

October 5, 2006

Mr. Larry Johnson Environmental Engineer New Mexico Oil Conservation Division – District 1 1625 North French Drive Hobbs, New Mexico 88240

### Re: (RP1-1043 Investigation Report, XTO Energy, Inc., Eunice Monument South Unit Well#187, Unit Letter D (NW/4. NW/4), Section 5, Township 21 South, Range 36 East, Lea County, New Mexico

Dear Mr. Johnson:

Please find enclosed the above-referenced report, which is submitted to the State of New Mexico Oil Conservation Division ("OCD") on behalf of XTO Energy, Inc ("XTO") by Larson and Associates, Inc. ("LA"), its consultant, for a produced water spill that occurred at the Eunice Monument South Unit Well #187. Please contact Mr. Dudley McMinn with XTO at (432) 682-8873 or email <u>Dudley\_Mcminn@xtoenergy.com</u> if you have questions. I may be reached with questions at (432) 687-0901 or email <u>mark@laenvironmental.com</u>.

Sincerely, Larson and Associates, Inc.

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

Encl.

cc: Dudley McMinn



October 4, 2006

#### **VIA CERTIFIED MAIL**

Mr. Larry Johnson Environmental Engineer State of New Mexico Oil Conservation Division 1625 North French Drive Hobbs, New Mexico 88240

### Re: 1RP-1043, XTO Energy, Inc., EMSU Well #187 Produced Water Spill Investigation Report, Unit Letter D (NW/4, NW/4), Section 5, Township 21 South, Range 36 East, Lea County, New Mexico

Dear Mr. Johnson:

This letter is submitted to the State of New Mexico Oil Conservation Division ("OCD") on behalf of XTO Energy, Inc. ("XTO") by Larson and Associates, Inc. ("LA"), its agent, to present the results of an investigation of a produced water spill at the Eunice Monument South Unit ("EMSU") injection well #187 ("Site"). The latitude and longitude for the Site is North 32° 31' 14.1" and West 103° 17' 37.8", respectively. Figure 1 presents a topographic and depth-to-groundwater map. Contact information for XTO is as follows:

Mr. Dudley M<sup>c</sup>Minn Environmental, Health & Safety Representative XTO Energy, Inc. 200 North Loraine Street, Suite 800 Midland, Texas 79701 Office: (432) 682-8873 Fax: (432) 687-0862 Cell: (432) 557-7976 Email: Dudley McMinn@xtoenergy.com

#### **Chronology**

The spill occurred on August 2, 2004, while ChevronTexaco North America Exploration and Production Company ("ChevronTexaco") operated the property. ChevronTexaco reported the spill to the OCD on August 3, 2004, and submitted form C-141. Form C-141 reported the release involved approximately 180 barrels ("bbl") of produced water and 160 bbl was recovered. ChevronTexaco personnel scrapped an unknown volume of soil from the spill, which was disposed at Sundance, Inc., located east of Eunice, New Mexico. XTO assumed operations of the Site on August 16, 2004.

Mr. Larry Johnson October 4, 2006 Page 2

On November 9, 2004, December 22, 2004, April 3, 2006 and July 6, 2006, LA personnel collected soil samples from borings and notification was provided to the OCD prior to each event. The samples were collected using hand auger, direct push and air rotary methods, placed in 4-ounce glass jars, labeled, chilled in an ice chest and delivered to Environmental Lab of Texas, Inc., located in Odessa, Texas. Duplicate sample were collected for headspace analysis and recorded on boring logs. All headspace readings were below 100 parts per million ("ppm"), therefore, the laboratory analyzed select samples for total petroleum hydrocarbons ("TPH") and all samples were analyzed for chloride using methods SW-846-8015 and 300, respectively. Figure 2 presents the boring locations. Table 1 presents a summary of the laboratory analysis. Appendix A presents the boring logs. Appendix B presents the laboratory reports. Appendix C presents photographs.

#### **Conclusions**

Ground water occurs at approximately 105 feet below ground surface ("bgs") and no wells or surface water is present within 1,000 horizontal feet of the Site. Figure 1 presents contours for depth-to-groundwater. Recommended remediation action levels ("RRAL") were calculated for the Site using the following OCD criteria:

Ranking Criteria	Result	<b>Ranking Score</b>		
Depth-to-Groundwater	>100 feet	0		
Wellhead Protection Area	No	0		
Distance to Surface Water Body	>1000 Horizontal Feet	0		
	Total Score:	0		

The following RRAL are assigned to the leak based on the total ranking score (0):

$\triangleright$	Benzene	10 mg/kg
$\triangleright$	BTEX	50 mg/kg
۶	TPH	5,000 mg/kg

TPH was below 5,000 mg/Kg in all samples. The maximum vertical concentration of chloride decreased below 1000 milligrams per kilogram ("mg/Kg") at all locations, except from location HB-12. The deepest sample from boring HB-12 (40 to 41 feet), reported chloride at 1,110 mg/Kg. The highest chloride was reported in sample HB-12, 20 to 22 feet bgs (3,110 mg/Kg). This sample was analyzed using the synthetic precipitation leaching procedure ("SPLP") by EPA method SW-846-1312 to determine if the chloride would leach above the New Mexico Water Quality Control Commission ("WQCC") domestic water quality threshold of 250 milligrams per liter ("mg/L"). The chloride concentration from the SPLP method was 177 mg/L. XTO respectfully requests a closure letter from the OCD for this spill. Please contact Mr. Dudley McMinn with XTO at (432) 682-8873 or email <u>Dudley\_McMinn@xtoenergy.com</u> if you have questions. I may be reached with questions at (432) 687-0901 or email mark@laenvironmental.com.

Mr. Larry Johnson October 4, 2006 Page 3

Sincerely, Larson and Associates, Inc.

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

Encl

cc: Dudley McMinn/XTO

Tables

.

