1R - 475

REPORTS

DATE:

08-23-2006

Larson & Associates, Inc.
Environmental Consultants

August 23, 2006

VIA CERTIFIED MAIL

Mr. Wayne Price, Chief
Environmental Bureau
Oil Conservation Division
State of New Mexico
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Investigation Report and Remediation Work Plan, Chesapeake Energy Corporation, Ollie J. Boyd Tank Battery, Unit Letter C (NE/4, NW/4), Section 23, Township 22 South, Range 37 East, Lea County, New Mexico

Dear Mr. Price:

This report is submitted to the State of New Mexico, Oil Conservation Division ("OCD") on behalf of Chesapeake Energy Corporation ("Chesapeake") by Larson and Associates, Inc. ("LA"), its consultant, and presents laboratory analysis of soil samples collected from visually identified release areas located north and east of its Ollie J. Boyd Tank Battery ("Site") in unit letter C (NE/4, NW/4), Section 23, Township 22 South, Range 37 East, Lea County, New Mexico. The visually identified release areas are the result of past spills and a pit used in conjunction with a former tank battery operated by previous lease operators. The former tank battery was located north of the Site and the affected area measures approximately 100 x 200 feet. The pit was located northeast of the Site and the affected area measures approximately 100 x 150 feet. Several underground pipelines are present and including natural gas pipelines owned by Southern Union Gas and Targa Midstream Services, L.P., crude oil pipeline owned by Link Energy and salt-water disposal line owned by Rice Operating. The latitude and longitude for the Site are North 32°, 22', 51.1" and West 103°, 08', 16.9", respectively. Figure 1 presents a location and topographic map. Figure 2 presents a Site drawing. Contact information for Chesapeake is as follows:

Mr. Harlan Brown
Safety & Environmental Representative
Chesapeake Energy Corporation
6100 N. Western Avenue
Oklahoma City, Oklahoma 73118
(405) 767-4446
hbrown@chkenergy.com

Background

In a 1968 aerial photograph, the tank battery and pit were observed at the approximate location shown on Figure 2. In a 1981 aerial photograph, the tank battery was observed at the approximate location shown on Figure 2, but the pit appeared covered. Chesapeake began operating the Ollie J. Boyd Tank Battery at its current location on December 18, 2001, after it acquired assets from Sapient Energy. Figure 3 presents the 1968 aerial photograph. Figure 4

presents an enlarged view of the 1968 aerial photograph. Figure 5 presents the 1981 aerial photograph. Figure 6 presents an enlarged view of the 1981 aerial photograph.

Setting

The Site is located about four (4) miles southeast of Eunice, New Mexico, at an elevation approximately 3,330 feet above mean sea level ("MSL"). The topography slopes gently east and southeast toward Monument Draw, located about 1.3-miles east of the Site. Monument Draw flows southeast and is the nearest surface water feature. The nearest residence is located about 1-mile southeast of the Site.

No wells are located within 1,000 horizontal feet of the Site and ground water may occur between about 55 and 81 feet below ground surface ("bgs"), according to information from the New Mexico State Engineer. Ground water may not be present at the Site since shale (Dockum group) was encountered at approximately 41 feet bgs in boring BH-3 and no ground water was observed above the shale. Figure 1 presents wells and depth to ground water within one (1) mile of the Site. Figure 7 presents a west to east geological cross section that shows the stratigraphic position of the shale.

Recommended remediation action levels ("RRAL") were calculated using criteria published by the OCD ("Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993"), as follows:

Ranking Criteria	Result	Ranking Score
Depth-to-Groundwater	50 – 99 feet	10
Wellhead Protection Area	No	0
Distance to Surface Water Body	>1000 Horizontal Feet	0
	Total Score:	**10**

The following RRAL were calculated based on the total ranking score (10):

Benzene:	**10 mg/Kg**
BTEX:	**50 mg/Kg**
TPH:	**1,000 mg/Kg**

Investigation Results

On May 17 and 18, 2006, an investigation was performed at the Site in accordance with a work plan ("Work Plan to Investigate Historic Hydrocarbons, Unit Letter C (NE/4, NW/4), Section 23, Township 22 South, Range 37 East, Lea County, New Mexico, February 25, 2006) that was approved by the OCD on March 24, 2006. Notification was given to the OCD offices located in Santa Fe and Hobbs, New Mexico, prior to the investigation. Appendix A presents the OCD correspondence.

Eades Drilling and Well Service, based in Hobbs, New Mexico, used a truck-mounted air rotary rig to advance five (5) borings (BH-1, BH-2, BH-4, BH-5 and BH-6) to approximately 30 feet bgs, and one boring (BH-3) to about 45 feet bgs. Eades collected soil samples using a 2-foot

long split-spoon sampler at ground surface and approximately 3, 7, 11, 15, 20, 25 and 30 feet bgs. Additional samples were collected at location BH-3 at 35 and 45 feet bgs to characterize the vertical extent of a release consistent with natural gas condensate. Southern Union Gas and Targa Midstream Services, L.P., own natural gas pipelines that are present in the vicinity of boring BH-3. Soil samples were collected at location AH-1, located northwest of the Site, using a 3-inch diameter stainless steel bucket auger. The split-spoon and auger were cleaned between samples with a solution of laboratory grade detergent and potable water, and rinsed with distilled water. Figure 2 presents the boring locations.

The laboratory samples were placed in 4-ounce sample glass jars, which were filled to zero headspace, labeled, chilled in an ice chest and delivered under chain-of-custody control to Environmental Lab of Texas, Inc., located in Odessa, Texas. LA collected duplicate samples in 8-ounce glass sample jars for headspace analysis, which were partially filled and the opening sealed with a layer of aluminum foil before replacing the cap. A RAE Instruments Model 2000 photoionization detector ("PID"), calibrated to 100 parts per million ("ppm") isobutylene, was used to measure the concentration of organic vapors in the headspace samples after the samples warmed to ambient temperature. Lithology was described using the Unified Soil Classification System ("USCS") and PID readings were recorded on geologic log forms. The drill cuttings were placed on the ground adjacent to the borings, which were plugged with bentonite. Appendix B presents boring logs.

ELTI analyzed samples exhibiting headspace readings above 100 ppm for benzene, toluene, ethyl benzene and xylene ("BTEX") using EPA method SW-846-8021B. Benzene concentrations were below the RRAL, but the laboratory reported BTEX above the RRAL in the following samples:

Location	Sample (Feet BGS)	BTEX (mg/Kg)
BH-3	7 to 8.5	87.181
BH-3	11 to 12.8	35.585
BH-3	15 to 16.7	95.878
BH-3	20 to 21.6	52.8286
BH-3	25 to 27	53.609
BH-3	30 to 31.7	103.891
BH-3	35 to 37	210.49

ELTI analyzed samples for total petroleum hydrocarbons ("TPH") using EPA method SW-846-8015, for gasoline range organics ("GRO") and diesel range organics ("DRO"), and reported TPH above the RRAL in the following samples:

Location	Sample (Feet BGS)	TPH C6 to C12 (mg/Kg)	TPH C12 to C28 (mg/Kg)	TPH C28 to C35 (mg/Kg)	TPH C6 to C35 (mg/Kg)
BH-2	0 to 1.8	<10	884	235	1,119
BH-3	7 to 8.5	2,330	4,630	400	7,360

	11 to 12.8	902	1,350	108	2,360
	15 to 16.7	2,180	3,530	309	6,019
	20 to 21.6	580	685	36.9	1,301.9
	25 to 27	810	1,110	62	1,982
	30 to 31.7	1,730	2,320	164	4,214
	35 to 37	3,130	4,590	374	8,094
BH-5	3 to 4.7	10.1	788	292	1,090.1
	7 to 8.8	4,220	17,700	1,740	23,660
	11 to 12.8	3,680	25,700	2,820	32,200
	15 to 16.8	3,580	27,000	2,870	33,450
	20 to 21.8	874	10,500	1,200	12,574
BH-6	0 to 0.8	209	6,120	1,520	7,849
	3 to 4.7	584	8,090	1,460	10,134
	7 to 8.6	393	4,380	762	5,540
	11 to 12.7	770	5,800	920	7,490
AH-1	0 to 1	<10	896	482	1,378

ELTI analyzed the samples for chloride using EPA method 300 and reported chloride above 1,000 mg/Kg in the following samples:

Location	Sample (Feet BGS)	Chloride (mg/Kg)
BH-5	7 to 8.8	1,450
	11 to 12.8	3,370
	15 to 16.8	4,100
	20 to 21.8	6,560
	25 to 26.5	12,800
	30 to 31.4	17,400
BH-6	3 to 4.7	1,290
	7 to 8.6	1,600
	15 to 16.5	2,380
	20 to 21.5	3,880
	25 to 26.8	5,040
	30 to 31.6	6,210

Table 1 presents a complete summary of the laboratory analysis. Appendix C presents the laboratory report.

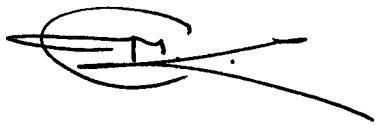
Remediation Work Plan

Chesapeake will excavate soil in the vicinity of borings AH-1, BH-1, BH-2 and BH-4 to a depth of approximately 2 feet bgs. Chesapeake does not believe that the impact observed at boring BH-3 originated from the former battery, therefore, no rremediation is proposed in the vicinity of boring BH-3. The impact at boring BH-3 may be the result of an ongoing or recent release from pipelines that are located nearby. Chesapeake will excavate soil in the vicinity of the former pit (BH-5 and BH-6) to approximately 15 feet bgs, install approximately 2 feet of clay in the bottom of the excavation and fill the remainder of the excavation with clean soil. The clay will be compacted to 95% proctor density. The clay, as well as shale present at approximately 41 feet bgs, will prevent vertical migration of residual contaminants. The surface will be contoured

to control surface drainage and the remediation areas will be seeded to control erosion. The contaminated soil will be hauled to a commercial surface waste management facility (landfarm). Notification will be provided to the OCD at least 48-hours prior to commencing remediation and a report will be submitted to the OCD after the project is complete. The report will include photographic documentation, geotechnical laboratory analysis and a request for closure. Chesapeake requests OCD approval of the work plan and authorization to proceed. Please call Mr. Harlan Brown at (405) 848-8000 or email hbrown@chkenergy.com, if you have questions. I may be reached with questions at (432) 687-0901 or email mark@laenvironmental.com.

Sincerely,

Larson and Associates, Inc.



Mark J. Larson, P.G., C.P.G., C.G.W.P.
Senior Project Manager/President

Enclosures

cc: Harlan Brown/Chesapeake
Jace Marshall/Chesapeake
Paul Hagemeier/Chesapeake
Chris Williams/OCD – District 1

Tables

Table 1
Summary of Headspace and Laboratory Analysis of Soil Samples from Historic Contamination
Chesapeake Operating, Inc., Ollie J. Boyd Tank Battery
Unit Letter C (NE/4, NW/4), Section 23, Township 22 South, Range 37 East
Lea County, New Mexico

Boring	Date Drilled	Sample Depth (Feet BGS)	PID (ppm)	TPH C6 - C12 (mg/Kg)	TPH C12 - C28	TPH C28 - C35 (mg/Kg)	TPH C6-C35 (mg/Kg)	Benzene (mg/Kg)	BTEX (mg/Kg)	Chloride (mg/Kg)
RRAL:										
BH-1	05/17/06	0 - 1.5	0.8	<10	<10	<10	<30	--	--	13.4
BH-1	05/17/06	3 - 4.5	0.2	<10	<10	<10	<30	--	--	13.1
BH-1	05/17/06	7 - 8.5	0.5	<10	<10	<10	<30	--	--	26.4
BH-1	05/17/06	11 - 12.5	1.3	--	--	--	--	--	--	--
BH-1	05/17/06	15 - 16.5	1.3	--	--	--	--	--	--	--
BH-1	05/17/06	20 - 21.0	1.1	--	--	--	--	--	--	--
BH-1	05/17/06	25 - 26.7	0.7	--	--	--	--	--	--	--
BH-1	05/17/06	30 - 31.6	2.7	--	--	--	--	--	--	--
BH-2	05/17/06	0 - 1.8	4.0	<10	884	235	1,119	--	--	12.0
BH-2	05/17/06	3 - 4.4	804	91.7	706	66.3	864	<0.025	0.6723	13.2
BH-2	05/17/06	7 - 8.8	76.3	<10	<10	<10	<30	<0.025	<0.125	15.2
BH-2	05/17/06	11 - 12.7	26.1	<10	<10	<10	<30	--	--	25.8
BH-2	05/17/06	15 - 17.0	17.2	<10	<10	<10	<30	--	--	16.5
BH-2	05/17/06	20 - 21.5	1.2	<10	<10	<10	<30	--	--	38.3
BH-2	05/17/06	25 - 26.2	8.3	<10	<10	<10	<30	--	--	121
BH-2	05/17/06	30 - 31.4	25	<10	<10	<10	<30	--	--	194
BH-3	05/17/06	0 - 1.9	1.9	<20	232	95.1	327.1	--	--	11.4
BH-3	5/17/2006	3 - 4.8	2.7	<10	246	84	330	--	--	11.4
BH-3	5/17/2006	7 - 8.5	2353	2,330	4,630	400	7,360	0.341	87.181	12.0
BH-3	5/17/2006	11 - 12.8	2408	902	1,350	108	2,360	0.175	35.585	12.2
BH-3	5/17/2006	15 - 16.7	2398	2,180	3,530	309	6,019	0.348	95.878	15.9
BH-3	5/17/2006	20 - 21.6	2100	580	685	36.9	1,301.9	0.0886	52.8286	14.6

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Unit Letter C (NE/4, NW/4), Section 23, Township 22 South, Range 37 East
Lea County, New Mexico

Boring	Date Drilled	Sample Depth (Feet BGS)	PID (ppm)	TPH C6 - C12 (mg/Kg)	TPH C12 - C28	TPH C28 - C35 (mg/Kg)	TPH C6-C35 (mg/Kg)	Benzene (mg/Kg)	BTEX (mg/Kg)	Chloride (mg/Kg)
RRAL:										
BH-3	5/17/2006	25 - 27.0	2161	810	1,110	62	1,982	0.289	53.609	15.3
BH-3	5/17/2006	30 - 31.7	2253	1,730	2,320	164	4,214	0.611	103.891	14.7
BH-3	5/17/2006	35 - 37.0	2402	3,130	4,590	374	8,094	1.39	210.490	55.5
BH-3	5/17/2006	45 - 47.0	4.3	5.64	37	<10	42.64	<0.025	0.0489	31.6
BH-4	05/18/06	0 - 1.6	1.1	<10	277	111	388	--	--	150
BH-4	5/18/2006	3 - 4.3	0.1	<10	<10	<10	<30	--	--	473
BH-4	5/18/2006	7 - 8.3	0.3	<10	<10	<10	<30	--	--	253
BH-4	5/18/2006	11 - 11.8	0.1	--	--	--	--	--	--	--
BH-4	5/18/2006	15 - 16.5	0.9	--	--	--	--	--	--	--
BH-4	5/18/2006	20 - 21.5	0.1	--	--	--	--	--	--	--
BH-4	5/18/2006	25 - 26.6	0.1	--	--	--	--	--	--	--
BH-4	5/18/2006	30 - 31.2	2.0	--	--	--	--	--	--	--
BH-5	05/18/06	0 - 2.0	1.3	<10	413	159	572	--	--	78.7
BH-5	5/18/2006	3 - 4.7	1.9	10.1	788	292	1,090.1	--	--	472
BH-5	5/18/2006	7 - 8.8	1999	4,220	17,700	1,740	23,660	2.02	46.84	1,450
BH-5	5/18/2006	11 - 12.8	878	3,680	25,700	2,820	32,200	1.44	45.98	3,370
BH-5	5/18/2006	15 - 16.8	633	3,580	27,000	2,870	33,450	0.557	37.127	4,100
BH-5	5/18/2006	20 - 21.8	372	874	10,500	1,200	12,574	0.0136	1.4646	6,560
BH-5	5/18/2006	25 - 26.5	12.6	<10	<10	<10	<30	--	--	12,800
BH-5	5/18/2006	30 - 31.4	13.8	<10	<10	<10	<30	--	--	17,400
BH-6	05/18/06	0 -0.8	303	209	6,120	1,520	7,849	1.01	10.46	237

