New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division

October 14, 2008

David H Arrington Oil & Gas Inc
PO Box 2071
Midland, TX 79702

Reference: Federal 34 001 30 015 22738
N-34-20S-26E Eddy County, New Mexico
2RP-162

Operator,

The New Mexico Oil Conservation Division District 2 Office (OCD) is in receipt of a remediation work plan (plan) dated August 20, 2008 and an amendment letter dated September 29, 2008 for the remediation of a release of produced fluids that occurred at the above referenced facility. The plan and the letter were submitted on behalf of operator by ᵉTECH Environmental & Safety Solutions, Inc.

The plan to blend soils to attain established remediation levels of 5,000 mg/kg for TPH, 50 mg/kg for BTEX, and 250 mg/kg for chlorides and the amendment letter proposing excavation and proper disposal of impacted soils exhibiting higher levels of chlorides are approved with the following stipulations:

- Notify OCD 48 hours prior to commencement of activities.
- Confirmation soil analyses of blended soils will be required.
- Please notify OCD 48 hours prior to obtaining samples where analyses of samples obtained are to be submitted to OCD.
- Remediation requirements may be subject to change as site conditions warrant.
- Remediation actions are to be completed on or before December 15, 2008.
- Submit a Final Report Form C-141 upon satisfactory completion of activities.

Remediation requirements may be subject to other federal, state, local laws and/or regulations. Additionally, please be advised that OCD approval does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment.

Thank you for your attention to these matters. If I can be of assistance, you may reach me at the contact information listed below.

Respectfully,

Sherry Bonham
NMOCD District 2
1301 West Grand Avenue
Artesia, NM 88210
(505) 748-1283 Ext.109
sherry.bonham@state.nm.us

cc: Shane Estep
ᵉTECH Environmental & Safety Solutions, Inc

SEP 30 2008

ETECH
Environmental & Safety Solutions, Inc.

September 29, 2008

Ms. Sherry Bonham
New Mexico, Oil Conservation Division, District II
1301 Grand Ave.
Artesia, New Mexico 88210

Re: Amendment to Remediation Scope of Work
David Arrington Oil & Gas, Inc., Federal 34 #1 Tank Battery & Wellhead
Eddy County, New Mexico

Dear Ms. Bonham,

As per our conversation, Etech Environmental & Safety Solutions, Inc. (Etech) has prepared this change in the scope of work for remediation of the impacted soil at the Federal 34 #1 tank battery site located in Eddy County, New Mexico.

To ensure remediation of the chloride impacted soil within the firewall of the tank battery, areas of impacted soil exhibiting higher levels of chlorides will be excavated and shipped off-site for disposal in a state permitted landfill. The areas for excavation are in the east end inside the north section of the firewall and behind the eastern storage tanks in the central area of the tank battery.

The north side of the eastern end of the firewall will be excavated to an estimated depth of 6 inches and the area behind the eastern storage tanks will be excavated to an estimated depth of 2 feet. The estimated amount of soil to be shipped off-site for disposal is 100 cubic yards and the areas are indicated on the attached site map.

The remainder of the impacted soil will be remediated as outlined in the original scope of work. If you have any questions or need additional information, please call me at 432-563-2200. Thank you for your attention in this matter.

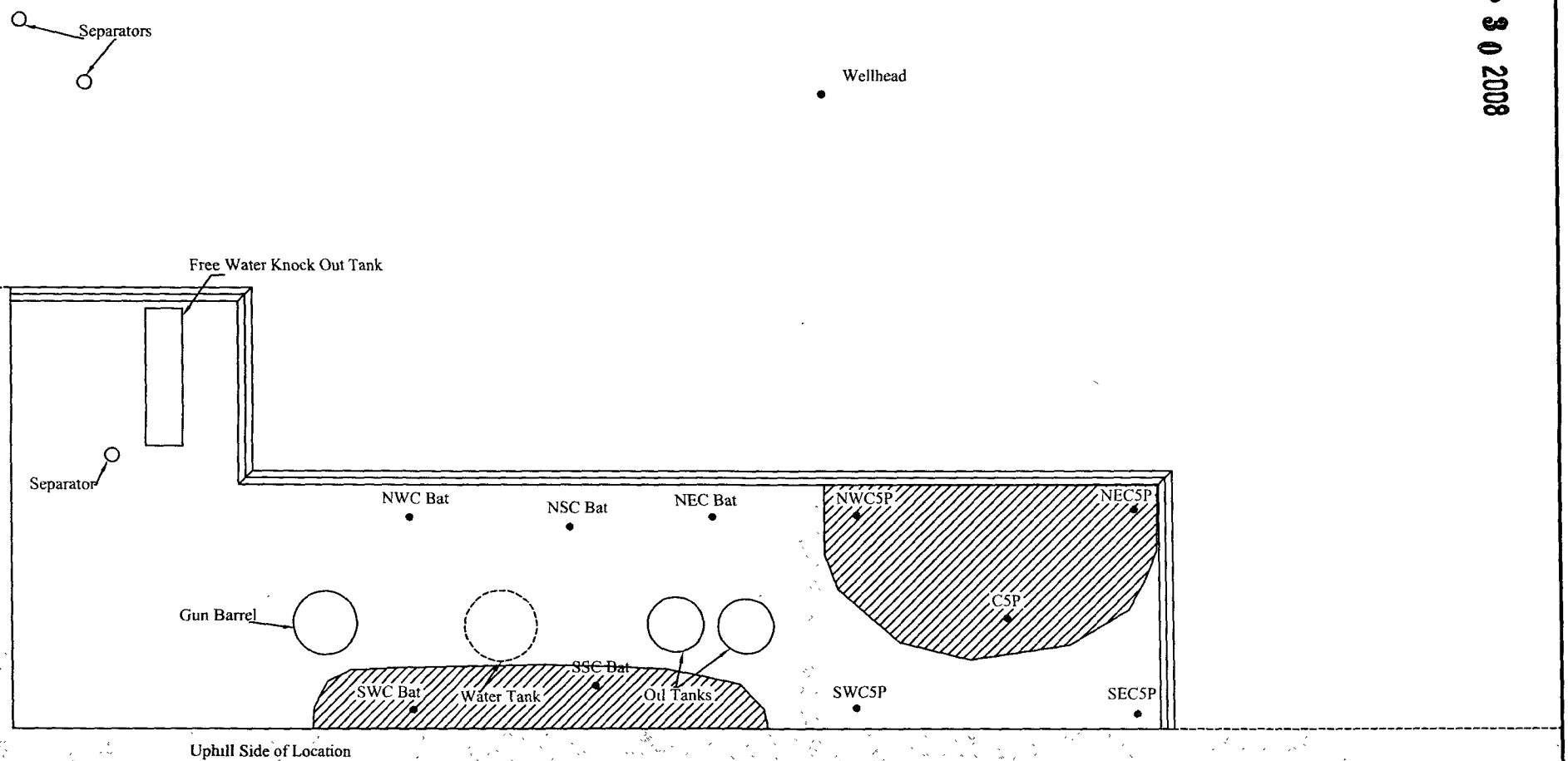
Sincerely,

Shane Estep, P.G.

STATE OF TEXAS
ALLEN S. ESTEP
GEOLOGY
4574
LICENSED
PROFESSIONAL GEOSCIENTIST

P.O. Box 8469 Midland · TX · 79708-8469 · Tel: 432-563-2200 · Fax: 432-563-2213

SEP 30 2008



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Delineation Site Map Original Sampling

Federal 34 #1 Tank Battery and Wellhead
David H. Arrington Oil & Gas, Inc.
Unit N Sec. 34, T20S, R26E
Eddy County, New Mexico
September 30, 2008

Legend

- Original Sample Points
- Area of Off-Site Disposal

Scale 1" = 34.75'

Prepared By:

ETECH
Environmental & Safety Solutions, Inc.

ETECH

Environmental & Safety Solutions, Inc.

Federal 34 #1 Delineation Report & Remediation Scope of Work

DAVID H. ARRINGTON OIL & GAS, INC.
EDDY COUNTY, NEW MEXICO

ETECH

Environmental & Safety Solutions, Inc.

Federal 34 #1
Delineation Report &
Remediation Scope of Work

DAVID H. ARRINGTON OIL & GAS, INC.
EDDY COUNTY, NEW MEXICO

DATE PREPARED:
August 20, 2008

ETECH PROJECT NO.
163-1724-000

PREPARED FOR:
State of New Mexico Oil Conservation Division

PREPARED ON BEHALF OF:
David H. Arrington Oil & Gas, Inc.

PREPARED BY:
Etech Environmental & Safety Solutions, Inc.

SHANE ESTEP, P.G.

STATE OF TEXAS
ALLEN S. ESTEP
GEOLOGY
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TABLE OF CONTENTS

1.0 Executive Summary

On August 8, 2008, Etech Environmental & Safety Solutions, Inc. (Etech) completed the soil delineation of hydrocarbon and chloride impacted soil at the Federal 34 #1 tank battery site owned by David H. Arrington Oil & Gas, Inc. (DHA). The remediation activities were associated with historic small releases occurring over the approximate twenty-six (26) year life of the tank battery.

Initial assessment activities were conducted by New Mexico Environmental in April 2008. This initial assessment included trenching the shallow surface soils with a backhoe and collection of soil samples from the trench. Samples were collected from the surface soils and the loose soils immediately above a layer of hard cemented alluvial rock.

The samples were analyzed for total petroleum hydrocarbons (TPH), chlorides and benzene, toluene, ethylbenzene & toluene (BTEX). Sample results for TPH indicated values from 568 mg/Kg to 32,300 mg/Kg. Results from the BTEX analyses indicated benzene levels from non-detect to 1.43 mg/kg. Chloride values ranged from 93.7 mg/kg to 1,750 mg/kg.

Based on the analytical results from the initial sampling, DHA tried a chemical amendment designed to enhance biological activity of naturally occurring microbes and to open the soil to allow for a greater influx of water and air. After allowing time for this amendment to work, additional soil samples were collected from the surface and analyzed for TPH and chlorides. A review of the analytical data indicated the TPH or chloride levels have varied both up and down. It was determined this approach would not complete the remediation of the site and that additional sampling would be required to complete the vertical delineation of the impacted soil.

As part of on-going maintenance at the site, DHA personnel scheduled the removal and replacement of the 750 barrel produced water tank. At the request of the State of New Mexico Oil Conservation Division (NMOCD), the impacted soil underlying the old tank was removed to the depth of the rock and samples were collected from the bottom of the excavation.

During this same time frame, research into the depth to groundwater and other site classification criteria was conducted. A review of records on the New Mexico Office of the State Engineer revealed one (1) water well within the same section as the tank battery. The depth to groundwater within this water well was determined to be 135 feet below the surface. Also, there were no identified other water sources within 1,000 feet of the tank battery and the distance to surface water was measured at approximately 3,000 feet to the Pecos River. With all of these factors considered it was determine the site ranking score was 0 points allowing for a remediation level of 5,000 mg/Kg for TPH.

The sample collected from the bottom of the produced water tank excavation indicated a TPH level of 2,900 mg/kg and a total chloride level of 194 mg/kg. The benzene level found in the sample was 0.261 mgKg.

To complete the vertical delineation of the impacted soil at the tank battery site a air rotary drilling rig was scheduled for August 7, 2008. With the drill rig a total of ten (10) soil borings were completed, nine (9) within the firewall of the tank battery and one (1) outside the firewall. Samples from the borings were analyzed for TPH, BTEX and chlorides.

Samples collected from the soil borings were based on depths with the highest photo ionization detector (PID) readings and the bottom hole sample. Analytical results from the samples indicated all sample results for TPH were below the established remediation level of 5,000 mg/Kg. Sample results for total chlorides ranged from less than <100 mg/kg to a high of 282 mg/kg.

Based on the information obtained from the soil borings, the vertical delineation of the tank battery site has been completed. This delineation indicated impacted soil above the established remediation level is confined to the top two (2) feet of the surface soil. A scope of work for remediation of this impacted soil will be included in this report.

2.0 Introduction

The Federal 34 Well #1 and tank battery site is located in Eddy County, New Mexico. The well and tank battery site are located approximately 12.5 miles northwest of Carlsbad, New Mexico on the south side of Lake Brantley Dam. The site is located in Unit N Section 34, T20S, R26E, Eddy County, New Mexico and has an API #30-015-22738. The New Mexico Lease number is NM-96833.

The immediate area consists of strong slopping to the east and southeast in the direction of the Pecos River. To the north and northeast of the site are the dam of Lake Brantley and Brantley Lake State Park. The area immediately surrounding the site is pasture and undeveloped range lands. A topographic map showing the location of the site is provided as Figure 1.

On July 28, 2008, DHA personnel contacted Etech assist in the delineation and remediation of the Federal 34 #1 tank battery site. A pervious assessment had been conducted at the site by another environmental company with the collection of near surface samples within the firewalls of the tank battery. This initial assessment revealed hydrocarbon and chloride impacted soil within the top 2 feet of the site.

Etech conducted an initial site inspection on July 29, 2008. On August 1, 2008 during the removal of a produced water tank, impacted soil was excavated from under the old tank. A soil sample was collected from the bottom of the excavation to determine the levels of contamination in the rock layer immediately underlying the surface soil.

Etech then scheduled and completed a another sampling event with the collection of samples from soil borings conducted at the site August 7, 2008. This sampling completed the vertical delineation of the impacted soil within the firewalls of the tank battery.

3.0 Site Description

3.1 General Location Setting

The site is located in Eddy County approximately 12.5 miles northwest of Carlsbad, New Mexico east of State Highway 285.

The spill site lies within the United States Geological Survey (USGS) 7.5-minute Topographic Quadrangle Map Lake McMillan South dated 1995 at the following coordinate:

N 32° 31' 29.6"
W 104° 22' 20.1"

According to the topographic map the surface slope in the area of the spill site is to the southeast. The surrounding land is unimproved range land with oil & gas operations.

3.2 Geologic and Hydrogeologic Setting

The soil at this site appears to be part of the Upton gravelly loam. Typically, this type of soil is gently sloping to steep, deep and moderately deep, loamy soils over sandstone or strongly cemented limestone gravels.

Thickness of the soil above the Bkm horizon ranges from 7 to 20 inches. Texture of the fine-earth fraction of the A and Bk horizons ranges from sandy loam to clay loam. The texture varies little between horixons within a given pedon, the fine-earth fraction having a clay content between about 15 and 30 percent, and sand content between 20 to 60 percent. Volume of coarse fragments, generally of limestone or hardened calcium carbonate gravel, ranges from 15 to 35 percent. More than 40 percent of the soil mass less than 20 mm consist of limestone fragments and secondary carbonates.

A review of records on the New Mexico Office of the State Engineer revealed one (1) water well within the same section as the tank battery. The depth to groundwater within this water well was determined to be 135 feet below the surface. Also, there were no identified other water sources within 1,000 feet of the tank battery and the distance to surface water was measured at approximately 3,000 feet to the Pecos River. With all of these factors considered it was determine the site ranking score was 0 points allowing for a remediation level of 5,000 mg/Kg for TPH.

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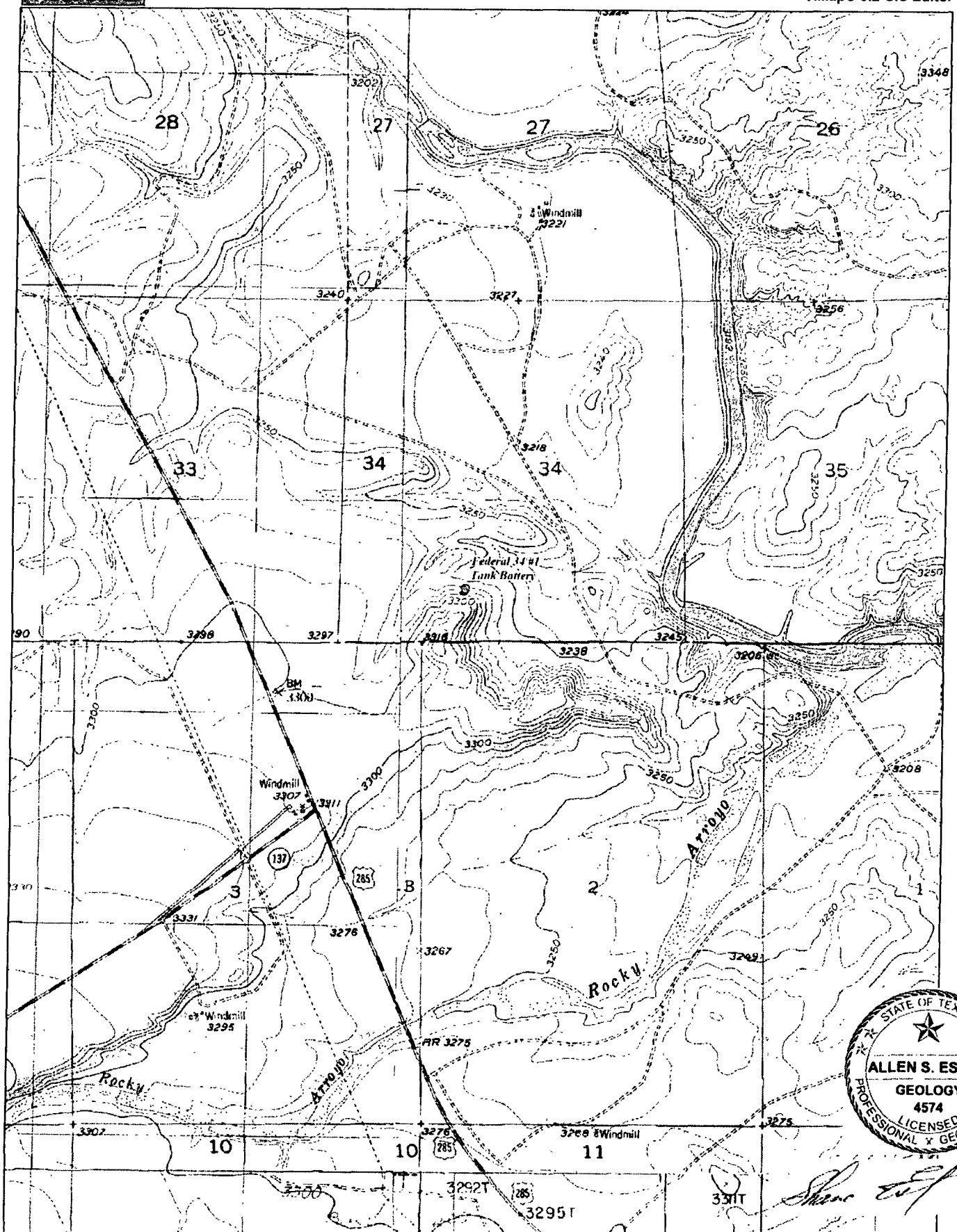

