	Depth (feet)	PID analysis	Field Chloride Analysis	Soil Status	Sample Date	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	TPH (as gasoline) (mg/Kg)	TPH (as diesel) (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)	Sulfate (mg/Kg)
SB-1 (5')	5	--	480	In Situ	29-Nov-06	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<10.0	**464**	148
SB-1 (10')	10	--	240	In Situ	29-Nov-06	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<10.0	144	45
SB-1 (15')	15	--	160	In Situ	29-Nov-06	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<10.0	80	40.2
SB-2 (5')	5	--	240	In Situ	29-Nov-06	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<10.0	144	269
SB-2 (10')	10	--	160	In Situ	29-Nov-06	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<10.0	80	198
SB-3 (5')	5	--	240	In Situ	29-Nov-06	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<10.0	176	245
SB-3 (10')	10	--	160	In Situ	29-Nov-06	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<10.0	96	158
SB-4 (1')	1	--	160	In Situ	30-Nov-06	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<10.0	<16	<1
SB-4 (5')	5	--	160	In Situ	29-Nov-06	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<10.0	<16	104
SB-4 (10')	10	--	160	In Situ	29-Nov-06	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<10.0	32	134
NMOCD Remedial Thresholds						**10**				**50**			**100**	**250 [A]**	**600 [A]**

Bolded values are in excess of NMOCD Remediation Thresholds

-- =Not Analyzed

[A] *Chloride and Sulfate residuals may not be capable of impacting local groundwater above the NMWQCC standards of 250 mg/L and 650 mg/L respectively.*

APPENDIX I

LABORATORY ANALYTICAL REPORTS
AND
CHAIN-OF-CUSTODY FORM

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Jason Stegemoller

Environmental Plus, Incorporated

P.O. Box 1558

Eunice, NM 88231

Project: Apache/ N. Mon. Grayburg SA 603

Project Number: 240014

Location: UL-C, Sect. 20, T 19 S, R 37 E

Lab Order Number: 6G28008

Report Date: 08/03/06

Environmental Plus, Incorporated	Project: Apache/ N. Mon. Grayburg SA 603	Fax: 505-394-2601
P.O. Box 1558	Project Number: 240014	
Eunice NM, 88231	Project Manager: Jason Stegemoller	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-1 1'	6G28008-01	Soil	2006-07-26 10:15	2006-07-28 10:50
BH-2 1'	6G28008-02	Soil	2006-07-26 10:35	2006-07-28 10:50
BH-3 1'	6G28008-03	Soil	2006-07-26 10:45	2006-07-28 10:50
BH-4 1'	6G28008-04	Soil	2006-07-25 10:20	2006-07-28 10:50
BH-5 1'	6G28008-05	Soil	2006-07-25 10:40	2006-07-28 10:50
BH-6 1'	6G28008-06	Soil	2006-07-25 13:30	2006-07-28 10:50
BH-7 1'	6G28008-07	Soil	2006-07-25 13:45	2006-07-28 10:50
BH-8 1'	6G28008-08	Soil	2006-07-26 13:15	2006-07-28 10:50
BH-9 1'	6G28008-09	Soil	2006-07-26 13:30	2006-07-28 10:50
BH-10 1'	6G28008-10	Soil	2006-07-26 13:45	2006-07-28 10:50

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Apache/ N. Mon. Grayburg SA 603
Project Number: 240014
Project Manager: Jason Stegemoller

Fax: 505-394-2601

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-1 1' (6G28008-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EG63119	07/31/06	08/01/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*94.8 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*88.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EG62817	07/28/06	07/30/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*113 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*111 %*	*70-130*		"	"	"	"	
BH-2 1' (6G28008-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EG63119	07/31/06	08/01/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*100 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*83.2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EG62817	07/28/06	07/30/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*114 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*111 %*	*70-130*		"	"	"	"	
BH-3 1' (6G28008-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EG63119	07/31/06	08/01/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*91.8 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*84.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EG62817	07/28/06	07/30/06	EPA 8015M	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-3 1' (6G28008-03) Soil									
Carbon Ranges C12-C28	**J [7.91]**	10.0	mg/kg dry	1	EG62817	07/28/06	07/30/06	EPA 8015M	J
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*117 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*115 %*	*70-130*		"	"	"	"	
BH-4 1' (6G28008-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EG63119	07/31/06	08/01/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*94.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*88.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EG62817	07/28/06	07/30/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*116 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*113 %*	*70-130*		"	"	"	"	
BH-5 1' (6G28008-05) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EG63119	07/31/06	08/01/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*88.2 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*80.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EG62817	07/28/06	07/30/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*116 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*113 %*	*70-130*		"	"	"	"	

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Project: Apache/ N. Mon. Grayburg SA 603
Project Number: 240014
Project Manager: Jason Stegemoller

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Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-6 1' (6G28008-06) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60114	08/01/06	08/02/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*83.2 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*82.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EG62817	07/28/06	07/30/06	EPA 8015M	
Carbon Ranges C12-C28	**12.7**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**J [8.53]**	10.0	"	"	"	"	"	"	J
Total Hydrocarbons	**12.7**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*118 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*115 %*	*70-130*		"	"	"	"	
BH-7 1' (6G28008-07) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60114	08/01/06	08/02/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*94.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*83.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EG62817	07/28/06	07/30/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*118 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*115 %*	*70-130*		"	"	"	"	
BH-8 1' (6G28008-08) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60114	08/01/06	08/02/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*93.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*84.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EG62817	07/28/06	07/30/06	EPA 8015M	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-8 1' (6G28008-08) Soil									
Carbon Ranges C12-C28	**J [4.45]**	10.0	mg/kg dry	1	EG62817	07/28/06	07/30/06	EPA 8015M	J
Carbon Ranges C28-C35	**J [1.98]**	10.0	"	"	"	"	"	"	J
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*116 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*114 %*	*70-130*		"	"	"	"	
BH-9 1' (6G28008-09) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60114	08/01/06	08/02/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*94.8 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*85.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EG62817	07/28/06	07/30/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*113 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*110 %*	*70-130*		"	"	"	"	
BH-10 1' (6G28008-10) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60114	08/01/06	08/02/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*90.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*81.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EG62817	07/28/06	07/30/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*117 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*114 %*	*70-130*		"	"	"	"	

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General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-1 1' (6G28008-01) Soil									
Chloride	**126**	5.00	mg/kg	10	EG63104	07/28/06	07/31/06	EPA 300.0	
% Moisture	**11.0**	0.1	%	1	EG63118	"	07/31/06	% calculation	
Sulfate	**43.0**	5.00	mg/kg	10	EG63104	"	07/31/06	EPA 300.0	
BH-2 1' (6G28008-02) Soil									
Chloride	**605**	10.0	mg/kg	20	EG63104	07/28/06	07/31/06	EPA 300.0	
% Moisture	**11.5**	0.1	%	1	EG63118	"	07/31/06	% calculation	
Sulfate	**111**	10.0	mg/kg	20	EG63104	"	07/31/06	EPA 300.0	
BH-3 1' (6G28008-03) Soil									
Chloride	**428**	10.0	mg/kg	20	EG63104	07/28/06	07/31/06	EPA 300.0	
% Moisture	**3.1**	0.1	%	1	EG63118	"	07/31/06	% calculation	
Sulfate	**63.6**	10.0	mg/kg	20	EG63104	"	07/31/06	EPA 300.0	
BH-4 1' (6G28008-04) Soil									
Chloride	**540**	10.0	mg/kg	20	EG63104	07/28/06	07/31/06	EPA 300.0	
% Moisture	**14.6**	0.1	%	1	EG63118	"	07/31/06	% calculation	
Sulfate	**151**	10.0	mg/kg	20	EG63104	"	07/31/06	EPA 300.0	
BH-5 1' (6G28008-05) Soil									
Chloride	**511**	10.0	mg/kg	20	EG63104	07/28/06	07/31/06	EPA 300.0	
% Moisture	**16.1**	0.1	%	1	EG63118	"	07/31/06	% calculation	
Sulfate	**98.5**	10.0	mg/kg	20	EG63104	"	07/31/06	EPA 300.0	
BH-6 1' (6G28008-06) Soil									
Chloride	**436**	10.0	mg/kg	20	EG63104	07/28/06	07/31/06	EPA 300.0	
% Moisture	**12.0**	0.1	%	1	EG63118	"	07/31/06	% calculation	
Sulfate	**117**	10.0	mg/kg	20	EG63104	"	07/31/06	EPA 300.0	
BH-7 1' (6G28008-07) Soil									
Chloride	**283**	10.0	mg/kg	20	EG63104	07/28/06	07/31/06	EPA 300.0	
% Moisture	**8.7**	0.1	%	1	EG63118	"	07/31/06	% calculation	
Sulfate	**49.3**	10.0	mg/kg	20	EG63104	"	07/31/06	EPA 300.0	

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General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-8 1' (6G28008-08) Soil									
Chloride	**949**	20.0	mg/kg	40	EG63104	07/28/06	07/31/06	EPA 300.0	
% Moisture	**5.5**	0.1	%	1	EG63118	"	07/31/06	% calculation	
Sulfate	**131**	20.0	mg/kg	40	EG63104	"	07/31/06	EPA 300.0	
BH-9 1' (6G28008-09) Soil									
Chloride	**1320**	25.0	mg/kg	50	EG63104	07/28/06	07/31/06	EPA 300.0	
% Moisture	**6.8**	0.1	%	1	EG63118	"	07/31/06	% calculation	
Sulfate	**172**	25.0	mg/kg	50	EG63104	"	07/31/06	EPA 300.0	
BH-10 1' (6G28008-10) Soil									
Chloride	**976**	20.0	mg/kg	40	EG63104	07/28/06	07/31/06	EPA 300.0	
% Moisture	**11.2**	0.1	%	1	EG63118	"	07/31/06	% calculation	
Sulfate	**134**	20.0	mg/kg	40	EG63104	"	07/31/06	EPA 300.0	