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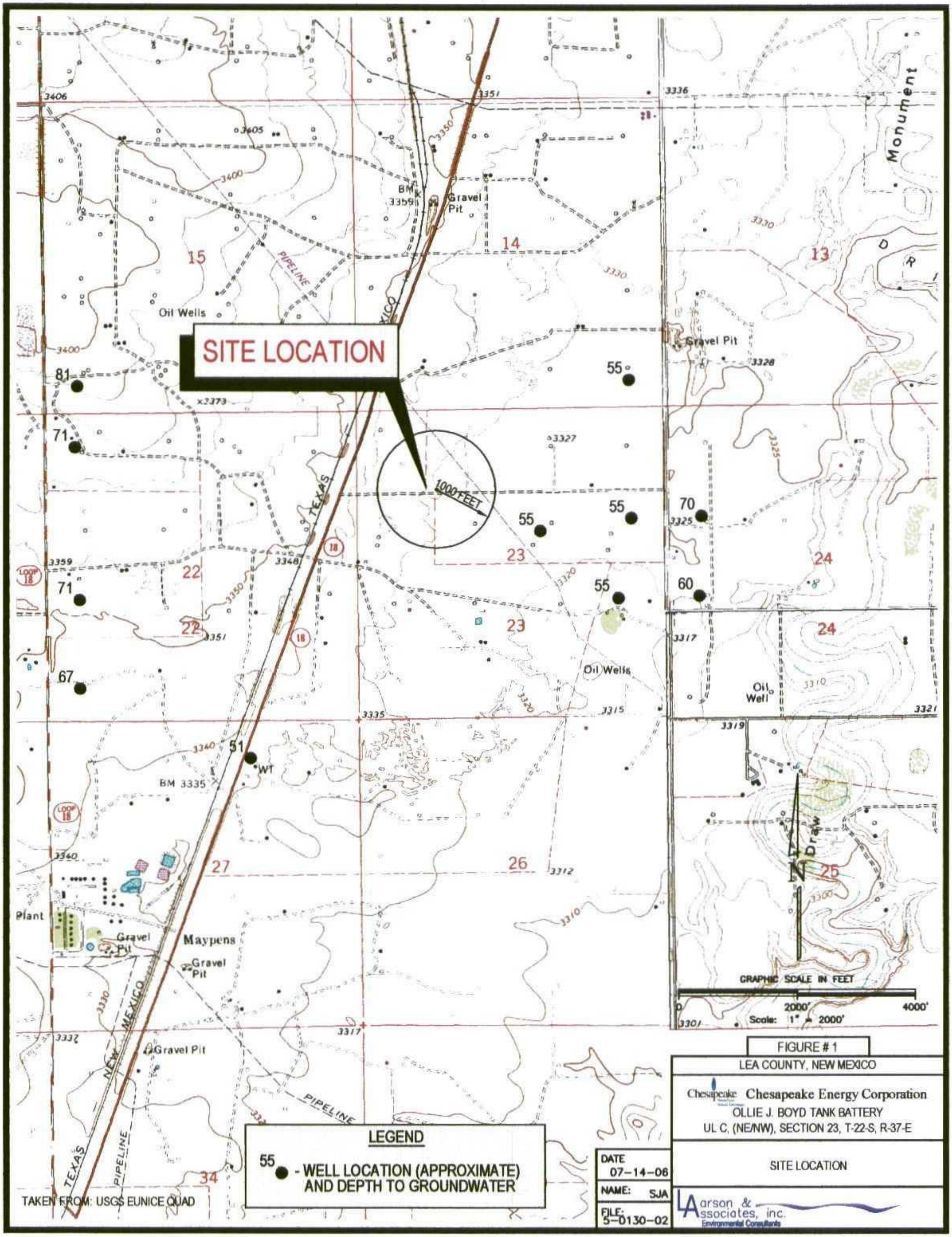
Lea County, New Mexico

Boring	Date Drilled	Sample Depth (Feet BGS)	PID (ppm)	TPH C6 - C12 (mg/Kg)	TPH C12 - C28	TPH C28 - C35 (mg/Kg)	TPH C6-C35 (mg/Kg)	Benzene (mg/Kg)	BTEX (mg/Kg)	Chloride (mg/Kg)
RRAL:										
BH-6	5/18/2006	3 - 4.7	664	584	8,090	1,460	10,134	2.23	24.024	1,290
BH-6	5/18/2006	7 - 8.6	564	393	4,380	762	5,540	0.769	9.331	1,600
BH-6	5/18/2006	11 - 12.7	594	770	5,800	920	7,490	0.137	5.437	972
BH-6	5/18/2006	15 - 16.5	290	7.97	68.9	<10	76.87	<0.025	0.0463	2,380
BH-6	5/18/2006	20 - 21.5	24.5	<10	<10	<10	<30	--	--	3,880
BH-6	5/18/2006	25 - 26.8	14.9	<10	<10	<10	<30	--	--	5,040
BH-6	5/18/2006	30 - 31.6	5.2	<10	<10	<10	<30	--	--	6,210
AH-1	5/18/2006	0 - 1	1.8	<10	896	482	1,378	--	--	15.3
AH-1	5/18/2006	1 - 2	0.9	<10	<10	<10	<30	--	--	14.4

Notes: Analysis performed by Environmental Lab of Texas, Inc., Odessa, Texas

1. BGS: Feet below ground surface
2. mg/Kg: Milligrams per kilogram
3 PID: Photoionization detector
4. ppm: Parts per million
5. X: Sample selected for laboratory analysis

Figures


SITE LOCATION
1000 FEET
Oil Wells
Gravel Pit
Maypens
Plant
PIPELINE
TEXAS
NEW MEXICO
Monument
Draw
GRAPHIC SCALE IN FEET
0
2000'
4000'
Scale: 1" = 2000'
LEGEND
55 ● - WELL LOCATION (APPROXIMATE) AND DEPTH TO GROUNDWATER
TAKEN FROM: USGS EUNICE QUAD
FIGURE # 1
LEA COUNTY, NEW MEXICO
Chesapeake Energy Corporation
OLLIE J. BOYD TANK BATTERY
UL C, (NE/NW), SECTION 23, T-22-S, R-37-E
SITE LOCATION
DATE 07-14-06
NAME: SJA
FILE: 5-0130-02
Larson & Associates, inc.
Environmental Consultants

ANADARKO
PETROL LMPSU
WELL # 2

IRVIN BOYD PROPERTY

S & D RANCH PROPERTY

TARGA MIDSTREAM
SERVICES, L.P.
(NATURAL GAS P/L)

RICE OPERATING
(SALT WATER P/L)

TARGA MIDSTREAM SERVICES, L.P.
(NATURAL GAS P/L)

HISTORIC HYDROCABONS

VISUAL
IDENTIFIED
RELEASE
AREA

HA-1

FENCE

SOUTHERN UNION
(NATURAL GAS P/L)

BH-6

A'

BH-3

OLD PIT

PL
GAS METER RUN

VISUAL IDENTIFIED
RELEASE AREA

VISUAL
IDENTIFIED
RELEASE
AREA

OLD
TANK
BATTERY

FENCE

BH-1

A

BH-2

BH-5

BH-4

3' x 10' SEPARATOR

OIL

WATER

210

210

210

CHESAPECKE
OLLIE J. BOYD
TANK BATTERY

4' x 20' HEATER TREATER

FENCE

FENCE

EOTT (LINK ENERGY) CRUDE
OIL PIELINE

COSSATOT "F" TANK BATTERY

LEASE ROAD

CATTLE GAURD

FENCE

IRVIN BOYD PROPERTY

S & D RANCH PROPERTY

LEGEND

O – AUGER BORING LOCATION

● – ROTARY BORING LOCATION

A A' – LINE OF GEOLOGICAL CROSS SECTION (REFER TO FIGURE 7)

GRAPHIC SCALE IN FEET

0 60' 120'

Scale: 1" = 60'