STATE OF TEXAS
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1" = 2,000 0 ft

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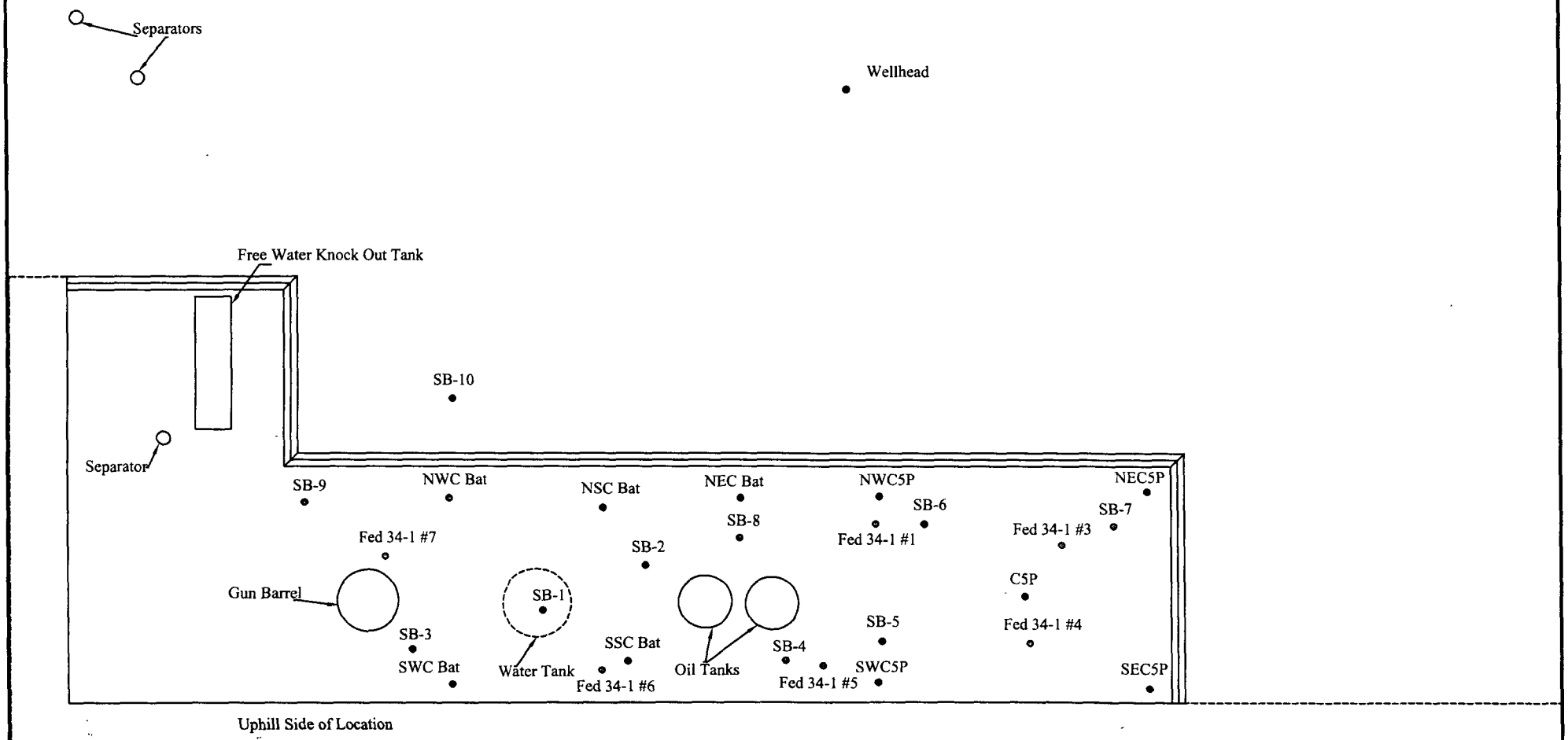

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Delineation Site Map All Sample Points

Federal 34 #1 Tank Battery and Wellhead
David H. Arrington Oil & Gas, Inc.
Unit N Sec. 34, T20S, R26E
Eddy County, New Mexico
August 25, 2008

Legend

- Original Sample Points
- Treatment Sample Points
- Soil Boring Sample Points

Scale 1" = 34.75'

Prepared By:

eTECH
Environmental & Safety Solutions, Inc.

4.0 Delineation Summary

The following contains details of each phase of the delineation and presents summaries of the analytical data collected from each phase.

4.1 Initial Delineation Activities

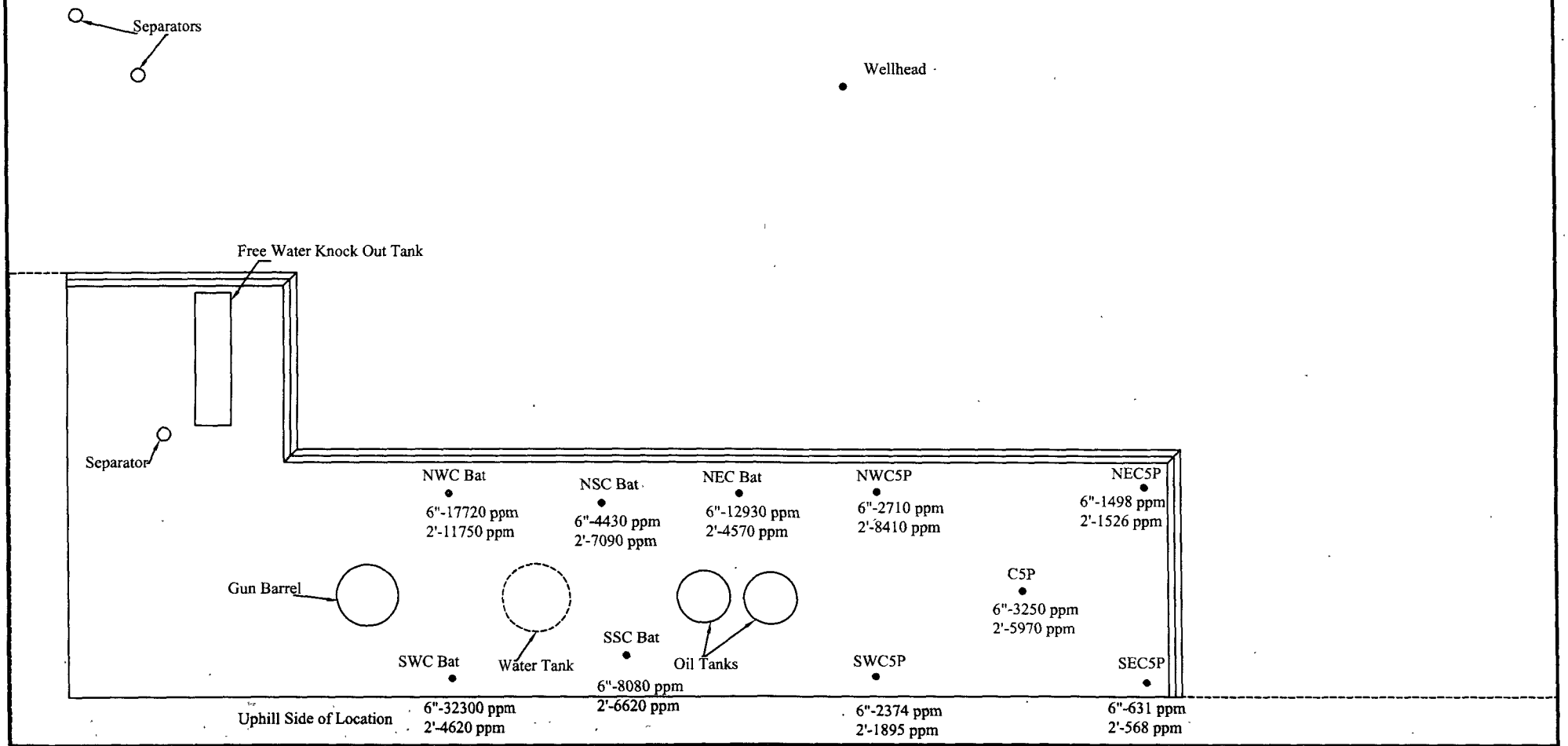
Initial delineation activities were conducted at the site in April 2008 by New Mexico Environmental. These activities included the completion of investigative trenches within the area of the tank battery firewall.

Samples were collected from each trench at various depths including the near surface soil and the bottom of the excavation near the top of the hard rock layer encountered at a depth between 2 feet and 3 feet. The samples were analyzed for TPH, chlorides and BTEX and the laboratory analytical results are presented in the following table:

Analytical Results from Initial Delineation Activities – April 10, 2008 (mg/kg)						
Sample #	*Chlorides*	*TPH*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylene*
001 NEC5P 6"	1,130	1,498	<0.100	<0.100	<0.100	2.15
002 NEC5P 2'	596	1,526	<0.200	<0.200	<0.200	1.40
003 NEC5P 3'	792	1,363	<0.200	<0.200	<0.200	2.05
004 SEC5P 6"	105	631	<0.200	<0.200	<0.200	0.702
005 SEC5P 2'	93.7	568	<0.050	<0.050	<0.050	<0.050
006 C5P 6"	1,090	3,250	<0.200	1.11	<0.200	29.3
007 C5P 2'	564	**5,970**	<0.200	0.356	<0.200	10.5
008 C5P 3'	916	3,709	<0.200	<0.200	<0.200	4.80
009 NWC5P 6"	1,490	2,710	<0.200	0.894	<0.200	7.62
010 NWC5P 2'	1,750	**8,410**	<0.500	<0.500	<0.500	16.2
011 SWC5P 6"	190	2,374	<0.200	<0.200	<0.200	3.65
012 SWC5P 2'	296	1,895	<0.200	<0.200	<0.200	5.70
013 SWC5P 3'	125	756	<0.200	<0.200	<0.200	1.42
014 NEC Bat 6"	121	**12,930**	<5.00	<5.00	<5.00	40.2
015 NEC Bat 2'	117	4,570	0.769	<0.500	2.23	39.8
016 NSC Bat 6"	572	4,430	<0.500	2.85	2.79	46.8
017 NSC Bat 2'	466	**7,090**	0.891	4.04	<0.200	**53.5**
018 NWC Bat 6"	399	**17,720**	1.18	19.9	<5.00	**217**
019 NWC Bat 2'	426	**11,750**	1.43	12.4	<5.00	**143**
020 SWC Bat 6"	1,550	**32,300**	0.920	11.6	<5.00	**140**
021 SWC Bat 2'	1,310	4,620	0.647	3.25	<5.00	**52.7**
022 SSC Bat 6"	1,510	**8,080**	0.582	2.23	<5.00	44.7
023 SSC Bat 2'	1,170	**6,620**	0.842	2.98	<5.00	**53.4**

Bolded values indicate levels above established remediation levels.

Site maps detailing the sample collections points are as follows:



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Delineation Site Map Original Sampling TPH

Federal 34 #1 Tank Battery and Wellhead
David H. Arrington Oil & Gas, Inc.
Unit N Sec. 34, T20S, R26E
Eddy County, New Mexico
August 25, 2008

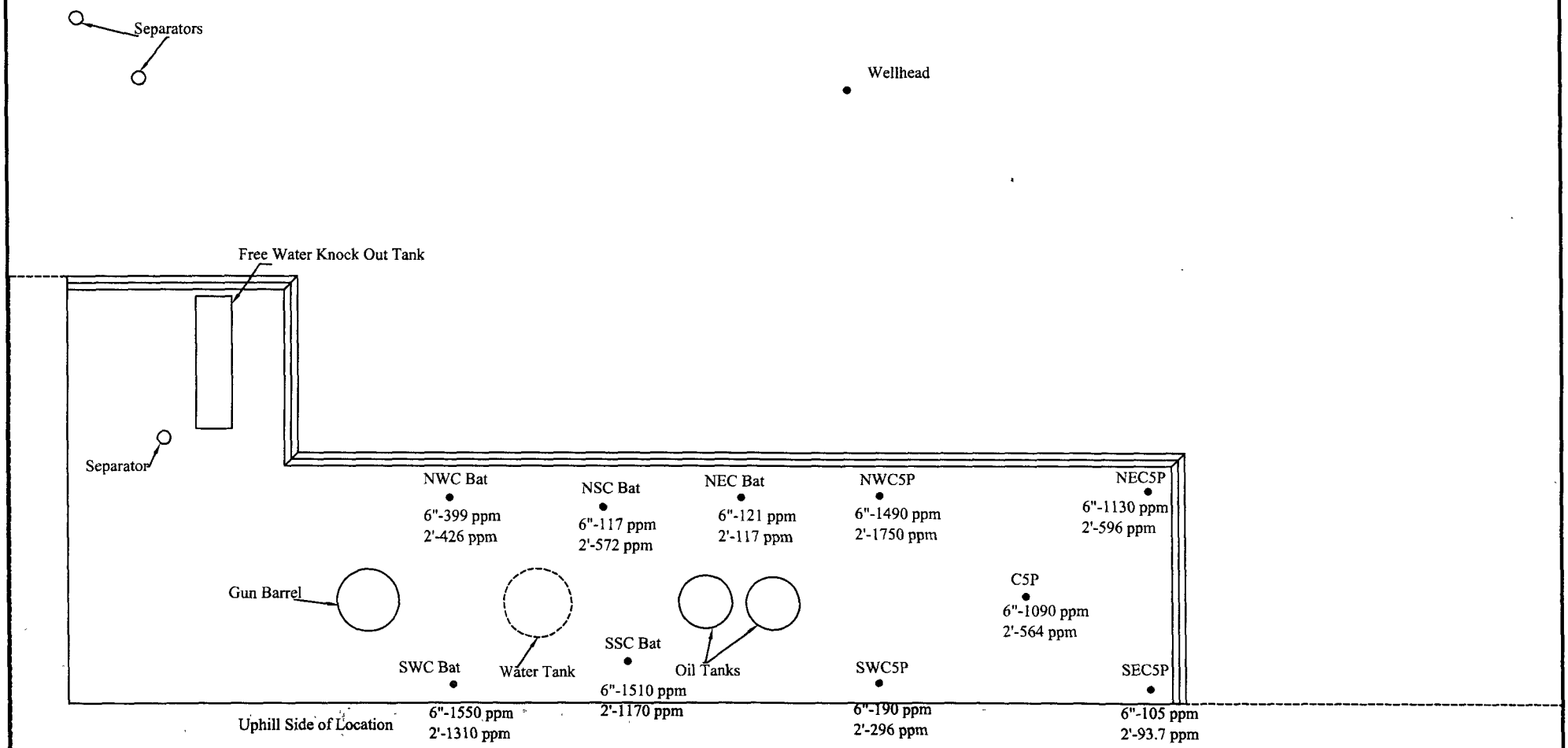
Legend

- Original Sample Points

Scale 1" = 34.75'

Prepared By:

eTECH Environmental & Safety Solutions, Inc.



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Delineation Site Map Original Sampling Chlorides

Federal 34 #1 Tank Battery and Wellhead

David H. Arrington Oil & Gas, Inc.

Unit N Sec. 34, T20S, R26E

Eddy County, New Mexico

August 25, 2008

Legend

- Original Sample Points

Scale 1" = 34.75'

Prepared By:

eTECH Environmental & Safety Solutions, Inc.

4.2 Secondary Delineation/Remediation Activities

Based on the analytical results from the initial sampling, DHA tried a chemical amendment designed to enhance biological activity of naturally occurring microbes and to open the soil to allow for a greater influx of water and air. After allowing time for this amendment to work, additional soil samples were collected from the surface and analyzed for TPH and chlorides. A review of the analytical data indicated the TPH or chloride levels have varied both up and down. It was determined this type of remediation would not complete the remediation of the site and that additional sampling would be required to complete the vertical delineation of the impacted soil.

Analytical Results from Soil Boring Delineation Activities – August 7, 2008 (mg/kg)						
Sample #	*Chlorides*	*TPH*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylene*
Fed 34-1 #1	149.94	650.00	NR	NR	NR	NR
Fed 34-1 #3	99.96	739.13	NR	NR	NR	NR
Fed 34-1 #4	2,297.93	84.78	NR	NR	NR	NR
Fed 34-1 #5	399.64	4,250.00	NR	NR	NR	NR
Fed 34-1 #6	200.02	4.934.78	NR	NR	NR	NR
Fed 34-1 #7	487.39	5,565.22	NR	NR	NR	NR

NR – Indicates analysis not run on sample

4.3 Soil Boring Delineation Activities

As part of on-going maintenance at the site, DHA personnel scheduled the removal and replacement of the 750 barrel produced water tank. At the request of the State of New Mexico Oil Conservation Division (NMOCD), the impacted soil underlying the old tank was removed to the depth of the rock and a sample was collected from the bottom of the excavation. The sample collected from the bottom of the produced water tank excavation indicated a TPH level of 2,900 mg/kg and a total chloride level of 194 mg/kg. The benzene level found in the sample was 0.261 mgKg.

To complete the vertical delineation of the impacted soil at the tank battery site an air rotary drilling rig was scheduled for August 7, 2008. A total of ten (10) soil borings were completed, with nine (9) completed inside the firewall of the tank battery and one (1) outside the north side of the tank battery firewall.