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Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG62817 - Solvent Extraction (GC)										
Blank (EG62817-BLK1)				Prepared: 07/28/06 Analyzed: 07/30/06						
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	*64.7*		*mg/kg*	*50.0*		*129*	*70-130*			
Surrogate: 1-Chlorooctadecane	*64.1*		*"*	*50.0*		*128*	*70-130*			
LCS (EG62817-BS1)				Prepared: 07/28/06 Analyzed: 07/30/06						
Carbon Ranges C6-C12	574	10.0	mg/kg wet	500		115	75-125			
Carbon Ranges C12-C28	417	10.0	"	500		83.4	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	991	10.0	"	1000		99.1	75-125			
Surrogate: 1-Chlorooctane	*62.8*		*mg/kg*	*50.0*		*126*	*70-130*			
Surrogate: 1-Chlorooctadecane	*63.4*		*"*	*50.0*		*127*	*70-130*			
Calibration Check (EG62817-CCV1)				Prepared: 07/28/06 Analyzed: 07/31/06						
Carbon Ranges C6-C12	298		mg/kg	250		119	80-120			
Carbon Ranges C12-C28	228		"	250		91.2	80-120			
Total Hydrocarbons	526		"	500		105	80-120			
Surrogate: 1-Chlorooctane	*83.3*		*"*	*100*		*83.3*	*70-130*			
Surrogate: 1-Chlorooctadecane	*80.8*		*"*	*100*		*80.8*	*70-130*			
Matrix Spike (EG62817-MS1)	**Source: 6G28008-02**			Prepared: 07/28/06 Analyzed: 07/31/06						
Carbon Ranges C6-C12	663	10.0	mg/kg dry	565	ND	117	75-125			
Carbon Ranges C12-C28	501	10.0	"	565	ND	88.7	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	1160	10.0	"	1130	ND	103	75-125			
Surrogate: 1-Chlorooctane	*62.2*		*mg/kg*	*50.0*		*124*	*70-130*			
Surrogate: 1-Chlorooctadecane	*63.3*		*"*	*50.0*		*127*	*70-130*			

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Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG62817 - Solvent Extraction (GC)										
Matrix Spike Dup (EG62817-MSD1)	**Source: 6G28008-02**			Prepared: 07/28/06 Analyzed: 07/30/06						
Carbon Ranges C6-C12	654	10.0	mg/kg dry	565	ND	116	75-125	1.37	20	
Carbon Ranges C12-C28	474	10.0	"	565	ND	83.9	75-125	5.54	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	1130	10.0	"	1130	ND	100	75-125	2.62	20	
Surrogate: 1-Chlorooctane	*61.6*		*mg/kg*	*50.0*		*123*	*70-130*			
Surrogate: 1-Chlorooctadecane	*64.9*		*"*	*50.0*		*130*	*70-130*			
Batch EG63119 - EPA 5030C (GC)										
Blank (EG63119-BLK1)				Prepared & Analyzed: 07/31/06						
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	*37.5*		*ug/kg*	*40.0*		*93.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*33.3*		*"*	*40.0*		*83.2*	*80-120*			
LCS (EG63119-BS1)				Prepared & Analyzed: 07/31/06						
Benzene	1.27	0.0250	mg/kg wet	1.25		102	80-120			
Toluene	1.26	0.0250	"	1.25		101	80-120			
Ethylbenzene	1.23	0.0250	"	1.25		98.4	80-120			
Xylene (p/m)	2.74	0.0250	"	2.50		110	80-120			
Xylene (o)	1.37	0.0250	"	1.25		110	80-120			
Surrogate: a,a,a-Trifluorotoluene	*39.5*		*ug/kg*	*40.0*		*98.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*38.1*		*"*	*40.0*		*95.2*	*80-120*			

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG63119 - EPA 5030C (GC)										
Calibration Check (EG63119-CCV1)				Prepared: 07/31/06 Analyzed: 08/01/06						
Benzene	51.5		ug/kg	50.0		103	80-120			
Toluene	49.9		"	50.0		99.8	80-120			
Ethylbenzene	51.7		"	50.0		103	80-120			
Xylene (p/m)	103		"	100		103	80-120			
Xylene (o)	50.8		"	50.0		102	80-120			
Surrogate: a,a,a-Trifluorotoluene	*35.7*		*"*	*40.0*		*89.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*33.7*		*"*	*40.0*		*84.2*	*80-120*			
Matrix Spike (EG63119-MS1)		**Source: 6G28008-01**		Prepared: 07/31/06 Analyzed: 08/01/06						
Benzene	1.51	0.0250	mg/kg dry	1.40	ND	108	80-120			
Toluene	1.52	0.0250	"	1.40	ND	109	80-120			
Ethylbenzene	1.47	0.0250	"	1.40	ND	105	80-120			
Xylene (p/m)	3.25	0.0250	"	2.81	ND	116	80-120			
Xylene (o)	1.58	0.0250	"	1.40	ND	113	80-120			
Surrogate: a,a,a-Trifluorotoluene	*38.5*		*ug/kg*	*40.0*		*96.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*40.9*		*"*	*40.0*		*102*	*80-120*			
Matrix Spike Dup (EG63119-MSD1)		**Source: 6G28008-01**		Prepared: 07/31/06 Analyzed: 08/01/06						
Benzene	1.43	0.0250	mg/kg dry	1.40	ND	102	80-120	5.71	20	
Toluene	1.41	0.0250	"	1.40	ND	101	80-120	7.62	20	
Ethylbenzene	1.35	0.0250	"	1.40	ND	96.4	80-120	8.54	20	
Xylene (p/m)	3.00	0.0250	"	2.81	ND	107	80-120	8.07	20	
Xylene (o)	1.49	0.0250	"	1.40	ND	106	80-120	6.39	20	
Surrogate: a,a,a-Trifluorotoluene	*40.4*		*ug/kg*	*40.0*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*39.2*		*"*	*40.0*		*98.0*	*80-120*			
Batch EH60114 - EPA 5030C (GC)										
Blank (EH60114-BLK1)				Prepared: 08/01/06 Analyzed: 08/02/06						
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	*35.5*		*ug/kg*	*40.0*		*88.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*33.2*		*"*	*40.0*		*83.0*	*80-120*			

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH60114 - EPA 5030C (GC)										
LCS (EH60114-BS1)				Prepared: 08/01/06 Analyzed: 08/02/06						
Benzene	1.20	0.0250	mg/kg wet	1.25		96.0	80-120			
Toluene	1.27	0.0250	"	1.25		102	80-120			
Ethylbenzene	1.13	0.0250	"	1.25		90.4	80-120			
Xylene (p/m)	2.68	0.0250	"	2.50		107	80-120			
Xylene (o)	1.33	0.0250	"	1.25		106	80-120			
Surrogate: a,a,a-Trifluorotoluene	*41.7*		*ug/kg*	*40.0*		*104*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*38.8*		*"*	*40.0*		*97.0*	*80-120*			
Calibration Check (EH60114-CCV1)				Prepared: 08/01/06 Analyzed: 08/02/06						
Benzene	53.8		ug/kg	50.0		108	80-120			
Toluene	54.3		"	50.0		109	80-120			
Ethylbenzene	51.0		"	50.0		102	80-120			
Xylene (p/m)	110		"	100		110	80-120			
Xylene (o)	54.8		"	50.0		110	80-120			
Surrogate: a,a,a-Trifluorotoluene	*37.1*		*"*	*40.0*		*92.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*33.0*		*"*	*40.0*		*82.5*	*80-120*			
Matrix Spike (EH60114-MS1)	**Source: 6G28010-01**			Prepared: 08/01/06 Analyzed: 08/02/06						
Benzene	1.43	0.0250	mg/kg dry	1.39	ND	103	80-120			
Toluene	1.44	0.0250	"	1.39	ND	104	80-120			
Ethylbenzene	1.37	0.0250	"	1.39	ND	98.6	80-120			
Xylene (p/m)	3.09	0.0250	"	2.78	ND	111	80-120			
Xylene (o)	1.51	0.0250	"	1.39	ND	109	80-120			
Surrogate: a,a,a-Trifluorotoluene	*38.9*		*ug/kg*	*40.0*		*97.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*36.9*		*"*	*40.0*		*92.2*	*80-120*			
Matrix Spike Dup (EH60114-MSD1)	**Source: 6G28010-01**			Prepared: 08/01/06 Analyzed: 08/02/06						
Benzene	1.30	0.0250	mg/kg dry	1.39	ND	93.5	80-120	9.67	20	
Toluene	1.37	0.0250	"	1.39	ND	98.6	80-120	5.33	20	
Ethylbenzene	1.29	0.0250	"	1.39	ND	92.8	80-120	6.06	20	
Xylene (p/m)	2.88	0.0250	"	2.78	ND	104	80-120	6.51	20	
Xylene (o)	1.42	0.0250	"	1.39	ND	102	80-120	6.64	20	
Surrogate: a,a,a-Trifluorotoluene	*32.7*		*ug/kg*	*40.0*		*81.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*37.0*		*"*	*40.0*		*92.5*	*80-120*			

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG63104 - General Preparation (WetChem)										
Blank (EG63104-BLK1)				Prepared: 07/28/06 Analyzed: 07/31/06						
Chloride	ND	0.500	mg/kg							
Sulfate	ND	0.500	"							
LCS (EG63104-BS1)				Prepared: 07/28/06 Analyzed: 07/31/06						
Sulfate	10.4	0.500	mg/kg	10.0		104	80-120			
Chloride	9.56	0.500	"	10.0		95.6	80-120			
Calibration Check (EG63104-CCV1)				Prepared: 07/28/06 Analyzed: 07/31/06						
Sulfate	10.1		mg/L	10.0		101	80-120			
Chloride	10.1		"	10.0		101	80-120			
Duplicate (EG63104-DUP1)	**Source: 6G21001-01**			Prepared: 07/28/06 Analyzed: 07/31/06						
Sulfate	560	5.00	mg/kg		523			6.83	20	
Chloride	344	5.00	"		320			7.23	20	
Duplicate (EG63104-DUP2)	**Source: 6G28008-09**			Prepared: 07/28/06 Analyzed: 07/31/06						
Sulfate	177	25.0	mg/kg		172			2.87	20	
Chloride	1350	25.0	"		1320			2.25	20	
Matrix Spike (EG63104-MS1)	**Source: 6G21001-01**			Prepared: 07/28/06 Analyzed: 07/31/06						
Chloride	452	5.00	mg/kg	100	320	132	80-120			S-07
Sulfate	625	5.00	"	100	523	102	75-125			
Matrix Spike (EG63104-MS2)	**Source: 6G28008-09**			Prepared: 07/28/06 Analyzed: 07/31/06						
Sulfate	669	25.0	mg/kg	500	172	99.4	75-125			
Chloride	1890	25.0	"	500	1320	114	80-120			

Environmental Plus, Incorporated	Project: Apache/ N. Mon. Grayburg SA 603	Fax: 505-394-2601
P.O. Box 1558	Project Number: 240014	
Eunice NM, 88231	Project Manager: Jason Stegemoller	

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG63118 - General Preparation (Prep)										
Blank (EG63118-BLK1)				Prepared: 07/28/06 Analyzed: 07/31/06						
% Moisture	ND	0.1	%							
Duplicate (EG63118-DUP1)		**Source: 6G21001-01**		Prepared: 07/28/06 Analyzed: 07/31/06						
% Solids	90.8		%		91.9			1.20	20	
Duplicate (EG63118-DUP2)		**Source: 6G28008-03**		Prepared: 07/28/06 Analyzed: 07/31/06						
% Solids	97.4		%		96.9			0.515	20	
Duplicate (EG63118-DUP3)		**Source: 6G28013-01**		Prepared: 07/28/06 Analyzed: 07/31/06						
% Solids	93.9		%		93.5			0.427	20	

Notes and Definitions

S-07	Recovery outside Laboratory historical or method prescribed limits.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Raland K Tuttle Date: 8/3/2006

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
LaTasha Cornish, Chemist
Sandra Sanchez, Lab Tech.