FIGURE # 2

LEA COUNTY, NEW MEXICO

Chesapeake Energy Corporation

OLLIE J. BOYD TANK BATTERY

UL C, (NE/NW), SECTION 23, T-22-S, R-37-E

DETAILED DRAWING

DATE 08-23-06

NAME: SJA

FILE: 5-0130-01

Larson & Associates, inc.
Environmental Consultants

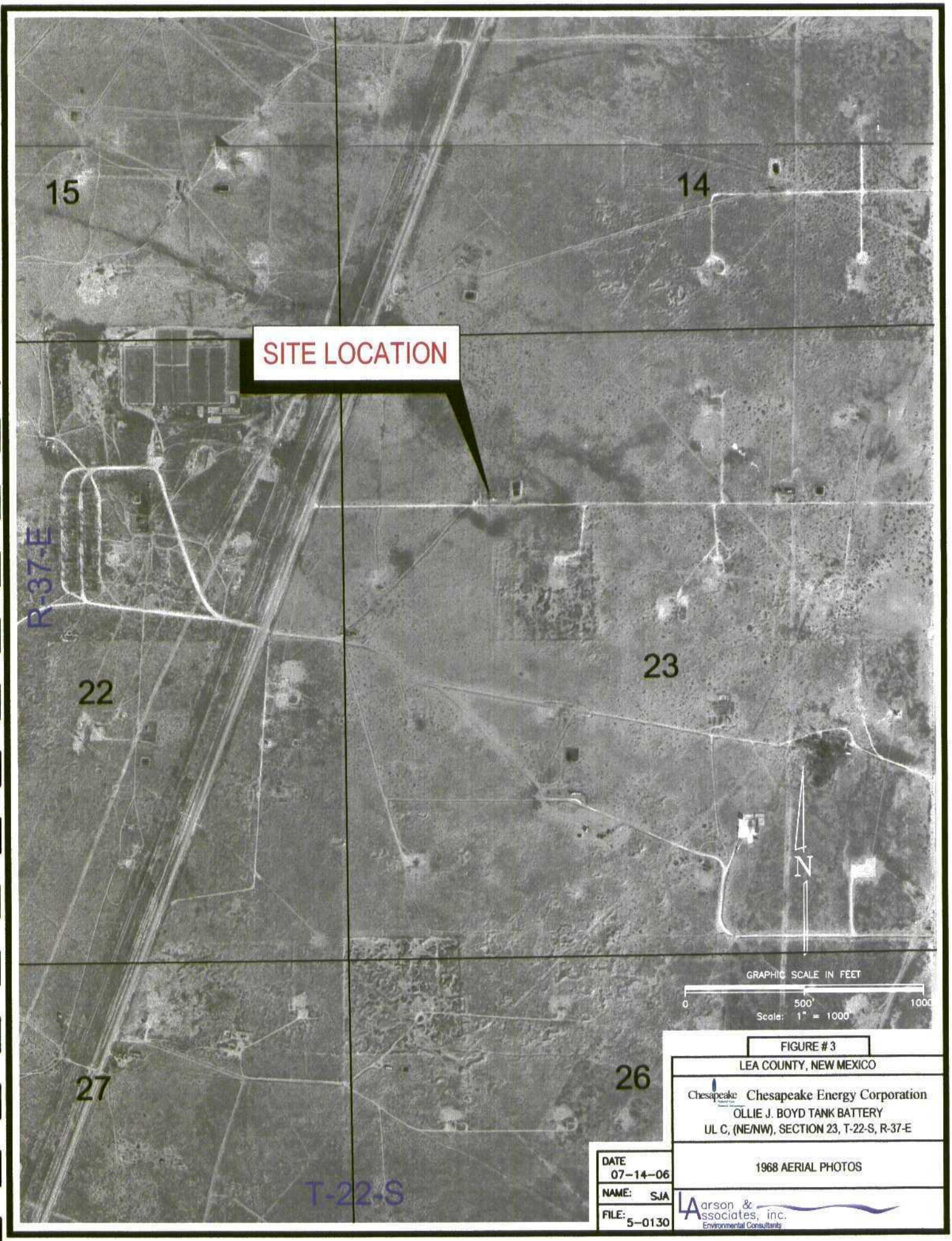


FIGURE # 3

LEA COUNTY, NEW MEXICO

Chesapeake Energy Corporation

OLLIE J. BOYD TANK BATTERY

UL C, (NE/NW), SECTION 23, T-22-S, R-37-E

1968 AERIAL PHOTOS

DATE	07-14-06
NAME:	SJA
FILE:	5-0130

Larson & Associates, inc.
Environmental Consultants

FIGURE # 4

LEA COUNTY, NEW MEXICO

Chesapeake Energy Corporation

OLLIE J. BOYD TANK BATTERY

UL C, (NE/NW), SECTION 23, T-22-S, R-37-E

1968 AERIAL PHOTOS

DATE	07-14-06
NAME:	SJA
FILE:	5-0130

Larson & Associates, inc.
Environmental Consultants

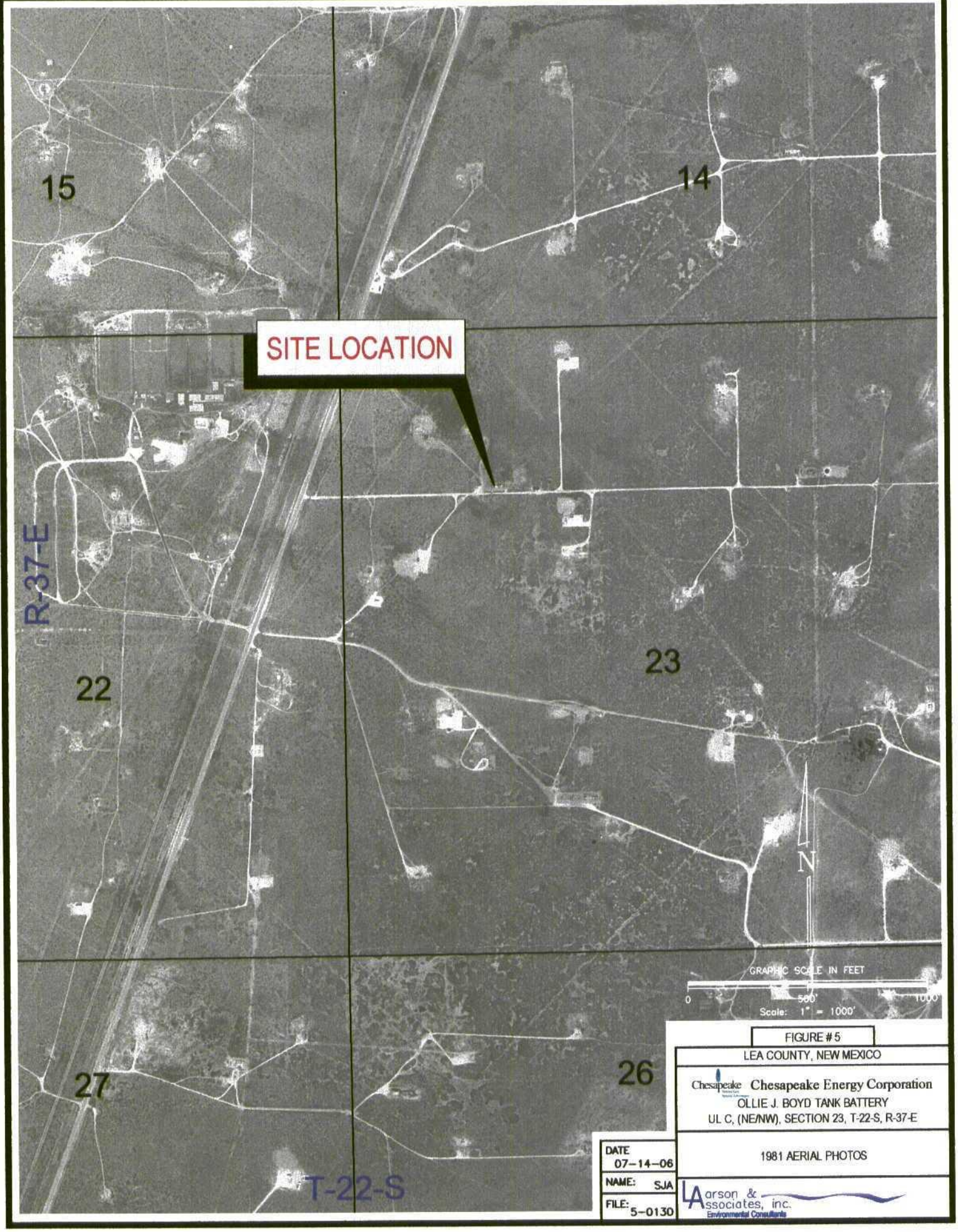


FIGURE # 5

LEA COUNTY, NEW MEXICO

Chesapeake Energy Corporation

OLLIE J. BOYD TANK BATTERY

UL C, (NE/NW), SECTION 23, T-22-S, R-37-E

1981 AERIAL PHOTOS

DATE	07-14-06
NAME:	SJA
FILE:	5-0130

Larson & Associates, inc.
Environmental Consultants

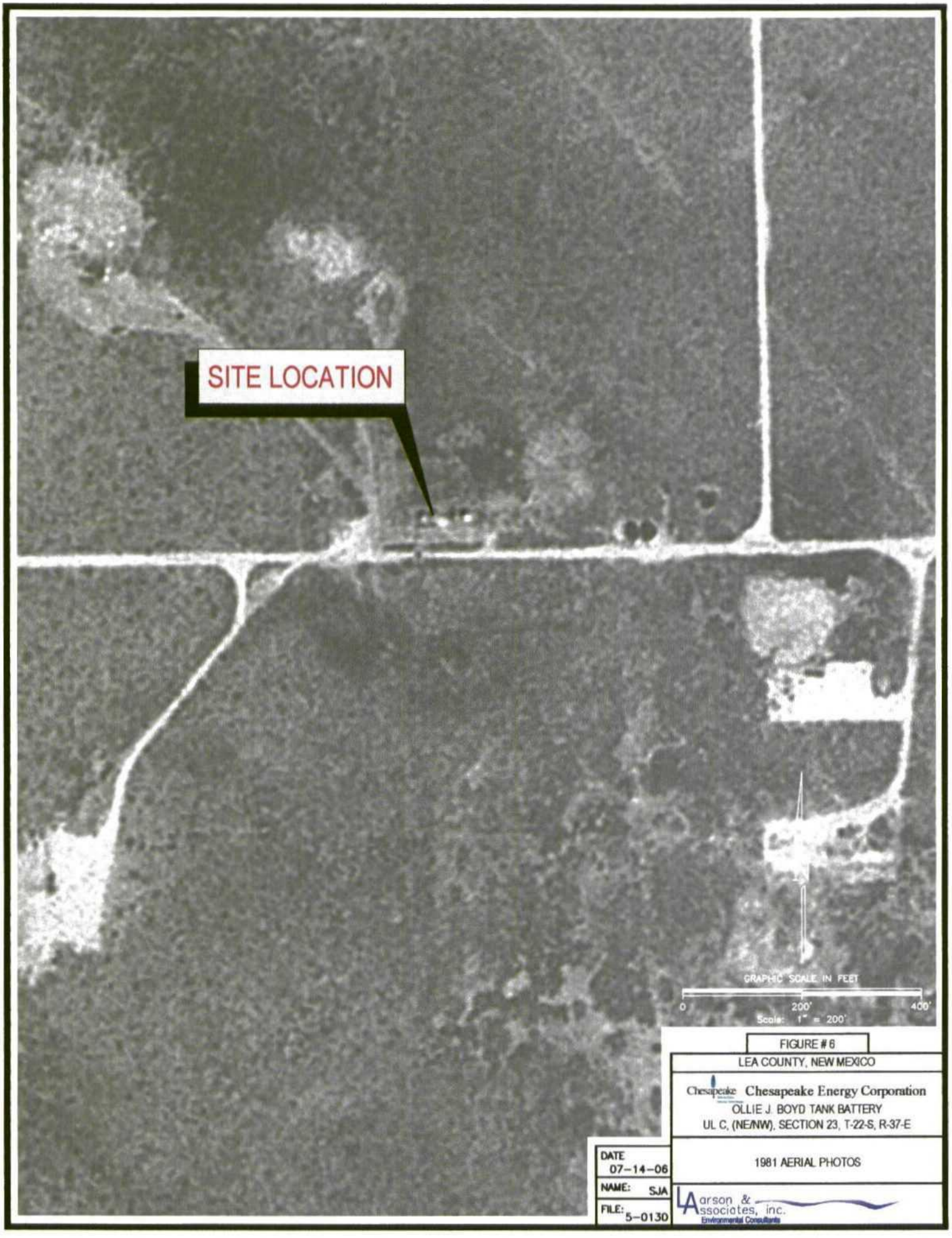


FIGURE # 6

LEA COUNTY, NEW MEXICO

Chesapeake Energy Corporation

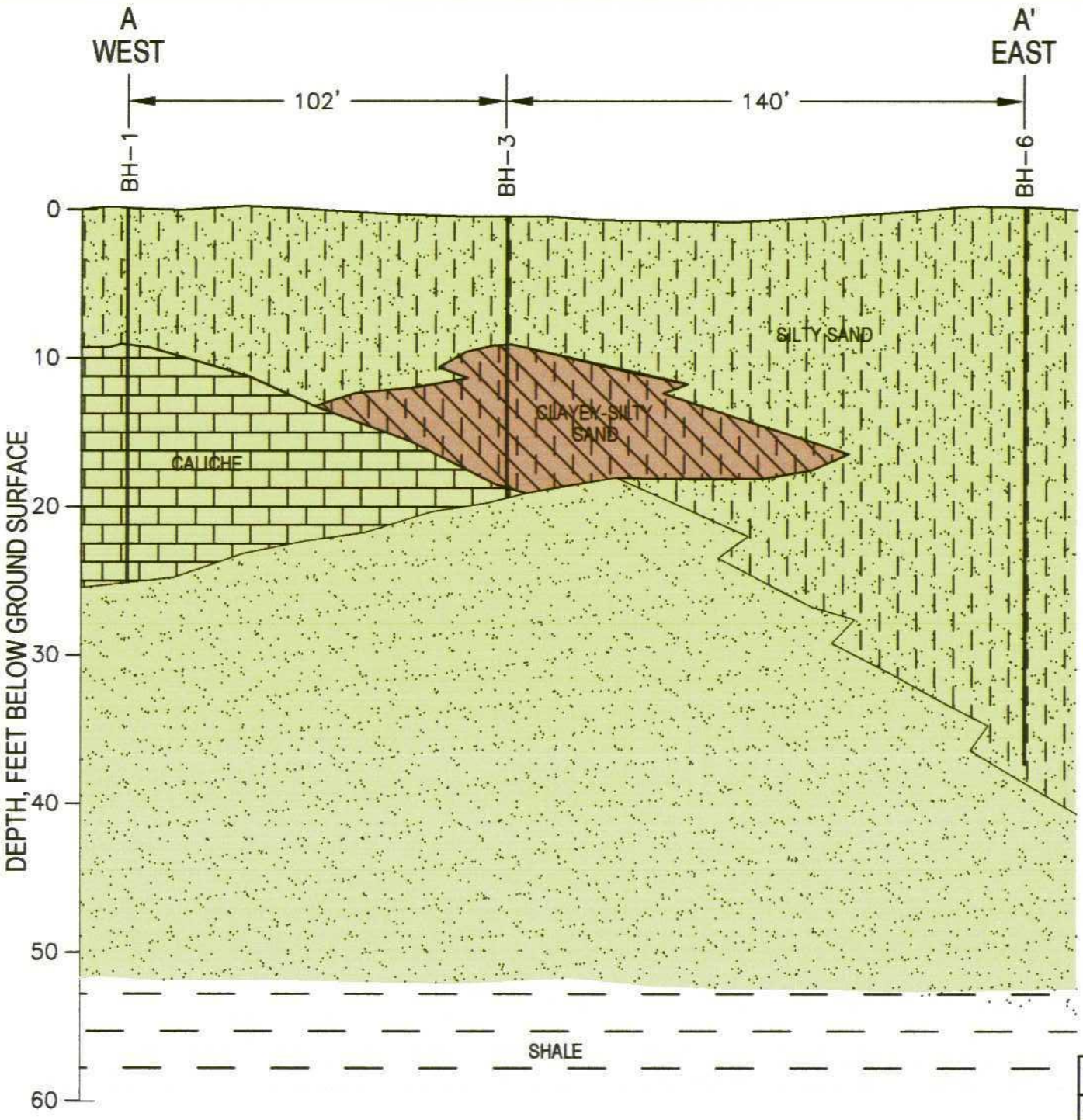
OLLIE J. BOYD TANK BATTERY

UL C, (NE/NW), SECTION 23, T-22-S, R-37-E

1981 AERIAL PHOTOS

DATE	07-14-06
NAME:	SJA
FILE:	5-0130

Larson & Associates, inc.
Environmental Consultants



LEGEND

BORING HOLE LOCATION

VERTICAL SCALE: 1" = 10'
HORIZONTAL SCALE: 1" = 40'
VERTICAL EXAGGERATION: X4

NO GROUNDWATER OBSERVED IN BORINGS

REFER TO FIGURE #2 FOR CROSS-SECTION LOCATION

FIGURE # 7

LEA COUNTY, NEW MEXICO

Chesapeake Energy Corporation
OLLIE J. BOYD TANK BATTERY
UL C, (NE/NW), SECTION 23, T-22-S, R-37-E

WEST TO EAST
GEOLOGICAL CROSS SECTION
A TO A'

DATE 08-23-06
NAME: SJA
FILE: 5-0130-01

Larson & Associates, inc.
Environmental Consultants

Appendix A

Correspondence

Mark Larson

From: Price, Wayne, EMNRD [wayne.price@state.nm.us]
Sent: Friday, March 24, 2006 1:38 PM
To: Mark Larson
Cc: Jace A. Marshall; Williams, Chris, EMNRD; Paul Hagemeier
Subject: RE: Work Plan to Investigate Historic Hydrocarbons, Chesapeake Energy Corporation, Unit Letter C (NE/4, NW/4), Section 23, Township 22 South, Range 37 East, Lea County, New Mexico, February 25, 2006

Approved with the following conditions.

1. Include this approval in the final closure submittal.
2. Notify the local district office.

Please be advised that NMOCD approval of this plan does not relieve the owner/operator of Responsibility should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve the owner/operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

-----Original Message-----
From: Mark Larson [mailto:mark@laenvironmental.com]
Sent: Friday, March 24, 2006 10:52 AM
To: Price, Wayne, EMNRD
Cc: Jace A. Marshall; Williams, Chris, EMNRD; Paul Hagemeier
Subject: Re: Work Plan to Investigate Historic Hydrocarbons, Chesapeake Energy Corporation, Unit Letter C (NE/4, NW/4), Section 23, Township 22 South, Range 37 East, Lea County, New Mexico, February 25, 2006

Dear Mr. Price: This request is submitted to the New Mexico Oil Conservation Division ("OCD"), on behalf of Chesapeake Energy Corporation, by Larson and Associates, Inc., its consultant, to confirm our meeting from March 17, 2006, and your verbal approval of the above-referenced work plan. Your confirmed approval of the above-referenced work plan is requested. You may contact Mr. Jace Marshall with Chesapeake Energy Corporation at (405) 767-4530 or email jmarshall2@chkenergy.com, if you have questions. I also may be reached with questions using the contact information listed below. Sincerely, Mark J. Larson Sr. Project Manager/President Larson and Associates, Inc. 507 N. Marienfeld Street, Suite 202 Midland, Texas 79701
(432) 687-0901 (office)
(432) 687-0456 (Fax)
(432) 556-8656 (Cell)
mark@laenvironmental.com

Appendix B

Boring Logs

Client: Chesapeake Energy Corporation

Project: Ollie J. Boyd Tank Battery

Project No: 5-0130

Location: Lea County, New Mexico

Log: BH-1

Page: 1 of 1

Geologist: M.Larson

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description	Number	Type	Recovery	PID ppm (1 2 3 4)	Notes
0		Ground Surface					
		Silty Sand 5 YR 5/6, Yellowish red, very fine grained quartz sand, loose to slightly compacted, dry CaCo3 stringers @ 4.0'	1			0.8	Depth: 0.0' - 1.50' BGS TPH: <30 mg/kg Chloride: 13.4 mg/kg
5			2			0.2	Depth: 3.00' - 4.50' BGS TPH: <30 mg/kg Chloride: 13.1 mg/kg
			3			0.5	Depth: 7.00' - 8.50' BGS TPH: <30 mg/kg Chloride: 26.4 mg/kg
10		**Caliche** 7.5 YR 8/1 to 7/2, White to pinkish gray, sandy, very fine grained quartz sand, weak to moderatly hard, dry	4			1.3	
15			5			1.3	
20			6			1.1	
25		**Sand** 10 YR 7/3, Very pale brown, very fine grained quartz sand, poorly sorted, weakly cemented, dry, 5 YR 5/6, Yellowish red below 26.0'	7			0.7	
30			8			2.7	
35		TD: 32.0'					

Drill Method: Air Rotary

Drill Date: 5-17-06

Hole Size: 6"

Larson and Associates, Inc
507 N. Marienfeld, Suite 202
Midland, Texas 79701
(432) 687-0901

Elevation: N/A

Checked by: MJL

Drilled by: Eades

Client: Chesapeake Energy Corporation

Project: Ollie J. Boyd Tank Battery

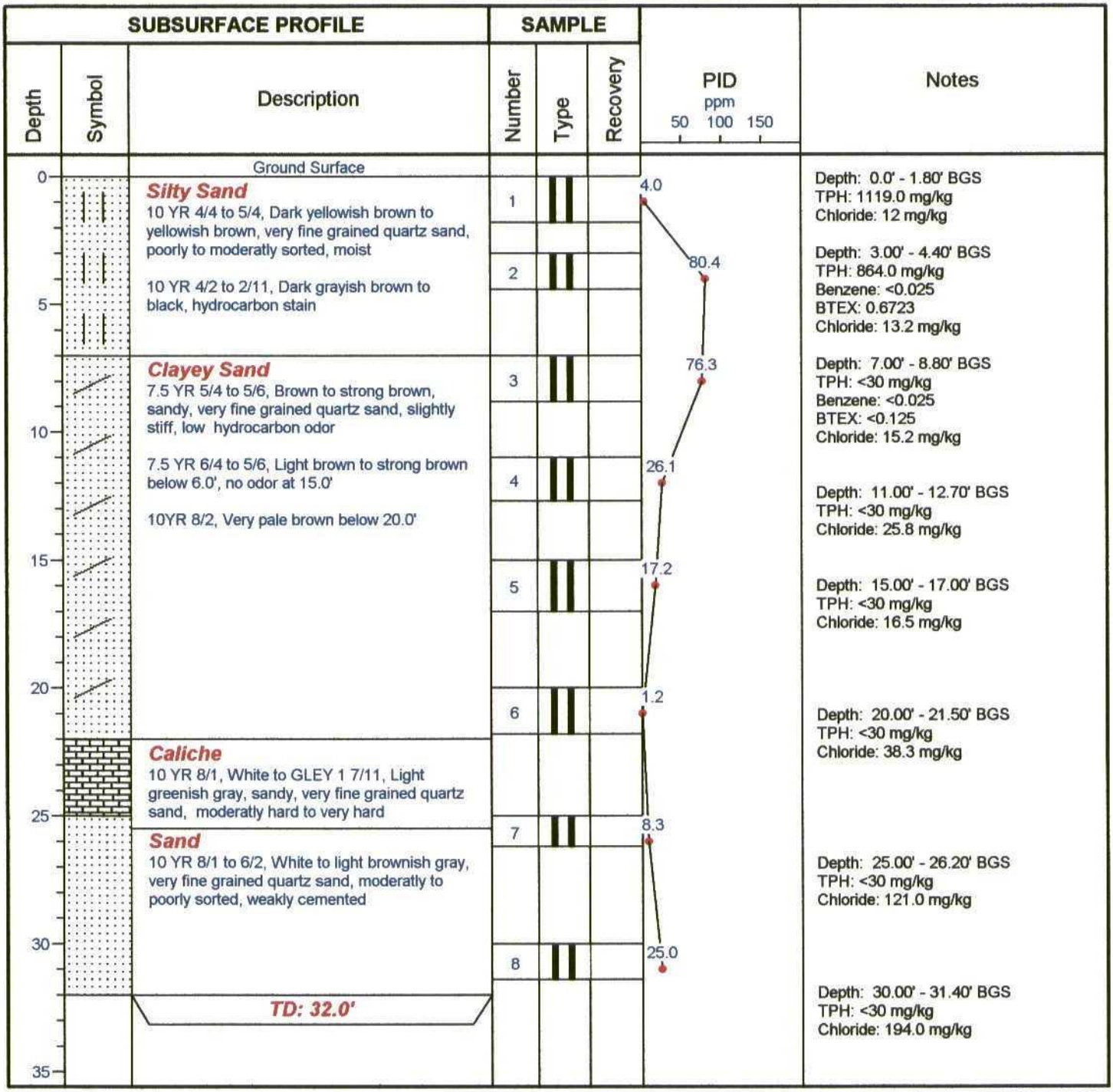
Project No: 5-0130

Location: Lea County, New Mexico

Log: BH-2

Page: 1 of 1

Geologist: M.Larson



Drill Method: Air Rotary

Drill Date: 5-17-06

Hole Size: 6"