Soil boring #1 – This boring was completed within the area of the former produced water tank and was completed to a total depth of 26 feet bgs. Condensate odors were noted in the cutting samples collected to an approximate depth of 20 feet. After 20 feet the odors began to dissipate to the point of having no detectable odors at the total depth of the boring (26 feet). PID readings dropped to below 100 ppm in the sample collected at 22 feet. Grab samples were collected from the soil boring at depths of 5, 20 and 26 feet and analytical results for TPH, BTEX and chlorides were below the established remediation level.

Soil Boring #2 – This soil boring was completed off the northeast side of the east oil tank approximately 8 feet. A strong condensate odor was noted to the depth of 12 feet then the odor began to dissipate to the point of no odor at the total depth of the boring. PID readings dropped to below 100 ppm in the sample collected at 24 feet. This boring was completed to 30 feet bgs.

Grab samples were collected from the soil boring at depths of 5, 10 and 30 feet and analytical results for TPH, BTEX and chlorides were below the established remediation level.

Soil Boring #3 – This soil boring was completed off the southwest side of the gun barrel tank which is located in the western side of the tank battery. A strong condensate odor was noted to the depth of 16 feet then the odor began to dissipate to the point of no odor at the total depth of the boring. This boring was completed to 20 feet bgs. Grab samples were collected from the soil boring at depths of 5, 10 and 20 feet and analytical results for TPH, BTEX and chlorides were below the established remediation level.

Soil Boring #4 – This soil boring was completed off the southeast side of the east oil tank which is located in the eastern side of the tank battery. A strong condensate odor was noted to the depth of 14 feet with the PID readings dropping to below 100 ppm in the sample collected at 20 feet. This boring was completed to 25 feet bgs. Grab samples were collected from the soil boring at depths of 5, 10 and 25 feet and analytical results for TPH, BTEX and chlorides were below the established remediation level.

Soil Boring #5 – This soil boring was completed in the eastern area of the tank battery to the southeast of the east oil tank. A strong condensate odor was noted to the depth of 14 feet then the odor began to dissipate to the point of no odor at the total depth of the boring. This boring was completed to 20 feet bgs. Grab samples were collected from the soil boring at depths of 7 and 20 feet and analytical results for TPH, BTEX and chlorides were below the established remediation level.

Soil Boring #6 – This soil boring was completed in the eastern area of the tank battery to the northeast of the east oil tank. A strong condensate odor was noted to the depth of 2 feet with the PID readings dropping to below 100 ppm in the sample collected at 6 feet. This boring was completed to 10 feet bgs. Grab samples were collected from the soil boring at depths of 6 and 10 feet and analytical results for TPH, BTEX and chlorides were below the established remediation level.

Soil Boring #7 – This soil boring was completed in the eastern area of the tank battery in the far northeast corner of the tank battery firewall. A strong condensate odor was noted to the depth of 7 feet with the PID readings dropping to below 100 ppm in the sample collected at 8 feet. This boring was completed to 20 feet bgs. Grab samples were collected from the soil boring at depths of 5 and 20 feet and analytical results for TPH, BTEX and chlorides were below the established remediation level.

Soil Boring #8 – This soil boring was completed between the oil tanks on the north site which is located in the eastern side of the tank battery. A strong condensate odor was noted to the depth of 15 feet with the PID readings dropping to below 100 ppm in the sample collected at 18 feet. This boring was completed to 20 feet bgs. Grab samples were collected from the soil boring at depths of 8 and 20 feet and analytical results for TPH, BTEX and chlorides were below the established remediation level.

Soil Boring #9 – This soil boring was completed off the northwest side of the gun barrel tank which is located in the western side of the tank battery. A strong condensate odor was noted to

the depth of 16 feet then the odor began to dissipate to the point of no odor at the total depth of the boring. PID readings from the bagged cuttings samples indicted high levels of volatiles near the surface and decreasing with depth. PID readings dropped to below 100 ppm in the sample collected at 18 feet. This boring was completed to 20 feet bgs. Grab samples were collected from the soil boring at depths of 11 and 20 feet and analytical results for TPH, BTEX and chlorides were below the established remediation level.

Soil Boring #10 – This soil boring was completed outside the firewall of the tank battery to the north between the gun barrel and the produced water tank. A strong condensate odor was noted to the depth of 26 feet with high PID readings noted to a depth of 25 feet. This boring was completed to 30 feet bgs. Grab samples were collected from the soil boring at depths of 5 and 30 feet and analytical results for TPH, BTEX and chlorides were below the established remediation level.

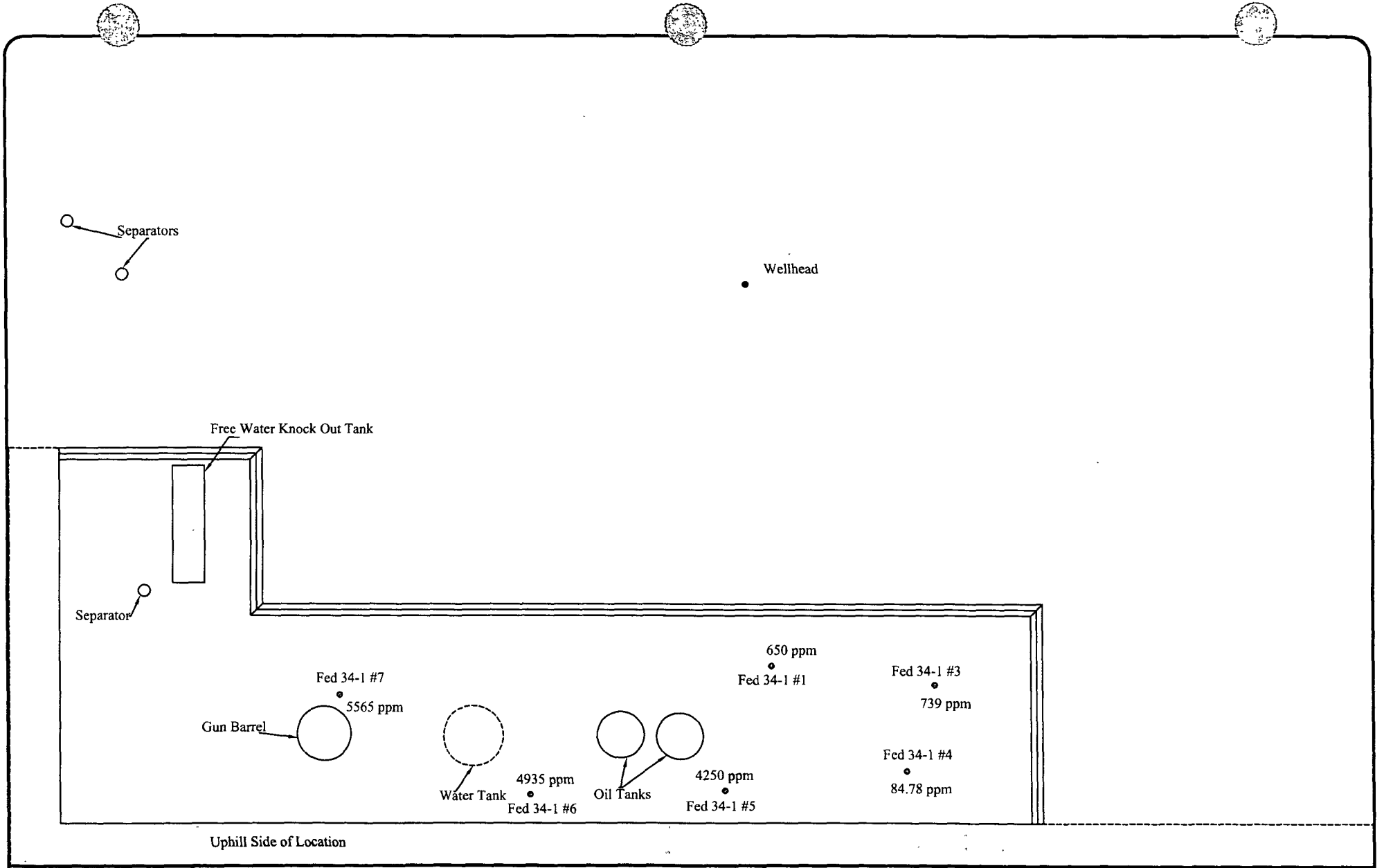
Boring logs from each soil boring are presented in Appendix A of this report. Analytical results from samples collected from the soil borings are presented in the following table:

Analytical Results from Soil Boring Delineation Activities – August 7, 2008 (mg/kg)

Sample #	*Chlorides*	*TPH*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylene*
SB-1 (5')	152	168.3	<0.010	<0.010	0.0241	0.0899
SB-1 (20')	<100	5.63	<0.010	<0.010	<0.010	<0.010
SB-1 (26')	114	2.02	<0.010	<0.010	<0.010	<0.010
SB-2 (5')	200	81.54	<0.010	<0.010	<0.010	<0.010
SB-2 (10')	<100	491	<0.010	<0.010	0.630	2.62
SB-2 (30')	<100	216.7	<0.010	<0.010	0.0519	0.0946
SB-3 (5')	133	1303	0.0317	<0.020	2.23	9.44
SB-3 (10')	142	264	<0.010	<0.010	0.143	0.484
SB-3 (20')	105	103	<0.010	<0.010	0.0289	0.0517
SB-4 (5')	282	154.3	<0.010	<0.010	0.0406	0.169
SB-4 (10')	162	287.9	<0.010	<0.010	0.106	0.293
SB-4 (25')	<100	15.8	<0.010	<0.010	0.0128	0.0254
SB-5 (7')	<100	4.72	<0.010	<0.010	<0.010	<0.010
SB-5 (20')	258	3.95	<0.010	<0.010	<0.010	<0.010
SB-6 (6')	282	96.1	<0.010	<0.010	<0.010	0.0144
SB-6 (10')	167	7.28	<0.010	<0.010	<0.010	<0.010
SB-7 (5')	224	124.3	<0.010	<0.010	<0.010	<0.010
SB-7 (20')	167	1.92	<0.010	<0.010	<0.010	0.0331
SB-8 (8')	<100	190.7	<0.010	<0.010	0.0186	0.0476
SB-8 (20')	<100	12.8	<0.010	<0.010	<0.010	<0.010
SB-9 (11')	<100	11.3	<0.010	<0.010	<0.010	<0.010
SB-9 (20')	<100	4.47	<0.010	<0.010	<0.010	<0.010
SB-10 (5')	247	126.3	0.0160	0.0255	0.0444	0.0910
SB-10 (30')	<100	10.9	<0.010	<0.010	0.0144	0.0292

Based on the above referenced delineation phases completed at the Federal 34 #1 tank battery site, the delineation of the hydrocarbon and produced water impacted soil has been completed.

A site map detailing the sample collections points is presented in the following site map:



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Delineation Site Map Treatment Samples TPH

Federal 34 #1 Tank Battery and Wellhead
David H. Arrington Oil & Gas, Inc.
Unit N Sec. 34, T20S, R26E
Eddy County, New Mexico
August 25, 2008

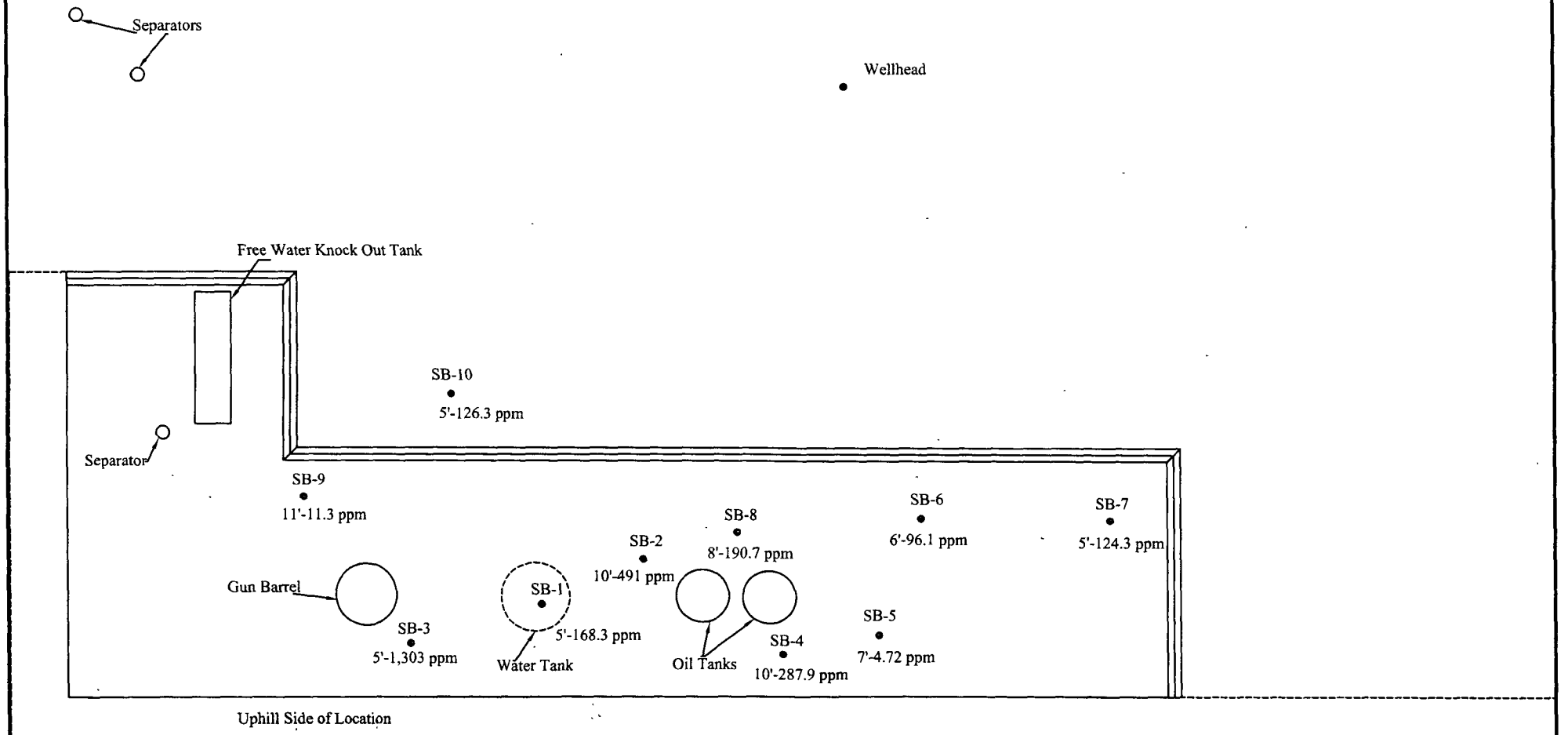
Legend

- Treatment Sample Points

Scale 1" = 34.75'

Prepared By:

eTECH Environmental & Safety Solutions, Inc



Delineation Site Map Soil Boring Samples TPH

Federal 34 #1 Tank Battery and Wellhead

David H. Arrington Oil & Gas, Inc.

Unit N Sec. 34, T20S, R26E

Eddy County, New Mexico

August 25, 2008 (highest TPH value from each boring)

Legend

- Soil Boring Sample Points

Scale 1" = 34.75'

Prepared By:

ETECH Environmental & Safety Solutions, Inc.

5.0 Soil Remediation Scope of Work

Using the data collected during the delineation phases completed at the tank battery site, a scope of work for remediation of the soil impacted above the established cleanup level has been prepared and is presented in the following Sections.

5.1 Area of Impacted Soil for Remediation

A review of analytical data collected from all delineation activities indicted the area of impacted soil requiring active remediation is contained within the firewalls of the tank battery. It also revealed this impacted soil was confined to the upper 2 feet of the surface soil within the firewall of the tank battery.

The area of impacted soil requiring remediation surrounds all the production storage tanks and extends into the eastern low area of the firewall. Within this eastern low area, the area requiring remediation is confined to the central and northwestern areas.

5.2 Proposed Soil Remediation

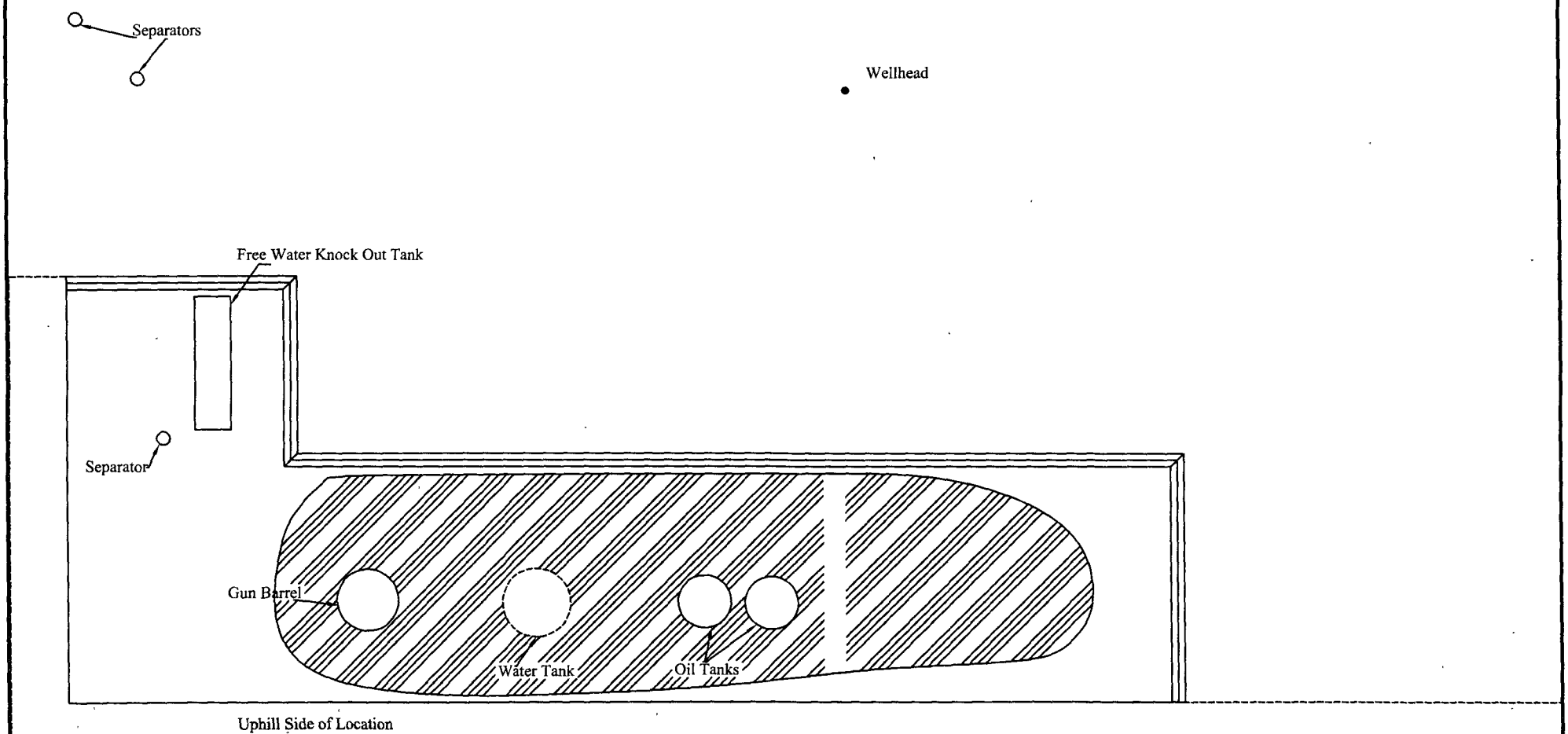
The established remediation levels for the site have been set at 5,000 mg/kg for TPH, 50 mg/kg for BTEX and 250 mg/kg for chlorides. A review of the analytical data collected during the delineation activities revealed all soil impacted above the established remediation levels is contained within the top 2 feet of the surface soil within the firewall of the tank battery.