Environmental Plus, Inc.

Chain of Custody Form

2100 Avenue O, Eunice, NM 88231 P.O. Box 1558, Eunice, NM 88231
(505) 394-3481 FAX: (505) 394-2601

Company Name	Environmental Plus, Inc.
EPI Project Manager	Jason Stegemoller
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	Apache Corporation
Facility Name	N. Mon. Grayburg SA 603
Location	UL-C, Sec 20, T19S, R37E
Project Reference	240014
EPI Sampler Name	Jacob Melancon

Bill To

Attn: Iain Olness
P.O. Box 1558
Eunice, NM 88231

ANALYSIS REQUEST

LAB I.D. (lab#28008)	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES (SO_4^{-2})	pH	TCLP	OTHER >>>	PAH			
-01 1	BH-1 (1')	G	1			1					X		26-Jul-06	10:15	X	X	X	X							
-02 2	BH-2 (1')	G	1			1					X		26-Jul-06	10:35	X	X	X	X							
-03 3	BH-3 (1')	G	1			1					X		26-Jul-06	10:45	X	X	X	X							
-04 4	BH-4 (1')	G	1			1					X		25-Jul-06	10:20	X	X	X	X							
-05 5	BH-5 (1')	G	1			1					X		25-Jul-06	10:40	X	X	X	X							
-06 6	BH-6 (1')	G	1			1					X		25-Jul-06	13:30	X	X	X	X							
-07 7	BH-7 (1')	G	1			1					X		25-Jul-06	13:45	X	X	X	X							
-08 8	BH-8 (1')	G	1			1					X		26-Jul-06	13:15	X	X	X	X							
-09 9	BH-9 (1')	G	1			1					X		26-Jul-06	13:30	X	X	X	X							
-10 10	BH-10 (1')	G	1			1					X		26-Jul-06	13:45	X	X	X	X							

Sampler Relinquished: Jacob Melancon — Date 7-28 Time 7:30 — Received By: Jason Stegemoller

Relinquished by: Jason Stegemoller — Date 7/28/2006 Time 10:50 — Received By: (lab staff) Cecilia Villa

Delivered by:

Sample Cool & Intact: (Yes) No

Checked By:

E-mail results to: jstegemoller@envplus.net

NOTES: 2.5°C 4oz glass w/ labels

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

ent: EPI

ate/ Time: 7/28/06 10:50

ab ID # : 060728005

tials: CK

Sample Receipt Checklist

					Client Initials
	Temperature of container/ cooler?	Yes	No	2.5 °C	
2	Shipping container in good condition?	Yes	No		
3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
5	Chain of Custody present?	Yes	No		
6	Sample instructions complete of Chain of Custody?	Yes	No		
7	Chain of Custody signed when relinquished/ received?	Yes	No		
8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
9	Container label(s) legible and intact?	Yes	No	Not Applicable	
10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
11	Containers supplied by ELOT?	Yes	No		
12	Samples in proper container/ bottle?	Yes	No	See Below	
13	Samples properly preserved?	Yes	No	See Below	
14	Sample bottles intact?	Yes	No		
15	Preservations documented on Chain of Custody?	Yes	No		
16	Containers documented on Chain of Custody?	Yes	No		
17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
18	All samples received within sufficient hold time?	Yes	No	See Below	
19	VOC samples have zero headspace?	Yes	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Jason Stegemoller

Environmental Plus, Incorporated

P.O. Box 1558

Eunice, NM 88231

Project: Apache/ N. Mon. Grayburg SA 603

Project Number: 240014

Location: UL-C, Sec. 20, T19S, R37E

Lab Order Number: 6H02007

Report Date: 08/08/06

Environmental Plus, Incorporated	Project: Apache/ N. Mon. Grayburg SA 603	Fax: 505-394-2601
P.O. Box 1558	Project Number: 240014	
Eunice NM, 88231	Project Manager: Jason Stegemoller	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-15 6"	6H02007-01	Soil	2006-08-01 08:55	2006-08-02 11:15
BH-16 6"	6H02007-02	Soil	2006-08-01 10:10	2006-08-02 11:15
BH-17 6"	6H02007-03	Soil	2006-08-01 11:25	2006-08-02 11:15
BH-18 6"	6H02007-04	Soil	2006-08-01 13:10	2006-08-02 11:15
BH-19 6"	6H02007-05	Soil	2006-08-01 14:25	2006-08-02 11:15
BH-20 6"	6H02007-06	Soil	2006-08-01 15:25	2006-08-02 11:15

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Apache/ N. Mon. Grayburg SA 603
Project Number: 240014
Project Manager: Jason Stegemoller

Fax: 505-394-2601

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-15 6" (6H02007-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60702	08/04/06	08/06/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*96.5 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*93.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EH60209	08/02/06	08/02/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*96.0 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*115 %*	*70-130*		"	"	"	"	
BH-16 6" (6H02007-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60702	08/04/06	08/06/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*97.5 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*90.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EH60209	08/02/06	08/02/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*96.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*113 %*	*70-130*		"	"	"	"	
BH-17 6" (6H02007-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60702	08/04/06	08/06/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*98.5 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*93.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EH60209	08/02/06	08/02/06	EPA 8015M	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-17 6" (6H02007-03) Soil									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EH60209	08/02/06	08/02/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*93.8 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*112 %*	*70-130*		"	"	"	"	
BH-18 6" (6H02007-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60702	08/04/06	08/06/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*92.8 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*87.2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EH60209	08/02/06	08/02/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*93.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*112 %*	*70-130*		"	"	"	"	
BH-19 6" (6H02007-05) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60702	08/04/06	08/06/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*90.5 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*90.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EH60209	08/02/06	08/02/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*96.2 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*113 %*	*70-130*		"	"	"	"	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-20 6" (6H02007-06) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60702	08/04/06	08/07/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*98.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*94.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EH60209	08/02/06	08/02/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*104 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*123 %*	*70-130*		"	"	"	"	

Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Apache/ N. Mon. Grayburg SA 603
Project Number: 240014
Project Manager: Jason Stegemoller

Fax: 505-394-2601

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-15 6" (6H02007-01) Soil									
Chloride	**2510**	50.0	mg/kg	100	EH60307	08/02/06	08/04/06	EPA 300.0	
% Moisture	**13.6**	0.1	%	1	EH60302	08/02/06	08/03/06	% calculation	
Sulfate	**146**	50.0	mg/kg	100	EH60307	08/02/06	08/04/06	EPA 300.0	
BH-16 6" (6H02007-02) Soil									
Chloride	**226**	10.0	mg/kg	20	EH60307	08/02/06	08/04/06	EPA 300.0	
% Moisture	**10.6**	0.1	%	1	EH60302	08/02/06	08/03/06	% calculation	
Sulfate	**84.6**	10.0	mg/kg	20	EH60307	08/02/06	08/04/06	EPA 300.0	
BH-17 6" (6H02007-03) Soil									
Chloride	**1720**	50.0	mg/kg	100	EH60307	08/02/06	08/04/06	EPA 300.0	
% Moisture	**11.8**	0.1	%	1	EH60302	08/02/06	08/03/06	% calculation	
Sulfate	**290**	50.0	mg/kg	100	EH60307	08/02/06	08/04/06	EPA 300.0	
BH-18 6" (6H02007-04) Soil									
Chloride	**1240**	25.0	mg/kg	50	EH60307	08/02/06	08/04/06	EPA 300.0	
% Moisture	**8.3**	0.1	%	1	EH60302	08/02/06	08/03/06	% calculation	
Sulfate	**176**	25.0	mg/kg	50	EH60307	08/02/06	08/04/06	EPA 300.0	
BH-19 6" (6H02007-05) Soil									
Chloride	**1550**	25.0	mg/kg	50	EH60307	08/02/06	08/04/06	EPA 300.0	
% Moisture	**9.0**	0.1	%	1	EH60302	08/02/06	08/03/06	% calculation	
Sulfate	**253**	25.0	mg/kg	50	EH60307	08/02/06	08/04/06	EPA 300.0	
BH-20 6" (6H02007-06) Soil									
Chloride	**7.20**	5.00	mg/kg	10	EH60307	08/02/06	08/04/06	EPA 300.0	
% Moisture	**4.6**	0.1	%	1	EH60302	08/02/06	08/03/06	% calculation	
Sulfate	**21.8**	5.00	mg/kg	10	EH60307	08/02/06	08/04/06	EPA 300.0	