Table 1
Summary of Laboratory Analyses of Soil Samples
XTO Energy, Inc., Eunice Monument South Uunit (EMSU) Well #187
Unit Letter D (NW/4, NW/4), Section 5, Township 21 South, Range 36 East
Los County Novico

	UII	Letter D ()	,	), Section 5, 7 ea County, N	-	South, Mang	e Jo East		Page 1 of 3
Sample	Sample	Sample	GRO	DRO	DRO	DRO	TPH	Chloride	SPLP
Location	Date	Depth	C6 - C12	C12 - C35	C12 - C28	C28 - C35	C6 - C35	(mg/Kg)	Chloride
		(BGS)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	( <del>,</del>	(mg/L)
HB-1	11/09/2004	0 - 1	9.7	66			75.7	638	
BBH-1	11/09/2004	1 - 2	<10	<10			<20	808	
HB-1A	11/09/2004	2 - 3	<10	<10			<20	399	
	12/22/2004	4 -6						968	
	12/22/2004	6 - 8						1320	
	04/03/2006	10 - 12						936	
	04/03/2006	15 - 17						1400	
	04/03/2006	20 - 22						441	
HB-2	11/09/2004	0 - 1	<10	107			107	2800	
HB-2A	11/09/2004	1 - 2	<10	68			68	1300	
	11/09/2004	2 - 3	<10	<10			<20	1130	
	04/04/2006	5 - 7						3470	
	04/04/2006	10 - 12						2360	
	04/04/2006	15 - 17						681	
HB-3	11/09/2004	0 - 1	<10	<10			<20	<20	
	11/09/2004	1 - 2	<10	<10			<20	<20	
	11/09/2004	2 - 3	<10	<10			<20	<20	
HB-4	11/09/2004	0 - 1	<10	<10			<20	97.7	
BBH-4	11/09/2004	1 - 2	<10	<10			<20	638	
HB-4A	11/09/2004	2 - 3	<10	<10			<20	915	
	12/22/2004	4 - 6						1280	
	04/03/2006	10 - 12						553	
HB-5	11/09/2004	0 - 1	<10	<10			<20	<20	
	11/09/2004	1 -2	<10	<10			<20	31.9	
	11/09/2004	2 - 3	<10	<10			<20	<20	
HB-6	11/09/2004	0 - 1	<10	286			286	362	
BBH-6	11/09/2004	1 - 2	<10	191			191	319	
HB-6A	11/09/2004	2 - 3	<10	<10			<20	585	
	12/22/2004	4 - 6						1420	
	12/22/2004	6 - 8						893	
	04/03/2006	10 - 12						223	
HB-7	11/09/2004	0-1	<10	<10			<20	<20	
	11/09/2004	1-2	<10	142			142	<20	
	11/09/2004	2-3	<10	<10			<20	<20	
HB-8	11/09/2004	0 - 1	<10	<10			<20	<20	
HB-8A	11/09/2004	1 - 2	<10	<10			<20	42.5	
	11/09/2004	2 - 3	<10	<10			<20	63.8	
	04/03/2006	5 -7						489	
	07/06/2006	10 - 11						31.9	
	07/06/2006	15 - 16						21.3	
	07/06/2006	20 - 21						<20	
	07/06/2006	25 - 26							
BH-9	12/22/2004	0 - 2						63.8	
HB-9A	12/22/2004	2 -4						<20	
	12/22/2004	4 - 6						21.3	
	12/22/2004	6 - 8						170	
	04/03/2006	10 - 12						872	

Table 1

Summary of Laboratory Analyses of Soil Samples XTO Energy, Inc., Eunice Monument South Uunit (EMSU) Well #187 Unit Letter D (NW/4, NW/4), Section 5, Township 21 South, Range 36 East Lea County, New Mexico

				ea County, N					Page 2 of
Sample	Sample	Sample	GRO	DRO	DRO	DRO	ТРН	Chloride	SPLP
Location	Date	Depth	C6 - C12	C12 - C35	C12 - C28	C28 - C35	C6 - C35	(mg/Kg)	Chlorid
		(BGS)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)		(mg/L)
	04/03/2006	15 - 16						766	
	07/06/2006	20 - 21						1,470	
	07/06/2006	25 - 26						319	
	07/06/2006	30 - 31						340	
BH-10	12/22/2004	0 - 2						<20	
HB-10A	12/22/2004	2 - 4						<20	
	12/22/2004	4 - 6						<20	
	12/22/2004	6 - 8						31.9	
	04/03/2006	10 -12						1070	
	04/03/2006	15 - 17						1740	
	04/03/2006	20 - 22						959	
BH-11	12/22/2004	0 - 2						<20	
HB-11A	12/22/2004	2 - 4						<20	
	12/22/2004	4 - 6						<20	
	12/22/2004	6 - 8						<20	
	04/03/2006	10 - 12						117	
HB-12	04/04/2006	0 - 2	<10		<10	<10	<30	<20	
	04/04/2006	5 - 7						510	
	04/04/2006	10-12						2000	
	04/04/2006	20 - 22						3110	177
	07/06/2006	25 - 26	<10		<10	<10	<30	2,340	
	07/06/2006	30 - 31						510	
	07/06/2006	35 - 36						1,020	
	07/06/2006	40 - 41						1,110	
HB-13	04/03/2006	0 - 2						<20	
110-13	04/03/2006	5-7						404	
	04/03/2006	10 - 12						170	[
HB-14	07/06/2006	0 - 2						<20	
пр-14	07/06/2006	0-2 5-6					:	978	
								681	
	07/06/2006	10-11					 <30	893	
	07/06/2006	15 - 16 20 - 22	<10		<10	<10			
	07/06/2006 07/06/2006	20 - 22 25 - 26						1,700 638	
	07/06/2006	25 - 26 30 - 31						553	
BH-14	07/06/2006	<u> </u>						298	
D11-14	07/06/2006	33 - 30 40 - 41						270	
HB-15	07/06/2006	<u>40 - 41</u> 0 - 2						31.9	
110-15	07/06/2006	0-2 5-6	<10		 <10	 <10	 <30	74.4	
	07/06/2006	10-11	~10		~10			<20	
	07/06/2006	15 - 16						<20	
	07/06/2006	20 - 21						<20	
	07/06/2006	25 - 26							
Background	11/09/2004	0 - 1	<10.0			<10.0	<20.0	<20	
	07/06/2006	0-2						<20	
	11/09/2004	1 -2	<10.0			<10.0	<20.0	<20	
	11/09/2004	2 - 3	<10.0			<10.0	<20.0	<20	
	07/06/2006	5 - 6						31.9	

# Table 1Summary of Laboratory Analyses of Soil SamplesXTO Energy, Inc., Eunice Monument South Uunit (EMSU) Well #187Unit Letter D (NW/4, NW/4), Section 5, Township 21 South, Range 36 EastLea County, New Mexico