The highest levels of contamination were determined to be TPH within the surface soil surrounding the gun barrel in the western area of the tank battery. Other areas requiring remediation for TPH have levels just above the established remediation level and are surrounded by soil that is below the remediation level.

Chloride levels requiring remediation vary with each sample point within the tank battery firewall. A review of each area of elevated level of chlorides indicates the impacted area is surrounded by soil with low levels of chlorides but elevated levels of TPH.

Based on the findings of each type of contamination requiring remediation, a remedial method utilizing blending of the soil to reduce the levels of contamination to below the established level is proposed. This type of remediation will blend soil with elevated levels of TPH but low levels of chlorides with soil containing low levels of TPH but elevated levels of chlorides. This blending, along with the blending of additional clean soil from the firewalls of the tank battery, should reduce all contamination levels to below regulatory levels established for the site.

Areas of impacted soil remaining under the existing storage tanks will be left in place since the tank acts as a cap to stop rain water infiltration and to prevent the downward migration of the remaining contamination. As the tanks are removed for replacement or repair, remediation of the underlying soil could be completed.



N

Delineation Site Map Area of Remediation

Federal 34 #1 Tank Battery and Wellhead
David H. Arrington Oil & Gas, Inc.
Unit N Sec. 34, T20S, R26E
Eddy County, New Mexico
August 25, 2008

Legend

Area of Surface Remediation

Scale 1" = 34.75'

Prepared By:

eTECH
Environmental & Safety Solutions, Inc.

6.0 References

1) Soil Survey of Eddy County, New Mexico – United States Department of Agriculture Soil Conservation Service

2) United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

3) National Research Council. 1995. Wetlands: Characteristics and boundaries.

Appendix A – Soil Boring Logs

SB-1

Client	David Arrington Oil & Gas	Project	Federal 34 #1
Project Number	163-1724-000	Latitude	W32.524893
Geologist	Shane Estep	Longitude	N104.372234
Date Drilled	08/07/08	Total Depth of Borehole	26 Feet
Borehole Diameter	6 Inches	Depth to Water	No Feet

Graphic Log	Description	Depth	Sample	PID	Benzene	TPH	Chlorides	Completion
SM	Backfill (silty sand with rock)							
GM	Cemented sand and gravel	5			<0.010	168.3	152	
		10		1130				
				580				
		15		557				
				144				
SW	Sandstone with some interbedded gravel			181				
		20		44	<0.010	5.63	<100	
				26.7				
		25		49	<0.010	2.02	114	
		30						
		35						
		40						

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SB-2

Client	David Arrington Oil & Gas	Project	Federal 34 #1
Project Number	163-1724-000	Latitude	W32.524941
Geologist	Shane Estep	Longitude	N104.372166
Date Drilled	08/07/08	Total Depth of Borehole	30 Feet
Borehole Diameter	6 Inches	Depth to Water	No Feet

Graphic Log		Description	Depth	Sample	PID	Benzene	TPH	Chlorides	Completion
	SM	Silty sand with gravel (black)			>4000				
	SC	Brown clay with sand and gravel			>4000				
	Limestone	Dark gray chert	5		1430	<0.010	81.54	200	
	GM	Cemented sand and gravel			805				
	SW	Loose sand and gravel			1480	<0.010	491	<100	
	GM	Cemented sand and gravel	10		1080				
			15						
					230				
	CL	Brown clay with little sand and gravel			139				
	SW	Sandstone with interbedded gravel	20						
					144				
			25						
					42	<0.010	216.7	<100	
			30						
			35						
			40						

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SB-3

Client	David Arrington Oil & Gas	Project	Federal 34 #1
Project Number	163-1724-000	Latitude	W32.524839
Geologist	Shane Estep	Longitude	N104.372350
Date Drilled	08/07/08	Total Depth of Borehole	30 Feet
Borehole Diameter	6 Inches	Depth to Water	No Feet

Graphic Log		Description	Depth	Sample	PID	Benzene	TPH	Chlorides	Completion
	SM	Silty sand with gravel (black)			2100				
	SC	Brown clay with sand and gravel			>4000				
	GM	Cemented sand and gravel	5		2340	0.0317	1303	133	
					2190				
			10		1440	<0.010	264	142	
					1220				
					1370				
			15		1240				
	SW	Sandstone with interbedded gravel			377				
			20		556	<0.010	103	105	
			25						
			30						
			35						
			40						

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SB-4

Client	David Arrington Oil & Gas	Project	Federal 34 #1
Project Number	163-1724-000	Latitude	W32.524865
Geologist	Shane Estep	Longitude	N104.372093
Date Drilled	08/07/08	Total Depth of Borehole	25 Feet
Borehole Diameter	6 Inches	Depth to Water	No Feet

Graphic Log		Description	Depth	Sample	PID	Benzene	TPH	Chlorides	Completion
	SM	Silty sand with gravel (brown to black)			>4000				
	SC	Brown clay with sand and gravel (black)			>4000				
	GM	Cemented sand and gravel	5		1820	<0.010	154.3	282	
					527				
			10		1370	<0.010	287.9	162	
					1080				
					1710				
			15		320				
	SW	Sandstone with interbedded gravel			320				
					140				
			20		96				
					45	<0.010	15.8	<100	
			25						
			30						
			35						
			40						

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SB-5

Client	David Arrington Oil & Gas	Project	Federal 34 #1
Project Number	163-1724-000	Latitude	W32.524868
Geologist	Shane Estep	Longitude	N104.372039
Date Drilled	08/07/08	Total Depth of Borehole	20 Feet
Borehole Diameter	6 Inches	Depth to Water	No Feet

Graphic Log		Description	Depth	Sample	PID	Benzene	TPH	Chlorides	Completion
	SM	Silty sand with gravel (brown to black)			>4000				
	SC	Brown clay with sand and gravel			>4000				
	GM	Cemented sand and gravel	5		1820				
					527	<0.010	4.72	<100	
			10		1370				
					1080				
					1710				
			15		320				
	SW	Sandstone with interbedded gravel			320				
			20		140	<0.010	3.95	258	
			25						
			30						
			35						
			40						

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SB-6

Client	David Arrington Oil & Gas	Project	Federal 34 #1
Project Number	163-1724-000	Latitude	W32.524951
Geologist	Shane Estep	Longitude	N104.372005
Date Drilled	08/07/08	Total Depth of Borehole	10 Feet
Borehole Diameter	6 Inches	Depth to Water	No Feet

Graphic Log	Description	Depth	Sample	PID	Benzene	TPH	Chlorides	Completion
SM	Silty sand with gravel			930				
				445				
GM	Cemented sand and gravel	5		465	<0.010	96.1	282	
				110				
		10		36	<0.010	7.28	167	
		15						
		20						
		25						
		30						
		35						
		40						

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SB-7

Client	David Arrington Oil & Gas	Project	Federal 34 #1
Project Number	163-1724-000	Latitude	W32.524956
Geologist	Shane Estep	Longitude	N104.371863
Date Drilled	08/07/08	Total Depth of Borehole	20 Feet
Borehole Diameter	6 Inches	Depth to Water	No Feet

Graphic Log		Description	Depth	Sample	PID	Benzene	TPH	Chlorides	Completion
	SM	Silty sand with gravel			1390				
		Cemented sand and gravel			968				
			5		766	<0.010	124.3	224	
					678				
	GM				44				
			10		77				
					38				
			15		36				
					44				
	SW	Sandstone with interbedded gravel			38	<0.010	1.92	167	
			20						
			25						
			30						
			35						
			40						

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SB-8

Client	David Arrington Oil & Gas	Project	Federal 34 #1
Project Number	163-1724-000	Latitude	W32.524951
Geologist	Shane Estep	Longitude	N104.372118
Date Drilled	08/07/08	Total Depth of Borehole	20 Feet
Borehole Diameter	6 Inches	Depth to Water	No Feet

Graphic Log		Description	Depth	Sample	PID	Benzene	TPH	Chlorides	Completion
	SM	Silty sand with gravel (black)			1770				
	GM	Cemented sand and gravel	5		965				
					653				
					864	<0.010	190.7	<100	
			10		735				
					390				
					514				
	CL	Red clay with little sand	15		625				
	SC	Red sandy clay with some gravel			138				
	SW	Sandstone with interbedded gravel	20		54	<0.010	12.8	<100	
			25						
			30						
			35						
			40						

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SB-9

Client	David Arrington Oil & Gas	Project	Federal 34 #1
Project Number	163-1724-000	Latitude	W32.524940
Geologist	Shane Estep	Longitude	N104.372425
Date Drilled	08/07/08	Total Depth of Borehole	20 Feet
Borehole Diameter	6 Inches	Depth to Water	No Feet

Graphic Log	Description	Depth	Sample	PID	Benzene	TPH	Chlorides	Completion
SM	Silty sand with gravel (black)			612				
SW	Sand and gravel (grey)			920				
GM	Cemented sand and gravel	5		1270				
				843				
				1300				
		10		1920	<0.010	11.3	<100	
				286				
		15		459				
				220				
		20		88	<0.010	4.47	<100	
		25						
		30						
		35						
		40						

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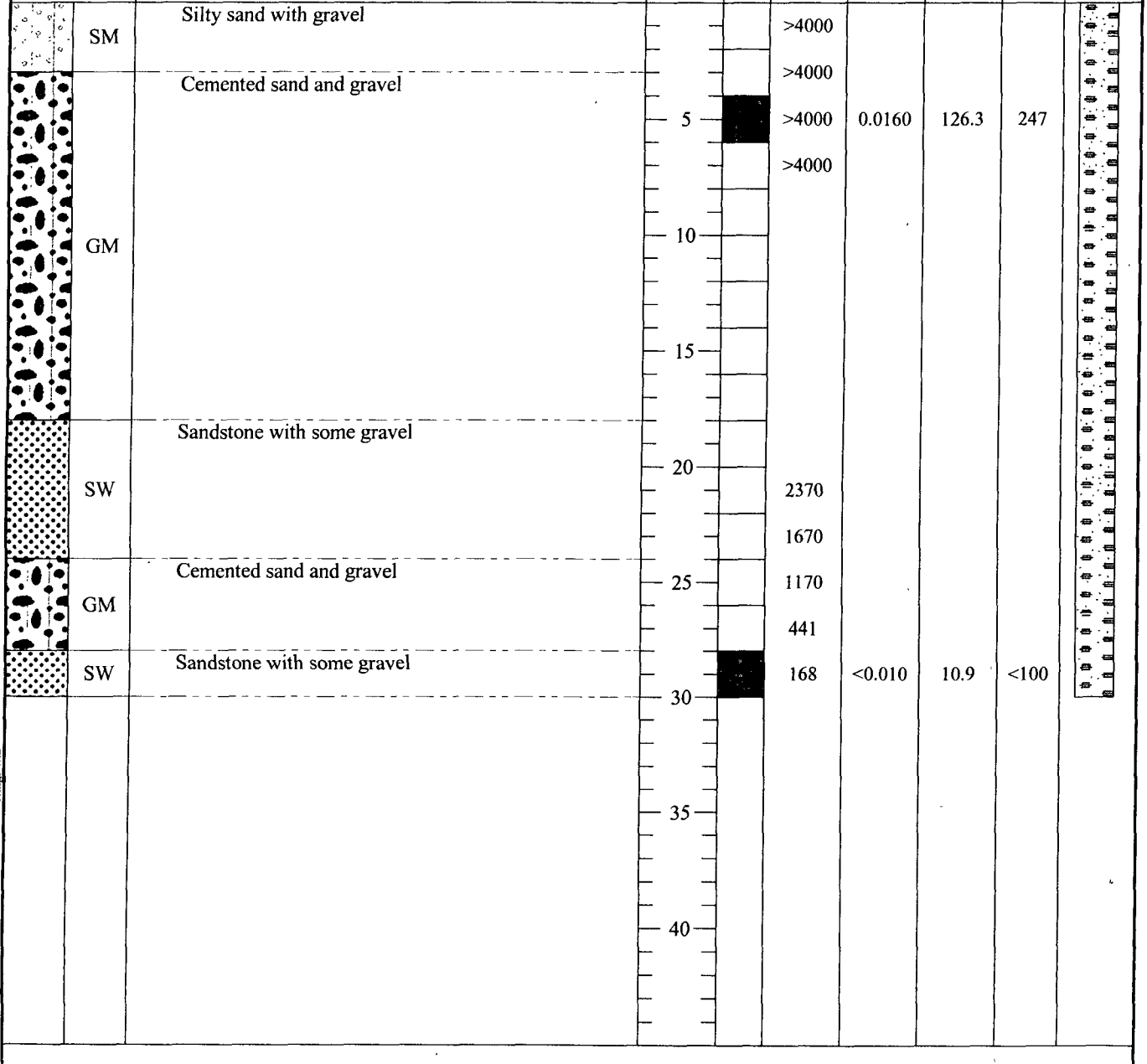
SB-10

Client	David Arrington Oil & Gas	Project	Federal 34 #1
Project Number	163-1724-000	Latitude	W32.525012
Geologist	Shane Estep	Longitude	N104.372306
Date Drilled	08/07/08	Total Depth of Borehole	30 Feet
Borehole Diameter	6 Inches	Depth to Water	No Feet



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Appendix B – Laboratory Analytical Data

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9	Lubbock, Texas 79424	800•378•1296	806•794•1296	FAX 806•794•1298
200 East Sunset Road, Suite E	El Paso, Texas 79922	888•588•3443	915•585•3443	FAX 915•585•4944
5002 Basin Street, Suite A1	Midland, Texas 79703		432•689•6301	FAX 432•689•6313
6015 Harris Parkway, Suite 110	Ft Worth, Texas 76132		817•201•5260	

E-Mail lab@traceanalysis.com

NELAP Certifications

Lubbock: T104704219-08-TX
LELAP-02003
Kansas E-10317

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

Shane Estep
Etech Environmental Safety

P.O. Box 8469
Midland, TX, 79708

Report Date: August 14, 2008

Work Order: 8080838

Project Location: Carlsbad, NM
Project Name: Federal 34 #1
Project Number: 163-1724-000

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
170093	SB-1 (5')	soil	2008-08-07	09:20	2008-08-08
170094	SB-1 (20')	soil	2008-08-07	12:00	2008-08-08
170095	SB-1 (26')	soil	2008-08-07	12:09	2008-08-08
170096	SB-2 (5')	soil	2008-08-07	10:11	2008-08-08
170097	SB-2 (10')	soil	2008-08-07	10:24	2008-08-08
170098	SB-2 (30')	soil	2008-08-07	11:00	2008-08-08
170099	SB-3 (5')	soil	2008-08-07	13:15	2008-08-08
170100	SB-3 (10')	soil	2008-08-07	13:21	2008-08-08
170101	SB-3 (20')	soil	2008-08-07	13:30	2008-08-08

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
170102	SB-4 (5'-6')	soil	2008-08-07	14:05	2008-08-08
170103	SB-4 (10')	soil	2008-08-07	14:10	2008-08-08
170104	SB-4 (25')	soil	2008-08-07	14:25	2008-08-08
170105	SB-5 (7')	soil	2008-08-07	14:41	2008-08-08
170106	SB-5 (20')	soil	2008-08-07	14:54	2008-08-08
170107	SB-6 (6')	soil	2008-08-07	15:01	2008-08-08
170108	SB-6 (10')	soil	2008-08-07	15:10	2008-08-08
170109	SB-7 (5')	soil	2008-08-07	15:28	2008-08-08
170110	SB-7 (18'-20')	soil	2008-08-07	15:41	2008-08-08
170111	SB-8 (8')	soil	2008-08-07	16:00	2008-08-08
170112	SB-8 (18'-20')	soil	2008-08-07	16:21	2008-08-08
170113	SB-9 (11')	soil	2008-08-07	16:39	2008-08-08
170114	SB-9 (30')	soil	2008-08-07	16:50	2008-08-08

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Dr. Blair Leftwich, Director

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project Federal 34 #1 were received by TraceAnalysis, Inc. on 2008-08-08 and assigned to work order 8080838. Samples for work order 8080838 were received intact at a temperature of 3.0 deg. C.

Samples were analyzed for the following tests using their respective methods.