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH60209 - EPA 5030C (GC)										
Blank (EH60209-BLK1)				Prepared & Analyzed: 08/02/06						
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	*64.0*		*mg/kg*	*50.0*		*128*	*70-130*			
Surrogate: 1-Chlorooctadecane	*61.1*		*"*	*50.0*		*122*	*70-130*			
LCS (EH60209-BS1)				Prepared & Analyzed: 08/02/06						
Carbon Ranges C6-C12	441	10.0	mg/kg wet	500		88.2	75-125			
Carbon Ranges C12-C28	451	10.0	"	500		90.2	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	892	10.0	"	1000		89.2	75-125			
Surrogate: 1-Chlorooctane	*49.0*		*mg/kg*	*50.0*		*98.0*	*70-130*			
Surrogate: 1-Chlorooctadecane	*37.1*		*"*	*50.0*		*74.2*	*70-130*			
Calibration Check (EH60209-CCV1)				Prepared: 08/02/06 Analyzed: 08/03/06						
Carbon Ranges C6-C12	210		mg/kg	250		84.0	80-120			
Carbon Ranges C12-C28	271		"	250		108	80-120			
Total Hydrocarbons	481		"	500		96.2	80-120			
Surrogate: 1-Chlorooctane	*87.7*		*"*	*100*		*87.7*	*70-130*			
Surrogate: 1-Chlorooctadecane	*75.9*		*"*	*100*		*75.9*	*70-130*			
Matrix Spike (EH60209-MS1)	**Source: 6H02005-01**			Prepared & Analyzed: 08/02/06						
Carbon Ranges C6-C12	466	10.0	mg/kg dry	520	ND	89.6	75-125			
Carbon Ranges C12-C28	479	10.0	"	520	ND	92.1	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	945	10.0	"	1040	ND	90.9	75-125			
Surrogate: 1-Chlorooctane	*49.7*		*mg/kg*	*50.0*		*99.4*	*70-130*			
Surrogate: 1-Chlorooctadecane	*38.3*		*"*	*50.0*		*76.6*	*70-130*			

Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Apache/ N. Mon. Grayburg SA 603
Project Number: 240014
Project Manager: Jason Stegemoller

Fax: 505-394-2601

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH60209 - EPA 5030C (GC)										
Matrix Spike Dup (EH60209-MSD1)	**Source: 6H02005-01**			Prepared & Analyzed: 08/02/06						
Carbon Ranges C6-C12	470	10.0	mg/kg dry	520	ND	90.4	75-125	0.855	20	
Carbon Ranges C12-C28	484	10.0	"	520	ND	93.1	75-125	1.04	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	954	10.0	"	1040	ND	91.7	75-125	0.948	20	
Surrogate: 1-Chlorooctane	*50.5*		*mg/kg*	*50.0*		*101*	*70-130*			
Surrogate: 1-Chlorooctadecane	*37.2*		*"*	*50.0*		*74.4*	*70-130*			
Batch EH60702 - EPA 5030C (GC)										
Blank (EH60702-BLK1)				Prepared: 08/04/06 Analyzed: 08/06/06						
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	*37.0*		*ug/kg*	*40.0*		*92.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*33.9*		*"*	*40.0*		*84.8*	*80-120*			
LCS (EH60702-BS1)				Prepared: 08/04/06 Analyzed: 08/06/06						
Benzene	1.19	0.0250	mg/kg wet	1.25		95.2	80-120			
Toluene	1.21	0.0250	"	1.25		96.8	80-120			
Ethylbenzene	1.08	0.0250	"	1.25		86.4	80-120			
Xylene (p/m)	2.66	0.0250	"	2.50		106	80-120			
Xylene (o)	1.31	0.0250	"	1.25		105	80-120			
Surrogate: a,a,a-Trifluorotoluene	*39.7*		*ug/kg*	*40.0*		*99.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*40.7*		*"*	*40.0*		*102*	*80-120*			

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH60702 - EPA 5030C (GC)										
Calibration Check (EH60702-CCV1)				Prepared: 08/04/06 Analyzed: 08/07/06						
Benzene	50.4		ug/kg	50.0		101	80-120			
Toluene	49.1		"	50.0		98.2	80-120			
Ethylbenzene	49.4		"	50.0		98.8	80-120			
Xylene (p/m)	99.8		"	100		99.8	80-120			
Xylene (o)	48.8		"	50.0		97.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	*37.3*		"	*40.0*		*93.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*34.2*		"	*40.0*		*85.5*	*80-120*			
Matrix Spike (EH60702-MS1)	**Source: 6H04011-01**			Prepared: 08/04/06 Analyzed: 08/07/06						
Benzene	1.27	0.0250	mg/kg dry	1.36	ND	93.4	80-120			
Toluene	1.27	0.0250	"	1.36	ND	93.4	80-120			
Ethylbenzene	1.23	0.0250	"	1.36	ND	90.4	80-120			
Xylene (p/m)	2.67	0.0250	"	2.72	ND	98.2	80-120			
Xylene (o)	1.36	0.0250	"	1.36	ND	100	80-120			
Surrogate: a,a,a-Trifluorotoluene	*32.8*		*ug/kg*	*40.0*		*82.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*35.8*		"	*40.0*		*89.5*	*80-120*			
Matrix Spike Dup (EH60702-MSD1)	**Source: 6H04011-01**			Prepared: 08/04/06 Analyzed: 08/07/06						
Benzene	1.24	0.0250	mg/kg dry	1.36	ND	91.2	80-120	2.38	20	
Toluene	1.24	0.0250	"	1.36	ND	91.2	80-120	2.38	20	
Ethylbenzene	1.20	0.0250	"	1.36	ND	88.2	80-120	2.46	20	
Xylene (p/m)	2.62	0.0250	"	2.72	ND	96.3	80-120	1.95	20	
Xylene (o)	1.31	0.0250	"	1.36	ND	96.3	80-120	3.77	20	
Surrogate: a,a,a-Trifluorotoluene	*33.1*		*ug/kg*	*40.0*		*82.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*35.5*		"	*40.0*		*88.8*	*80-120*			

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH60302 - General Preparation (Prep)										
Blank (EH60302-BLK1)				Prepared: 08/02/06 Analyzed: 08/03/06						
% Solids	100		%							
Duplicate (EH60302-DUP1)		**Source: 6H02001-01**		Prepared: 08/02/06 Analyzed: 08/03/06						
% Solids	99.5		%		99.4			0.101	20	
Batch EH60307 - Water Extraction										
Blank (EH60307-BLK1)				Prepared: 08/02/06 Analyzed: 08/04/06						
Sulfate	ND	0.500	mg/kg							
Chloride	ND	0.500	"							
LCS (EH60307-BS1)				Prepared: 08/02/06 Analyzed: 08/04/06						
Chloride	8.90	0.500	mg/kg	10.0		89.0	80-120			
Sulfate	9.47	0.500	"	10.0		94.7	80-120			
Calibration Check (EH60307-CCV1)				Prepared: 08/02/06 Analyzed: 08/04/06						
Chloride	10.1		mg/L	10.0		101	80-120			
Sulfate	9.57		"	10.0		95.7	80-120			
Duplicate (EH60307-DUP1)		**Source: 6H01008-03**		Prepared: 08/02/06 Analyzed: 08/04/06						
Sulfate	327	10.0	mg/kg		325			0.613	20	
Chloride	7.30	10.0	"		9.22			23.2	20	S-08, J
Duplicate (EH60307-DUP2)		**Source: 6H01009-06**		Prepared: 08/02/06 Analyzed: 08/04/06						
Sulfate	30.1	5.00	mg/kg		30.1			0.00	20	
Chloride	13.3	5.00	"		13.3			0.00	20	

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Project Number: 240014
Project Manager: Jason Stegemoller

Fax: 505-394-2601

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH60307 - Water Extraction										
Matrix Spike (EH60307-MS1)		**Source: 6H01008-03**		Prepared: 08/02/06 Analyzed: 08/04/06						
Chloride	221	10.0	mg/kg	200	9.22	106	80-120			
Sulfate	539	10.0	"	200	325	107	80-120			
Matrix Spike (EH60307-MS2)		**Source: 6H01009-06**		Prepared: 08/02/06 Analyzed: 08/04/06						
Chloride	109	5.00	mg/kg	100	13.3	95.7	80-120			
Sulfate	120	5.00	"	100	30.1	89.9	80-120			

Notes and Definitions

S-08	Value outside Laboratory historical or method prescribed QC limits.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Raland K Tuttle Date: 8/8/2006

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
LaTasha Cornish, Chemist
Sandra Sanchez, Lab Tech.

Environmental Plus, Inc.

Chain of Custody Form

2100 Avenue O, Eunice, NM 88231 P.O. Box 1558, Eunice, NM 88231
(505) 394-3481 FAX: (505) 394-2601

Company Name	Environmental Plus, Inc.
EPI Project Manager	Jason Stegemoller
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	Apache Corporation
Facility Name	N. Mon. Grayburg SA 603
Location	UL-C, Sec 20, T19S, R37E
Project Reference	240014
EPI Sampler Name	George Blackburn

Bill To

Attn: Iain Olness
P.O. Box 1558
Eunice, NM 88231

ANALYSIS REQUEST

LAB I.D. 64020		SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^{=}$)	pH	TCLP	OTHER >>>	PAH			
-01	1	BH-15 (6")	G	1			1					X		01-Aug-06	8:55	X	X	X	X							
-02	2	BH-16 (6")	G	1			1					X		01-Aug-06	10:10	X	X	X	X							
-03	3	BH-17(6")	G	1			1					X		01-Aug-06	11:25	X	X	X	X							
-04	4	BH-18 (6")	G	1			1					X		01-Aug-06	13:10	X	X	X	X							
-05	5	BH-19 (6")	G	1			1					X		01-Aug-06	14:25	X	X	X	X							
-06	6	BH-20 (6")	G	1			1					X		01-Aug-06	15:25	X	X	X	X							
	7																									
	8																									
	9																									
	10																									

Sampler Relinquished:	Date Time	Received By:	E-mail results to: jstegemoller@envplus.net NOTES:
Relinquished by:	Date 8.2.06 Time 1115	Received By: (lab staff)	4oz glass w/ label & jar seal 3.0
Delivered by:	Sample Cool & Intact (Yes) No	Checked By:	