	Lea County, New Mexico											
Sample Location	Sample Date	Sample Depth (BGS)	GRO C6 - C12 (mg/Kg)	DRO C12 - C35 (mg/Kg)	DRO C12 - C28 (mg/Kg)	DRO         TPH           C28 - C35         C6 - C35           (mg/Kg)         (mg/Kg)		Chloride (mg/Kg)	SPLP Chloride (mg/L)			
Background	07/06/2006	10-11						<20				
	07/06/2006	15 - 16						85.1				
	07/06/2006	20 - 21						42.5				
	07/06/2006	25 - 26						21.3				
	07/06/2006	30 - 31						<20				
	07/06/2006	35 - 36						<20				
	07/06/2006	40 - 41										

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

1. BGS: Depth in feet below ground surface

2. TPH: Total petroleum hydrocarbons (Sum of C6 to C35)

3. mg/Kg: Milligrams per kilogram

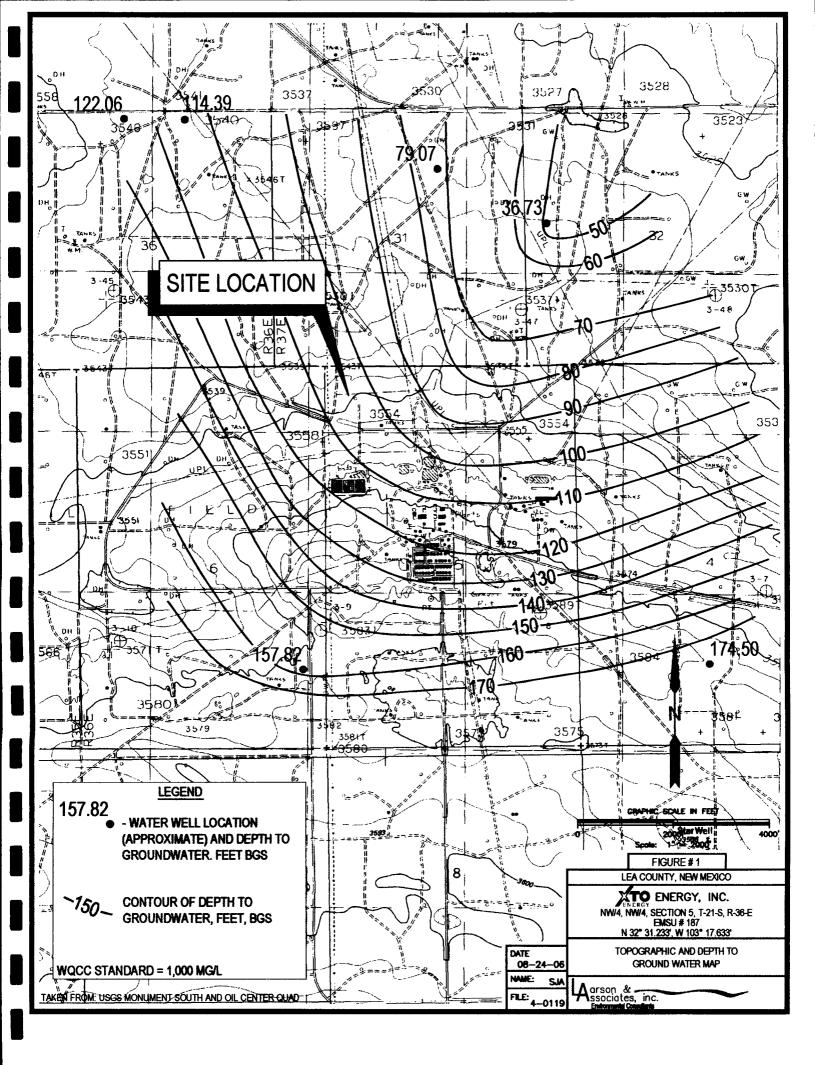
4. mg/L: Milligrams per liter

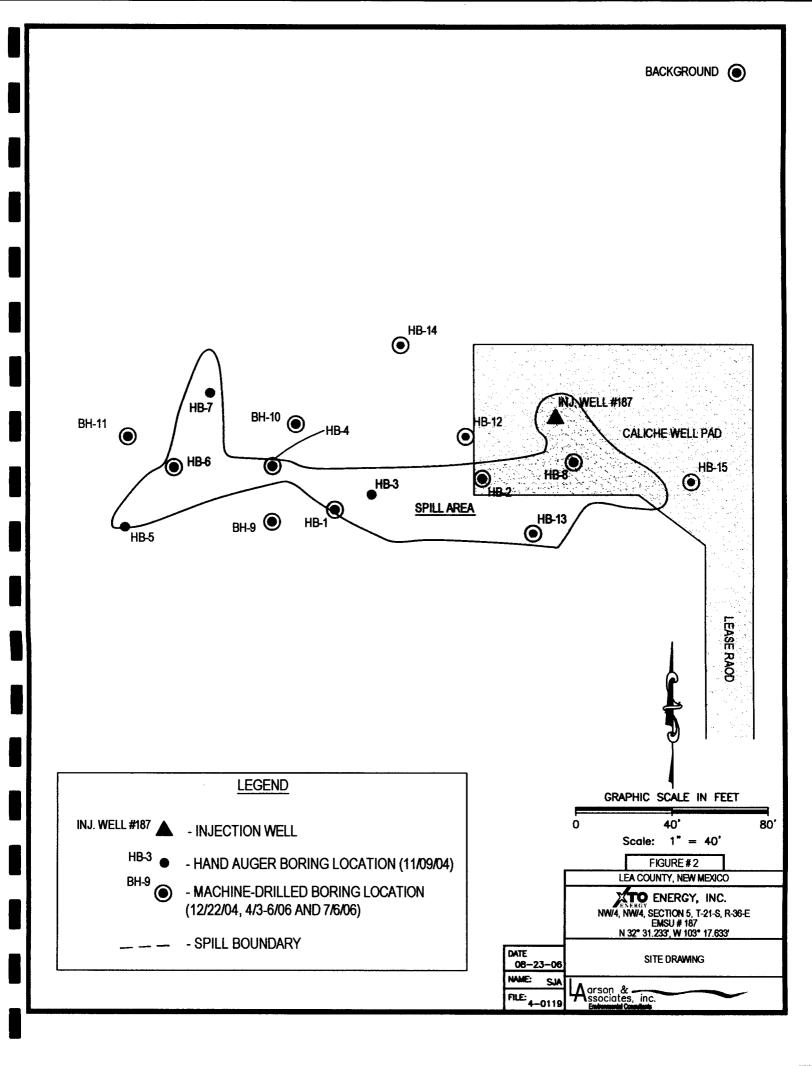
5. <: Below method detection limit

6. --: No data available

Figures

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Appendix A

**Boring Logs** 

Project: EMSU # 187

Project No: 4-0119

Location: Lea County, New Mexico

### Log: Background

Page: 1 of 1

Geologist: C. Crain/M. Larson

		SUBSURFACE PROFILE	s	AMPL	E		
Depth	Symbol	Description	Number	Type	Recovery	PID ppm 1 3 5 7 9	Notes
0		Ground Surface Silty Sand 5 YR 4/6, Yellowish red , very fine grained quartz sand, very poorly sorted, dry	1			0.2	Depth: 0.0' - 2.00' BGS (11/9/04) Chloride: <20 mg/kg
- 5- - -		<i>Caliche</i> 7.5 YR 8/2 to 7/3, Pinkish white to pink, sandy to indurated, very fine grained quartz sand, hard	2			0.6	Depth: 5.00' - 6.00' BGS (7/6/06) Chloride: 31.9 mg/kg
			3				Depth: 10.00' - 11.00' BGS (7/6/06) Chloride: <20 mg/kg
15- - -		Silly Cand Conditions	4			3.9	Depth: 15.00' - 16.00' BGS (7/6/06) Chioride: 85.1 mg/kg
		<i>Silty Sand- Sandstone</i> 7.5 YR 8/2 to 7/3, Pinkish white to pink, very fine grained quartz sand, friable to loose, dry	5			0.6	Depth: 20.00' - 21.00' BGS (7/6/06) Chloride: 42.5 mg/kg
			6				Depth: 25.00' - 26.00' BGS (7/6/06) Chloride: 21.3 mg/kg
30-			7			0.4	Depth: 30.00' - 31.00' BGS (7/6/06) Chloride: <20 mg/kg
35			8			_0.4	Depth: 35.00' - 36.00' BGS (7/6/06) Chloride: <20 mg/kg
40- - - - - 45-		TD: 40.00'	9			•	
D		od: Air Rotary Larson and / 507 N. Marie : 7/6/06 Midland, Tex : 2" (432) 687-09	enfeld kas 79	l, Suit			Elevation: N/A Checked by: MJL Drilled by: Scarborough

Project: EMSU # 187

Project No: 4-0119

Location: Lea County, New Mexico

### Log: HB-1A

Page: 1 of 1

	:	SUBSURFACE PROFILE	S	AMPL	E		
Depth	Symbol	Description	Number	Type	Recovery	PID ppm 0.5 1 1.5	Notes