Test	Method
BTEX	S 8021B
Chloride (Titration)	SM 4500-Cl B
TPH DRO	Mod. 8015B
TPH GRO	S 8015B

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 8080838 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 170093 - SB-1 (5')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	Result	RL Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		**0.0241**	mg/Kg	1	0.0100
Xylene		**0.0899**	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.760	mg/Kg	1	1.00	76	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.817	mg/Kg	1	1.00	82	48.2 - 155

Sample: 170093 - SB-1 (5')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51331	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**152**	mg/Kg	50	2.00

Sample: 170093 - SB-1 (5')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	Result	RL Units	Dilution	RL
DRO		**134**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		114	mg/Kg	1	100	114	10 - 250.4

Sample: 170093 - SB-1 (5')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**34.3**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.895	mg/Kg	1	1.00	90	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.926	mg/Kg	1	1.00	93	63.8 - 141

Sample: 170094 - SB-1 (20')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.753	mg/Kg	1	1.00	75	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.760	mg/Kg	1	1.00	76	48.2 - 155

Sample: 170094 - SB-1 (20')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51331	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		<100	mg/Kg	50	2.00

Sample: 170094 - SB-1 (20')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	Result	RL Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		94.1	mg/Kg	1	100	94	10 - 250.4

Sample: 170094 - SB-1 (20')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	Result	RL Units	Dilution	RL
GRO	B	**5.63**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.908	mg/Kg	1	1.00	91	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.930	mg/Kg	1	1.00	93	63.8 - 141

Sample: 170095 - SB-1 (26')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.771	mg/Kg	1	1.00	77	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.760	mg/Kg	1	1.00	76	48.2 - 155

Sample: 170095 - SB-1 (26')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51331	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**114**	mg/Kg	50	2.00

Sample: 170095 - SB-1 (26')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		101	mg/Kg	1	100	101	10 - 250.4

Sample: 170095 - SB-1 (26')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO	B	**2.02**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.904	mg/Kg	1	1.00	90	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.875	mg/Kg	1	1.00	88	63.8 - 141

Sample: 170096 - SB-2 (5')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.780	mg/Kg	1	1.00	78	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.766	mg/Kg	1	1.00	77	48.2 - 155

Sample: 170096 - SB-2 (5')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51331	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**200**	mg/Kg	50	2.00

Sample: 170096 - SB-2 (5')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**80.2**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		105	mg/Kg	1	100	105	10 - 250.4

Sample: 170096 - SB-2 (5')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO	B	**1.34**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.914	mg/Kg	1	1.00	91	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.827	mg/Kg	1	1.00	83	63.8 - 141

Sample: 170097 - SB-2 (10')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		**0.630**	mg/Kg	1	0.0100
Xylene		**2.62**	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.775	mg/Kg	1	1.00	78	68 - 136.9
4-Bromofluorobenzene (4-BFB)	[1]	1.61	mg/Kg	1	1.00	161	48.2 - 155

Sample: 170097 - SB-2 (10')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51331	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<100	mg/Kg	50	2.00

Sample: 170097 - SB-2 (10')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**157**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		92.2	mg/Kg	1	100	92	10 - 250.4

Sample: 170097 - SB-2 (10')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**334**	mg/Kg	1	1.00

[1] High surrogate recovery due to peak interference.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.902	mg/Kg	1	1.00	90	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)	[2]	1.84	mg/Kg	1	1.00	184	63.8 - 141

Sample: 170098 - SB-2 (30')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		**0.0519**	mg/Kg	1	0.0100
Xylene		**0.0946**	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.743	mg/Kg	1	1.00	74	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.871	mg/Kg	1	1.00	87	48.2 - 155

Sample: 170098 - SB-2 (30')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51331	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<100	mg/Kg	50	2.00

Sample: 170098 - SB-2 (30')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

[2]High surrogate recovery due to peak interference.

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**144**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		99.8	mg/Kg	1	100	100	10 - 250.4

Sample: 170098 - SB-2 (30')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**72.7**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.875	mg/Kg	1	1.00	88	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.956	mg/Kg	1	1.00	96	63.8 - 141

Sample: 170099 - SB-3 (5')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**0.0317**	mg/Kg	2	0.0100
Toluene		<0.0200	mg/Kg	2	0.0100
Ethylbenzene		**2.23**	mg/Kg	2	0.0100
Xylene		**9.44**	mg/Kg	2	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.56	mg/Kg	2	2.00	78	68 - 136.9
4-Bromofluorobenzene (4-BFB)	[3]	3.60	mg/Kg	2	2.00	180	48.2 - 155

[3]High surrogate recovery due to peak interference.

Sample: 170099 - SB-3 (5')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51331	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**133**	mg/Kg	50	2.00

Sample: 170099 - SB-3 (5')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	Result	RL Units	Dilution	RL
DRO		**83.0**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		117	mg/Kg	1	100	117	10 - 250.4

Sample: 170099 - SB-3 (5')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	Result	RL Units	Dilution	RL
GRO		**1220**	mg/Kg	2	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.81	mg/Kg	2	2.00	90	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)	[4]	4.24	mg/Kg	2	2.00	212	63.8 - 141

[4]High surrogate recovery due to peak interference.

Sample: 170100 - SB-3 (10')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.0100		mg/Kg	1	0.0100
Toluene		<0.0100		mg/Kg	1	0.0100
Ethylbenzene		**0.143**		mg/Kg	1	0.0100
Xylene		**0.484**		mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.788	mg/Kg	1	1.00	79	68 - 136.9
4-Bromofluorobenzene (4-BFB)		1.04	mg/Kg	1	1.00	104	48.2 - 155

Sample: 170100 - SB-3 (10')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51331	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**142**		mg/Kg	50	2.00

Sample: 170100 - SB-3 (10')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**118**		mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		87.8	mg/Kg	1	100	88	10 - 250.4

Sample: 170100 - SB-3 (10')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**146**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.930	mg/Kg	1	1.00	93	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		1.31	mg/Kg	1	1.00	131	63.8 - 141

Sample: 170101 - SB-3 (20')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		**0.0289**	mg/Kg	1	0.0100
Xylene		**0.0517**	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.792	mg/Kg	1	1.00	79	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.863	mg/Kg	1	1.00	86	48.2 - 155

Sample: 170101 - SB-3 (20')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51338	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**105**	mg/Kg	50	2.00

Sample: 170101 - SB-3 (20')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**68.5**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		109	mg/Kg	1	100	109	10 - 250.4

Sample: 170101 - SB-3 (20')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**34.5**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.932	mg/Kg	1	1.00	93	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.947	mg/Kg	1	1.00	95	63.8 - 141

Sample: 170102 - SB-4 (5'-6')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		**0.0406**	mg/Kg	1	0.0100
Xylene		**0.169**	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.804	mg/Kg	1	1.00	80	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.882	mg/Kg	1	1.00	88	48.2 - 155

Sample: 170102 - SB-4 (5'-6')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51338	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**282**	mg/Kg	50	2.00

Sample: 170102 - SB-4 (5'-6')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**124**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		104	mg/Kg	1	100	104	10 - 250.4

Sample: 170102 - SB-4 (5'-6')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**30.3**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.944	mg/Kg	1	1.00	94	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		1.01	mg/Kg	1	1.00	101	63.8 - 141

Sample: 170103 - SB-4 (10')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		**0.106**	mg/Kg	1	0.0100
Xylene		**0.293**	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.783	mg/Kg	1	1.00	78	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.942	mg/Kg	1	1.00	94	48.2 - 155

Sample: 170103 - SB-4 (10')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51338	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**162**	mg/Kg	50	2.00

Sample: 170103 - SB-4 (10')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**212**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		93.4	mg/Kg	1	100	93	10 - 250.4

Sample: 170103 - SB-4 (10')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**75.9**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.949	mg/Kg	1	1.00	95	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		1.14	mg/Kg	1	1.00	114	63.8 - 141

Sample: 170104 - SB-4 (25')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		**0.0128**	mg/Kg	1	0.0100
Xylene		**0.0254**	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.835	mg/Kg	1	1.00	84	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.864	mg/Kg	1	1.00	86	48.2 - 155

Sample: 170104 - SB-4 (25')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51338	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		<100	mg/Kg	50	2.00

Sample: 170104 - SB-4 (25')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	Result	RL Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		121	mg/Kg	1	100	121	10 - 250.4

Sample: 170104 - SB-4 (25')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	Result	RL Units	Dilution	RL
GRO		**15.8**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.980	mg/Kg	1	1.00	98	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.995	mg/Kg	1	1.00	100	63.8 - 141

Sample: 170105 - SB-5 (7')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.806	mg/Kg	1	1.00	81	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.808	mg/Kg	1	1.00	81	48.2 - 155

Sample: 170105 - SB-5 (7')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51338	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<100	mg/Kg	50	2.00

Sample: 170105 - SB-5 (7')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		124	mg/Kg	1	100	124	10 - 250.4

Sample: 170105 - SB-5 (7')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO	B	**4.72**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.948	mg/Kg	1	1.00	95	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.907	mg/Kg	1	1.00	91	63.8 - 141

Sample: 170106 - SB-5 (20')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.842	mg/Kg	1	1.00	84	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.822	mg/Kg	1	1.00	82	48.2 - 155

Sample: 170106 - SB-5 (20')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51338	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**258**	mg/Kg	50	2.00

Sample: 170106 - SB-5 (20')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		81.6	mg/Kg	1	100	82	10 - 250.4

Sample: 170106 - SB-5 (20')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO	B	**3.95**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.985	mg/Kg	1	1.00	98	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.909	mg/Kg	1	1.00	91	63.8 - 141

Sample: 170107 - SB-6 (6')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		**0.0144**	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.841	mg/Kg	1	1.00	84	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.888	mg/Kg	1	1.00	89	48.2 - 155

Sample: 170107 - SB-6 (6')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51338	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**282**	mg/Kg	50	2.00

Sample: 170107 - SB-6 (6')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	Result	RL Units	Dilution	RL
DRO		**71.8**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		107	mg/Kg	1	100	107	10 - 250.4

Sample: 170107 - SB-6 (6')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	Result	RL Units	Dilution	RL
GRO		**24.3**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.990	mg/Kg	1	1.00	99	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		1.02	mg/Kg	1	1.00	102	63.8 - 141

Sample: 170108 - SB-6 (10')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.808	mg/Kg	1	1.00	81	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.853	mg/Kg	1	1.00	85	48.2 - 155

Sample: 170108 - SB-6 (10')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51338	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**167**	mg/Kg	50	2.00

Sample: 170108 - SB-6 (10')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		86.8	mg/Kg	1	100	87	10 - 250.4

Sample: 170108 - SB-6 (10')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO	B	**7.28**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.941	mg/Kg	1	1.00	94	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.981	mg/Kg	1	1.00	98	63.8 - 141

Sample: 170109 - SB-7 (5')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.813	mg/Kg	1	1.00	81	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.852	mg/Kg	1	1.00	85	48.2 - 155

Sample: 170109 - SB-7 (5')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51338	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**224**		mg/Kg	50	2.00

Sample: 170109 - SB-7 (5')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**113**		mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		114	mg/Kg	1	100	114	10 - 250.4

Sample: 170109 - SB-7 (5')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		**11.3**		mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.960	mg/Kg	1	1.00	96	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.952	mg/Kg	1	1.00	95	63.8 - 141

Sample: 170110 - SB-7 (18'-20')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51389	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44052	Sample Preparation:	2008-08-12	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		**0.0331**	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.749	mg/Kg	1	1.00	75	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.781	mg/Kg	1	1.00	78	48.2 - 155

Sample: 170110 - SB-7 (18'-20')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51338	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**167**	mg/Kg	50	2.00

Sample: 170110 - SB-7 (18'-20')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		101	mg/Kg	1	100	101	10 - 250.4

Sample: 170110 - SB-7 (18'-20')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51390	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44052	Sample Preparation:	2008-08-12	Prepared By:	DC

Parameter	Flag	Result	RL Units	Dilution	RL
GRO	B	**1.92**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.922	mg/Kg	1	1.00	92	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.919	mg/Kg	1	1.00	92	63.8 - 141

Sample: 170111 - SB-8 (8')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51389	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44052	Sample Preparation:	2008-08-12	Prepared By:	DC

Parameter	Flag	Result	RL Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		**0.0186**	mg/Kg	1	0.0100
Xylene		**0.0476**	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.757	mg/Kg	1	1.00	76	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.816	mg/Kg	1	1.00	82	48.2 - 155

Sample: 170111 - SB-8 (8')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51340	Date Analyzed:	2008-08-12	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		<100	mg/Kg	50	2.00

Sample: 170111 - SB-8 (8')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51327	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**146**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		150	mg/Kg	1	100	150	10 - 250.4

Sample: 170111 - SB-8 (8')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51390	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44052	Sample Preparation:	2008-08-12	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**44.7**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.869	mg/Kg	1	1.00	87	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.904	mg/Kg	1	1.00	90	63.8 - 141

Sample: 170112 - SB-8 (18'-20')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51389	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44052	Sample Preparation:	2008-08-12	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.744	mg/Kg	1	1.00	74	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.771	mg/Kg	1	1.00	77	48.2 - 155

Sample: 170112 - SB-8 (18'-20')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51340	Date Analyzed:	2008-08-12	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<100	mg/Kg	50	2.00

Sample: 170112 - SB-8 (18'-20')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51327	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		108	mg/Kg	1	100	108	10 - 250.4

Sample: 170112 - SB-8 (18'-20')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51390	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44052	Sample Preparation:	2008-08-12	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**12.8**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.858	mg/Kg	1	1.00	86	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.888	mg/Kg	1	1.00	89	63.8 - 141

Sample: 170113 - SB-9 (11')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51389	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44052	Sample Preparation:	2008-08-12	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.738	mg/Kg	1	1.00	74	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.768	mg/Kg	1	1.00	77	48.2 - 155

Sample: 170113 - SB-9 (11')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51340	Date Analyzed:	2008-08-12	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<100	mg/Kg	50	2.00

Sample: 170113 - SB-9 (11')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51327	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		110	mg/Kg	1	100	110	10 - 250.4

Sample: 170113 - SB-9 (11')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51390	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44052	Sample Preparation:	2008-08-12	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**11.3**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.856	mg/Kg	1	1.00	86	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.794	mg/Kg	1	1.00	79	63.8 - 141

Sample: 170114 - SB-9 (30')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51389	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44052	Sample Preparation:	2008-08-12	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.744	mg/Kg	1	1.00	74	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.736	mg/Kg	1	1.00	74	48.2 - 155

Sample: 170114 - SB-9 (30')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51340	Date Analyzed:	2008-08-12	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		<100		mg/Kg	50	2.00

Sample: 170114 - SB-9 (30')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51327	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		<50.0		mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		106	mg/Kg	1	100	106	10 - 250.4

Sample: 170114 - SB-9 (30')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51390	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44052	Sample Preparation:	2008-08-12	Prepared By:	DC

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO	B	**4.47**		mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.865	mg/Kg	1	1.00	86	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.837	mg/Kg	1	1.00	84	63.8 - 141

Method Blank (1) QC Batch: 51308

QC Batch: 51308 | Date Analyzed: 2008-08-11 | Analyzed By: LD
Prep Batch: 44003 | QC Preparation: 2008-08-11 | Prepared By: LD

Parameter	Flag	MDL Result	Units	RL
DRO		<15.8	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		72.4	mg/Kg	1	100	72	30.9 - 146.4

Method Blank (1) QC Batch: 51327

QC Batch: 51327 | Date Analyzed: 2008-08-11 | Analyzed By: LD
Prep Batch: 44003 | QC Preparation: 2008-08-11 | Prepared By: LD

Parameter	Flag	MDL Result	Units	RL
DRO		<15.8	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		76.4	mg/Kg	1	100	76	30.9 - 146.4

Method Blank (1) QC Batch: 51331

QC Batch: 51331 | Date Analyzed: 2008-08-11 | Analyzed By: AG
Prep Batch: 44022 | QC Preparation: 2008-08-11 | Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.500	mg/Kg	2

Method Blank (1) QC Batch: 51338

QC Batch: 51338 | Date Analyzed: 2008-08-11 | Analyzed By: AG
Prep Batch: 44022 | QC Preparation: 2008-08-11 | Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.500	mg/Kg	2

Method Blank (1) QC Batch: 51340

QC Batch:	51340	Date Analyzed:	2008-08-12	Analyzed By:	AG
Prep Batch:	44022	QC Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.500	mg/Kg	2

Method Blank (1) QC Batch: 51371

QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	QC Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00580	mg/Kg	0.01
Toluene		<0.00470	mg/Kg	0.01
Ethylbenzene		<0.00530	mg/Kg	0.01
Xylene		<0.0136	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.789	mg/Kg	1	1.00	79	48.3 - 132.5
4-Bromofluorobenzene (4-BFB)		0.775	mg/Kg	1	1.00	78	37.7 - 128.9

Method Blank (1) QC Batch: 51372

QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	QC Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	MDL Result	Units	RL
GRO		0.969	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.903	mg/Kg	1	1.00	90	39.2 - 135.2
4-Bromofluorobenzene (4-BFB)		0.800	mg/Kg	1	1.00	80	16.8 - 138.1

Method Blank (1) QC Batch: 51389

QC Batch:	51389	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44052	QC Preparation:	2008-08-12	Prepared By:	DC

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00580	mg/Kg	0.01
Toluene		<0.00470	mg/Kg	0.01
Ethylbenzene		<0.00530	mg/Kg	0.01
Xylene		<0.0136	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.724	mg/Kg	1	1.00	72	48.3 - 132.5
4-Bromofluorobenzene (4-BFB)		0.723	mg/Kg	1	1.00	72	37.7 - 128.9

Method Blank (1) QC Batch: 51390

QC Batch: 51390 Date Analyzed: 2008-08-12 Analyzed By: DC
Prep Batch: 44052 QC Preparation: 2008-08-12 Prepared By: DC

Parameter	Flag	MDL Result	Units	RL
GRO		0.872	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.866	mg/Kg	1	1.00	87	39.2 - 135.2
4-Bromofluorobenzene (4-BFB)		0.809	mg/Kg	1	1.00	81	16.8 - 138.1

Laboratory Control Spike (LCS-1)

QC Batch: 51308 Date Analyzed: 2008-08-11 Analyzed By: LD
Prep Batch: 44003 QC Preparation: 2008-08-11 Prepared By: LD

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	208	mg/Kg	1	250	<15.8	83	27.8 - 152.1

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	216	mg/Kg	1	250	<15.8	86	27.8 - 152.1	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

continued ...

control spikes continued ...