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

ent: EPI

ite/ Time: 8/2/06 11:15

b ID # : 6H02007

tials: CK

Sample Receipt Checklist

					Client Initials
	Temperature of container/ cooler?	Yes	No	3.0 °C	
2	Shipping container in good condition?	Yes	No		
3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
5	Chain of Custody present?	Yes	No		
6	Sample instructions complete of Chain of Custody?	Yes	No		
7	Chain of Custody signed when relinquished/ received?	Yes	No		
8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
9	Container label(s) legible and intact?	Yes	No	Not Applicable	
10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
11	Containers supplied by ELOT?	Yes	No		
12	Samples in proper container/ bottle?	Yes	No	See Below	
13	Samples properly preserved?	Yes	No	See Below	
14	Sample bottles intact?	Yes	No		
15	Preservations documented on Chain of Custody?	Yes	No		
16	Containers documented on Chain of Custody?	Yes	No		
17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
18	All samples received within sufficient hold time?	Yes	No	See Below	
19	VOC samples have zero headspace?	Yes	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken:

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Jason Stegemoller

Environmental Plus, Incorporated

P.O. Box 1558

Eunice, NM 88231

Project: Apache/ N. Mon. Grayburg SA 603

Project Number: 240014

Location: EUL-C, Sec. 20, T19S, R37E

Lab Order Number: 6H08004

Report Date: 08/10/06

Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Apache/ N. Mon. Grayburg SA 603
Project Number: 240014
Project Manager: Jason Stegemoller

Fax: 505-394-2601

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-21 6"	6H08004-01	Soil	08/02/06 08:15	08-08-2006 10:40
BH-22 6"	6H08004-02	Soil	08/02/06 09:50	08-08-2006 10:40
BH-23 6"	6H08004-03	Soil	08/02/06 12:00	08-08-2006 10:40
BH-24 6"	6H08004-04	Soil	08/02/06 13:30	08-08-2006 10:40
BH-25 6"	6H08004-05	Soil	08/02/06 14:35	08-08-2006 10:40
BH-26 6"	6H08004-06	Soil	08/02/06 15:06	08-08-2006 10:40

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Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-21 6" (6H08004-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60809	08/08/06	08/09/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*98.5 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	**13.4**	10.0	mg/kg dry	1	EH60808	08/08/06	08/08/06	EPA 8015M	
Carbon Ranges C12-C28	**57.8**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	**71.2**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*125 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*121 %*	*70-130*		"	"	"	"	
BH-22 6" (6H08004-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60809	08/08/06	08/09/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*89.8 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*84.2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EH60808	08/08/06	08/08/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*120 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*117 %*	*70-130*		"	"	"	"	
BH-23 6" (6H08004-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60809	08/08/06	08/09/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*97.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EH60808	08/08/06	08/08/06	EPA 8015M	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-23 6" (6H08004-03) Soil									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EH60808	08/08/06	08/08/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*130 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*121 %*	*70-130*		"	"	"	"	
BH-24 6" (6H08004-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60809	08/08/06	08/08/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**0.0361**	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*98.8 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*87.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EH60808	08/08/06	08/08/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*129 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*117 %*	*70-130*		"	"	"	"	
BH-25 6" (6H08004-05) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60809	08/08/06	08/08/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*85.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*81.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EH60808	08/08/06	08/08/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*125 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*117 %*	*70-130*		"	"	"	"	

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Project Number: 240014
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Fax: 505-394-2601

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-26 6" (6H08004-06) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EH60809	08/08/06	08/08/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*101 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*93.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EH60808	08/08/06	08/08/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*121 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*113 %*	*70-130*		"	"	"	"	

Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Apache/ N. Mon. Grayburg SA 603
Project Number: 240014
Project Manager: Jason Stegemoller

Fax: 505-394-2601

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-21 6" (6H08004-01) Soil									
Chloride	**920**	25.0	mg/kg	50	EH60812	08/08/06	08/08/06	EPA 300.0	
% Moisture	**14.4**	0.1	%	1	EH60906	08/08/06	08/09/06	% calculation	
Sulfate	**168**	25.0	mg/kg	50	EH60812	08/08/06	08/08/06	EPA 300.0	
BH-22 6" (6H08004-02) Soil									
Chloride	**976**	25.0	mg/kg	50	EH60812	08/08/06	08/08/06	EPA 300.0	
% Moisture	**12.0**	0.1	%	1	EH60906	08/08/06	08/09/06	% calculation	
Sulfate	**121**	25.0	mg/kg	50	EH60812	08/08/06	08/08/06	EPA 300.0	
BH-23 6" (6H08004-03) Soil									
Chloride	**6.09**	5.00	mg/kg	10	EH60812	08/08/06	08/08/06	EPA 300.0	
% Moisture	**10.9**	0.1	%	1	EH60906	08/08/06	08/09/06	% calculation	
Sulfate	**17.6**	5.00	mg/kg	10	EH60812	08/08/06	08/08/06	EPA 300.0	
BH-24 6" (6H08004-04) Soil									
Chloride	**705**	20.0	mg/kg	40	EH60812	08/08/06	08/08/06	EPA 300.0	
% Moisture	**10.1**	0.1	%	1	EH60906	08/08/06	08/09/06	% calculation	
Sulfate	**65.3**	20.0	mg/kg	40	EH60812	08/08/06	08/08/06	EPA 300.0	
BH-25 6" (6H08004-05) Soil									
Chloride	**1250**	50.0	mg/kg	100	EH60812	08/08/06	08/08/06	EPA 300.0	
% Moisture	**10.2**	0.1	%	1	EH60906	08/08/06	08/09/06	% calculation	
Sulfate	**2380**	50.0	mg/kg	100	EH60812	08/08/06	08/08/06	EPA 300.0	
BH-26 6" (6H08004-06) Soil									
Chloride	**136**	10.0	mg/kg	20	EH60812	08/08/06	08/08/06	EPA 300.0	
% Moisture	**12.8**	0.1	%	1	EH60906	08/08/06	08/09/06	% calculation	
Sulfate	**151**	10.0	mg/kg	20	EH60812	08/08/06	08/08/06	EPA 300.0	

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Eunice NM, 88231

Project: Apache/ N. Mon. Grayburg SA 603
Project Number: 240014
Project Manager: Jason Stegemoller

Fax: 505-394-2601

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH60808 - EPA 5030C (GC)										
Blank (EH60808-BLK1)				Prepared & Analyzed: 08/08/06						
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	*58.0*		*mg/kg*	*50.0*		*116*	*70-130*			
Surrogate: 1-Chlorooctadecane	*55.6*		*"*	*50.0*		*111*	*70-130*			
LCS (EH60808-BS1)				Prepared & Analyzed: 08/08/06						
Carbon Ranges C6-C12	483	10.0	mg/kg wet	500		96.6	75-125			
Carbon Ranges C12-C28	426	10.0	"	500		85.2	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	909	10.0	"	1000		90.9	75-125			
Surrogate: 1-Chlorooctane	*63.2*		*mg/kg*	*50.0*		*126*	*70-130*			
Surrogate: 1-Chlorooctadecane	*56.3*		*"*	*50.0*		*113*	*70-130*			
Calibration Check (EH60808-CCV1)				Prepared & Analyzed: 08/08/06						
Carbon Ranges C6-C12	215		mg/kg	250		86.0	80-120			
Carbon Ranges C12-C28	224		"	250		89.6	80-120			
Total Hydrocarbons	439		"	500		87.8	80-120			
Surrogate: 1-Chlorooctane	*64.1*		*"*	*50.0*		*128*	*70-130*			
Surrogate: 1-Chlorooctadecane	*62.2*		*"*	*50.0*		*124*	*70-130*			
Matrix Spike (EH60808-MS1)	**Source: 6H08003-02**			Prepared & Analyzed: 08/08/06						
Carbon Ranges C6-C12	597	10.0	mg/kg dry	561	ND	106	75-125			
Carbon Ranges C12-C28	520	10.0	"	561	ND	92.7	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	1120	10.0	"	1120	ND	100	75-125			
Surrogate: 1-Chlorooctane	*64.9*		*mg/kg*	*50.0*		*130*	*70-130*			
Surrogate: 1-Chlorooctadecane	*63.8*		*"*	*50.0*		*128*	*70-130*			

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH60808 - EPA 5030C (GC)										
Matrix Spike Dup (EH60808-MSD1)	**Source: 6H08003-02**			Prepared & Analyzed: 08/08/06						
Carbon Ranges C6-C12	585	10.0	mg/kg dry	561	ND	104	75-125	2.03	20	
Carbon Ranges C12-C28	498	10.0	"	561	ND	88.8	75-125	4.32	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	1080	10.0	"	1120	ND	96.4	75-125	3.64	20	
Surrogate: 1-Chlorooctane	*64.1*		*mg/kg*	*50.0*		*128*	*70-130*			
Surrogate: 1-Chlorooctadecane	*63.3*		*"*	*50.0*		*127*	*70-130*			
Batch EH60809 - EPA 5030C (GC)										
Blank (EH60809-BLK1)				Prepared & Analyzed: 08/08/06						
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	*37.0*		*ug/kg*	*40.0*		*92.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*33.5*		*"*	*40.0*		*83.8*	*80-120*			
LCS (EH60809-BS1)				Prepared & Analyzed: 08/08/06						
Benzene	1.24	0.0250	mg/kg wet	1.25		99.2	80-120			
Toluene	1.27	0.0250	"	1.25		102	80-120			
Ethylbenzene	1.12	0.0250	"	1.25		89.6	80-120			
Xylene (p/m)	2.78	0.0250	"	2.50		111	80-120			
Xylene (o)	1.39	0.0250	"	1.25		111	80-120			
Surrogate: a,a,a-Trifluorotoluene	*34.8*		*ug/kg*	*40.0*		*87.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*36.8*		*"*	*40.0*		*92.0*	*80-120*			