0- - - - - - - - - - - - - - - - - - -		Ground Surface         Sand         5 YR 4/4, Reddish brown quartz sand, fine grained, moderately well sorted         Caliche         10 YR 8/2, Very pale brown, indurated, dry         Silty Sand         7.5 YR 6/4, Light brown quartz sand, very fine grained, poorly sorted, damp         Sand         5 YR 5/6, Yellowish red quartz sand, very fine grained, well sorted, loose, damp         TD: 22.00'	1			0.8	Depth: 0.0' - 1.00' BGS (11/9/04) TPH: 75.7 mg/kg Chloride: 638 mg/kg Depth: 1.00' - 2.00' BGS (11/9/04) TPH: <20 mg/kg Chloride: 808 mg/kg Depth: 2.00' - 3.00' BGS (11/9/04) TPH: <20 mg/kg Chloride: 399 mg/kg Depth: 4.00' - 6.00' BGS (12/22/04) Chloride: 968 mg/kg Depth: 6.00' - 8.00' BGS (12/22/04) Chloride: 1320 mg/kg Depth: 10.00' - 12.00' BGS (12/22/04) Chloride: 936 mg/kg
D	rill Meth Irill Date Iole Size	(432) 687-09	enfeld (as 79	, Suite			Elevation: N/A Checked by: ML Drilled by: Scarborough

Project: EMSU # 187

Project No: 4-0119

Location: Lea County, New Mexico

### Log: HB-2A

Page: 1 of 1

·····	SUBSURFACE PROFILE	S	AMPL	E			
Depth	Symbol	Description	Number	Type	Recovery	PID ppm 0.5 1 1.5	Notes
		Ground Surface Sand 5 YR 4/4, Reddish brown quartz sand, fine grained, moderately well sorted Caliche 10 YR 8/2, Very pale brown, indurated, dry Silty Sand 7.5 YR 6/4, Light brown quartz sand, very fine grained, poorly sorted, damp Sand 5 YR 6/6, Yellowish red quartz sand, very fine grained, well sorted, loose, damp TD: 22.00'	1			0.3 0.3 0.3 0.3	Depth: 0.0' - 1.00' BGS (11/9/04) TPH: 107 mg/kg Depth: 1.00' - 2.00' BGS (11/9/04) TPH: 68 mg/kg Depth: 2.00' - 3.00' BGS (11/9/04) TPH: <20 mg/kg Chloride: 1130 mg/kg Depth: 5.00' - 7.00' BGS (4/4/04) Chloride: 3470 mg/kg
Dr		iod: Air Rotary       Larson and A         : 4/4/06       507 N. Marie         :: 2"       (432) 687-09	nfeld as 79	, Suite			Elevation: N/A Checked by: ML Drilled by: Scarborough

Project: EMSU # 187

Project No: 4-0119

Location: Lea County, New Mexico

### Log: HB-4A

Page: 1 of 1

		SUBSURFACE PROFILE	S	AMPL	E		
Depth	Symbol	Description	Number	Type	Recovery	PID ppm 0.5 1 1.5	Notes
		Ground Surface Sand 5 YR 4/4, Reddish brown quartz sand, fine grained, moderately well sorted Caliche 10 YR 8/2, Very pale brown, indurated, dry Silty Sand 7.5 YR 6/4, Light brown quartz sand, very fine grained, poorly sorted, damp Sand S YR 6/6, Yellowish red quartz sand, very fine grained, well sorted, loose, damp TD: 22.00'	1			0.3	Depth: 0.0' - 1.00' BGS (11/9/04) TPH: <20 mg/kg Depth: 1.00' - 2.00' BGS (11/9/04) TPH: <20 mg/kg Depth: 2.00' - 3.00' BGS (11/9/04) TPH: <20 mg/kg Chloride: 915 mg/kg Depth: 4.00' - 6.00' BGS (12/22/04) Chloride: 1280 mg/kg Depth: 10.00' - 12.00' BGS (4/3/06) Chloride: 553 mg/kg
D	Drill Method: Air Rotary Drill Date: 4/3/06 Hole Size: 2" Larson and A 507 N. Marie Midland, Tex (432) 687-09					t	Elevation: N/A Checked by: ML Drilled by: Scarborough