Larson and Associates, Inc
507 N. Marienfeld, Suite 202
Midland, Texas 79701
(432) 687-0901

Elevation: N/A

Checked by: MJL

Drilled by: Eades

Client: Chesapeake Energy Corporation

Project: Ollie J. Boyd Tank Battery

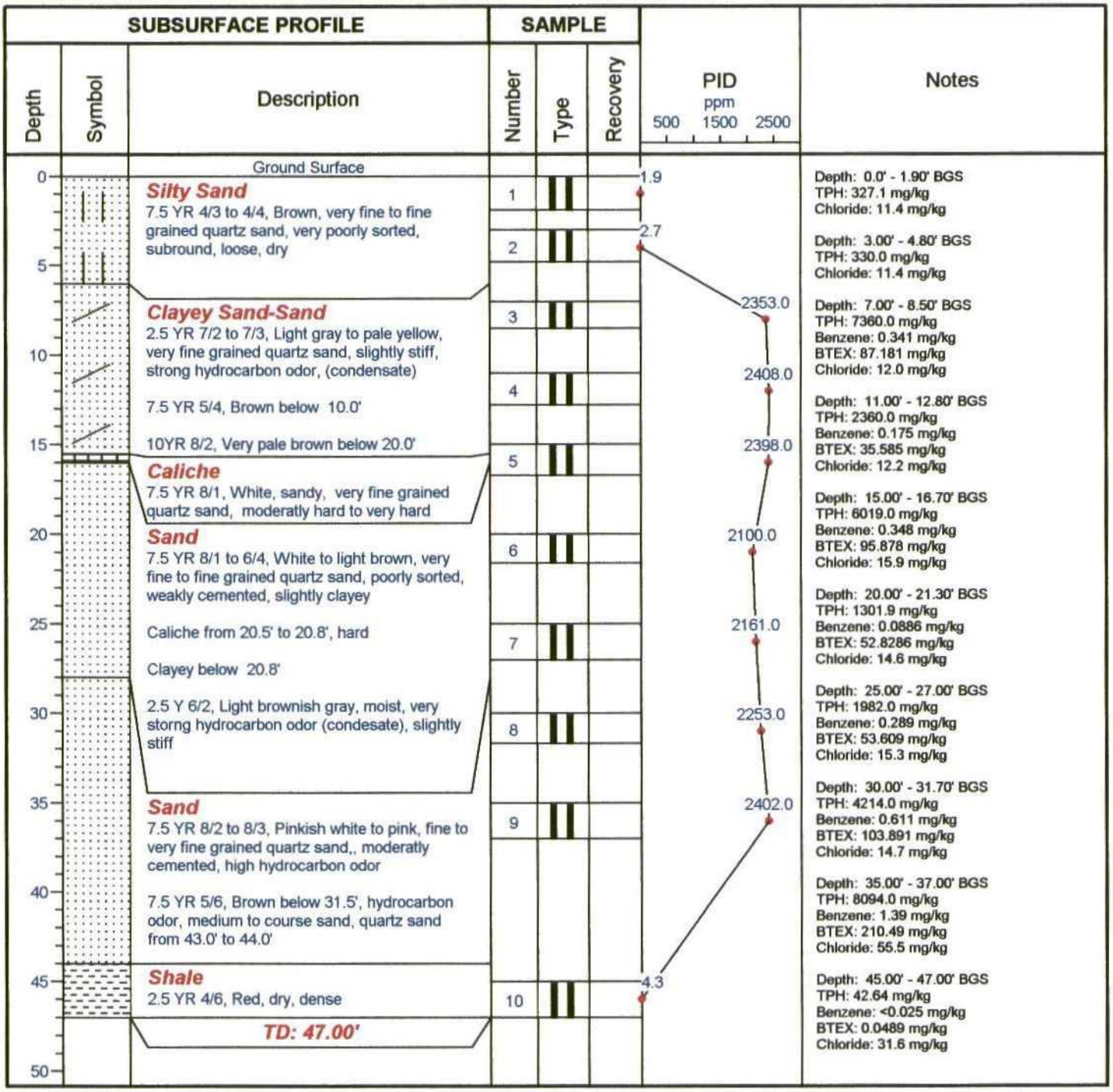
Project No: 5-0130

Location: Lea County, New Mexico

Log: BH-3

Page: 1 of 1

Geologist: M.Larson



Drill Method: Air Rotary

Drill Date: 5-17-06

Hole Size: 6"

Larson and Associates, Inc
507 N. Marienfeld, Suite 202
Midland, Texas 79701
(432) 687-0901

Elevation: N/A

Checked by: MJL

Drilled by: Eades

Client: Chesapeake Energy Corporation

Project: Ollie J. Boyd Tank Battery

Project No: 5-0130

Location: Lea County, New Mexico

Log: BH-4

Page: 1 of 1

Geologist: M.Larson

Depth	Description	Number	Type	Recovery	PID (ppm)	Notes
0	Ground Surface					
	Silty Sand 7.5 YR 4/4, Brown to 5 YR 4/6, Yellowish red, very fine grained quartz sand, poorly sorted, round, loose, to slightly compacted, CaCo3 stringers below 4.0', slightly clayey	1			1.1	Depth: 0.0' - 1.60' BGS TPH: 388.0 mg/kg Chloride: 150.0 mg/kg
		2			0.1	Depth: 3.00' - 4.30' BGS TPH: <30 mg/kg Chloride: 473.0 mg/kg
5	7.5 YR 7/4 to 2/11, Pink below 5.0'					
		3			0.3	Depth: 7.00' - 8.30' BGS TPH: <30 mg/kg Chloride: 253.0 mg/kg
10		4			0.1	Depth: 11.00' - 11.80' BGS Chloride: 427.0 mg/kg
	Sand 5 YR 6/8 to 6/2, Reddish yellow below 13.0'	5			0.9	Depth: 15.00' - 16.50' BGS Chloride: 505.0 mg/kg
15	7.5 YR 8/2 to 8/3, Pinkish white to pink below 18.0' very fine to fine grained quartz sand, round, moderatly well sorted, hard from 25.0' to 26.0' (caliche)					
20		6			0.1	Depth: 20.00' - 21.50' BGS Chloride: 509.0 mg/kg
25		7			0.1	Depth: 25.00' - 26.60' BGS Chloride: 791.0 mg/kg
30		8			2.0	Depth: 30.00' - 31.20' BGS Chloride: 1210.0 mg/kg
	TD: 32.0'					
35						

Drill Method: Air Rotary

Drill Date: 5-18-06

Hole Size: 6"

Larson and Associates, Inc
507 N. Marienfeld, Suite 202
Midland, Texas 79701
(432) 687-0901

Elevation: N/A

Checked by: MJL

Drilled by: Eades

Client: Chesapeake Energy Corporation

Project: Ollie J. Boyd Tank Battery

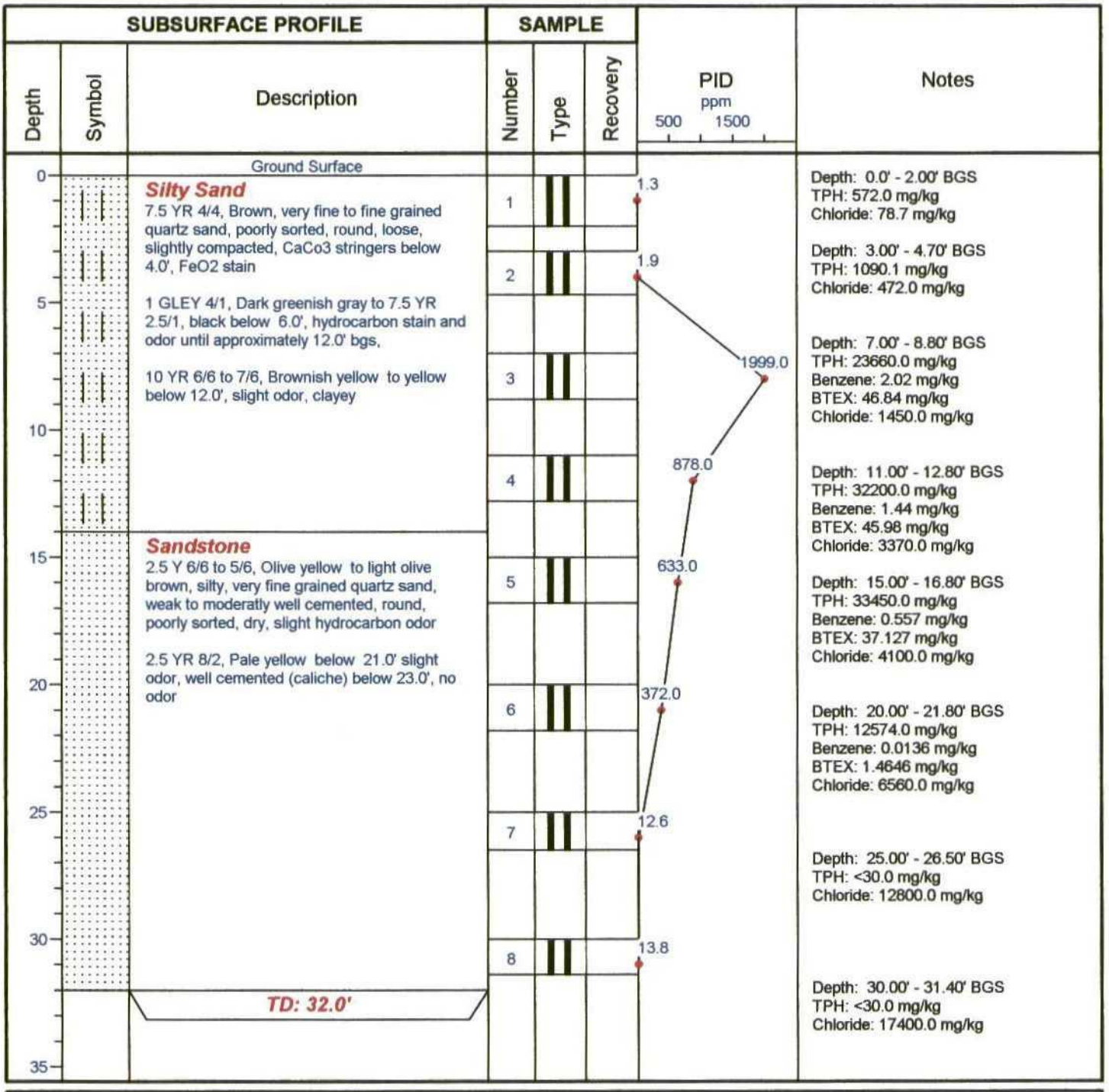
Project No: 5-0130

Location: Lea County, New Mexico

Log: BH-5

Page: 1 of 1

Geologist: M.Larson



Drill Method: Air Rotary

Drill Date: 5-18-06

Hole Size: 6"

Larson and Associates, Inc
507 N. Marienfeld, Suite 202
Midland, Texas 79701
(432) 687-0901

Elevation: N/A

Checked by: MJL

Drilled by: Eades

Client: Chesapeake Energy Corporation

Project: Ollie J. Boyd Tank Battery

Project No: 5-0130

Location: Lea County, New Mexico

Log: BH-6

Page: 1 of 1

Geologist: M.Larson

Depth	Description	Number	Type	Recovery	PID (ppm)	Notes
0	Ground Surface					
	Silty Sand 10 YR 4/4, Dark yellowish brown, very fine grained quartz sand, very poorly sorted, round, stained	1			303.0	Depth: 0.0' - 0.80' BGS TPH: 7849.0 mg/kg Benzene: 1.01 mg/kg BTEX: 10.46 mg/kg Chloride: 237.0 mg/kg
	10 YR 4/1, Dark gray, hydrocarbon odor	2			664.0	Depth: 3.00' - 4.70' BGS TPH: 10134.0 mg/kg Benzene: 2.23 mg/kg BTEX: 24.024 mg/kg Chloride: 1290.0 mg/kg
5	10 YR 2/1, Black from 7.0' to 8.0'					
	2.5Y 5/3, Light olive brown below 8.0', strong hydrocarbon odor, clayey	3			564.0	Depth: 7.00' - 8.60' BGS TPH: 5540.0 mg/kg Benzene: 0.769 mg/kg BTEX: 9.331 mg/kg Chloride: 1600.0 mg/kg
10	10 YR 8/1 to 7.2, Very pale brown to light gray below 12.0', very slight hydrocarbon odor					
	7.5 YR 7/3, Pink below 18.0', no odor, compacted sand	4			594.0	Depth: 11.00' - 12.70' BGS TPH: 7490.0 mg/kg Benzene: 0.137 mg/kg BTEX: 5.437 mg/kg Chloride: 972.0 mg/kg
15	5 YR 8/1, White below 28.0'	5			290.0	Depth: 15.00' - 16.50' BGS TPH: 76.87 mg/kg Benzene: <0.025 mg/kg BTEX: 0.0463 mg/kg Chloride: 2380.0 mg/kg
20		6			24.5	Depth: 20.00' - 21.50' BGS TPH: <30.0 mg/kg Chloride: 3880.0 mg/kg
25		7			14.9	Depth: 25.00' - 26.80' BGS TPH: <30.0 mg/kg Chloride: 5040.0 mg/kg
30		8			5.2	Depth: 30.00' - 31.60' BGS TPH: <30.0 mg/kg Chloride: 6210.0 mg/kg
35	***TD: 32.0'***					

Drill Method: Air Rotary

Drill Date: 5-18-06

Hole Size: 6"

Larson and Associates, Inc
507 N. Marienfeld, Suite 202
Midland, Texas 79701
(432) 687-0901

Elevation: N/A

Checked by: MJL

Drilled by: Eades

Appendix C

Laboratory Reports

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Mark Larson

Larson & Associates, Inc.