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH60809 - EPA 5030C (GC)										
Calibration Check (EH60809-CCV1)				Prepared & Analyzed: 08/08/06						
Benzene	49.2		ug/kg	50.0		98.4	80-120			
Toluene	48.6		"	50.0		97.2	80-120			
Ethylbenzene	48.4		"	50.0		96.8	80-120			
Xylene (p/m)	101		"	100		101	80-120			
Xylene (o)	50.0		"	50.0		100	80-120			
Surrogate: a,a,a-Trifluorotoluene	*32.8*		*"*	*40.0*		*82.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*32.1*		*"*	*40.0*		*80.2*	*80-120*			
Matrix Spike (EH60809-MS1)	**Source: 6H07012-01**			Prepared & Analyzed: 08/08/06						
Benzene	1.38	0.0250	mg/kg dry	1.38	ND	100	80-120			
Toluene	1.42	0.0250	"	1.38	ND	103	80-120			
Ethylbenzene	1.40	0.0250	"	1.38	ND	101	80-120			
Xylene (p/m)	3.09	0.0250	"	2.76	ND	112	80-120			
Xylene (o)	1.50	0.0250	"	1.38	ND	109	80-120			
Surrogate: a,a,a-Trifluorotoluene	*41.4*		*ug/kg*	*40.0*		*104*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*39.6*		*"*	*40.0*		*99.0*	*80-120*			
Matrix Spike Dup (EH60809-MSD1)	**Source: 6H07012-01**			Prepared & Analyzed: 08/08/06						
Benzene	1.37	0.0250	mg/kg dry	1.38	ND	99.3	80-120	0.702	20	
Toluene	1.41	0.0250	"	1.38	ND	102	80-120	0.976	20	
Ethylbenzene	1.39	0.0250	"	1.38	ND	101	80-120	0.00	20	
Xylene (p/m)	3.10	0.0250	"	2.76	ND	112	80-120	0.00	20	
Xylene (o)	1.54	0.0250	"	1.38	ND	112	80-120	2.71	20	
Surrogate: a,a,a-Trifluorotoluene	*41.8*		*ug/kg*	*40.0*		*104*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*40.1*		*"*	*40.0*		*100*	*80-120*			

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH60812 - Water Extraction										
Blank (EH60812-BLK1)				Prepared & Analyzed: 08/08/06						
Chloride	ND	0.500	mg/kg							
Sulfate	ND	0.500	"							
LCS (EH60812-BS1)				Prepared & Analyzed: 08/08/06						
Sulfate	8.06	0.500	mg/kg	10.0		80.6	80-120			
Chloride	9.00	0.500	"	10.0		90.0	80-120			
Calibration Check (EH60812-CCV1)				Prepared & Analyzed: 08/08/06						
Chloride	10.1		mg/L	10.0		101	80-120			
Sulfate	10.9		"	10.0		109	80-120			
Duplicate (EH60812-DUP1)	**Source: 6H07014-04**			Prepared & Analyzed: 08/08/06						
Chloride	4.20	5.00	mg/kg		3.93			6.64	20	J
Duplicate (EH60812-DUP2)	**Source: 6H08004-05**			Prepared & Analyzed: 08/08/06						
Sulfate	2200	50.0	mg/kg		2380			7.86	20	
Chloride	1150	50.0	"		1250			8.33	20	
Matrix Spike (EH60812-MS1)	**Source: 6H07014-04**			Prepared & Analyzed: 08/08/06						
Chloride	100	5.00	mg/kg	100	3.93	96.1	80-120			
Matrix Spike (EH60812-MS2)	**Source: 6H08004-05**			Prepared & Analyzed: 08/08/06						
Chloride	2200	50.0	mg/kg	1000	1250	95.0	80-120			
Sulfate	3190	50.0	"	1000	2380	81.0	80-120			
Batch EH60906 - General Preparation (Prep)										
Blank (EH60906-BLK1)				Prepared: 08/08/06 Analyzed: 08/09/06						
% Solids	100		%							

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH60906 - General Preparation (Prep)										
Duplicate (EH60906-DUP1)		**Source: 6H08003-01**		Prepared: 08/08/06 Analyzed: 08/09/06						
% Solids	83.3		%		82.9			0.481	20	

Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Apache/ N. Mon. Grayburg SA 603
Project Number: 240014
Project Manager: Jason Stegemoller

Fax: 505-394-2601

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Raland K Tuttle Date: 8/10/2006

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
LaTasha Cornish, Chemist
Sandra Sanchez, Lab Tech.

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Environmental Plus, Inc.

Chain of Custody Form

2100 Avenue O, Eunice, NM 88231 P.O. Box 1558, Eunice, NM 88231
(505) 394-3481 FAX: (505) 394-2601

Company Name	Environmental Plus, Inc.
EPI Project Manager	Jason Stegemoller
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	Apache Corporation
Facility Name	N. Mon. Grayburg SA 603
Location	UL-C, Sec 20, T19S, R37E
Project Reference	240014
EPI Sampler Name	Jacob Melancon

Bill To

Attn:Cody Miller
P.O. Box 1558
Eunice, NM 88231

ANALYSIS REQUEST

LAB I.D. (H08004)		SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES (SO_4^{-})	pH	TCLP	OTHER >>>	PAH			
-01	1	BH-21 (6")	G	1			1					X		02-Aug-06	8:15	X	X	X	X							
-02	2	BH-22 (6")	G	1			1					X		02-Aug-06	9:50	X	X	X	X							
-03	3	BH-23 (6")	G	1			1					X		02-Aug-06	12:00	X	X	X	X							
-04	4	BH-24 (6")	G	1			1					X		02-Aug-06	1:30	X	X	X	X							
-05	5	BH-25 (6")	G	1			1					X		02-Aug-06	2:35	X	X	X	X							
-06	6	BH-26 (6")	G	1			1					X		02-Aug-06	3:06	X	X	X	X							
	7																									
	8																									
	9																									
	10																									

Sampler Relinquished:	Date / Time	Received By:	E-mail results to: jstegemoller@envplus.net
Relinquished by:	Date 8/8/06 Time 10:40	Received By: (lab staff) Karen Kelly	NOTES: 402 glass 3.0 w/ label
Delivered by:	Sample Cool & Intact (Yes) No	Checked By:	

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: EPI

Date/ Time: 8/8/08 10:40

Lab ID # : 6F1080 64

Initials: JK

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	Yes	No	3.0 °C	
#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Yes	No		
#6	Sample instructions complete of Chain of Custody?	Yes	No		
#7	Chain of Custody signed when relinquished/ received?	Yes	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Yes	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18	All samples received within sufficient hold time?	Yes	No	See Below	
#19	VOC samples have zero headspace?	Yes	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken:

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231 P.O. Box 1558, Eunice, NM 88231
(505) 394-3481 FAX: (505) 394-2601

Chain of Custody Form

Company Name	Environmental Plus, Inc.
EPI Project Manager	Jason Stegemoller
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	Apache Corporation
Facility Name	N. Mon. Grayburg SA 603
Location	UL-C, Sec 20, T19S, R37E
Project Reference	240014
EPI Sampler Name	George Blackburn

Bill To

Attn:Cody Miller
P.O. Box 1558
Eunice, NM 88231

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	MATRIX: WASTEWATER	MATRIX: SOIL	MATRIX: CRUDE OIL	MATRIX: SLUDGE	MATRIX: OTHER:	PRESERV.: ACID/BASE	PRESERV.: ICE/COOL	PRESERV.: OTHER	SAMPLING: DATE	SAMPLING: TIME	ANALYSIS REQUEST: BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^{=}$)	pH	TCLP	OTHER >>>	PAH			
H18661 — 1	SB-1 (5')	G	1			1					X		29-Nov-06	9:15	X	X	X	X							
— 2	SB-1 (10')	G	1			1					X		29-Nov-06	10:20	X	X	X	X							
— 3	SB-1 (15')	G	1			1					X		29-Nov-06	11:23	X	X	X	X							
— 4	SB-2 (5')	G	1			1					X		29-Nov-06	13:05	X	X	X	X							
— 5	SB-2 (10')	G	1			1					X		29-Nov-06	13:35	X	X	X	X							
— 6	SB-3 (5')	G	1			1					X		29-Nov-06	14:13	X	X	X	X							
— 7	SB-3 (10')	G	1			1					X		29-Nov-06	14:50	X	X	X	X							
— 8	SB-4 (1')	G	1			1					X		30-Nov-06	15:15	X	X	X	X							
— 9	SB-4 (5')	G	1			1					X		29-Nov-06	15:45	X	X	X	X							
— 10	SB-4 (10')	G	1			1					X		29-Nov-06	16:40	X	X	X	X							

Sampler Relinquished:	Date 12-1-06	Received By:	E-mail results to: jstegemoller@envplus.net
	Time 930		NOTES:
Relinquished by:	Date 12-1-06	Received By: (lab staff)	
	Time 4:25		
Delivered by:	Sample Cool & Intact (Yes) No	Checked By: N.T.	

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: JASON STEGEMOLLER
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601

Receiving Date: 12/01/06
Reporting Date: 12/05/06
Project Owner: APACHE CORPORATION (240014)
Project Name: N. MON. GRAYBURG SA 603
Project Location: UL-C, SEC 20, T19S, R37E

Sampling Date: 11/29/06
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: NF
Analyzed By: BC

LAB NO.	SAMPLE ID	GRO (C_6-C_{10}) (mg/Kg)	DRO (>C_{10}-C_{28}) (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		12/04/06	12/04/06	12/04/06	12/04/06	12/04/06	12/04/06
H11861-1	SB-1 (5')	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H11861-2	SB-1 (10')	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H11861-3	SB-1 (15')	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H11861-4	SB-2 (5')	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H11861-5	SB-2 (10')	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H11861-6	SB-3 (5')	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H11861-7	SB-3 (10')	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H11861-8	SB-4 (1')	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H11861-9	SB-4 (5')	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H11861-10	SB-4 (10')	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
Quality Control		777	778	0.101	0.101	0.102	0.294
True Value QC		800	800	0.100	0.100	0.100	0.300
% Recovery		97.1	97.2	101	101	102	97.9
Relative Percent Difference		1.9	1.3	2.7	0.7	1.2	0.9

METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8260.

Burgess J. A. Cooke, Ph. D.