Project: EMSU # 187

Project No: 4-0119

Location: Lea County, New Mexico

### Log: HB-6A

Page: 1 of 1

		SUBSURFACE PROFILE	s	AMPI	E		
Depth	Symbol	Description	Number	Type	Recovery	PID ppm 0.5 1 1.5	Notes
0 - - - - - - - - - - - - - - - - - -		Ground Surface Sand 5 YR 4/4, Reddish brown quartz sand, fine grained, moderately well sorted Caliche 10 YR 8/2, Very pale brown, indurated, dry TD: 22.00'	1			0.0	Depth: 0.0' - 1.00' BGS (11/9/04) TPH: 286 mg/kg Depth: 1.00' - 2.00' BGS (11/9/04) TPH: 191 mg/kg Depth: 2.00' - 3.00' BGS (11/9/04) TPH: <20 mg/kg Depth: 4.00' - 6.00' BGS (12/22/04) Chloride: 1420 mg/kg Depth: 6.00' - 8.00' BGS (12/22/04) Chloride: 893 mg/kg Depth: 10.00' - 12.00' BGS (4/3/06) Chloride: 223 mg/kg
	rill Meth Irill Date		enfeld xas 79	, Suit			Elevation: N/A Checked by: ML Drilled by: Scarborough

Project: EMSU # 187

Project No: 4-0119

Location: Lea County, New Mexico

### Log: HB-8A

Page: 1 of 1

Geologist: C. Crain/M. Larson

		SUBSURFACE PROFILE	s	AMPI	E		
Depth	Symbol	Description	Number	Type	Recovery	PID ppm 0.5 1 1.5	Notes
		Ground Surface         Sand         5 YR 4/4, Reddish brown quartz sand, fine         grained, moderately well sorted         Caliche         10 YR 8/2, Very pale brown, indurated, dry         Silty Sand         7.5 YR 6/4, Light brown quartz sand, very fine         grained, poorly sorted, damp         Sand         5 YR 5/6, Yellowish red quartz sand, very fine         grained, well sorted, loose, damp         TD: 26.00'	1 2 3 4			0.7	Depth: 0.0' - 1.00' BGS (11/9/04) TPH: <20 mg/kg Depth: 1.00' - 2.00' BGS (11/9/04) TPH: <20 mg/kg Depth: 2.00' - 3.00' BGS (11/9/04) TPH: <20 mg/kg Chloride: 63.8 mg/kg Depth: 5.00' - 7.00' BGS (4/3/06) Chloride: 489 mg/kg Depth: 10.00' - 11.00' BGS (7/6/06) Chloride: 31.9 mg/kg Depth: 15.00' - 16.00' BGS (7/6/06) Chloride: <20 mg/kg
D	rill Meth rill Date ole Size	(A32) 687-00	enfeld kas 79	, Suite			Elevation: N/A Checked by: ML Drilled by: Scarborough

Project: EMSU # 187

Project No: 4-0119

Location: Lea County, New Mexico

### Log: HB-9A

Page: 1 of 1

Geologist: C. Crain/M. Larson

	;	SUBSURFACE PROFILE	S	AMPL	E					
Depth	Symbol	Description	Number	Type	Recovery	PID ppm 0.5 1 1.5	Notes			
0 - -		Ground Surface <b>Sand</b> 5 YR 4/4, Reddish brown quartz sand, fine grained, moderately well sorted					Depth: 0.0' - 2.00' BGS (12/22/04) Chloride: 63.8 mg/kg Depth: 2.00' - 4.00' BGS (12/22/04) Chloride: <20 mg/kg			
- 5- - -		<b>Caliche</b> 10 YR 8/2, Very pale brown, indurated, dry					Depth: 4.00' - 6.00' BGS (12/22/04) Chloride: 21.3 mg/kg Depth: 6.00' - 8.00' BGS (12/22/04) Chloride: 170 mg/kg			
-   -		<b>Sifty Sand</b> 7.5 YR 6/4, Light brown quartz sand, very fine grained, poorly sorted, damp	1			0.7	Depth: 10.00' - 12.00' BGS (4/3/06) Chloride: 872 mg/kg			
- 15- - -			2			0.1	Depth: 15.00' - 17.00' BGS (4/3/06) Chloride: 766 mg/kg			
20- - - -			3			0.7	Depth: 20.00' - 21.00' BGS (4/3/06) Chloride: 1,470 mg/kg			
25- - - - - 30-			4			0.1	Depth: 25.00' - 26.00' BGS (7/6/06) Chloride: 319 mg/kg			
		TD: 31.00'	5				Depth: 30.00' - 31.00' BGS (7/6/06) Chloride: 340 mg/kg			
D	rill Meth rill Date ole Size	(432) 687-0	enfeld xas 79	l, Suit		1	Elevation: N/A Checked by: ML Drilled by: Scarborough			