P.O. Box 50685

Midland, TX 79710

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130

Location: None Given

Lab Order Number: 6E19003

Report Date: 05/26/06

Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Chesapeake/ Ollie J. Boyd
Project Number: 5-0130
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:
05/26/06 17:08

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-1 0-1.5'	6E19003-01	Soil	05/17/06 10:25	05/19/06 11:50
BH-1 3-4.5'	6E19003-02	Soil	05/17/06 10:32	05/19/06 11:50
BH-1 7-8.5'	6E19003-03	Soil	05/17/06 10:43	05/19/06 11:50
BH-2 0-1.8'	6E19003-09	Soil	05/17/06 12:57	05/19/06 11:50
BH-2 3-4.4'	6E19003-10	Soil	05/17/06 13:03	05/19/06 11:50
BH-2 7-8.8'	6E19003-11	Soil	05/17/06 13:12	05/19/06 11:50
BH-2 11-12.7'	6E19003-12	Soil	05/17/06 13:21	05/19/06 11:50
BH-2 15-17'	6E19003-13	Soil	05/17/06 13:28	05/19/06 11:50
BH-2 20-21.5'	6E19003-14	Soil	05/17/06 13:40	05/19/06 11:50
BH-2 25-26.2'	6E19003-15	Soil	05/17/06 13:51	05/19/06 11:50
BH-2 30-31.4'	6E19003-16	Soil	05/17/06 14:02	05/19/06 11:50
BH-3 0-1.9'	6E19003-17	Soil	05/17/06 14:36	05/19/06 11:50
BH-3 3-4.8'	6E19003-18	Soil	05/17/06 14:41	05/19/06 11:50
BH-3 7-8.5'	6E19003-19	Soil	05/17/06 00:00	05/19/06 11:50
BH-3 11-12.8'	6E19003-20	Soil	05/17/06 00:00	05/19/06 11:50
BH-3 15-16.7'	6E19003-21	Soil	05/17/06 00:00	05/19/06 11:50
BH-3 20-21.6'	6E19003-22	Soil	05/17/06 00:00	05/19/06 11:50
BH-3 25-27'	6E19003-23	Soil	05/17/06 00:00	05/19/06 11:50
BH-3 30-31.7'	6E19003-24	Soil	05/17/06 00:00	05/19/06 11:50
BH-3 35-37'	6E19003-25	Soil	05/17/06 00:00	05/19/06 11:50
BH-3 45-47'	6E19003-26	Soil	05/17/06 00:00	05/19/06 11:50
BH-4 0-1.6'	6E19003-27	Soil	05/18/06 08:23	05/19/06 11:50
BH-4 3-4.3'	6E19003-28	Soil	05/18/06 08:26	05/19/06 11:50
BH-4 7-8.3'	6E19003-29	Soil	05/18/06 08:38	05/19/06 11:50
BH-5 0-2.0'	6E19003-35	Soil	05/18/06 10:02	05/19/06 11:50
BH-5 3-4.7'	6E19003-36	Soil	05/18/06 10:07	05/19/06 11:50
BH-5 7-8.8'	6E19003-37	Soil	05/18/06 10:20	05/19/06 11:50
BH-5 11-12.8'	6E19003-38	Soil	05/18/06 10:28	05/19/06 11:50
BH-5 15-16.8'	6E19003-39	Soil	05/18/06 10:36	05/19/06 11:50
BH-5 20-21.8'	6E19003-40	Soil	05/18/06 10:46	05/19/06 11:50
BH-5 25-26.5'	6E19003-41	Soil	05/18/06 11:00	05/19/06 11:50
BH-5 30-31.4'	6E19003-42	Soil	05/18/06 11:14	05/19/06 11:50
BH-6 0-0.8'	6E19003-43	Soil	05/18/06 12:38	05/19/06 11:50
BH-6 3-4.7'	6E19003-44	Soil	05/18/06 12:47	05/19/06 11:50

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

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-6 7-8.6'	6E19003-45	Soil	05/18/06 12:52	05/19/06 11:50
BH-6 11-12.7'	6E19003-46	Soil	05/18/06 12:59	05/19/06 11:50
BH-6 15-16.4'	6E19003-47	Soil	05/18/06 13:06	05/19/06 11:50
BH-6 20-21.5'	6E19003-48	Soil	05/18/06 13:13	05/19/06 11:50
BH-6 25-26.8'	6E19003-49	Soil	05/18/06 13:25	05/19/06 11:50
BH-6 30-31.6'	6E19003-50	Soil	05/18/06 13:36	05/19/06 11:50
AH-1 0-1'	6E19003-51	Soil	05/18/06 14:50	05/19/06 11:50
AH-1 1-2'	6E19003-52	Soil	05/18/06 14:57	05/19/06 11:50

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-1 0-1.5' (6E19003-01) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62206	05/21/06	05/21/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*95.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*98.8 %*	*70-130*		"	"	"	"	
BH-1 3-4.5' (6E19003-02) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62206	05/21/06	05/21/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*93.8 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*93.8 %*	*70-130*		"	"	"	"	
BH-1 7-8.5' (6E19003-03) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62206	05/21/06	05/21/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*109 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*108 %*	*70-130*		"	"	"	"	
BH-2 0-1.8' (6E19003-09) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62206	05/21/06	05/21/06	EPA 8015M	
Carbon Ranges C12-C28	**884**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**235**	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**1120**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*105 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*109 %*	*70-130*		"	"	"	"	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-2 3-4.4' (6E19003-10) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62222	05/22/06	05/22/06	EPA 8021B	
Toluene	**0.0587**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**0.359**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**0.173**	0.0250	"	"	"	"	"	"	
Xylene (o)	**0.0816**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*106 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	**91.7**	10.0	mg/kg dry	1	EE62206	05/21/06	05/21/06	EPA 8015M	
Carbon Ranges C12-C28	**706**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**66.3**	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**864**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*101 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*107 %*	*70-130*		"	"	"	"	
BH-2 7-8.8' (6E19003-11) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62222	05/22/06	05/22/06	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		*107 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62206	05/21/06	05/21/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*106 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*106 %*	*70-130*		"	"	"	"	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-2 11-12.7' (6E19003-12) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62206	05/21/06	05/21/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*93.0 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*95.4 %*	*70-130*		"	"	"	"	
BH-2 15-17' (6E19003-13) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62206	05/21/06	05/22/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*117 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*117 %*	*70-130*		"	"	"	"	
BH-2 20-21.5' (6E19003-14) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62206	05/21/06	05/22/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*110 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*110 %*	*70-130*		"	"	"	"	
BH-2 25-26.2' (6E19003-15) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62206	05/21/06	05/22/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*74.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*75.8 %*	*70-130*		"	"	"	"	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-2 30-31.4' (6E19003-16) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62206	05/21/06	05/22/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*105 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*106 %*	*70-130*		"	"	"	"	
BH-3 0-1.9' (6E19003-17) Soil									
Carbon Ranges C6-C12	ND	20.0	mg/kg dry	2	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**232**	20.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**95.1**	20.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**327**	20.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*45.4 %*	*70-130*		"	"	"	"	*S-06*
Surrogate: 1-Chlorooctadecane		*49.4 %*	*70-130*		"	"	"	"	*S-06*
BH-3 3-4.8' (6E19003-18) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**246**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**84.0**	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**330**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*105 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*108 %*	*70-130*		"	"	"	"	
BH-3 7-8.5' (6E19003-19) Soil									
Benzene	**0.341**	0.200	mg/kg dry	200	EE62222	05/22/06	05/23/06	EPA 8021B	
Toluene	**3.78**	0.200	"	"	"	"	"	"	
Ethylbenzene	**71.8**	0.200	"	"	"	"	"	"	
Xylene (p/m)	**7.90**	0.200	"	"	"	"	"	"	
Xylene (o)	**3.36**	0.200	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*204 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*208 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**2330**	10.0	mg/kg dry	1	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**4630**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**400**	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**7360**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*124 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*106 %*	*70-130*		"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-3 11-12.8' (6E19003-20) Soil									
Benzene	**J [0.175]**	0.250	mg/kg dry	250	EE62222	05/22/06	05/22/06	EPA 8021B	J
Toluene	**1.89**	0.250	"	"	"	"	"	"	
Ethylbenzene	**26.4**	0.250	"	"	"	"	"	"	
Xylene (p/m)	**5.40**	0.250	"	"	"	"	"	"	
Xylene (o)	**1.72**	0.250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*147 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*172 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**902**	10.0	mg/kg dry	1	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**1350**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**108**	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**2360**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*122 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*103 %*	*70-130*		"	"	"	"	
BH-3 15-16.7' (6E19003-21) Soil									
Benzene	**0.348**	0.100	mg/kg dry	100	EE62222	05/22/06	05/23/06	EPA 8021B	
Toluene	**3.13**	0.100	"	"	"	"	"	"	
Ethylbenzene	**39.4**	0.100	"	"	"	"	"	"	
Xylene (p/m)	**43.9**	0.100	"	"	"	"	"	"	
Xylene (o)	**9.10**	0.100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*230 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*182 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**2180**	10.0	mg/kg dry	1	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**3530**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**309**	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**6020**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*124 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*125 %*	*70-130*		"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-3 20-21.6' (6E19003-22) Soil									
Benzene	**0.0886**	0.0500	mg/kg dry	50	EE62222	05/22/06	05/22/06	EPA 8021B	
Toluene	**1.55**	0.0500	"	"	"	"	"	"	
Ethylbenzene	**19.4**	0.0500	"	"	"	"	"	"	
Xylene (p/m)	**27.5**	0.0500	"	"	"	"	"	"	
Xylene (o)	**4.29**	0.0500	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*198 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*186 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**580**	10.0	mg/kg dry	1	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**685**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**36.9**	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**1300**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*118 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*110 %*	*70-130*		"	"	"	"	
BH-3 25-27' (6E19003-23) Soil									
Benzene	**0.289**	0.0500	mg/kg dry	50	EE62222	05/22/06	05/22/06	EPA 8021B	
Toluene	**1.82**	0.0500	"	"	"	"	"	"	
Ethylbenzene	**17.4**	0.0500	"	"	"	"	"	"	
Xylene (p/m)	**23.6**	0.0500	"	"	"	"	"	"	
Xylene (o)	**10.5**	0.0500	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*228 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*179 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**810**	10.0	mg/kg dry	1	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**1110**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**62.0**	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**1980**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*116 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*114 %*	*70-130*		"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-3 30-31.7' (6E19003-24) Soil									
Benzene	**0.611**	0.100	mg/kg dry	100	EE62222	05/22/06	05/22/06	EPA 8021B	
Toluene	**6.88**	0.100	"	"	"	"	"	"	
Ethylbenzene	**32.1**	0.100	"	"	"	"	"	"	
Xylene (p/m)	**46.9**	0.100	"	"	"	"	"	"	
Xylene (o)	**19.4**	0.100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*240 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*176 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**1730**	20.0	mg/kg dry	2	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**2320**	20.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**164**	20.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**4210**	20.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*67.6 %*	*70-130*		"	"	"	"	*S-06*
Surrogate: 1-Chlorooctadecane		*62.4 %*	*70-130*		"	"	"	"	*S-06*
BH-3 35-37' (6E19003-25) Soil									
Benzene	**1.39**	0.500	mg/kg dry	500	EE62222	05/22/06	05/22/06	EPA 8021B	
Toluene	**18.0**	0.500	"	"	"	"	"	"	
Ethylbenzene	**57.2**	0.500	"	"	"	"	"	"	
Xylene (p/m)	**97.2**	0.500	"	"	"	"	"	"	
Xylene (o)	**36.7**	0.500	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*158 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*124 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**3130**	10.0	mg/kg dry	1	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**4590**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**374**	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**8090**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*146 %*	*70-130*		"	"	"	"	*S-04*
Surrogate: 1-Chlorooctadecane		*153 %*	*70-130*		"	"	"	"	*S-04*

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-3 45-47' (6E19003-26) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62222	05/22/06	05/22/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	**J [0.0194]**	0.0250	"	"	"	"	"	"	J
Xylene (p/m)	**0.0295**	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*110 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*104 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	**J [5.64]**	10.0	mg/kg dry	1	EE62207	05/22/06	05/23/06	EPA 8015M	J
Carbon Ranges C12-C28	**37.0**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**37.0**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*123 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*126 %*	*70-130*		"	"	"	"	
BH-4 0-1.6' (6E19003-27) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**277**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**111**	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**388**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*109 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*113 %*	*70-130*		"	"	"	"	
BH-4 3-4.3' (6E19003-28) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*104 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*106 %*	*70-130*		"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-4 7-8.3' (6E19003-29) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*114 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*117 %*	*70-130*		"	"	"	"	
BH-5 0-2.0' (6E19003-35) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**413**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**159**	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**572**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*110 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*111 %*	*70-130*		"	"	"	"	
BH-5 3-4.7' (6E19003-36) Soil									
Carbon Ranges C6-C12	**J [10.1]**	20.0	mg/kg dry	2	EE62207	05/22/06	05/23/06	EPA 8015M	J
Carbon Ranges C12-C28	**788**	20.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**292**	20.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**1080**	20.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*49.4 %*	*70-130*		"	"	"	"	*S-06*
Surrogate: 1-Chlorooctadecane		*51.6 %*	*70-130*		"	"	"	"	*S-06*
BH-5 7-8.8' (6E19003-37) Soil									
Benzene	**2.02**	0.100	mg/kg dry	100	EE62222	05/22/06	05/23/06	EPA 8021B	
Toluene	**4.87**	0.100	"	"	"	"	"	"	
Ethylbenzene	**11.8**	0.100	"	"	"	"	"	"	
Xylene (p/m)	**19.6**	0.100	"	"	"	"	"	"	
Xylene (o)	**8.55**	0.100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*210 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*172 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**4220**	20.0	mg/kg dry	2	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**17700**	20.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**1740**	20.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**23700**	20.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*76.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*129 %*	*70-130*		"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-5 11-12.8' (6E19003-38) Soil									
Benzene	**1.44**	0.100	mg/kg dry	100	EE62222	05/22/06	05/23/06	EPA 8021B	
Toluene	**5.24**	0.100	"	"	"	"	"	"	
Ethylbenzene	**13.7**	0.100	"	"	"	"	"	"	
Xylene (p/m)	**18.8**	0.100	"	"	"	"	"	"	
Xylene (o)	**6.80**	0.100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*178 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*150 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**3680**	50.0	mg/kg dry	5	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**25700**	50.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**2820**	50.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**32200**	50.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*36.2 %*	*70-130*		"	"	"	"	*S-06*
Surrogate: 1-Chlorooctadecane		*83.4 %*	*70-130*		"	"	"	"	*S-04*
BH-5 15-16.8' (6E19003-39) Soil									
Benzene	**0.557**	0.100	mg/kg dry	100	EE62222	05/22/06	05/23/06	EPA 8021B	
Toluene	**3.56**	0.100	"	"	"	"	"	"	
Ethylbenzene	**12.4**	0.100	"	"	"	"	"	"	
Xylene (p/m)	**15.7**	0.100	"	"	"	"	"	"	
Xylene (o)	**4.91**	0.100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*160 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*228 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**3580**	50.0	mg/kg dry	5	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**27000**	50.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**2870**	50.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**33400**	50.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*37.6 %*	*70-130*		"	"	"	"	*S-06*
Surrogate: 1-Chlorooctadecane		*85.2 %*	*70-130*		"	"	"	"	*S-04*