12/5/06
Date

H11861A

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: JASON STEGEMOLLER
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601

Receiving Date: 12/01/06
Reporting Date: 12/05/06
Project Owner: APACHE CORPORATION (240014)
Project Name: N. MON. GRAYBURG SA 603
Project Location: UL-C, SEC 20, T19S, R37E

Sampling Date: 11/29/06
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: NF
Analyzed By: HM/NF

LAB NUMBER	SAMPLE ID	SO_4 (mg/Kg)	Cl (mg/Kg)
ANALYSIS DATE:		12/05/06	12/05/06
H11861-1	SB-1 (5')	148	464
H11861-2	SB-1 (10')	45.2	144
H11861-3	SB-1 (15')	40.2	80
H11861-4	SB-2 (5')	269	144
H11861-5	SB-2 (10')	198	80
H11861-6	SB-3 (5')	245	176
H11861-7	SB-3 (10')	158	96
H11861-8	SB-4 (1')	< 1	< 16
H11861-9	SB-4 (5')	104	< 16
H11861-10	SB-4 (10')	134	32
Quality Control		26.2	470
True Value QC		25.0	500
% Recovery		105	94
Relative Percent Difference		7.2	8.2

METHODS: EPA 600/4-79-020	375.4	SM 4500 Cl B

NOTE: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

12-05-06
Date

H11861

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
EDDIE SEAY CONSULTING
ATTN: EDDIE SEAY
601 W. ILLINOIS
HOBBS, NM 88242
FAX TO: (505) 392-6949

Receiving Date: 03/07/07
Reporting Date: 03/07/07
Project Owner: J. COOPER
Project Name: APACHE SAU #603 #1019
Project Location: MONUMENT, NM

Analysis Date: 03/07/07
Sampling Date: 03/07/07
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: HM
Analyzed By: HM

LAB NO.	SAMPLE ID	Cl^- (mg/Kg)
H12307-1	603-1	< 16
Quality Control		500
True Value QC		500
% Recovery		100
Relative Percent Difference		1.0

METHOD: Standard Methods	4500-Cl^-B

NOTE: Analysis performed on a 1:4 w:v aqueous extract.

Jessica L. Moreno
Chemist

03-07-07
Date

SAMPLE FROM LOWER AREA SW OF LEAK
DOWNHILL NEXT TO RUNOFF - 1' BELOW SURFACE

H12307

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240
(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page____ of ____

Company Name:	Eddie Seay Consulting	**BILL TO**	
Project Manager:	Eddie Seay	P.O. #:	
Address:	601 W Illinois	Company:	
City:	Hobbs	State: NM Zip: 88242	Attn:
Phone #:	2.2236	Fax #: 2.6949	Address:
Project #:	Apache #603	Project Owner: S. Cooper	City:
Project Name:	Apache Stall #603 - #1019		State: Zip:
Project Location:	Monument NM		Phone #:
Sampler Name:	Eddie Seay		Fax #:

ANALYSIS REQUEST: Chlorides

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Chlorides
H12307-1	603-1	✓	1			✓					✓		3/7	9:30	✓

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

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished: Eddie Seay	Date: 3/7 Time: 11:30	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: 03/07/07 Time: 11:30	Received By: (Lab Staff) Hope S. Moreno	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)	REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

APPENDIX II

PROJECT PHOTOGRAPHS

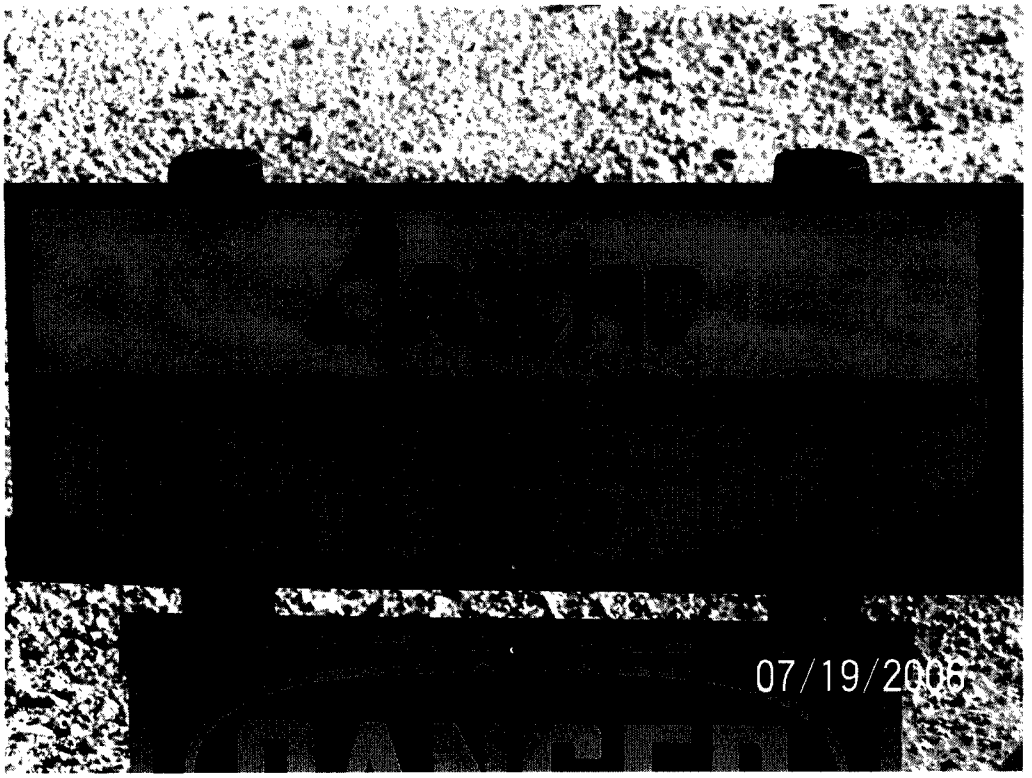

***Photo #1*:** Well location sign.

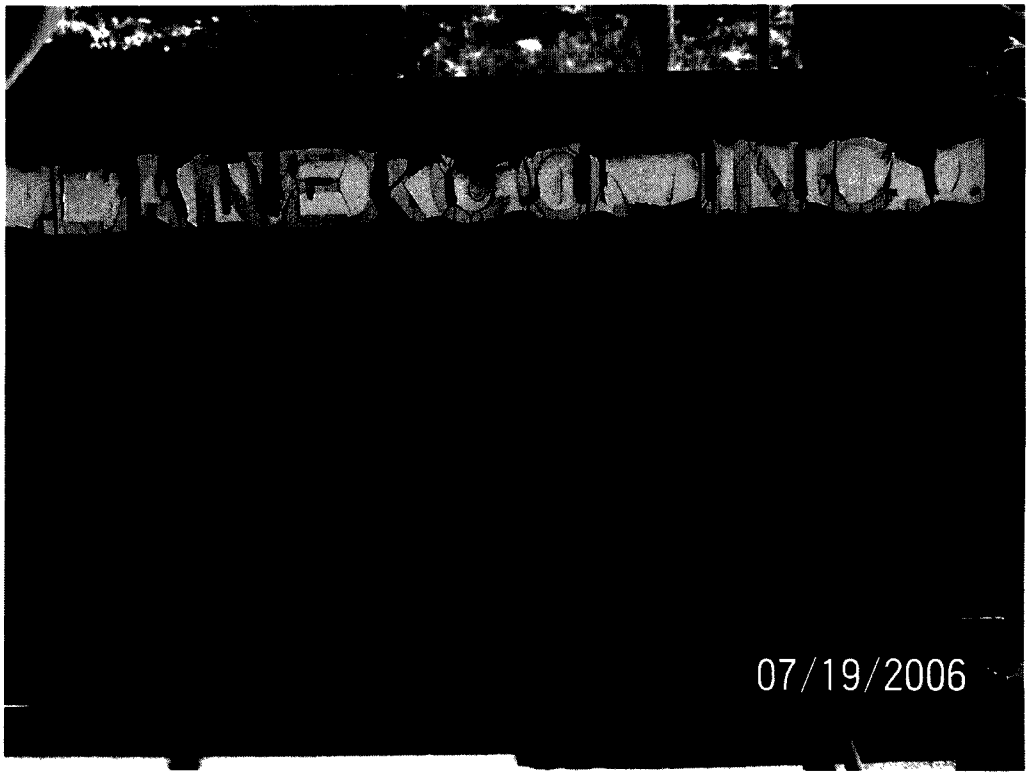

***Photo #2*:** Lanexco well location sign.

Photo #3: Looking westerly at point of release. Dark stained soil indicates contamination.

Photo #4: Looking westerly from point of release at Lanexco well pad. Dark stained soil indicates contamination.

Photo #5: Looking northerly at excavation of the south flowpath area.

Photo #7: Looking west-northwesterly at excavation of Lanexco caliche well pad.

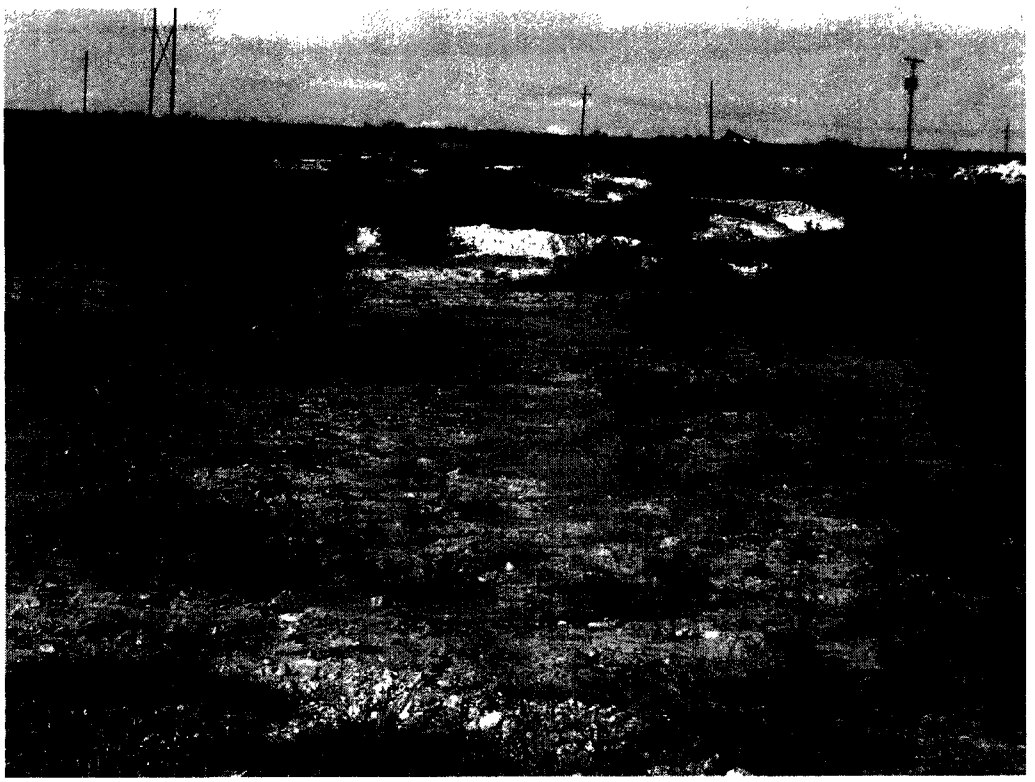

Photo #8: Looking northeasterly across ephemeral pond to excavation.