Project: EMSU # 187

Project No: 4-0119

Location: Lea County, New Mexico

### Log: HB-10A

Page: 1 of 1

		SUBSURFACE PROFILE	s	AMPI	E		
Depth	Symbol	Description	Number	Type	Recovery	PID ppm 0.5 1 1.5	Notes
0- - - 5- -		Ground Surface <b>Sand</b> 5 YR 4/4, Reddish brown quartz sand, fine grained, moderately well sorted <b>Caliche</b> 10 YR 8/2, Very pale brown, indurated, dry					Depth: 0.0' - 2.00' BGS (12/22/04) Chloride: <20 mg/kg Depth: 2.00' - 4.00' BGS (12/22/04) Chloride: <20 mg/kg Depth: 4.00' - 6.00' BGS (12/22/04) Chloride: <20 mg/kg Depth: 6.00' - 8.00' BGS (12/22/04) Chloride: 31.9 mg/kg
- - - 10 - -			1			0.7	Depth: 10.00' - 12.00' BGS (4/3/06) Chloride: 1,070 mg/kg
- 15- - -		Silty Sand 7.5 YR 6/4, Light brown quartz sand, very fine grained, poorty sorted, damp Sand	2			0.4	Depth: 15.00' - 17.00' BGS (4/3/06) Chloride: 1,740 mg/kg
20- - - - 25-		5 YR 5/6, Yellowish red quartz sand, very fine grained, well sorted, loose, damp <b>TD: 22.00'</b>	3			0.3	Depth: 20.00' - 22.00' BGS (4/3/06) Chloride: 959 mg/kg
D		od: Air Rotary Larson and A 507 N. Marie : 4/4/06 Midland, Tex : 2" (432) 687-09	enfeld (as 79	, Suite			Elevation: N/A Checked by: ML Drilled by: Scarborough

Project: EMSU # 187

Project No: 4-0119

Location: Lea County, New Mexico

### Log: HB-11A

Page: 1 of 1

	SUBSURFACE PROFILE	S	AMPL	E		
Depth Symbol	Description	Number	Type	Recovery	<b>PID</b> ppm 0.5 1 1.5	Notes
	Ground Surface S and 5 YR 4/4, Reddish brown quartz sand, fine grained, moderately well sorted Caliche 10 YR 8/2, Very pale brown, indurated, dry TD: 22.00'	1			0.0	Depth: 0.0' - 2.00' BGS (12/22/04) Chloride: <20 mg/kg Depth: 2.00' - 4.00' BGS (12/22/04) Chloride: <20 mg/kg Depth: 4.00' - 6.00' BGS (12/22/04) Chloride: <20 mg/kg Depth: 6.00' - 8.00' BGS (12/22/04) Chloride: <20 mg/kg
Drill Meti Drill Date Hole Siz	(A32) 687-00	enfeld xas 79	, Suit			Elevation: N/A Checked by: ML Drilled by: Scarborough

Project: EMSU # 187

Project No: 4-0119

Location: Lea County, New Mexico

### Log: HB-12

Page: 1 of 1

Geologist: C. Crain/M. Larson

		SUBSURFACE PROFILE	S	AMPI	E		
Depth	Symbol	Description	Number	Type	Recovery	PID ppm 0.5 1 1.5	Notes
0-		Ground Surface				l 0.0	Depth: 0.0' - 2.00' BGS (4/4/06)
-		Sand 5 YR 4/4, Reddish brown quartz sand, fine grained, moderately well sorted	1				Chloride: <20 mg/kg
- 5 -		<b>Caliche</b> 10 YR 8/2, Very pale brown, indurated, dry	2	I		0.0	Depth: 5.00' - 7.00' BGS (4/4/06) Chloride: 510 mg/kg
-   			3			0.0	Depth: 10.00' - 12.00' BGS (4/4/06) Chloride: 2,200 mg/kg
- 15- - -		<b>Silty Sand</b> 10 YR 7/6, Very fine grained, poorly sorted, damp 7 YR 7/3. Pink below, 25.0' damp, moderativ	4			0.0	Depth: 15.00' - 17.00' BGS (4/4/06) Chloride: 2980 mg/kg
20- - - - - - - - - - - - - - - - 						0.0	Depth: 20.00' - 22.00' BGS (4/3/06) Chloride: 3,110 mg/kg SPLP Chloride: 177 mg/l
-			6	6			Depth: 25.00' - 26.00' BGS (4/3/06) Chloride: 2340 mg/kg
30			7			0.1	Depth: 30.00' - 31.00' BGS (7/6/06) Chloride: 510 mg/kg
35 - - 			8			_0.1	Depth: 35.00' - 36.00' BGS (7/6/06) Chloride: 1,020 mg/kg
40- 45-		TD: 40.00'	9			•	Depth: 40.00' - 41.00' BGS (7/6/06) Chloride: 1,110 mg/kg
D		e: 2" Larson and A 507 N. Marie Midland, Tex (432) 687-09	enfeld kas 79	l, Suit			Elevation: N/A Checked by: ML Drilled by: Scarborough

Project: EMSU # 187

Project No: 4-0119

Location: Lea County, New Mexico

### Log: HB-13

Page: 1 of 1

		SUBSURFACE PROFILE	S	AMPL	E	раницарија — "С. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.					
Depth	Symbol	Description	Number	Type	Recovery	PID ppm 0.5 1 1.5	Notes				
0-		Ground Surface									
-		<b>Sand</b> 5 YR 4/4, Reddish brown quartz sand, fine grained, moderately well sorted	1			0.6	Depth: 0.0' - 2.00' BGS (4/3/06) Chloride: <20 mg/kg				
		2			1.0	Depth: 5.00' - 7.00' BGS (4/3/06) Chloride: 404 mg/kg					
- 10-		<b>Silty Sand</b> 7.5 YR 6/4, Light brown quartz sand, very fine grained, poorly sorted, damp									
	grained, poorly sorted, damp		3			0.0	Depth: 10.00' - 12.00' BGS (4/3/06) Chloride: 170 mg/kg				
15-											
			4			0.0					
		<b>Sand</b> 5 YR 5/6, Yellowish red quartz sand, very fine grained, well sorted, loose, damp									
20-			5			0.0					
		TD: 22.00'									
.											
25-											
D	rill Meth rill Date ole Size		nfeld as 79	, Suite			Elevation: N/A Checked by: CC Drilled by: Scarborough				