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-5 20-21.8' (6E19003-40) Soil									
Benzene	**J [0.0136]**	0.0250	mg/kg dry	25	EE62222	05/22/06	05/23/06	EPA 8021B	J
Toluene	**0.118**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**0.253**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**0.832**	0.0250	"	"	"	"	"	"	
Xylene (o)	**0.248**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*131 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*163 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**874**	20.0	mg/kg dry	2	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**10500**	20.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**1200**	20.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**12600**	20.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*68.6 %*	*70-130*		"	"	"	"	*S-06*
Surrogate: 1-Chlorooctadecane		*123 %*	*70-130*		"	"	"	"	*S-04*
BH-5 25-26.5' (6E19003-41) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62207	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*70.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*70.6 %*	*70-130*		"	"	"	"	
BH-5 30-31.4' (6E19003-42) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62208	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*98.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*103 %*	*70-130*		"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-6 0-0.8' (6E19003-43) Soil									
Benzene	**1.01**	0.0250	mg/kg dry	25	EE62222	05/22/06	05/23/06	EPA 8021B	
Toluene	**0.350**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**3.24**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**3.78**	0.0250	"	"	"	"	"	"	
Xylene (o)	**2.08**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*214 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*159 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**209**	20.0	mg/kg dry	2	EE62208	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**6120**	20.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**1520**	20.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**7850**	20.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*44.2 %*	*70-130*		"	"	"	"	*S-06*
Surrogate: 1-Chlorooctadecane		*25.8 %*	*70-130*		"	"	"	"	*S-06*
BH-6 3-4.7' (6E19003-44) Soil									
Benzene	**2.23**	0.0500	mg/kg dry	50	EE62222	05/22/06	05/23/06	EPA 8021B	
Toluene	**0.684**	0.0500	"	"	"	"	"	"	
Ethylbenzene	**7.27**	0.0500	"	"	"	"	"	"	
Xylene (p/m)	**8.70**	0.0500	"	"	"	"	"	"	
Xylene (o)	**5.14**	0.0500	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*209 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*154 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**584**	20.0	mg/kg dry	2	EE62208	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**8090**	20.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**1460**	20.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**10100**	20.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*45.2 %*	*70-130*		"	"	"	"	*S-06*
Surrogate: 1-Chlorooctadecane		*47.0 %*	*70-130*		"	"	"	"	*S-06*

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-6 7-8.6' (6E19003-45) Soil									
Benzene	**0.769**	0.0250	mg/kg dry	25	EE62222	05/22/06	05/23/06	EPA 8021B	
Toluene	**0.379**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**3.92**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**3.35**	0.0250	"	"	"	"	"	"	
Xylene (o)	**0.913**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*231 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*172 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**393**	10.0	mg/kg dry	1	EE62208	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**4380**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**762**	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**5540**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*124 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*123 %*	*70-130*		"	"	"	"	
BH-6 11-12.7' (6E19003-46) Soil									
Benzene	**0.137**	0.0250	mg/kg dry	25	EE62222	05/22/06	05/23/06	EPA 8021B	
Toluene	**0.255**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**1.77**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**2.79**	0.0250	"	"	"	"	"	"	
Xylene (o)	**0.485**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*158 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*228 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**770**	10.0	mg/kg dry	1	EE62208	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**5800**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**920**	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**7490**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*99.2 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*104 %*	*70-130*		"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-6 15-16.4' (6E19003-47) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62222	05/22/06	05/23/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	**J [0.0208]**	0.0250	"	"	"	"	"	"	J
Xylene (p/m)	**0.0255**	0.0250	"	"	"	"	"	"	
Xylene (o)	**ND**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*112 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*96.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	**J [7.97]**	10.0	mg/kg dry	1	EE62208	05/22/06	05/23/06	EPA 8015M	J
Carbon Ranges C12-C28	**68.9**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**68.9**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*102 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*106 %*	*70-130*		"	"	"	"	
BH-6 20-21.5' (6E19003-48) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62208	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*90.6 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*94.4 %*	*70-130*		"	"	"	"	
BH-6 25-26.8' (6E19003-49) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62208	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*103 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*108 %*	*70-130*		"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-6 30-31.6' (6E19003-50) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62208	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*126 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*130 %*	*70-130*		"	"	"	"	
AH-1 0-1' (6E19003-51) Soil									
Carbon Ranges C6-C12	ND	20.0	mg/kg dry	2	EE62208	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	**896**	20.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**482**	20.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	**1380**	20.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*55.2 %*	*70-130*		"	"	"	"	*S-06*
Surrogate: 1-Chlorooctadecane		*58.0 %*	*70-130*		"	"	"	"	*S-06*
AH-1 1-2' (6E19003-52) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62208	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*110 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*115 %*	*70-130*		"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-1 0-1.5' (6E19003-01) Soil									
Chloride	**13.4**	5.00	mg/kg	10	EE62203	05/23/06	05/23/06	EPA 300.0	
% Moisture	**17.9**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-1 3-4.5' (6E19003-02) Soil									
Chloride	**13.1**	5.00	mg/kg	10	EE62203	05/23/06	05/23/06	EPA 300.0	
% Moisture	**3.7**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-1 7-8.5' (6E19003-03) Soil									
Chloride	**26.4**	5.00	mg/kg	10	EE62203	05/23/06	05/23/06	EPA 300.0	
% Moisture	**21.4**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-2 0-1.8' (6E19003-09) Soil									
Chloride	**12.0**	5.00	mg/kg	10	EE62203	05/23/06	05/23/06	EPA 300.0	
% Moisture	**11.3**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-2 3-4.4' (6E19003-10) Soil									
Chloride	**13.2**	5.00	mg/kg	10	EE62203	05/23/06	05/23/06	EPA 300.0	
% Moisture	**13.9**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-2 7-8.8' (6E19003-11) Soil									
Chloride	**15.2**	5.00	mg/kg	10	EE62203	05/23/06	05/23/06	EPA 300.0	
% Moisture	**9.8**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-2 11-12.7' (6E19003-12) Soil									
Chloride	**25.8**	5.00	mg/kg	10	EE62203	05/23/06	05/23/06	EPA 300.0	
% Moisture	**10.3**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-2 15-17' (6E19003-13) Soil									
Chloride	**16.5**	5.00	mg/kg	10	EE62203	05/23/06	05/23/06	EPA 300.0	
% Moisture	**12.4**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-2 20-21.5' (6E19003-14) Soil									
Chloride	**38.3**	5.00	mg/kg	10	EE62203	05/23/06	05/23/06	EPA 300.0	
% Moisture	**10.8**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-2 25-26.2' (6E19003-15) Soil									
Chloride	**121**	5.00	mg/kg	10	EE62203	05/23/06	05/23/06	EPA 300.0	
% Moisture	**16.8**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-2 30-31.4' (6E19003-16) Soil									
Chloride	**194**	5.00	mg/kg	10	EE62203	05/23/06	05/23/06	EPA 300.0	
% Moisture	**20.8**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-3 0-1.9' (6E19003-17) Soil									
Chloride	**11.4**	5.00	mg/kg	10	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**1.1**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-3 3-4.8' (6E19003-18) Soil									
Chloride	**11.4**	5.00	mg/kg	10	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**3.6**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-3 7-8.5' (6E19003-19) Soil									
Chloride	**12.0**	5.00	mg/kg	10	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**9.4**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-3 11-12.8' (6E19003-20) Soil									
Chloride	**12.2**	5.00	mg/kg	10	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**18.6**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-3 15-16.7' (6E19003-21) Soil									
Chloride	**15.9**	5.00	mg/kg	10	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**10.3**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-3 20-21.6' (6E19003-22) Soil									
Chloride	**14.6**	5.00	mg/kg	10	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**24.4**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-3 25-27' (6E19003-23) Soil									
Chloride	**15.3**	5.00	mg/kg	10	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**10.3**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-3 30-31.7' (6E19003-24) Soil									
Chloride	**14.7**	5.00	mg/kg	10	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**14.9**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-3 35-37' (6E19003-25) Soil									
Chloride	**55.5**	5.00	mg/kg	10	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**11.7**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-3 45-47' (6E19003-26) Soil									
Chloride	**31.6**	5.00	mg/kg	10	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**9.3**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-4 0-1.6' (6E19003-27) Soil									
Chloride	**150**	5.00	mg/kg	10	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**4.7**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-4 3-4.3' (6E19003-28) Soil									
Chloride	**473**	10.0	mg/kg	20	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**25.1**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-4 7-8.3' (6E19003-29) Soil									
Chloride	**253**	5.00	mg/kg	10	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**29.1**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-5 0-2.0' (6E19003-35) Soil									
Chloride	**78.7**	5.00	mg/kg	10	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**3.8**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-5 3-4.7' (6E19003-36) Soil									
Chloride	**472**	10.0	mg/kg	20	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**5.5**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-5 7-8.8' (6E19003-37) Soil									
Chloride	**1450**	20.0	mg/kg	40	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**10.3**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-5 11-12.8' (6E19003-38) Soil									
Chloride	**3370**	50.0	mg/kg	100	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**11.5**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-5 15-16.8' (6E19003-39) Soil									
Chloride	**4100**	50.0	mg/kg	100	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**7.1**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-5 20-21.8' (6E19003-40) Soil									
Chloride	**6560**	100	mg/kg	200	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**9.3**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-5 25-26.5' (6E19003-41) Soil									
Chloride	**12800**	200	mg/kg	400	EE62204	05/25/06	05/25/06	EPA 300.0	
% Moisture	**17.5**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-5 30-31.4' (6E19003-42) Soil									
Chloride	**17400**	200	mg/kg	400	EE62412	05/25/06	05/25/06	EPA 300.0	
% Moisture	**14.6**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	

General Chemistry Parameters by EPA / Standard Methods
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-6 0-0.8' (6E19003-43) Soil									
Chloride	**237**	10.0	mg/kg	20	EE62412	05/25/06	05/25/06	EPA 300.0	
% Moisture	**14.3**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-6 3-4.7' (6E19003-44) Soil									
Chloride	**1290**	50.0	mg/kg	100	EE62412	05/25/06	05/25/06	EPA 300.0	
% Moisture	**11.0**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-6 7-8.6' (6E19003-45) Soil									
Chloride	**1600**	25.0	mg/kg	50	EE62412	05/25/06	05/25/06	EPA 300.0	
% Moisture	**11.3**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-6 11-12.7' (6E19003-46) Soil									
Chloride	**972**	25.0	mg/kg	50	EE62412	05/25/06	05/25/06	EPA 300.0	
% Moisture	**9.5**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-6 15-16.4' (6E19003-47) Soil									
Chloride	**2380**	50.0	mg/kg	100	EE62412	05/25/06	05/25/06	EPA 300.0	
% Moisture	**15.7**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-6 20-21.5' (6E19003-48) Soil									
Chloride	**3880**	50.0	mg/kg	100	EE62412	05/25/06	05/25/06	EPA 300.0	
% Moisture	**12.2**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-6 25-26.8' (6E19003-49) Soil									
Chloride	**5040**	50.0	mg/kg	100	EE62412	05/25/06	05/25/06	EPA 300.0	
% Moisture	**8.3**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
BH-6 30-31.6' (6E19003-50) Soil									
Chloride	**6210**	50.0	mg/kg	100	EE62412	05/25/06	05/25/06	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	

General Chemistry Parameters by EPA / Standard Methods
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
AH-1 0-1' (6E19003-51) Soil									
Chloride	**15.3**	5.00	mg/kg	10	EE62412	05/25/06	05/25/06	EPA 300.0	
% Moisture	**0.5**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
AH-1 1-2' (6E19003-52) Soil									
Chloride	**14.4**	5.00	mg/kg	10	EE62412	05/25/06	05/25/06	EPA 300.0	
% Moisture	**4.3**	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	