Photo #9: Looking northeasterly at pooling area west of Lanexco caliche well pad (i.e., location of soil boring SB-1).

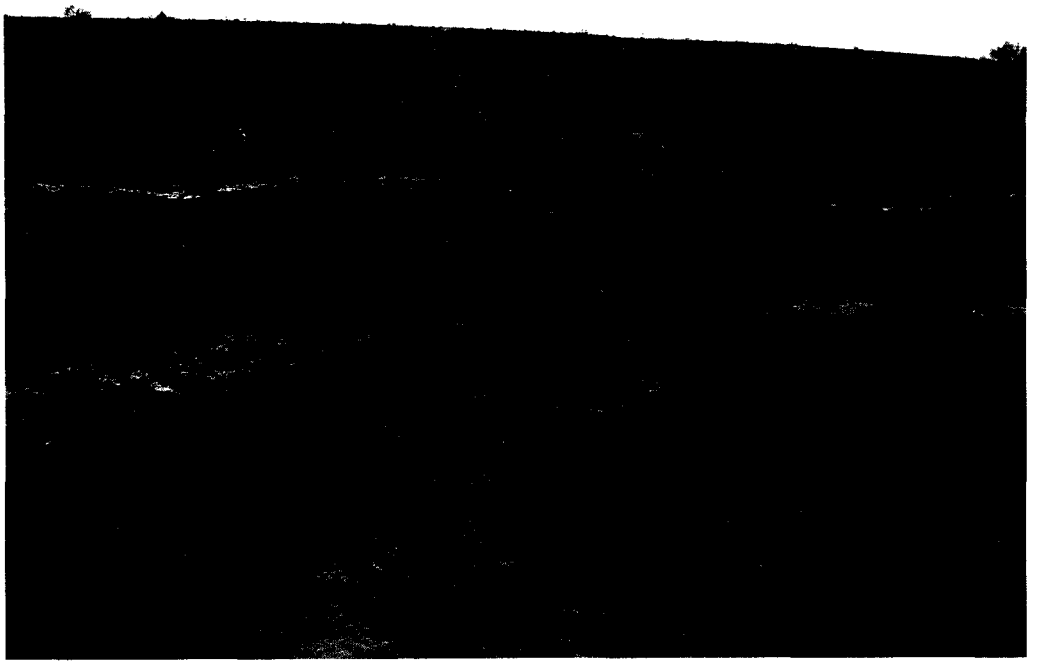

Photo #10: Looking west-southwesterly at southern-most berm (i.e., location of soil boring SB-4), ephemeral pond area is in background.

Photo #11: Looking southerly across release area at center berm in southern portion of excavation.

APPENDIX III

SOIL BORING LOGS

Log Of Test Borings

(NOTE - Page 1 of 1)

ENVIRONMENTAL PLUS, INC.
CONSULTING AND
REMEDIAL CONSTRUCTION
EUNICE, NEW MEXICO
505-394-3481

Project Number: NMOCD 1RP# 1019; EPI Ref. #240014
Project Name: Apache Corporation - NMGSAU #603
Location: UL-C, Section 20, Township 19 South, Range 37 East
Boring Number: SB-1 | Surface Elevation: 3,680-feet amsl

Start Date: 11-29-06 Time: 08:00
Completion Date: 11-29-06 Time: 12:00

Time	Sample Type	Recovery (inches)	Moisture	PID Readings (ppm)	Chloride Analysis (mg/Kg)	U.S.C.S. Symbol	Depth (feet)	Description
								1' Topsoil - Sandy Loam
								4' Fractured Limestone
0915	SS	5	Dry	--	480		5	5' Caliche, White to Tan, Hard to Firm
1020	SS	5	Dry	--	240		10	
1123	SS	4	Dry	--	160		15	Sandstone, Hard to Firm
								End of Soil Boring at 16' bgs
							20	
							25	
							30	

Water Level Measurements (feet)

Date	Time	Sample Depth	Casing Depth	Cave-in Depth	Water Level
-	-	-	-	-	-
-	-	-	-	-	-

Drilling Method: HSA 3.5" ID
Backfill Method: Bentonite
Field Representative: GB

Log Of Test Borings

(NOTE - Page 1 of 1)

ENVIRONMENTAL PLUS, INC.
CONSULTING AND
REMEDIAL CONSTRUCTION
EUNICE, NEW MEXICO
505-394-3481

Project Number: NMOCD 1RP# 1019; EPI Ref. #240014
Project Name: Apache Corporation - NMGSAU #603
Location: UL-C, Section 20, Township 19 South, Range 37 East
Boring Number: SB-2 | Surface Elevation: 3,680-feet amsl

Start Date: 11-29-06 Time: 12:30
Completion Date: 11-29-06 Time: 13:30

Time	Sample Type	Recovery (inches)	Moisture	PID Readings (ppm)	Chloride Analysis (mg/Kg)	U.S.C.S. Symbol	Depth (feet)	Description
							5	4' Fractured Limestone
1305	SS	5	Dry	--	240			5' Caliche, White to Tan, Hard to Firm
							10	
1325	SS	4	Dry	--	160			Sandstone, Hard to Firm
								End of Soil Boring at 11' bgs
							15	
							20	
							25	
							30	

Water Level Measurements (feet)

Date	Time	Sample Depth	Casing Depth	Cave-in Depth	Water Level
-	-	-	-	-	-
-	-	-	-	-	-

Drilling Method: HSA 3.5" ID
Backfill Method: Bentonite
Field Representative: GB

Log Of Test Borings

(NOTE - Page 1 of 1)

ENVIRONMENTAL PLUS, INC.
CONSULTING AND
REMEDIAL CONSTRUCTION
EUNICE, NEW MEXICO
505-394-3481

Project Number: NMOCD 1RP# 1019; EPI Ref. #240014
Project Name: Apache Corporation - NMGSAU #603
Location: UL-C, Section 20, Township 19 South, Range 37 East
Boring Number: SB-3 | Surface Elevation: 3,680-feet amsl

Start Date: 11-29-06 Time: 13:45
Completion Date: 11-29-06 Time: 15:00

Time	Sample Type	Recovery (inches)	Moisture	PID Readings (ppm)	Chloride Analysis (mg/Kg)	U.S.C.S. Symbol	Depth (feet)	Description
							5	4' Fractured Limestone
1413	SS	5	Dry	--	240			5' Caliche, White to Tan, Hard to Firm
							10	
1450	SS	4	Dry	--	160			Sandstone, Hard to Firm
								End of Soil Boring at 11' bgs
							15	
							20	
							25	
							30	

Water Level Measurements (feet)

Date	Time	Sample Depth	Casing Depth	Cave-in Depth	Water Level
-	-	-	-	-	-
-	-	-	-	-	-

Drilling Method: HSA 3.5" ID
Backfill Method: Bentonite
Field Representative: GB

Log Of Test Borings

(NOTE - Page 1 of 1)

ENVIRONMENTAL PLUS, INC.
CONSULTING AND
REMEDIAL CONSTRUCTION
EUNICE, NEW MEXICO
505-394-3481

Project Number: NMOCD 1RP# 1019; EPI Ref. #240014
Project Name: Apache Corporation - NMGSAU #603
Location: UL-C, Section 20, Township 19 South, Range 37 East
Boring Number: SB-4 | Surface Elevation: 3,680-feet amsl

Start Date: 11-29-06 Time: 15:15
Completion Date: 11-29-06 Time: 16:45

Time	Sample Type	Recovery (inches)	Moisture	PID Readings (ppm)	Chloride Analysis (mg/Kg)	U.S.C.S. Symbol	Depth (feet)	Description
1515	SS	5	Dry	--	160			1' Topsoil-Sandy Loam
								4' Fractured Limestone
1545	SS	5	Dry	--	160		5	
1640	SS	3	Dry	--	160		10	Sandstone, Tan, Hard to Firm
								End of Soil Boring at 11' bgs
							15	
							20	
							25	
							30	

Water Level Measurements (feet)

Date	Time	Sample Depth	Casing Depth	Cave-In Depth	Water Level
-	-	-	-	-	-
-	-	-	-	-	-

Drilling Method: HSA 3.5" ID
Backfill Method: Bentonite
Field Representative: GB

APPENDIX IV

INFORMATIONAL COPY OF INITIAL NMOCD C-141 FORM

District I
625 N. French Dr., Hobbs, NM 88240
District II
301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Apache Corp	Contact Doug Mathews
Address 17 Hess Lane	Telephone No. 505-441-2148
Facility Name NMGSAU #603	Facility Type Injection well

Surface Owner State of NM	Mineral Owner State of NM	Lease No. B-1651-9

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	20	19S	37E	660	North	1980	West	Lea

Latitude N32° 39.074' Longitude W103° 16.560'

NATURE OF RELEASE

Type of Release Injection leak	Volume of Release 85 bbls	Volume Recovered 60 bbls
Source of Release Plug blew out	Date and Hour of Occurrence	Date and Hour of Discovery 7/16/06 8:45AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Gary Wink	
By Whom? Doug Mathews	Date and Hour 7/16/06 12:00 PM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Plug blew out of injection line. Trucks were called and all fluid was picked up.

Describe Area Affected and Cleanup Action Taken.*
Injecton water ran off location and down hill to the west. Vacuum trucks picked up all fluid.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Doug Mathews
Printed Name: Doug Mathews
Title: Pumper II
E-mail Address: doug.mathews@usa.apachecorp.com
Date: 7/16/06 Phone: 441-2148

OIL CONSERVATION DIVISION

Approved by District Supervisor: Ernie Enger

Approval Date: 5.15.07 Expiration Date: 7.15.07

Conditions of Approval: Attached ☐

Attach Additional Sheets If Necessary