Project: EMSU # 187

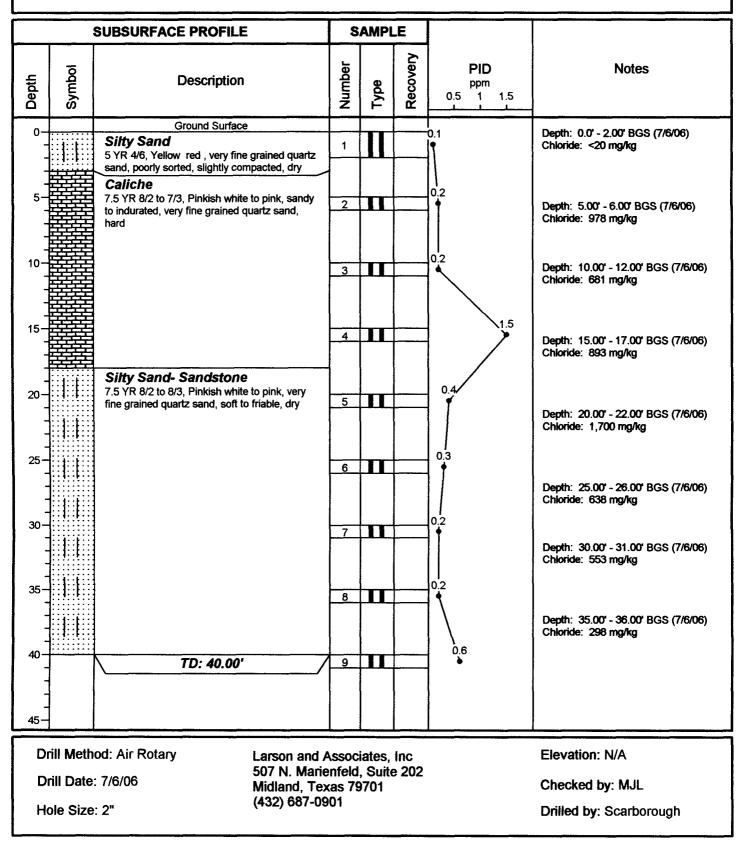
Project No: 4-0119

Location: Lea County, New Mexico

### Log: HB-14

Page: 1 of 1

Geologist: M. Larson



Project: EMSU # 187

Project No: 4-0119

Location: Lea County, New Mexico

### Log: HB-15

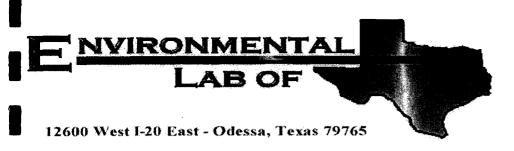
Page: 1 of 1

Geologist: M. Larson

		SUBSURFACE PROFILE	S	AMPI	E		
Depth	Symbol	Description	Number	Type	Recovery	PID ppm 1 3 5 7 9	Notes
		Ground Surface         Caliche       7.5 YR 8/1, White, sandy to indurated, well pad         Sifty Sand       5 YR 4/6, Yellowish red , very fine grained quartz sand, very poorly sorted, dry         Caliche       7.5 YR 8/2 to 7/3, Pinkish white to pink, sandy to indurated, very fine grained quartz sand, hard, dry         Sifty Sand- Sandstone       7.5 YR 8/2 to 8/3, Pinkish white to pink, very fine grained quartz sand, hard, dry         Sifty Sand- Sandstone       7.5 YR 8/2 to 8/3, Pinkish white to pink, very fine grained quartz sand, soft to friable, dry         TD: 26.00'       TD: 26.00'	2 1 2 3 4 4 5 5				Depth: 0.0' - 2.00' BGS (7/6/06) Chloride: 31.9 mg/kg Depth: 5.00' - 6.00' BGS (7/6/06) Chloride: 74.4 mg/kg Depth: 10.00' - 12.00' BGS (7/6/06) Chloride: <20 mg/kg Depth: 15.00' - 16.00' BGS (4/4/06) Chloride: <20 mg/kg Depth: 20.00' - 21.00' BGS (4/3/06) Chloride: <20 mg/kg
D	rill Meth rill Date ole Size	(432) 687-00	enfeld xas 79	, Suit		I	Elevation: N/A Checked by: MJL Drilled by: Scarborough

**Appendix B** 

Laboratory Reports



# Analytical Report

### **Prepared for:**

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

Project: XTO/ Well #187 Project Number: 4-0119 Location: None Given

Lab Order Number: 4K10004

Report Date: 11/12/04

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

Client:	Larson + Associates	
Client:	Larson+Associates	

Date/Time: 11-10-04 @ 0945

JMM

Order #: \_\_\_\_\_\_

Initials:

### Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	1.5 C
Shipping container/cooler in good condition?	Yes	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	Tes	No	
Sample Instructions complete on Chain of Custody?	(res)	No	
Chain of Custody signed when relinquished and received?	(Tes)	No	
Chain of custody agrees with sample label(s)	(Yes)	No	
Container labels legible and intact?	Yes	No	
Sample Matrix and properties same as on chain of custody?	(res)	No	
Samples in proper container/bottle?	res	No	
Samples properly preserved?	(es)	No	
Sample bottles intact?	Yes	No	
Preservations documented on Chain of Custody?	Ves	No	
Containers documented on Chain of Custody?	C	No	
Sufficient sample amount for indicated test?	E	No	
All samples received within sufficient hold time?	(es	No	
VOC samples have zero headspace?	(es)	No	Not Applicable

.....

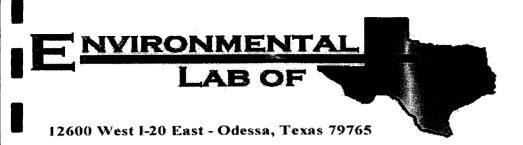
Other observations:

Contact Person: Regarding:	Variance Documentation: Date/Time:	_ Contacted by:
Corrective Action Taken:		
		· · · · · · · · · · · · · · · · · · ·

.

CLIENT NAME:	SITE MANAGER:	PARAMETERS/METHOD NUMBER	NUMBER	CHAIN-OF-CUSTODY RECORD
¢£	(with Bm	S		
PROJECT NO:	PROJECTNAME	S≪ Trainer		Alsociates, Inc. Fax: 432-687-0456 Environmental Consultants
	LAB. PO #	108		202 •
		Hees C		LAB. I.D. REMARKS NI IMBFR II.E., FILTERED, UNFILTERED,
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<del>13.50</del>	102211			
SAMPLED BY: (Signotuge)	RELACTION	AL BY: (Signature) DATE. TIME:	HILL 11	RECEIVED BY: (Signature) DATE:
RELINAU (SHED BY) (Signature)	RECEIVED	(signature) DATE:		SAMPLE SHIPPED BY: (Circle)
)	TIME: CC	TIME:		BUSA
COMMENTS:		TURNAROUND TIME NEEDED		HAND DELIVERED UPS OTHER: WHITE - RECEIVING LAB
	7.0	TEN/ED BV. (Signatura)	<b>F</b>	YELLOW - RECEIVING LAB (TO BE RETURNED TO
VING LABOKAIUKT:		reu Br: i signalurei	PINK	I
CUTY: CORESSO, CONTACT:	11	DATE 11-09-04 TIME 1715	ğ	GOLD - QA/QC COORDINATOR
SAMPLE CONDITION WHEN RECEIVED:		LACONTACT PERSONA	SA	SAMPLE TYPE:
Toz glass serve	201	wow law		