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane [5]	121	134	mg/Kg	1	100	121	134	38 - 130.4

Laboratory Control Spike (LCS-1)

QC Batch: 51327 | Date Analyzed: 2008-08-11 | Analyzed By: LD
Prep Batch: 44003 | QC Preparation: 2008-08-11 | Prepared By: LD

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	234	mg/Kg	1	250	<15.8	94	27.8 - 152.1

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	245	mg/Kg	1	250	<15.8	98	27.8 - 152.1	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	127	128	mg/Kg	1	100	127	128	38 - 130.4

Laboratory Control Spike (LCS-1)

QC Batch: 51331 | Date Analyzed: 2008-08-11 | Analyzed By: AG
Prep Batch: 44022 | QC Preparation: 2008-08-11 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	101	mg/Kg	1	100	<0.500	101	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	100	mg/Kg	1	100	<0.500	100	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

[5]High surrogate recovery due to peak interference.

Laboratory Control Spike (LCS-1)

QC Batch: 51338 | Date Analyzed: 2008-08-11 | Analyzed By: AG
Prep Batch: 44022 | QC Preparation: 2008-08-11 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	101	mg/Kg	1	100	<0.500	101	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	102	mg/Kg	1	100	<0.500	102	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51340 | Date Analyzed: 2008-08-12 | Analyzed By: AG
Prep Batch: 44022 | QC Preparation: 2008-08-11 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.8	mg/Kg	1	100	<0.500	99	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	98.0	mg/Kg	1	100	<0.500	98	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51371 | Date Analyzed: 2008-08-12 | Analyzed By: DC
Prep Batch: 44030 | QC Preparation: 2008-08-11 | Prepared By: DC

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.846	mg/Kg	1	1.00	<0.00580	85	73.3 - 116.6
Toluene	0.865	mg/Kg	1	1.00	<0.00470	86	78.6 - 115.1
Ethylbenzene	0.844	mg/Kg	1	1.00	<0.00530	84	77.4 - 114.9
Xylene	2.54	mg/Kg	1	3.00	<0.0136	85	78.2 - 114.7

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.895	mg/Kg	1	1.00	<0.00580	90	73.3 - 116.6	6	20
Toluene	0.909	mg/Kg	1	1.00	<0.00470	91	78.6 - 115.1	5	20
Ethylbenzene	0.900	mg/Kg	1	1.00	<0.00530	90	77.4 - 114.9	6	20
Xylene	2.69	mg/Kg	1	3.00	<0.0136	90	78.2 - 114.7	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.954	0.805	mg/Kg	1	1.00	95	80	45 - 124.2
4-Bromofluorobenzene (4-BFB)	0.762	0.810	mg/Kg	1	1.00	76	81	47.2 - 130.4

Laboratory Control Spike (LCS-1)

QC Batch: 51372 | Date Analyzed: 2008-08-12 | Analyzed By: DC
Prep Batch: 44030 | QC Preparation: 2008-08-11 | Prepared By: DC

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	8.70	mg/Kg	1	10.0	0.969	77	57.5 - 106.4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	9.38	mg/Kg	1	10.0	0.969	84	57.5 - 106.4	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.897	0.929	mg/Kg	1	1.00	90	93	63.8 - 134.3
4-Bromofluorobenzene (4-BFB)	0.866	0.894	mg/Kg	1	1.00	87	89	53.3 - 123.6

Laboratory Control Spike (LCS-1)

QC Batch: 51389 | Date Analyzed: 2008-08-12 | Analyzed By: DC
Prep Batch: 44052 | QC Preparation: 2008-08-12 | Prepared By: DC

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.790	mg/Kg	1	1.00	<0.00580	79	73.3 - 116.6
Toluene	0.801	mg/Kg	1	1.00	<0.00470	80	78.6 - 115.1
Ethylbenzene	0.788	mg/Kg	1	1.00	<0.00530	79	77.4 - 114.9
Xylene	2.37	mg/Kg	1	3.00	<0.0136	79	78.2 - 114.7

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.804	mg/Kg	1	1.00	<0.00580	80	73.3 - 116.6	2	20
Toluene	0.822	mg/Kg	1	1.00	<0.00470	82	78.6 - 115.1	3	20
Ethylbenzene	0.810	mg/Kg	1	1.00	<0.00530	81	77.4 - 114.9	3	20
Xylene	2.43	mg/Kg	1	3.00	<0.0136	81	78.2 - 114.7	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.769	0.774	mg/Kg	1	1.00	77	77	45 - 124.2
4-Bromofluorobenzene (4-BFB)	0.775	0.776	mg/Kg	1	1.00	78	78	47.2 - 130.4

Laboratory Control Spike (LCS-1)

QC Batch: 51390 | Date Analyzed: 2008-08-12 | Analyzed By: DC
Prep Batch: 44052 | QC Preparation: 2008-08-12 | Prepared By: DC

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	8.11	mg/Kg	1	10.0	0.872	72	57.5 - 106.4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	8.64	mg/Kg	1	10.0	0.872	78	57.5 - 106.4	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.885	0.867	mg/Kg	1	1.00	88	87	63.8 - 134.3
4-Bromofluorobenzene (4-BFB)	0.851	0.833	mg/Kg	1	1.00	85	83	53.3 - 123.6

Matrix Spike (MS-1) Spiked Sample: 170092

QC Batch: 51308 | Date Analyzed: 2008-08-11 | Analyzed By: LD
Prep Batch: 44003 | QC Preparation: 2008-08-11 | Prepared By: LD

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	239	mg/Kg	1	250	47.3	77	18 - 179.5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	244	mg/Kg	1	250	47.3	79	18 - 179.5	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	102	102	mg/Kg	1	100	102	102	34.1 - 158

Matrix Spike (MS-1) Spiked Sample: 170112

QC Batch: 51327 | Date Analyzed: 2008-08-11 | Analyzed By: LD
Prep Batch: 44003 | QC Preparation: 2008-08-11 | Prepared By: LD

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	193	mg/Kg	1	250	15.89	71	18 - 179.5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	202	mg/Kg	1	250	15.89	74	18 - 179.5	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	101	105	mg/Kg	1	100	101	105	34.1 - 158

Matrix Spike (MS-1) Spiked Sample: 170100

QC Batch: 51331 | Date Analyzed: 2008-08-11 | Analyzed By: AG
Prep Batch: 44022 | QC Preparation: 2008-08-11 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	5170	mg/Kg	50	5000	143	100	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	5190	mg/Kg	50	5000	143	101	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170110

QC Batch: 51338 | Date Analyzed: 2008-08-11 | Analyzed By: AG
Prep Batch: 44022 | QC Preparation: 2008-08-11 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	5130	mg/Kg	50	5000	167	99	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	5160	mg/Kg	50	5000	167	100	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample:

QC Batch: 51340 | Date Analyzed: 2008-08-12 | Analyzed By: AG
Prep Batch: 44022 | QC Preparation: 2008-08-11 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	4980	mg/Kg	50	5000	<25.0	100	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	5000	mg/Kg	50	5000	<25.0	100	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170109

QC Batch: 51371 | Date Analyzed: 2008-08-12 | Analyzed By: DC
Prep Batch: 44030 | QC Preparation: 2008-08-11 | Prepared By: DC

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	[6]	1.66	mg/Kg	1	1.00	<0.00580	166	62.2 - 134.3
Toluene	[7]	1.76	mg/Kg	1	1.00	<0.00470	176	62.6 - 145.4
Ethylbenzene	[8]	1.79	mg/Kg	1	1.00	<0.00530	179	64.6 - 146.4

continued ...

[6]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[7]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[8]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

matrix spikes continued ...

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Xylene	[9]	5.41	mg/Kg	1	3.00	<0.0136	180	64.3 - 148.8

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	[10]	1.53	mg/Kg	1	1.00	<0.00580	153	62.2 - 134.3	8	20
Toluene	[11]	1.60	mg/Kg	1	1.00	<0.00470	160	62.6 - 145.4	10	20
Ethylbenzene	[12]	1.60	mg/Kg	1	1.00	<0.00530	160	64.6 - 146.4	11	20
Xylene	[13]	4.85	mg/Kg	1	3.00	<0.0136	162	64.3 - 148.8	11	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.797	0.823	mg/Kg	1	1	80	82	38.8 - 127.5
4-Bromofluorobenzene (4-BFB)	0.827	0.859	mg/Kg	1	1	83	86	49.3 - 142.4

Matrix Spike (MS-1) Spiked Sample: 170109

QC Batch: 51372 | Date Analyzed: 2008-08-12 | Analyzed By: DC
Prep Batch: 44030 | QC Preparation: 2008-08-11 | Prepared By: DC

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	15.3	mg/Kg	1	10.0	11.3029	40	10 - 139.3

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	16.9	mg/Kg	1	10.0	11.3029	56	10 - 139.3	10	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.972	0.920	mg/Kg	1	1	97	92	21.3 - 119
4-Bromofluorobenzene (4-BFB)	0.947	0.880	mg/Kg	1	1	95	88	52.5 - 154

[9]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[10]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[11]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[12]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[13]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

Matrix Spike (MS-1) Spiked Sample: 170117

QC Batch: 51389 | Date Analyzed: 2008-08-12 | Analyzed By: DC
Prep Batch: 44052 | QC Preparation: 2008-08-12 | Prepared By: DC

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.21	mg/Kg	1	1.00	<0.00580	121	62.2 - 134.3
Toluene	1.26	mg/Kg	1	1.00	<0.00470	126	62.6 - 145.4
Ethylbenzene	1.27	mg/Kg	1	1.00	0.0517	122	64.6 - 146.4
Xylene	3.82	mg/Kg	1	3.00	0.0743	125	64.3 - 148.8

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.31	mg/Kg	1	1.00	<0.00580	131	62.2 - 134.3	8	20
Toluene	1.36	mg/Kg	1	1.00	<0.00470	136	62.6 - 145.4	8	20
Ethylbenzene	1.37	mg/Kg	1	1.00	0.0517	132	64.6 - 146.4	8	20
Xylene	4.14	mg/Kg	1	3.00	0.0743	136	64.3 - 148.8	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.756	0.762	mg/Kg	1	1	76	76	38.8 - 127.5
4-Bromofluorobenzene (4-BFB)	0.784	0.780	mg/Kg	1	1	78	78	49.3 - 142.4

Matrix Spike (MS-1) Spiked Sample: 170110

QC Batch: 51390 | Date Analyzed: 2008-08-12 | Analyzed By: DC
Prep Batch: 44052 | QC Preparation: 2008-08-12 | Prepared By: DC

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	10.6	mg/Kg	1	10.0	1.9169	87	10 - 139.3

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO [14]	7.50	mg/Kg	1	10.0	1.9169	56	10 - 139.3	34	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

continued ...

[14] MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

matrix spikes continued ...

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.868	0.917	mg/Kg	1	1	87	92	21.3 - 119
4-Bromofluorobenzene (4-BFB)	0.891	0.927	mg/Kg	1	1	89	93	52.5 - 154

Standard (ICV-1)

QC Batch: 51308 Date Analyzed: 2008-08-11 Analyzed By: LD

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	260	104	85 - 115	2008-08-11

Standard (CCV-1)

QC Batch: 51308 Date Analyzed: 2008-08-11 Analyzed By: LD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	215	86	85 - 115	2008-08-11

Standard (CCV-2)

QC Batch: 51308 Date Analyzed: 2008-08-11 Analyzed By: LD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	230	92	85 - 115	2008-08-11

Standard (CCV-3)

QC Batch: 51308 Date Analyzed: 2008-08-11 Analyzed By: LD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	233	93	85 - 115	2008-08-11

Standard (ICV-1)

QC Batch: 51327 | Date Analyzed: 2008-08-11 | Analyzed By: LD

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	213	85	85 - 115	2008-08-11

Standard (CCV-1)

QC Batch: 51327 | Date Analyzed: 2008-08-11 | Analyzed By: LD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	222	89	85 - 115	2008-08-11

Standard (ICV-1)

QC Batch: 51331 | Date Analyzed: 2008-08-11 | Analyzed By: AG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2008-08-11

Standard (CCV-1)

QC Batch: 51331 | Date Analyzed: 2008-08-11 | Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.6	100	85 - 115	2008-08-11

Standard (ICV-1)

QC Batch: 51338 | Date Analyzed: 2008-08-11 | Analyzed By: AG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2008-08-11

Standard (CCV-1)

QC Batch: 51338 | Date Analyzed: 2008-08-11 | Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.5	100	85 - 115	2008-08-11

Standard (ICV-1)

QC Batch: 51340 | Date Analyzed: 2008-08-12 | Analyzed By: AG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2008-08-12

Standard (CCV-1)

QC Batch: 51340 | Date Analyzed: 2008-08-12 | Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.5	98	85 - 115	2008-08-12

Standard (ICV-1)

QC Batch: 51371 | Date Analyzed: 2008-08-12 | Analyzed By: DC

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0917	92	85 - 115	2008-08-12
Toluene		mg/Kg	0.100	0.0940	94	85 - 115	2008-08-12
Ethylbenzene		mg/Kg	0.100	0.0944	94	85 - 115	2008-08-12
Xylene		mg/Kg	0.300	0.284	95	85 - 115	2008-08-12

Standard (CCV-1)

QC Batch: 51371 | Date Analyzed: 2008-08-12 | Analyzed By: DC

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0946	95	85 - 115	2008-08-12
Toluene		mg/Kg	0.100	0.0947	95	85 - 115	2008-08-12
Ethylbenzene		mg/Kg	0.100	0.0908	91	85 - 115	2008-08-12
Xylene		mg/Kg	0.300	0.273	91	85 - 115	2008-08-12

Standard (ICV-1)

QC Batch: 51372 Date Analyzed: 2008-08-12 Analyzed By: DC

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.13	113	85 - 115	2008-08-12

Standard (CCV-1)

QC Batch: 51372 Date Analyzed: 2008-08-12 Analyzed By: DC

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.10	110	85 - 115	2008-08-12

Standard (ICV-1)

QC Batch: 51389 Date Analyzed: 2008-08-12 Analyzed By: DC

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0914	91	85 - 115	2008-08-12
Toluene		mg/Kg	0.100	0.0934	93	85 - 115	2008-08-12
Ethylbenzene		mg/Kg	0.100	0.0919	92	85 - 115	2008-08-12
Xylene		mg/Kg	0.300	0.276	92	85 - 115	2008-08-12

Standard (CCV-1)

QC Batch: 51389 Date Analyzed: 2008-08-12 Analyzed By: DC

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0960	96	85 - 115	2008-08-12
Toluene		mg/Kg	0.100	0.0968	97	85 - 115	2008-08-12
Ethylbenzene		mg/Kg	0.100	0.0942	94	85 - 115	2008-08-12
Xylene		mg/Kg	0.300	0.280	93	85 - 115	2008-08-12

Standard (ICV-1)

QC Batch: 51390 Date Analyzed: 2008-08-12 Analyzed By: DC

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.03	103	85 - 115	2008-08-12

Standard (CCV-1)

QC Batch: 51390 Date Analyzed: 2008-08-12 Analyzed By: DC

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.10	110	85 - 115	2008-08-12

LAB Order # 8080838 Page 1 of 2

TraceAnalysis, Inc.

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8808 Camp Bowie Blvd. West, Suite 180
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Fax (817) 560-4336

Company Name: Etech Environmental — Phone #: 563-2200

Address: (Street, City, Zip) PO Box 6469 Midland 79708 — Fax #: 563-2213

Contact Person: Shane — E-mail: shane@etechenv.com

Invoice to: (If different from above)

Project #: 163-1724-000 — Project Name: Federal 34 #1

Project Location (including state): Carlsbad, NM — Sampler Signature: Shane

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME	MTBE 8021B / 602 / 8260B / 624	BTEX 8021B / 602 / 8260B / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270C / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C / 625	PCB's 8082 / 608	Pesticides 8081A / 608	BOD, TSS, pH	Moisture Content	Chlorides						Turn Around Time if different from standard	Hold
093	SB-1 (5')	1	4oz		X							X		8/7/08	0920		X		X													X								
094	SB-1 (20')				X							X			1200		X		X													X								
095	SB-1 (26')				X							X			1209		X		X													X								
096	SB-2 (5')				X							X			1011		X		X													X								
097	SB-2 (10')				X							X			1024		X		X													X								
098	SB-2 (30')				X							X			1100		X		X													X								
099	SB-3 (5')				X							X			1315		X		X													X								
100	SB-3 (10')				X							X			1321		X		X													X								
101	SB-3 (20')				X							X			1330		X		X													X								
102	SB-4 (5'-6')				X							X			1405		X		X													X								
103	SB-4 (10')				X							X			1410		X		X													X								

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°c:
Shane	Etech	8/8/08		K Garcia	Etech	8/8/08	3:00pm	
K Garcia	Etech	8/8/08	3:00pm	Melanie Burton	Trace	8/8/08	3:00	35

LAB USE ONLY
Intact Y N
Headspace Y / N NA
3.0
Log-In-Review

REMARKS: All tests Midland

- ☐ Dry Weight Basis Required
- ☐ TRRP Report Required
- ☐ Check If Special Reporting Limits Are Needed

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

Carrier # Carry Ltd

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LAB Order # 8080838 Page 2 of 2

TraceAnalysis, Inc.

email: lab@traceanalysis.com

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8808 Camp Bowie Blvd. West, Suite 180, Ft. Worth, Texas 76116, Tel (817) 201-5260, Fax (817) 560-4336

Company Name: Etech Environmental | Phone #: 563-2200
Address: (Street, City, Zip) PO Box 8465 Midland | Fax #: 563-2213
Contact Person: Shane | E-mail: shane@etechenv.com
Invoice to: (If different from above)
Project #: 163-1724-000 | Project Name: Federal 34 #1
Project Location (including state): Carlsbad, NM | Sampler Signature:

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME	MTBE 8021B / 602 / 8260B / 624	BTEX 8021B / 602 / 8260B / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270C / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C / 625	PCB's 8082 / 608	Pesticides 8081A / 608	BOD, TSS, pH	Moisture Content	Chlorides					Turn Around Time if different from standard	Hold
104	SB-4 (25')	1	4oz		X							X		8/7/08	1425	X		X													X						
105	SB-5 (7')				X							X			1441	X		X													X						
106	SB-5 (20')				X							X			1454	X		X													X						
107	SB-6 (6')				X							X			1501	X		X													X						
108	SB-6 (10')				X							X			1510	X		X													X						
109	SB-7 (5')				X							X			1528	X		X													X						
110	SB-7 (15'-20')				X							X			1541	X		X													X						
111	SB-8 (8')				X							X			1600	X		X													X						
112	SB-8 (18'-20')				X							X			1621	X		X													X						
113	SB-9 (11')				X							X			1639	X		X													X						
114	SB-9 (30')				X							X			1650	X		X													X						

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°c:
Shane	Etech	8/8/08		K Garcia	Etech	8/8/08	3:00pm	
K Garcia	Etech	8/8/08	3:00pm	Melanie Ballew	Trace	8/8/08	3:00	3.0
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°c:

LAB USE ONLY
Intact Y N
Headspace Y N NA
3.0
Log-in Review

REMARKS:
All tests Midland

- ☐ Dry Weight Basis Required
- ☐ TRRP Report Required
- ☐ Check If Special Reporting Limits Are Needed

Carrier #

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

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NELAP Certifications

Lubbock: T104704219-08-TX
LELAP-02003
Kansas E-10317

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

Shane Estep
Etech Environmental Safety

P.O. Box 8469
Midland, TX, 79708

Report Date: August 13, 2008

Work Order: 8080837

Project Location: Carlsbad, NM
Project Name: Federal 34 #1
Project Number: 163-1724-000

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
170091	SB-10 (4'-6')	soil	2008-08-07	17:04	2008-08-08
170092	SB-10 (30')	soil	2008-08-07	17:19	2008-08-08

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 13 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project Federal 34 #1 were received by TraceAnalysis, Inc. on 2008-08-08 and assigned to work order 8080837. Samples for work order 8080837 were received intact at a temperature of 3.0 deg. C.