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 EE62206 - Solvent Extraction (GC)										
Blank (EE62206-BLK1)				Prepared & Analyzed: 05/21/06						
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 Hydrocarbon nC6-nC35	ND	10.0	"							
Surrogate: 1-Chlorooctane	*55.8*		*mg/kg*	*50.0*		*112*	*70-130*			
Surrogate: 1-Chlorooctadecane	*57.3*		*"*	*50.0*		*115*	*70-130*			
LCS (EE62206-BS1)				Prepared & Analyzed: 05/21/06						
Carbon Ranges C6-C12	516	10.0	mg/kg wet	500		103	75-125			
Carbon Ranges C12-C28	535	10.0	"	500		107	75-125			
Total Hydrocarbon nC6-nC35	1050	10.0	"	1000		105	75-125			
Surrogate: 1-Chlorooctane	*58.7*		*mg/kg*	*50.0*		*117*	*70-130*			
Surrogate: 1-Chlorooctadecane	*55.1*		*"*	*50.0*		*110*	*70-130*			
Calibration Check (EE62206-CCV1)				Prepared: 05/21/06 Analyzed: 05/22/06						
Carbon Ranges C6-C12	257		mg/kg	250		103	80-120			
Carbon Ranges C12-C28	286		"	250		114	80-120			
Total Hydrocarbon nC6-nC35	543		"	500		109	80-120			
Surrogate: 1-Chlorooctane	*49.5*		*"*	*50.0*		*99.0*	*70-130*			
Surrogate: 1-Chlorooctadecane	*48.8*		*"*	*50.0*		*97.6*	*70-130*			
Matrix Spike (EE62206-MS1)	**Source: 6E19008-01**			Prepared & Analyzed: 05/21/06						
Carbon Ranges C6-C12	657	10.0	mg/kg dry	555	ND	118	75-125			
Carbon Ranges C12-C28	631	10.0	"	555	ND	114	75-125			
Total Hydrocarbon nC6-nC35	1290	10.0	"	1110	ND	116	75-125			
Surrogate: 1-Chlorooctane	*62.6*		*mg/kg*	*50.0*		*125*	*70-130*			
Surrogate: 1-Chlorooctadecane	*56.7*		*"*	*50.0*		*113*	*70-130*			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE62206 - Solvent Extraction (GC)										
Matrix Spike Dup (EE62206-MSD1)	**Source: 6E19008-01**			Prepared & Analyzed: 05/21/06						
Carbon Ranges C6-C12	651	10.0	mg/kg dry	555	ND	117	75-125	0.917	20	
Carbon Ranges C12-C28	625	10.0	"	555	ND	113	75-125	0.955	20	
Total Hydrocarbon nC6-nC35	1280	10.0	"	1110	ND	115	75-125	0.778	20	
Surrogate: 1-Chlorooctane	*62.3*		*mg/kg*	*50.0*		*125*	*70-130*			
Surrogate: 1-Chlorooctadecane	*58.1*		*"*	*50.0*		*116*	*70-130*			
Batch EE62207 - Solvent Extraction (GC)										
Blank (EE62207-BLK1)				Prepared: 05/22/06 Analyzed: 05/23/06						
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 Hydrocarbon nC6-nC35	ND	10.0	"							
Surrogate: 1-Chlorooctane	*55.5*		*mg/kg*	*50.0*		*111*	*70-130*			
Surrogate: 1-Chlorooctadecane	*57.0*		*"*	*50.0*		*114*	*70-130*			
LCS (EE62207-BS1)				Prepared: 05/22/06 Analyzed: 05/23/06						
Carbon Ranges C6-C12	539	10.0	mg/kg wet	500		108	75-125			
Carbon Ranges C12-C28	579	10.0	"	500		116	75-125			
Total Hydrocarbon nC6-nC35	1120	10.0	"	1000		112	75-125			
Surrogate: 1-Chlorooctane	*56.9*		*mg/kg*	*50.0*		*114*	*70-130*			
Surrogate: 1-Chlorooctadecane	*55.7*		*"*	*50.0*		*111*	*70-130*			
Calibration Check (EE62207-CCV1)				Prepared: 05/22/06 Analyzed: 05/23/06						
Carbon Ranges C6-C12	258		mg/kg	250		103	80-120			
Carbon Ranges C12-C28	290		"	250		116	80-120			
Total Hydrocarbon nC6-nC35	548		"	500		110	80-120			
Surrogate: 1-Chlorooctane	*50.3*		*"*	*50.0*		*101*	*70-130*			
Surrogate: 1-Chlorooctadecane	*51.4*		*"*	*50.0*		*103*	*70-130*			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE62207 - Solvent Extraction (GC)										
Matrix Spike (EE62207-MS1)	**Source: 6E19003-26**			Prepared: 05/22/06 Analyzed: 05/23/06						
Carbon Ranges C6-C12	653	10.0	mg/kg dry	551	5.64	117	75-125			
Carbon Ranges C12-C28	631	10.0	"	551	37.0	108	75-125			
Total Hydrocarbon nC6-nC35	1280	10.0	"	1100	37.0	113	75-125			
Surrogate: 1-Chlorooctane	*62.0*		*mg/kg*	*50.0*		*124*	*70-130*			
Surrogate: 1-Chlorooctadecane	*61.5*		"	*50.0*		*123*	*70-130*			
Matrix Spike Dup (EE62207-MSD1)	**Source: 6E19003-26**			Prepared: 05/22/06 Analyzed: 05/23/06						
Carbon Ranges C6-C12	651	10.0	mg/kg dry	551	5.64	117	75-125	0.307	20	
Carbon Ranges C12-C28	635	10.0	"	551	37.0	109	75-125	0.632	20	
Total Hydrocarbon nC6-nC35	1290	10.0	"	1100	37.0	114	75-125	0.778	20	
Surrogate: 1-Chlorooctane	*62.2*		*mg/kg*	*50.0*		*124*	*70-130*			
Surrogate: 1-Chlorooctadecane	*62.2*		"	*50.0*		*124*	*70-130*			
Batch EE62208 - Solvent Extraction (GC)										
Blank (EE62208-BLK1)				Prepared: 05/22/06 Analyzed: 05/23/06						
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 Hydrocarbon nC6-nC35	ND	10.0	"							
Surrogate: 1-Chlorooctane	*51.4*		*mg/kg*	*50.0*		*103*	*70-130*			
Surrogate: 1-Chlorooctadecane	*53.0*		"	*50.0*		*106*	*70-130*			
LCS (EE62208-BS1)				Prepared: 05/22/06 Analyzed: 05/23/06						
Carbon Ranges C6-C12	485	10.0	mg/kg wet	500		97.0	75-125			
Carbon Ranges C12-C28	500	10.0	"	500		100	75-125			
Total Hydrocarbon nC6-nC35	985	10.0	"	1000		98.5	75-125			
Surrogate: 1-Chlorooctane	*54.3*		*mg/kg*	*50.0*		*109*	*70-130*			
Surrogate: 1-Chlorooctadecane	*52.0*		"	*50.0*		*104*	*70-130*			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE62208 - Solvent Extraction (GC)										
Calibration Check (EE62208-CCV1)				Prepared: 05/22/06 Analyzed: 05/23/06						
Carbon Ranges C6-C12	282		mg/kg	250		113	80-120			
Carbon Ranges C12-C28	278		"	250		111	80-120			
Total Hydrocarbon nC6-nC35	560		"	500		112	80-120			
Surrogate: 1-Chlorooctane	*50.0*		*"*	*50.0*		*100*	*70-130*			
Surrogate: 1-Chlorooctadecane	*51.6*		*"*	*50.0*		*103*	*70-130*			
Matrix Spike (EE62208-MS1)		**Source: 6E19003-42**		Prepared: 05/22/06 Analyzed: 05/23/06						
Carbon Ranges C6-C12	562	10.0	mg/kg dry	585	ND	96.1	75-125			
Carbon Ranges C12-C28	585	10.0	"	585	ND	100	75-125			
Total Hydrocarbon nC6-nC35	1150	10.0	"	1170	ND	98.3	75-125			
Surrogate: 1-Chlorooctane	*54.7*		*mg/kg*	*50.0*		*109*	*70-130*			
Surrogate: 1-Chlorooctadecane	*51.9*		*"*	*50.0*		*104*	*70-130*			
Matrix Spike Dup (EE62208-MSD1)		**Source: 6E19003-42**		Prepared: 05/22/06 Analyzed: 05/23/06						
Carbon Ranges C6-C12	561	10.0	mg/kg dry	585	ND	95.9	75-125	0.178	20	
Carbon Ranges C12-C28	586	10.0	"	585	ND	100	75-125	0.171	20	
Total Hydrocarbon nC6-nC35	1150	10.0	"	1170	ND	98.3	75-125	0.00	20	
Surrogate: 1-Chlorooctane	*54.5*		*mg/kg*	*50.0*		*109*	*70-130*			
Surrogate: 1-Chlorooctadecane	*51.8*		*"*	*50.0*		*104*	*70-130*			
Batch EE62222 - EPA 5030C (GC)										
Blank (EE62222-BLK1)				Prepared: 05/22/06 Analyzed: 05/23/06						
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	*38.2*		*ug/kg*	*40.0*		*95.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*39.4*		*"*	*40.0*		*98.5*	*80-120*			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE62222 - EPA 5030C (GC)										
LCS (EE62222-BS1)				Prepared: 05/22/06 Analyzed: 05/23/06						
Benzene	1.07	0.0250	mg/kg wet	1.25		85.6	80-120			
Toluene	1.09	0.0250	"	1.25		87.2	80-120			
Ethylbenzene	1.23	0.0250	"	1.25		98.4	80-120			
Xylene (p/m)	2.65	0.0250	"	2.50		106	80-120			
Xylene (o)	1.31	0.0250	"	1.25		105	80-120			
Surrogate: a,a,a-Trifluorotoluene	*43.6*		*ug/kg*	*40.0*		*109*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*48.0*		*"*	*40.0*		*120*	*80-120*			
Calibration Check (EE62222-CCV1)				Prepared: 05/22/06 Analyzed: 05/23/06						
Benzene	0.0446		mg/kg wet	0.0500		89.2	80-120			
Toluene	0.0445		"	0.0500		89.0	80-120			
Ethylbenzene	0.0475		"	0.0500		95.0	80-120			
Xylene (p/m)	0.0961		"	0.100		96.1	80-120			
Xylene (o)	0.0475		"	0.0500		95.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	*36.8*		*ug/kg*	*40.0*		*92.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*39.3*		*"*	*40.0*		*98.2*	*80-120*			
Matrix Spike (EE62222-MS1)		**Source: 6E19003-47**		Prepared: 05/22/06 Analyzed: 05/23/06						
Benzene	1.25	0.0250	mg/kg dry	1.48	ND	84.5	80-120			
Toluene	1.27	0.0250	"	1.48	ND	85.8	80-120			
Ethylbenzene	1.32	0.0250	"	1.48	0.0208	87.8	80-120			
Xylene (p/m)	3.05	0.0250	"	2.97	0.0255	102	80-120			
Xylene (o)	1.40	0.0250	"	1.48	ND	94.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	*46.8*		*ug/kg*	*40.0*		*117*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*39.1*		*"*	*40.0*		*97.8*	*80-120*			
Matrix Spike Dup (EE62222-MSD1)		**Source: 6E19003-47**		Prepared: 05/22/06 Analyzed: 05/23/06						
Benzene	1.23	0.0250	mg/kg dry	1.48	ND	83.1	80-120	1.67	20	
Toluene	1.26	0.0250	"	1.48	ND	85.1	80-120	0.819	20	
Ethylbenzene	1.34	0.0250	"	1.48	0.0208	89.1	80-120	1.47	20	
Xylene (p/m)	3.05	0.0250	"	2.97	0.0255	102	80-120	0.00	20	
Xylene (o)	1.40	0.0250	"	1.48	ND	94.6	80-120	0.00	20	
Surrogate: a,a,a-Trifluorotoluene	*44.2*		*ug/kg*	*40.0*		*110*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*39.5*		*"*	*40.0*		*98.8*	*80-120*			

General Chemistry Parameters by EPA / Standard Methods - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE62203 - Water Extraction										
Blank (EE62203-BLK1)				Prepared & Analyzed: 05/23/06						
Chloride	ND	0.500	mg/kg							
LCS (EE62203-BS1)				Prepared & Analyzed: 05/23/06						
Chloride	10.4	0.500	mg/kg	10.0		104	80-120			
Calibration Check (EE62203-CCV1)				Prepared & Analyzed: 05/23/06						
Chloride	10.2		mg/L	10.0		102	80-120			
Duplicate (EE62203-DUP1)		**Source: 6E18009-18**		Prepared & Analyzed: 05/23/06						
Chloride	13.7	5.00	mg/kg		13.9			1.45	20	
Duplicate (EE62203-DUP2)		**Source: 6E19003-03**		Prepared & Analyzed: 05/23/06						
Chloride	27.1	0.500	mg/kg		26.4			2.62	20	
Matrix Spike (EE62203-MS1)		**Source: 6E18009-18**		Prepared & Analyzed: 05/23/06						
Chloride	101	5.00	mg/kg	100	13.9	87.1	80-120			
Matrix Spike (EE62203-MS2)		**Source: 6E19003-03**		Prepared & Analyzed: 05/23/06						
Chloride	122	5.00	mg/kg	100	26.4	95.6	80-120			
Batch EE62204 - Water Extraction										
Blank (EE62204-BLK1)				Prepared & Analyzed: 05/25/06						
Chloride	ND	0.500	mg/kg							
LCS (EE62204-BS1)				Prepared & Analyzed: 05/25/06						
Chloride	10.2	0.500	mg/kg	10.0		102	80-120			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE62204 - Water Extraction										
Calibration Check (EE62204-CCV1)				Prepared & Analyzed: 05/25/06						
Chloride	10.1		mg/L	10.0		101	80-120			
Duplicate (EE62204-DUP1)		Source: 6E19003-19		Prepared & Analyzed: 05/25/06						
Chloride	13.9	5.00	mg/kg		12.0			14.7	20	
Duplicate (EE62204-DUP2)		Source: 6E19003-29		Prepared & Analyzed: 05/25/06						
Chloride	249	5.00	mg/kg		253			1.59	20	
Matrix Spike (EE62204-MS1)		Source: 6E19003-19		Prepared & Analyzed: 05/25/06						
Chloride	98.9	5.00	mg/kg	100	12.0	86.9	80-120			
Matrix Spike (EE62204-MS2)		Source: 6E19003-29		Prepared & Analyzed: 05/25/06						
Chloride	369	5.00	mg/kg	100	253	116	80-120			
Batch EE62210 - General Preparation (Prep)										
Blank (EE62210-BLK1)				Prepared: 05/19/06 Analyzed: 05/22/06						
% Solids	100		%							
Duplicate (EE62210-DUP1)		Source: 6E18023-02		Prepared: 05/19/06 Analyzed: 05/22/06						
% Solids	98.0		%		98.3			0.306	20	
Duplicate (EE62210-DUP2)		Source: 6E19003-02		Prepared: 05/19/06 Analyzed: 05/22/06						
% Solids	96.0		%		96.3			0.312	20	
Duplicate (EE62210-DUP3)		Source: 6E19003-28		Prepared: 05/19/06 Analyzed: 05/22/06						
% Solids	74.8		%		74.9			0.134	20	

General Chemistry Parameters by EPA / Standard Methods - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE62210 - General Preparation (Prep)										
Duplicate (EE62210-DUP4)	**Source: 6E19005-01**			Prepared: 05/19/06 Analyzed: 05/22/06						
% Solids	97.8		%		97.2			0.615	20	
Duplicate (EE62210-DUP5)	**Source: 6E19011-12**			Prepared: 05/19/06 Analyzed: 05/22/06						
% Solids	99.7		%		99.5			0.201	20	
Batch EE62412 - Water Extraction										
Blank (EE62412-BLK1)				Prepared & Analyzed: 05/25/06						
Chloride	ND	0.500	mg/kg							
LCS (EE62412-BS1)				Prepared & Analyzed: 05/24/06						
Chloride	10.4	0.500	mg/kg	10.0		104	80-120			
Calibration Check (EE62412-CCV1)				Prepared & Analyzed: 05/24/06						
Chloride	10.3		mg/L	10.0		103	80-120			
Duplicate (EE62412-DUP1)	**Source: 6E19003-46**			Prepared & Analyzed: 05/24/06						
Chloride	980	25.0	mg/kg		972			0.820	20	
Duplicate (EE62412-DUP2)	**Source: 6E19010-01**			Prepared & Analyzed: 05/24/06						
Chloride	145	10.0	mg/kg		153			5.37	20	
Matrix Spike (EE62412-MS1)	**Source: 6E19003-46**			Prepared & Analyzed: 05/24/06						
Chloride	1560	25.0	mg/kg	500	972	118	80-120			
Matrix Spike (EE62412-MS2)	**Source: 6E19010-01**			Prepared & Analyzed: 05/24/06						
Chloride	337	10.0	mg/kg	200	153	92.0	80-120			

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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: 5-26-06

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 Lab of Texas
Variance / Corrective Action Report – Sample Log-In

Client: Larson

Date/Time: 5/19/06 11:50

Order #: 1E19003

Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	3.5 C
Shipping container/cooler in good condition?	Yes	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	Yes	No	
Sample Instructions complete on Chain of Custody?	Yes	No	
Chain of Custody signed when relinquished and received?	Yes	No	
Chain of custody agrees with sample label(s)	Yes	No	
Container labels legible and intact?	Yes	No	
Sample Matrix and properties same as on chain of custody?	Yes	No	
Samples in proper container/bottle?	Yes	No	
Samples properly preserved?	Yes	No	
Sample bottles intact?	Yes	No	
Preservations documented on Chain of Custody?	Yes	No	
Containers documented on Chain of Custody?	Yes	No	
Sufficient sample amount for indicated test?	Yes	No	
All samples received within sufficient hold time?	Yes	No	
VOC samples have zero headspace?	Yes	No	Not Applicable

Other observations:

Variance Documentation:

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

Regarding:

Corrective Action Taken:

CHAIN—OF—CUSTODY RECORD

LArson & Associates, Inc. Environmental Consultants
Fax: 432-687-0456
432-687-0901
507 N. Marienfeld, Ste. 202 • Midland, TX 79701

CLIENT NAME: Chesapeake Operating
SITE MANAGER: M. Larson
PROJECT NO.: 5-0130
PROJECT NAME: Ollie J. Boyd
PAGE 1 OF 3
LAB. PO #

DATE	TIME	WATER	SOIL	OTHER	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	TPH (EKG + DRO) 8015	BTEX - 8021B	Chloride	Hold	LAB. I.D. NUMBER (LAB USE ONLY)	REMARKS (I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, GRAB COMPOSITE)
5/17/06	1025		X		BH-1 0 - 1.5'	1	✓		✓			LE19005-01
	1032				3 - 4.5'	1	✓		✓			-02
	1043				7 - 8.5'	1	✓		✓			-03
	1055				11 - 12.5'	1				✓		-04
	1105				15 - 16.5'	1				✓		-05
	1115				20 - 21'	1				✓		-06
	1142				25 - 26.7'	1				✓		-07
	1155				30 - 31.6'	1				✓		-08
	1257				BH-2 0 - 1.8'	1	✓		✓			-09
	1303				3 - 4.4'	1	✓	✓	✓			-10
	1312				7 - 8.8'	1	✓	✓	✓			-11
	1321				11 - 12.7'	1	✓		✓			-12
	1328				15 - 17'	1	✓		✓			-13
	1340				20 - 21.5'	1	✓		✓			-14
	1351				25 - 26.2'	1	✓		✓			-15
	1402				30 - 31.4'	1	✓		✓			-16
	1436				BH-3 0 - 1.9'	1	✓		✓			-17
↓	1441	↓	↓		3 - 4.8'	1	✓		✓			-18

PARAMETERS/METHOD NUMBER

SAMPLED BY: (Signature) PL
DATE: 5/18/06
TIME: 1457

RELINQUISHED BY: (Signature)
DATE: 5/19/06
TIME: 11:50

RECEIVED BY: (Signature)
DATE:
TIME:

RELINQUISHED BY: (Signature)
DATE:
TIME:

RECEIVED BY: (Signature)
DATE:
TIME:

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

COMMENTS:

TURNAROUND TIME NEEDED

WHITE – RECEIVING LAB
YELLOW – RECEIVING LAB (TO BE RETURNED TO LA AFTER RECEIPT)
PINK – PROJECT MANAGER
GOLD – QA/QC COORDINATOR

RECEIVING LABORATORY: ELT
ADDRESS: 12600 W I-20 E
CITY: Odessa STATE: TX ZIP: 79765
CONTACT: Roland Tuttle PHONE: 563-1800

RECEIVED BY: (Signature) Carrie Reese
DATE: 5/19/06 TIME: 11:50

SAMPLE CONDITION WHEN RECEIVED:
w/ Labels 3.5

LA CONTACT PERSON: Mark Larson

SAMPLE TYPE: Soil

CHAIN—OF—CUSTODY RECORD

CLIENT NAME: Chesapeake Operating

SITE MANAGER: M. Larson

PROJECT NO.: 5-0130

PROJECT NAME: Ollie J. Boyd

PAGE 2 OF 3

LAB. PO #

Larson & Associates, Inc.
Environmental Consultants
Fax: 432-687-0456
432-687-0901
507 N. Marienfeld, Ste. 202 • Midland, TX 79701