Samples were analyzed for the following tests using their respective methods.

Test	Method
BTEX	S 8021B
Chloride (Titration)	SM 4500-Cl B
TPH DRO	Mod. 8015B
TPH GRO	S 8015B

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 8080837 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 170091 - SB-10 (4'-6')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**0.0160**	mg/Kg	1	0.0100
Toluene		**0.0255**	mg/Kg	1	0.0100
Ethylbenzene		**0.0444**	mg/Kg	1	0.0100
Xylene		**0.0910**	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.756	mg/Kg	1	1.00	76	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.780	mg/Kg	1	1.00	78	48.2 - 155

Sample: 170091 - SB-10 (4'-6')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51331	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**247**	mg/Kg	50	2.00

Sample: 170091 - SB-10 (4'-6')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**100**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		163	mg/Kg	1	100	163	10 - 250.4

Sample: 170091 - SB-10 (4'-6')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**26.3**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.886	mg/Kg	1	1.00	89	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.850	mg/Kg	1	1.00	85	63.8 - 141

Sample: 170092 - SB-10 (30')

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51371	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		**0.0144**	mg/Kg	1	0.0100
Xylene		**0.0292**	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.770	mg/Kg	1	1.00	77	68 - 136.9
4-Bromofluorobenzene (4-BFB)		0.821	mg/Kg	1	1.00	82	48.2 - 155

Sample: 170092 - SB-10 (30')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51331	Date Analyzed:	2008-08-11	Analyzed By:	AG
Prep Batch:	44022	Sample Preparation:	2008-08-11	Prepared By:	AG

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		<100	mg/Kg	50	2.00

Sample: 170092 - SB-10 (30')

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51308	Date Analyzed:	2008-08-11	Analyzed By:	LD
Prep Batch:	44003	Sample Preparation:	2008-08-11	Prepared By:	LD

Parameter	Flag	Result	RL Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		121	mg/Kg	1	100	121	10 - 250.4

Sample: 170092 - SB-10 (30')

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	51372	Date Analyzed:	2008-08-12	Analyzed By:	DC
Prep Batch:	44030	Sample Preparation:	2008-08-11	Prepared By:	DC

Parameter	Flag	Result	RL Units	Dilution	RL
GRO		**10.9**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.916	mg/Kg	1	1.00	92	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.874	mg/Kg	1	1.00	87	63.8 - 141

Method Blank (1) QC Batch: 51308

QC Batch: 51308 | Date Analyzed: 2008-08-11 | Analyzed By: LD
Prep Batch: 44003 | QC Preparation: 2008-08-11 | Prepared By: LD

Parameter	Flag	MDL Result	Units	RL
DRO		<15.8	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		72.4	mg/Kg	1	100	72	30.9 - 146.4

Method Blank (1) QC Batch: 51331

QC Batch: 51331 | Date Analyzed: 2008-08-11 | Analyzed By: AG
Prep Batch: 44022 | QC Preparation: 2008-08-11 | Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.500	mg/Kg	2

Method Blank (1) QC Batch: 51371

QC Batch: 51371 | Date Analyzed: 2008-08-12 | Analyzed By: DC
Prep Batch: 44030 | QC Preparation: 2008-08-11 | Prepared By: DC

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00580	mg/Kg	0.01
Toluene		<0.00470	mg/Kg	0.01
Ethylbenzene		<0.00530	mg/Kg	0.01
Xylene		<0.0136	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.789	mg/Kg	1	1.00	79	48.3 - 132.5
4-Bromofluorobenzene (4-BFB)		0.775	mg/Kg	1	1.00	78	37.7 - 128.9

Method Blank (1) QC Batch: 51372

QC Batch: 51372 | Date Analyzed: 2008-08-12 | Analyzed By: DC
Prep Batch: 44030 | QC Preparation: 2008-08-11 | Prepared By: DC

Parameter	Flag	MDL Result	Units	RL
GRO		0.969	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.903	mg/Kg	1	1.00	90	39.2 - 135.2
4-Bromofluorobenzene (4-BFB)		0.800	mg/Kg	1	1.00	80	16.8 - 138.1

Laboratory Control Spike (LCS-1)

QC Batch: 51308 | Date Analyzed: 2008-08-11 | Analyzed By: LD
Prep Batch: 44003 | QC Preparation: 2008-08-11 | Prepared By: LD

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	208	mg/Kg	1	250	<15.8	83	27.8 - 152.1

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	216	mg/Kg	1	250	<15.8	86	27.8 - 152.1	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane [1]	121	134	mg/Kg	1	100	121	134	38 - 130.4

Laboratory Control Spike (LCS-1)

QC Batch: 51331 | Date Analyzed: 2008-08-11 | Analyzed By: AG
Prep Batch: 44022 | QC Preparation: 2008-08-11 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	101	mg/Kg	1	100	<0.500	101	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	100	mg/Kg	1	100	<0.500	100	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

[1] High surrogate recovery due to peak interference.

Laboratory Control Spike (LCS-1)

QC Batch: 51371 | Date Analyzed: 2008-08-12 | Analyzed By: DC
Prep Batch: 44030 | QC Preparation: 2008-08-11 | Prepared By: DC

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.846	mg/Kg	1	1.00	<0.00580	85	73.3 - 116.6
Toluene	0.865	mg/Kg	1	1.00	<0.00470	86	78.6 - 115.1
Ethylbenzene	0.844	mg/Kg	1	1.00	<0.00530	84	77.4 - 114.9
Xylene	2.54	mg/Kg	1	3.00	<0.0136	85	78.2 - 114.7

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.895	mg/Kg	1	1.00	<0.00580	90	73.3 - 116.6	6	20
Toluene	0.909	mg/Kg	1	1.00	<0.00470	91	78.6 - 115.1	5	20
Ethylbenzene	0.900	mg/Kg	1	1.00	<0.00530	90	77.4 - 114.9	6	20
Xylene	2.69	mg/Kg	1	3.00	<0.0136	90	78.2 - 114.7	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.954	0.805	mg/Kg	1	1.00	95	80	45 - 124.2
4-Bromofluorobenzene (4-BFB)	0.762	0.810	mg/Kg	1	1.00	76	81	47.2 - 130.4

Laboratory Control Spike (LCS-1)

QC Batch: 51372 | Date Analyzed: 2008-08-12 | Analyzed By: DC
Prep Batch: 44030 | QC Preparation: 2008-08-11 | Prepared By: DC

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	8.70	mg/Kg	1	10.0	0.969	77	57.5 - 106.4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	9.38	mg/Kg	1	10.0	0.969	84	57.5 - 106.4	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.897	0.929	mg/Kg	1	1.00	90	93	63.8 - 134.3
4-Bromofluorobenzene (4-BFB)	0.866	0.894	mg/Kg	1	1.00	87	89	53.3 - 123.6

Matrix Spike (MS-1) Spiked Sample: 170092

QC Batch: 51308 | Date Analyzed: 2008-08-11 | Analyzed By: LD
Prep Batch: 44003 | QC Preparation: 2008-08-11 | Prepared By: LD

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	239	mg/Kg	1	250	47.3	77	18 - 179.5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	244	mg/Kg	1	250	47.3	79	18 - 179.5	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	102	102	mg/Kg	1	100	102	102	34.1 - 158

Matrix Spike (MS-1) Spiked Sample: 170100

QC Batch: 51331 | Date Analyzed: 2008-08-11 | Analyzed By: AG
Prep Batch: 44022 | QC Preparation: 2008-08-11 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	5170	mg/Kg	50	5000	143	100	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	5190	mg/Kg	50	5000	143	101	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170109

QC Batch: 51371 | Date Analyzed: 2008-08-12 | Analyzed By: DC
Prep Batch: 44030 | QC Preparation: 2008-08-11 | Prepared By: DC

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene [2]	1.66	mg/Kg	1	1.00	<0.00580	166	62.2 - 134.3

continued ...

[2]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

matrix spikes continued ...

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Toluene	[3]	1.76	mg/Kg	1	1.00	<0.00470	176	62.6 - 145.4
Ethylbenzene	[4]	1.79	mg/Kg	1	1.00	<0.00530	179	64.6 - 146.4
Xylene	[5]	5.41	mg/Kg	1	3.00	<0.0136	180	64.3 - 148.8

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	[6]	1.53	mg/Kg	1	1.00	<0.00580	153	62.2 - 134.3	8	20
Toluene	[7]	1.60	mg/Kg	1	1.00	<0.00470	160	62.6 - 145.4	10	20
Ethylbenzene	[8]	1.60	mg/Kg	1	1.00	<0.00530	160	64.6 - 146.4	11	20
Xylene	[9]	4.85	mg/Kg	1	3.00	<0.0136	162	64.3 - 148.8	11	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.797	0.823	mg/Kg	1	1	80	82	38.8 - 127.5
4-Bromofluorobenzene (4-BFB)	0.827	0.859	mg/Kg	1	1	83	86	49.3 - 142.4

Matrix Spike (MS-1) Spiked Sample: 170109

QC Batch: 51372 | Date Analyzed: 2008-08-12 | Analyzed By: DC
Prep Batch: 44030 | QC Preparation: 2008-08-11 | Prepared By: DC

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	15.3	mg/Kg	1	10.0	11.3029	40	10 - 139.3

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	16.9	mg/Kg	1	10.0	11.3029	56	10 - 139.3	10	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.972	0.920	mg/Kg	1	1	97	92	21.3 - 119

continued ...

[3]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[4]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[5]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[6]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[7]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[8]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[9]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

matrix spikes continued ...

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
4-Bromofluorobenzene (4-BFB)	0.947	0.880	mg/Kg	1	1	95	88	52.5 - 154

Standard (ICV-1)

QC Batch: 51308 Date Analyzed: 2008-08-11 Analyzed By: LD

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	260	104	85 - 115	2008-08-11

Standard (CCV-1)

QC Batch: 51308 Date Analyzed: 2008-08-11 Analyzed By: LD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	215	86	85 - 115	2008-08-11

Standard (ICV-1)

QC Batch: 51331 Date Analyzed: 2008-08-11 Analyzed By: AG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2008-08-11

Standard (CCV-1)

QC Batch: 51331 Date Analyzed: 2008-08-11 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.6	100	85 - 115	2008-08-11

Standard (ICV-1)

QC Batch: 51371 Date Analyzed: 2008-08-12 Analyzed By: DC

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0917	92	85 - 115	2008-08-12
Toluene		mg/Kg	0.100	0.0940	94	85 - 115	2008-08-12
Ethylbenzene		mg/Kg	0.100	0.0944	94	85 - 115	2008-08-12
Xylene		mg/Kg	0.300	0.284	95	85 - 115	2008-08-12

Standard (CCV-1)

QC Batch: 51371 Date Analyzed: 2008-08-12 Analyzed By: DC

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0946	95	85 - 115	2008-08-12
Toluene		mg/Kg	0.100	0.0947	95	85 - 115	2008-08-12
Ethylbenzene		mg/Kg	0.100	0.0908	91	85 - 115	2008-08-12
Xylene		mg/Kg	0.300	0.273	91	85 - 115	2008-08-12

Standard (ICV-1)

QC Batch: 51372 Date Analyzed: 2008-08-12 Analyzed By: DC

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.13	113	85 - 115	2008-08-12

Standard (CCV-1)

QC Batch: 51372 Date Analyzed: 2008-08-12 Analyzed By: DC

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.10	110	85 - 115	2008-08-12

LAB Order # 8080837 Page 1 of 1

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Contact Person: Shane
E-mail: shane@etechenv.com
Invoice to: (If different from above)
Project #: 163-1724-000
Project Name: Federal 34 #1
Project Location (including state): Eddy Co, NM
Sampler Signature: Shane Eff

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
17009	SB-10 (4'-6')	1	4oz		X							X		8/7/08	1704
010	SB-10 (30')	1	4oz		X							X		8/7/08	1719

LAB #	MTBE 8021B / 602 / 8260B / 624	BTEX 8021B / 602 / 8260B / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270C / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C / 625	PCB's 8082 / 608	Pesticides 8081A / 608	BOD, TSS, pH	Moisture Content	Chlorides	Turn Around Time if different from standard	Hold
17009		X		X													X	X		
010		X		X													X	X		

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°c:
Shane Eff	Etech	8/8/08		K Garcia	Etech	8/8/08	3:00pm	
K Garcia	Etech	8/8/08	3:00	Melanie Patton	Trace	8/8/08	3:00	3.0

LAB USE ONLY
Intact Y N
Headspace Y N NA
3.0
Log-In-Review

REMARKS:
All tests Midland

- ☐ Dry Weight Basis Required
- ☐ TRRP Report Required
- ☐ Check If Special Reporting Limits Are Needed

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C O C.

Carrier # Carry Ltd

ORIGINAL COPY

TRACEANALYSIS, INC.

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NELAP Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 **El Paso:** T104704221-08-TX LELAP-02002 **Midland:** T104704392-08-TX

Analytical and Quality Control Report

Shane Estep
Etech Environmental Safety

P.O. Box 8469
Midland, TX, 79708

Report Date: August 8, 2008

Work Order: 8080142

Project Location: Carlsbad, NM
Project Name: Arrington Fed. 34 #1
Project Number: Arrington Fed. 34 #1

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
169330	Bottom	soil	2008-08-01	10:51	2008-08-01

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Blair Leftwich

Dr. Blair Leftwich, Director

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project Arrington Fed. 34 #1 were received by TraceAnalysis, Inc. on 2008-08-01 and assigned to work order 8080142. Samples for work order 8080142 were received intact at a temperature of 4.0 deg. C.

Samples were analyzed for the following tests using their respective methods.

Test	Method
BTEX	S 8021B
Chloride (Titration)	SM 4500-Cl B
TPH DRO	Mod. 8015B
TPH GRO	S 8015B

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 8080142 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 169330 - Bottom

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51046	Date Analyzed:	2008-08-03	Analyzed By:	DC
Prep Batch:	43787	Sample Preparation:	2008-08-01	Prepared By:	DC

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**0.261**	mg/Kg	20	0.0100
Toluene		<0.200	mg/Kg	20	0.0100
Ethylbenzene		**4.82**	mg/Kg	20	0.0100
Xylene		**27.9**	mg/Kg	20	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		17.3	mg/Kg	20	20.0	86	68 - 136.9
4-Bromofluorobenzene (4-BFB)		21.8	mg/Kg	20	20.0	109	48.2 - 155

Sample: 169330 - Bottom

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	51119	Date Analyzed:	2008-08-05	Analyzed By:	AG
Prep Batch:	43850	Sample Preparation:	2008-08-05	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**194**	mg/Kg	50	2.00

Sample: 169330 - Bottom

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	51020	Date Analyzed:	2008-08-01	Analyzed By:	LD
Prep Batch:	43756	Sample Preparation:	2008-08-01	Prepared By:	LD

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**1060**	mg/Kg	10	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	[1]	255	mg/Kg	10	100	255	10 - 250.4

Sample: 169330 - Bottom

Laboratory: Midland
Analysis: TPH GRO | Analytical Method: S 8015B | Prep Method: S 5035
QC Batch: 51047 | Date Analyzed: 2008-08-03 | Analyzed By: DC
Prep Batch: 43787 | Sample Preparation: 2008-08-01 | Prepared By: DC

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**1840**	mg/Kg	20	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		21.3	mg/Kg	20	20.0	106	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		26.4	mg/Kg	20	20.0	132	63.8 - 141

Method Blank (1) QC Batch: 51020

QC Batch: 51020 | Date Analyzed: 2008-08-01 | Analyzed By: LD
Prep Batch: 43756 | QC Preparation: 2008-08-01 | Prepared By: LD

Parameter	Flag	MDL Result	Units	RL
DRO		20.2	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		79.0	mg/Kg	1	100	79	30.9 - 146.4

Method Blank (1) QC Batch: 51046

QC Batch: 51046 | Date Analyzed: 2008-08-03 | Analyzed By: DC
Prep Batch: 43787 | QC Preparation: 2008-08-01 | Prepared By: DC

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00580	mg/Kg	0.01
Toluene		<0.00470	mg/Kg	0.01

continued ...

[1] High surrogate recovery due to peak interference.

method blank continued ...

Parameter	Flag	MDL Result	Units	RL
Ethylbenzene		<0.00530	mg/Kg	0.01
Xylene		<0.0136	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.813	mg/Kg	1	1.00	81	48.3 - 132.5
4-Bromofluorobenzene (4-BFB)		0.783	mg/Kg	1	1.00	78	37.7 - 128.9

Method Blank (1) QC Batch: 51047

QC Batch: 51047 | Date Analyzed: 2008-08-03 | Analyzed By: DC
Prep Batch: 43787 | QC Preparation: 2008-08-01 | Prepared By: DC

Parameter	Flag	MDL Result	Units	RL
GRO		0.969	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.971	mg/Kg	1	1.00	97	39.2 - 135.2
4-Bromofluorobenzene (4-BFB)		0.882	mg/Kg	1	1.00	88	16.8 - 138.1

Method Blank (1) QC Batch: 51119

QC Batch: 51119 | Date Analyzed: 2008-08-05 | Analyzed By: AG
Prep Batch: 43850 | QC Preparation: 2008-08-05 | Prepared By: AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.500	mg/Kg	2

Laboratory Control Spike (LCS-1)

QC Batch: 51020 | Date Analyzed: 2008-08-01 | Analyzed By: LD
Prep Batch: 43756 | QC Preparation: 2008-08-01 | Prepared By: LD

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	286	mg/Kg	1	250	20.2	106	27.8 - 152.1

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	296	mg/Kg	1	250	20.2	110	27.8 - 152.1	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane [2]	125	137	mg/Kg	1	100	125	137	38 - 130.4

Laboratory Control Spike (LCS-1)

QC Batch: 51046 | Date Analyzed: 2008-08-03 | Analyzed By: DC
Prep Batch: 43787 | QC Preparation: 2008-08-01 | Prepared By: DC

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.936	mg/Kg	1	1.00	<0.00580	94	73.3 - 116.6
Toluene	0.960	mg/Kg	1	1.00	<0.00470	96	78.6 - 115.1
Ethylbenzene	0.932	mg/Kg	1	1.00	<0.00530	93	77.4 - 114.9
Xylene	2.85	mg/Kg	1	3.00	<0.0136	95	78.2 - 114.7

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.904	mg/Kg	1	1.00	<0.00580	90	73.3 - 116.6	4	20
Toluene	0.922	mg/Kg	1	1.00	<0.00470	92	78.6 - 115.1	4	20
Ethylbenzene	0.897	mg/Kg	1	1.00	<0.00530	90	77.4 - 114.9	4	20
Xylene	2.74	mg/Kg	1	3.00	<0.0136	91	78.2 - 114.7	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.775	0.821	mg/Kg	1	1.00	78	82	45 - 124.2
4-Bromofluorobenzene (4-BFB)	0.784	0.815	mg/Kg	1	1.00	78	82	47.2 - 130.4

Laboratory Control Spike (LCS-1)

QC Batch: 51047 | Date Analyzed: 2008-08-03 | Analyzed By: DC
Prep Batch: 43787 | QC Preparation: 2008-08-01 | Prepared By: DC

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	10.4	mg/Kg	1	10.0	<0.442	104	57.5 - 106.4

[2]High surrogate recovery due to peak interference.

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	9.31	mg/Kg	1	10.0	<0.442	93	57.5 - 106.4	11	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.03	0.998	mg/Kg	1	1.00	103	100	63.8 - 134.3
4-Bromofluorobenzene (4-BFB)	0.952	0.922	mg/Kg	1	1.00	95	92	53.3 - 123.6

Laboratory Control Spike (LCS-1)

QC Batch: 51119 | Date Analyzed: 2008-08-05 | Analyzed By: AG
Prep Batch: 43850 | QC Preparation: 2008-08-05 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	101	mg/Kg	1	100	<0.500	101	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	103	mg/Kg	1	100	<0.500	103	85 - 115	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 169330

QC Batch: 51020 | Date Analyzed: 2008-08-01 | Analyzed By: LD
Prep Batch: 43756 | QC Preparation: 2008-08-01 | Prepared By: LD

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	1120	mg/Kg	10	250	1060	24	18 - 179.5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO [3]	834	mg/Kg	10	250	1060	0	18 - 179.5	29	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

[3]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	[4] [5]	295	855	mg/Kg	10	100	295	855	34.1 - 158

Matrix Spike (MS-1) Spiked Sample: 168951

QC Batch: 51046 | Date Analyzed: 2008-08-03 | Analyzed By: DC
Prep Batch: 43787 | QC Preparation: 2008-08-01 | Prepared By: DC

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.03	mg/Kg	1	1.00	<0.00580	103	62.2 - 134.3
Toluene	1.07	mg/Kg	1	1.00	<0.00470	107	62.6 - 145.4
Ethylbenzene	1.07	mg/Kg	1	1.00	<0.00530	107	64.6 - 146.4
Xylene	3.25	mg/Kg	1	3.00	<0.0136	108	64.3 - 148.8

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.01	mg/Kg	1	1.00	<0.00580	101	62.2 - 134.3	2	20
Toluene	1.03	mg/Kg	1	1.00	<0.00470	103	62.6 - 145.4	4	20
Ethylbenzene	1.06	mg/Kg	1	1.00	<0.00530	106	64.6 - 146.4	1	20
Xylene	3.20	mg/Kg	1	3.00	<0.0136	107	64.3 - 148.8	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.772	0.814	mg/Kg	1	1	77	81	38.8 - 127.5
4-Bromofluorobenzene (4-BFB)	0.802	0.836	mg/Kg	1	1	80	84	49.3 - 142.4

Matrix Spike (MS-1) Spiked Sample: 169330

QC Batch: 51047 | Date Analyzed: 2008-08-03 | Analyzed By: DC
Prep Batch: 43787 | QC Preparation: 2008-08-01 | Prepared By: DC

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	[6]	2280	mg/Kg	20	200	1838.2	221	10 - 139.3

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

[4] High surrogate recovery due to peak interference.
[5] High surrogate recovery due to peak interference.
[6] Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO [7]	2540	mg/Kg	20	200	1838.2	351	10 - 139.3	11	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	19.7	21.2	mg/Kg	20	20	98	106	21.3 - 119
4-Bromofluorobenzene (4-BFB)	25.7	28.2	mg/Kg	20	20	128	141	52.5 - 154

Matrix Spike (MS-1) Spiked Sample: 169371

QC Batch: 51119 | Date Analyzed: 2008-08-05 | Analyzed By: AG
Prep Batch: 43850 | QC Preparation: 2008-08-05 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	4940	mg/Kg	50	5000	52.55	98	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	4970	mg/Kg	50	5000	52.55	98	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Standard (ICV-1)

QC Batch: 51020 | Date Analyzed: 2008-08-01 | Analyzed By: LD

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	277	111	85 - 115	2008-08-01

Standard (CCV-1)

QC Batch: 51020 | Date Analyzed: 2008-08-01 | Analyzed By: LD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	287	115	85 - 115	2008-08-01

[7]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

Standard (ICV-1)

QC Batch: 51046 | Date Analyzed: 2008-08-03 | Analyzed By: DC

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0914	91	85 - 115	2008-08-03
Toluene		mg/Kg	0.100	0.0931	93	85 - 115	2008-08-03
Ethylbenzene		mg/Kg	0.100	0.0907	91	85 - 115	2008-08-03
Xylene		mg/Kg	0.300	0.276	92	85 - 115	2008-08-03

Standard (CCV-1)

QC Batch: 51046 | Date Analyzed: 2008-08-03 | Analyzed By: DC

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0910	91	85 - 115	2008-08-03
Toluene		mg/Kg	0.100	0.0921	92	85 - 115	2008-08-03
Ethylbenzene		mg/Kg	0.100	0.0873	87	85 - 115	2008-08-03
Xylene		mg/Kg	0.300	0.279	93	85 - 115	2008-08-03

Standard (ICV-1)

QC Batch: 51047 | Date Analyzed: 2008-08-03 | Analyzed By: DC

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.982	98	85 - 115	2008-08-03

Standard (CCV-1)

QC Batch: 51047 | Date Analyzed: 2008-08-03 | Analyzed By: DC

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.14	114	85 - 115	2008-08-03

Standard (ICV-1)

QC Batch: 51119 | Date Analyzed: 2008-08-05 | Analyzed By: AG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.6	98	85 - 115	2008-08-05

Standard (CCV-1)

QC Batch: 51119 Date Analyzed: 2008-08-05 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2008-08-05

LAB Order # 8080142 Page 1 of 1

TraceAnalysis, Inc.

email: lab@traceanalysis.com

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8808 Camp Bowie Blvd. West, Suite 180, Ft. Worth, Texas 76116, Tel (817) 201-5260, Fax (817) 560-4336

Company Name: Etech Environmental
Phone #: 563-2200
Address: (Street, City, Zip) PO Box 8469, Midland 79708
Fax #: 563-2213
Contact Person: Shane
E-mail: shane@etechenv.com
Invoice to: (If different from above)
Project #:
Project Name: Arrington Fed. 34 #1
Project Location (including state): Carlsbad New Mexico
Sampler Signature:

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME	MTBE 8021B / 602 / 8260B / 624	BTEX 8021B / 602 / 8260B / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270C / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C / 625	PCB's 8082 / 608	Pesticides 8081A / 608	BOD, TSS, pH	Moisture Content	Turn Around Time if different from standard	Hold
109320	Bottom	1	4oz	X				X				X		8/1/08	1051	X	X	X														X	

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°C:
	Etech	8/1/08	4:07	Melanie Batton	Trace	8/1/08	4:17	4.0

LAB USE ONLY: Intact Y / N; Headspace Y / N / NA; 4.0; Log-In-Review

REMARKS: Rush by Lunch on Monday 8/4/08

- Dry Weight Basis Required
- TRRP Report Required
- Check If Special Reporting Limits Are Needed

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

Carrier # Carry on

ORIGINAL COPY

Appendix C – Supporting Documentation

United States Department of Agriculture

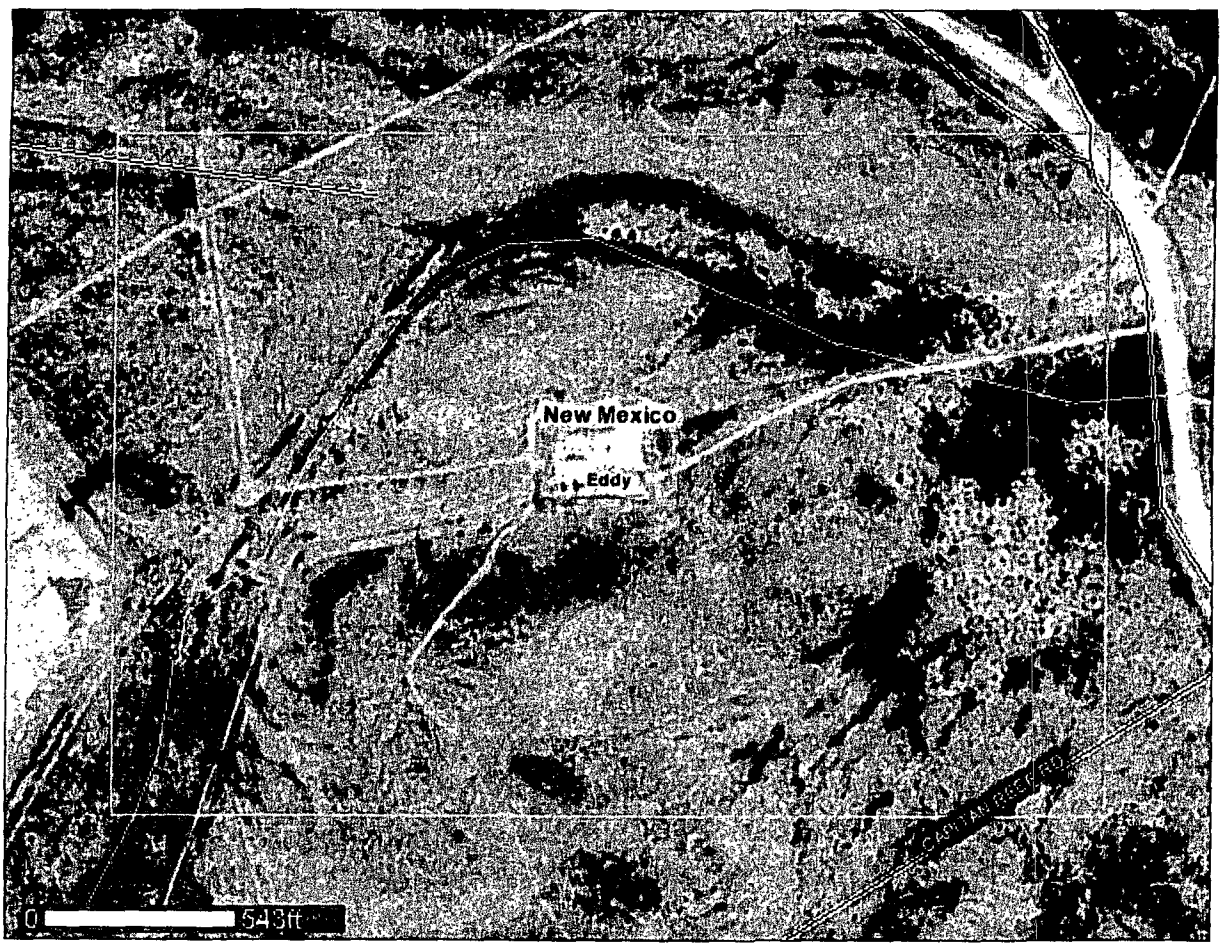
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Eddy Area, New Mexico

Federal 34 #1



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Soil Data Mart Web site or the NRCS Web Soil Survey. The Soil Data Mart is the data storage site for the official soil survey information.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

N

Meters
0 50 100 200 300

Feet
0 350 700 1,400 2,100

Custom Soil Resource Report
Legend

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features

Municipalities
- Cities
- Urban Areas

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails

Roads
- Interstate Highways
- US Routes
- State Highways
- Local Roads
- Other Roads

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 13N

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 6, Jan 28, 2007

Date(s) aerial images were photographed: 10/19/1997

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Eddy Area, New Mexico (NM614)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
EE	Ector extremely rocky loam, 9 to 25 percent slopes	26.3	21.3%
PM	Pima silt loam, 0 to 1 percent slopes	7.5	6.1%
UG	Upton gravelly loam, 0 to 9 percent slopes	45.2	36.7%
UR	Upton-Reagan complex, 0 to 9 percent slopes	44.3	36.0%
Totals for Area of Interest (AOI)		123.3	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series.* Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases.* Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas.* Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Eddy Area, New Mexico Version date:1/28/2007 7:42:44 PM

EE—Ector extremely rocky loam, 9 to 25 percent slopes

Map Unit Setting

Elevation: 3,300 to 4,800 feet
Mean annual precipitation: 10 to 18 inches
Mean annual air temperature: 58 to 62 degrees F
Frost-free period: 195 to 210 days

Map Unit Composition

Ector and similar soils: 100 percent

Description of Ector

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Backslope, footslope, shoulder, toeslope
Landform position (three-dimensional): Crest, nose slope, side slope, head slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from limestone

Properties and qualities

Slope: 9 to 25 percent
Depth to restrictive feature: 4 to 20 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 60 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Very low (about 0.4 inches)

Interpretive groups

Land capability (nonirrigated): 7s
Ecological site: Limestone Hills (R070XD151NM)

Typical profile

0 to 6 inches: Very cobbly loam
6 to 60 inches: Bedrock

PM—Pima silt loam, 0 to 1 percent slopes

Map Unit Setting

Elevation: 3,200 to 4,200 feet
Mean annual precipitation: 10 to 16 inches

Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 195 to 210 days

Map Unit Composition
Pima and similar soils: 100 percent

Description of Pima

Setting
Landform: Alluvial fans, alluvial flats, flood plains
Landform position (three-dimensional): Rise, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Alluvium

Properties and qualities
Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: High (about 11.9 inches)

Interpretive groups
Land capability classification (irrigated): 1
Land capability (nonirrigated): 7c
Ecological site: Bottomland (R042XC017NM)

Typical profile
0 to 3 inches: Silt loam
3 to 60 inches: Silty clay loam

UG—Upton gravelly loam, 0 to 9 percent slopes

Map Unit Setting
Elevation: 3,000 to 4,400 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 200 to 217 days

Map Unit Composition
Upton and similar soils: 100 percent

Description of Upton

Setting
Landform: Fans, ridges
Landform position (three-dimensional): Side slope, rise
Down-slope shape: Convex

Across-slope shape: Convex
Parent material: Residuum weathered from limestone

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 75 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Very low (about 1.4 inches)

Interpretive groups

Land capability (nonirrigated): 7s
Ecological site: Shallow (R042XC025NM)

Typical profile

0 to 9 inches: Gravelly loam
9 to 13 inches: Gravelly loam
13 to 21 inches: Cemented
21 to 60 inches: Very gravelly loam

UR—Upton-Reagan complex, 0 to 9 percent slopes

Map Unit Setting

Elevation: 3,000 to 4,400 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 200 to 220 days

Map Unit Composition

Upton and similar soils: 55 percent
Reagan and similar soils: 35 percent

Description of Upton

Setting

Landform: Fans, ridges
Landform position (three-dimensional): Side slope, rise
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from limestone

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Calcium carbonate, maximum content: 75 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Very low (about 1.4 inches)

Interpretive groups

Land capability (nonirrigated): 7s
Ecological site: Shallow (R042XC025NM)

Typical profile

0 to 9 inches: Gravelly loam
9 to 13 inches: Gravelly loam
13 to 21 inches: Cemented
21 to 60 inches: Very gravelly loam

Description of Reagan

Setting

Landform: Alluvial fans, fan remnants
Landform position (three-dimensional): Rise
Down-slope shape: Linear, convex
Across-slope shape: Linear
Parent material: Alluvium and/or eolian deposits

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability (nonirrigated): 6e
Ecological site: Loamy (R042XC007NM)

Typical profile

0 to 8 inches: Loam
8 to 60 inches: Loam

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