DATE	TIME	WATER	SOIL	OTHER	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	TPH (EPA # 1006) 8015	BTEX (8021B)	Chlorides	Hold	LAB. I.D. NUMBER (LAB USE ONLY)	REMARKS (I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, GRAB COMPOSITE)
5/17/06			X		BH-3, 7-8.5'	1	✓	✓	✓			LE19003-19
					11-12.8'	1	✓	✓	✓			-20
					15-16.7'	1	✓	✓	✓			-21
					20-21.6'	1	✓	✓	✓			-22
					25-27'	1	✓	✓	✓			-23
					30-31.7'	1	✓	✓	✓			-24
					35-37'	1	✓	✓	✓			-25
					45-47'	1	✓	✓	✓			-26
5/18/06	0823				BH-4 0-1.0'	1	✓		✓			-27
	0826				3-4.3'	1	✓		✓			-28
	0838				7-8.3'	1	✓		✓			-29
	0846				11-11.8'	1	✓		✓	✓		-30
	0856				15-16.5'	1	✓	✓	✓	✓		-31
	0903				20-21.5'	1	✓	✓	✓	✓		-32
	0920				25-26.4'	1				✓		-33
	0933				30-31.2'	1				✓		-34
	1002				BH-5 0-2.0'	1	✓		✓			-35
	1007				3-4.7'	1	✓		✓			-36

SAMPLED BY: (Signature) DATE: 5/18/06 TIME: 1457

RELINQUISHED BY: (Signature) DATE: 5/18/06 TIME: 11:50

RECEIVED BY: (Signature) DATE: TIME:

RELINQUISHED BY: (Signature) DATE: TIME:

RECEIVED BY: (Signature) DATE: TIME:

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

COMMENTS:

TURNAROUND TIME NEEDED

WHITE – RECEIVING LAB
YELLOW – RECEIVING LAB (TO BE RETURNED TO LA AFTER RECEIPT)
PINK – PROJECT MANAGER
GOLD – QA/QC COORDINATOR

RECEIVING LABORATORY: ELT
ADDRESS: 12600 W I-20 E
CITY: Odessa STATE: TX ZIP: 79765
CONTACT: Roland Tuttle PHONE: 563-1800

RECEIVED BY: (Signature)
DATE: 5/19/06 TIME: 11:50

SAMPLE CONDITION WHEN RECEIVED:

LA CONTACT PERSON: Mark Larson

SAMPLE TYPE: Soil

CHAIN—OF—CUSTODY RECORD

Larson & Associates, Inc.
Environmental Consultants
Fax: 432-687-0456
432-687-0901
507 N. Marienfeld, Ste. 202 • Midland, TX 79701

CLIENT NAME: Chesapeake Operating
SITE MANAGER: M. Larson
PROJECT NO.: 5-0130
PROJECT NAME: Ollie J. Boyd
PAGE 3 OF 3
LAB. PO #

PARAMETERS/METHOD NUMBER

DATE	TIME	WATER	SOIL	OTHER	SAMPLE IDENTIFICATION		NUMBER OF CONTAINERS	TPH 8015 (GRO+DRO)	BTEX 8021B	Chloride	Hold	LAB. I.D. NUMBER (LAB USE ONLY)	REMARKS (I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, GRAB COMPOSITE)
5/18/06	1020		X		BH-5	7-8.8'	1	✓	✓	✓			6E19003-37
↓	1028		↓		↓	11-12.8'	1	✓	✓	✓			-38
	1036					15-16.8'	1	✓	✓	✓			-39
	1046					20-21.8'	1	✓	✓	✓			-40
	1100					25-26.5'	1	✓		✓			-41
	1114					30-31.4'	1	✓		✓			-42
	1238				BH-6	0-0.8'	1	✓	✓	✓			-43
	1247				↓	3-4.7'	1	✓	✓	✓			-44
	1252					7-8.6'	1	✓	✓	✓			-45
	1259					11-12.7'	1	✓	✓	✓			-46
	1306					15-16.4'	1	✓	✓	✓			-47
	13:13					20-21.5'	1	✓		✓			-48
	1325					25-26.8'	1	✓		✓			-49
	1336					30-31.6'	1	✓		✓			-50
	1450				AH-1	0-1'	1	✓		✓			-51
↓	1457		↓		↓	1-2'	1	✓		✓			-52

SAMPLED BY: (Signature) [signature] DATE: 5/18/06 TIME: 1457

RELINQUISHED BY: (Signature) [signature] DATE: 5/19/06 TIME: 11:50

RECEIVED BY: (Signature) DATE: TIME:

RELINQUISHED BY: (Signature) DATE: TIME:

RECEIVED BY: (Signature) DATE: TIME:

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

COMMENTS:

TURNAROUND TIME NEEDED

RECEIVING LABORATORY: ELT I
ADDRESS: 12600 W I-20 E
CITY: Odessa STATE: TX ZIP: 79765
CONTACT: Roland Tuttle PHONE: (432) 563-1800

RECEIVED BY: (Signature) Carrie Key
DATE: 5/19/06 TIME: 11:50

WHITE – RECEIVING LAB
YELLOW – RECEIVING LAB (TO BE RETURNED TO LA AFTER RECEIPT)
PINK – PROJECT MANAGER
GOLD – QA/QC COORDINATOR

SAMPLE CONDITION WHEN RECEIVED:

LA CONTACT PERSON: Mark Larson

SAMPLE TYPE: Soil

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Mark Larson

Larson & Associates, Inc.

P.O. Box 50685

Midland, TX 79710

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130

Location: None Given

Lab Order Number: 6F12012

Report Date: 06/14/06

Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Chesapeake/ Ollie J. Boyd
Project Number: 5-0130
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-4 11-11.8'	6F12012-01	Soil	05/18/06 08:46	05/19/06 11:50
BH-4 15-16.5'	6F12012-02	Soil	05/18/06 08:56	05/19/06 11:50
BH-4 20-21.5'	6F12012-03	Soil	05/18/06 09:03	05/19/06 11:50
BH-4 25-26.5'	6F12012-04	Soil	05/18/06 09:24	05/19/06 11:50
BH-4 30-31.2"	6F12012-05	Soil	05/18/06 09:33	05/19/06 11:50

Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Chesapeake/ Ollie J. Boyd
Project Number: 5-0130
Project Manager: Mark Larson

Fax: (432) 687-0456

General Chemistry Parameters by EPA / Standard Methods
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-4 11-11.8' (6F12012-01) Soil									
Chloride	**427**	10.0	mg/kg	20	EF61221	06/12/06	06/12/06	EPA 300.0	
BH-4 15-16.5' (6F12012-02) Soil									
Chloride	**505**	10.0	mg/kg	20	EF61221	06/12/06	06/12/06	EPA 300.0	
BH-4 20-21.5' (6F12012-03) Soil									
Chloride	**509**	10.0	mg/kg	20	EF61221	06/12/06	06/12/06	EPA 300.0	
BH-4 25-26.5' (6F12012-04) Soil									
Chloride	**791**	25.0	mg/kg	50	EF61406	06/14/06	06/14/06	EPA 300.0	
BH-4 30-31.2" (6F12012-05) Soil									
Chloride	**1210**	25.0	mg/kg	50	EF61406	06/14/06	06/14/06	EPA 300.0	

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 EF61221 - General Preparation (WetChem)										
Blank (EF61221-BLK1)				Prepared & Analyzed: 06/12/06						
Chloride	ND	0.500	mg/kg							
LCS (EF61221-BS1)				Prepared & Analyzed: 06/12/06						
Chloride	9.44	0.500	mg/kg	10.0		94.4	80-120			
Calibration Check (EF61221-CCV1)				Prepared & Analyzed: 06/12/06						
Chloride	10.2		mg/L	10.0		102	80-120			
Duplicate (EF61221-DUP1)	**Source: 6F12012-03**			Prepared & Analyzed: 06/12/06						
Chloride	494	10.0	mg/kg		509			2.99	20	
Matrix Spike (EF61221-MS1)	**Source: 6F12012-03**			Prepared & Analyzed: 06/12/06						
Chloride	790	10.0	mg/kg	200	509	140	80-120			S-07
Batch EF61406 - Water Extraction										
Blank (EF61406-BLK1)				Prepared & Analyzed: 06/14/06						
Chloride	ND	0.500	mg/kg							
LCS (EF61406-BS1)				Prepared & Analyzed: 06/14/06						
Chloride	10.2	0.500	mg/kg	10.0		102	80-120			
Calibration Check (EF61406-CCV1)				Prepared & Analyzed: 06/14/06						
Chloride	10.1		mg/L	10.0		101	80-120			
Duplicate (EF61406-DUP1)	**Source: 6F12012-04**			Prepared & Analyzed: 06/14/06						
Chloride	804	25.0	mg/kg		791			1.63	20	

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

Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Chesapeake/ Ollie J. Boyd
Project Number: 5-0130
Project Manager: Mark Larson

Fax: (432) 687-0456

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 EF61406 - Water Extraction										
Matrix Spike (EF61406-MS1)	**Source: 6F12012-04**			Prepared & Analyzed: 06/14/06						
Chloride	1430	25.0	mg/kg	500	791	128	80-120			S-07

Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Chesapeake/ Ollie J. Boyd
Project Number: 5-0130
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

S-07	Recovery outside Laboratory historical or method prescribed limits.
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: 6-14-06

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

CHAIN—OF—CUSTODY RECORD

Larson & Associates, Inc.
Environmental Consultants
Fax: 432-687-0456
432-687-0901
507 N. Marienfeld, Ste. 202 • Midland, TX 79701

CLIENT NAME: Occidental Permian
SITE MANAGER: M. Larson
PROJECT NO.: [illegible]
PROJECT NAME: Ollie J. Boyd
PAGE 1 OF 2
LAB. PO #

PARAMETERS/METHOD NUMBER

DATE	TIME	WATER	SOIL	OTHER	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	TPH (8015 DRO + GRO)	BTEX (8021B)	Chloride						Hold	LAB. I.D. NUMBER (LAB USE ONLY)	REMARKS (I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, GRAB COMPOSITE)
5/18/06			✓		BH-3 7-8.5'	1	✓	✓	✓								Comp. BH-3 #1
					11-12.8'	1	✓	✓	✓								#2
					15-16.7'	1	✓	✓	✓								#3
					20-21.6'	1	✓	✓	✓								#4
					25-26'	1	✓	✓	✓								#5
					30-31.7'	1	✓	✓	✓								#6
					35-36'	1	✓	✓	✓								#7
					45-47'	1	✓	✓	✓								#8
5/18/06	0925				BH-4 0-1.0'	1	✓		✓								#9
	0927				3-4.3'	1	✓		✓								#10
	0928				7-8.3'	1	✓		✓								#11
	0846				11-11.8'	1	✓		✓						✓	6F12012-01	#1
	0856				15-16.5'	1	✓	✓	✓						✓	-02	#1
	0903				20-21.5'	1	✓	✓	✓						✓	-03	#1
					25-26.2'	1			✓						✓	-04	#1
					30-31.2'	1			✓						✓	-05	#1
					BH-5 0-1.0'	1	✓		✓								#2
					3-4.7'	1	✓		✓								#1

SAMPLED BY: (Signature) M L — DATE: 5/18/06 TIME: 1157
RELINQUISHED BY: (Signature) — DATE: 5/18/06 TIME: 11:52
RECEIVED BY: (Signature) — DATE: ____ TIME: ____

RELINQUISHED BY: (Signature) — DATE: ____ TIME: ____
RECEIVED BY: (Signature) — DATE: ____ TIME: ____

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

COMMENTS:
(X) Add Cl - 06-12-06 @0930 as per attached e-mail. RUSH - 24 HR
(X) Add Cl - 06-13-06 as per attached e-mail

TURNAROUND TIME NEEDED

RECEIVING LABORATORY: E.T.T. (NO - RUSH)
ADDRESS: 12[illegible] W I-20 E
CITY: [illegible] STATE: TX ZIP: 79765
CONTACT: Richard Hill PHONE: 563 1800

RECEIVED BY: (Signature) [illegible]
DATE: 5/19/06 TIME: 9:50

WHITE – RECEIVING LAB
YELLOW – RECEIVING LAB (TO BE RETURNED TO LA AFTER RECEIPT)
PINK – PROJECT MANAGER
GOLD – QA/QC COORDINATOR

SAMPLE CONDITION WHEN RECEIVED:

LA CONTACT PERSON: Mark Larson

SAMPLE TYPE: Soil

COPY

Environmental Lab of Texas
Variance / Corrective Action Report – Sample Log-In

Client: Larson

Date/Time: 5/19/06 11:50

Order #: 1E19003 /6F12012

Initials: CK

COPY

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	3.5 C
Shipping container/cooler in good condition?	Yes	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	Yes	No	
Sample Instructions complete on Chain of Custody?	Yes	No	
Chain of Custody signed when relinquished and received?	Yes	No	
Chain of custody agrees with sample label(s)	Yes	No	
Container labels legible and intact?	Yes	No	
Sample Matrix and properties same as on chain of custody?	Yes	No	
Samples in proper container/bottle?	Yes	No	
Samples properly preserved?	Yes	No	
Sample bottles intact?	Yes	No	
Preservations documented on Chain of Custody?	Yes	No	
Containers documented on Chain of Custody?	Yes	No	
Sufficient sample amount for indicated test?	Yes	No	
All samples received within sufficient hold time?	Yes	No	
VOC samples have zero headspace?	Yes	No	Not Applicable

Other observations:

Variance Documentation:

Contact Person: - Date/Time: Contacted by:

Regarding:

Corrective Action Taken:

Jeanne McMurrey

From: "Mark Larson" <mark@laenvironmental.com>
To: "Jeanne McMurrey" <jeanne@elabtexas.com>
Sent: Monday, June 12, 2006 9:31 AM
Subject: RE: 6E25029 Chesapeake/ Ollie J. Boyd

Jeanne: This email is sent to confirm our conversation today, instructing Environmental Lab of Texas to analyze the following samples from report #6E19003 for chloride:
BH-4, 11-11.8', BH-4, 15-16.5', and BH-4, 20-21.5'. Please call me if you have questions.
Mark
----Original Message-----
From: Jeanne McMurrey [mailto:jeanne@elabtexas.com]
Sent: Monday, June 05, 2006 3:22 PM
To: Mark Larson
Subject: RE: 6E25029 Chesapeake/ Ollie J. Boyd

Jeanne McMurrey
Environmental Lab of Texas I, Ltd.
12600 West I-20 East
Odessa, Texas 79765
432-563-1800

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This message has been scanned for viruses and dangerous content by **BasinBroadband**, and is believed to be clean.

Jeanne McMurrey

From: "Mark Larson" <mark@laenvironmental.com>
To: "Jeanne McMurrey" <jeanne@elabtexas.com>
Sent: Tuesday, June 13, 2006 2:49 PM
Subject: RE: Report #6F12012 Chesapeake/ Ollie J. Boyd

Jeanne: Please run the remaining samples from BH-4 (25'-26.5' and 30'-31.2') for chloride. No rush.
Mark

-----Original Message-----
From: Jeanne McMurrey [mailto:jeanne@elabtexas.com]
Sent: Tuesday, June 13, 2006 9:03 AM
To: Mark Larson
Subject: Re: Report #6F12012 Chesapeake/ Ollie J. Boyd

Jeanne McMurrey
Environmental Lab of Texas I, Ltd.
12600 West I-20 East
Odessa, Texas 79765
432-563-1800

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This message has been scanned for viruses and dangerous content by **BasinBroadband**, and is believed to be clean.

LARSON & ASSOCIATES, INC.

P.O. Box 50685 ◆ Midland, Texas 79710-0685

Ph. (432) 687-0901