R CHAIN-OF-CUSTODY RECORD	A arson & Inc. Fax: 432-687-0456 Environmental Consultants 432-687-0901 507 N. Marienfeld, Ste. 202 • Midland, TX 79701	LAB. I.D. REMARKS NUMBER I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, (LAB USE ONLY) GRAB COMPOSITE)	4K100041-19	-20 -21	52- در-	K2-	-25	-22 12-				RECEIVED BY: (Signature) DATE: TIME:	SAMPLE SHIPPED BY: (Circle)	EEDEX BUS A	HAND DELIVERED UPS OTHER: WHITE - RECEIVING LAB VELLOW - DECEIVING LAB (TO BE DETI IDNED TO	2	GUU - UAVUC COURDINATOR	SAMPLE TYPE:	
PARAMETERS/METHOD NUMBER	ROIS M ROIS M	24142 1251 1251										HED BY: (Signature) DATEN 1 BY	(signature) DATE:	TIME	TURNAROUND TIME NEEDED	ED BY: (Signature)	DATE: 11-09-04 TIME: 1715	LA EQUÍTACT PERSON:	. 0
SITE MANAGER:	PROJECT NAME PROJECT NAME WOO H/RY	SAMPLE IDENTIFICATION	18-7 0-1	N K	H& 8 0.1	2.3	Brokshund 01/	7- 72				DATE: 11 A 124 RECTINGUISHEI	RECEIVED	TIME: O		TX Trans To TOTLS		1.5.6	
CLIENT NAME:	PROJECT NO.: 21-0119 PAGE OF	3W2	1333	1338	1354	10/11	Sat 1	C1/11	×11L7			sAMPLED BY (Signature)	RELINQUISHED BY: (Signature)	Nn ,	COMMENTS:	RECEIVING LABORATORY: EX ADDRESS: 12400 W I-4	, ACI:	sample condition when received: Hoz glass on i ce	



## **Analytical Report**

### **Prepared for:**

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

Project: XTO/ Well #187 Project Number: 4-0119 Location: None Given

Lab Order Number: 4L23002

Report Date: 12/28/04

Larson & Associates, Inc.	Project: 2	XTO/ Well #187	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 4	4-0119	Reported:
Midland TX, 79710	Project Manager: (	Cindy Crain	12/28/04 12:22

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BBH-1 4-6'	4L23002-01	Soil	12/22/04 14:49	12/23/04 08:15
BBH-1 6-8'	4L23002-02	Soil	12/22/04 14:49	12/23/04 08:15
BBH-6 4-6'	4L23002-03	Soil	12/22/04 15:13	12/23/04 08:15
BBH-6 6-8'	4L23002-04	Soil	12/22/04 15:13	12/23/04 08:15
BBH-4 4-6'	4L23002-05	Soil	12/22/04 15:27	12/23/04 08:15
BH-9 0-2'	4L23002-06	Soil	12/22/04 15:40	12/23/04 08:15
BH-9 2-4'	4L23002-07	Soil	12/22/04 15:40	12/23/04 08:15
BH-9 4-6'	4L23002-08	Soil	12/22/04 15:51	12/23/04 08:15
BH-9 6-8'	4L23002-09	Soil	12/22/04 15:51	12/23/04 08:15
BH-10 0-2'	4L23002-10	Soil	12/22/04 16:07	12/23/04 08:15
BH-10 2-4'	4L23002-11	Soil	12/22/04 16:07	12/23/04 08:15
BH-10 4-6'	4L23002-12	Soil	12/22/04 16:18	12/23/04 08:15
BH-10 6-8'	4L23002-13	Soil	12/22/04 16:18	12/23/04 08:15
BH-11 0-2'	4L23002-14	Soil	12/22/04 16:30	12/23/04 08:15
BH-11 2-4'	4L23002-15	Soil	12/22/04 16:30	12/23/04 08:15
BH-11 4-6'	4L23002-16	Soil	12/22/04 16:30	12/23/04 08:15
BH-11 6-8'	4L23002-17	Soil	12/22/04 16:30	12/23/04 08:15

### General Chemistry Parameters by EPA / Standard Methods

**Environmental Lab of Texas** 

Analyte	Result	Reporting Limit Units	Dilution	Batch	Prepared	Analyzed	Method	Note
BBH-1 4-6' (4L23002-01) Soil								
Chloride	968	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	
BBH-1 6-8' (4L23002-02) Soil							· · · · · · · · · · · · · · · · · · ·	
Chloride	1320	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	
BBH-6 4-6' (4L23002-03) Soil								
Chloride	1420	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	
BBH-6 6-8' (4L23002-04) Soil								
Chloride	893	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	
BBH-4 4-6' (4L23002-05) Soil								
Chloride	1280	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	
BH-9 0-2' (4L23002-06) Soil		-						
Chloride	63.8	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	
BH-9 2-4' (4L23002-07) Soil								
Chloride	ND	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	
BH-9 4-6' (4L23002-08) Soil					· · · · · · · · · · · · · · · · · · ·			
Chloride	21.3	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	
BH-9 6-8' (4L23002-09) Soil								
Chloride	170	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	
BH-10 0-2' (4L23002-10) Soil								
Chloride	ND	20.0 mg/kg Wet	: 2	EL42307	12/23/04	12/23/04	SW 846 9253	

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

### General Chemistry Parameters by EPA / Standard Methods

**Environmental Lab of Texas** 

		Reporting						
Analyte	Result	Limit Units	Dilution	Batch	Prepared	Analyzed	Method	Note
BH-10 2-4' (4L23002-11) Soil								
Chloride	ND	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	
BH-10 4-6' (4L23002-12) Soil								
Chloride	ND	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	
BH-10 6-8' (4L23002-13) Soil								
Chloride	31.9	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	
BH-11 0-2' (4L23002-14) Soil								
Chloride	ND	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	
BH-11 2-4' (4L23002-15) Soil								
Chloride	ND	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	
BH-11 4-6' (4L23002-16) Soil								
Chloride	ND	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	
BH-11 6-8' (4L23002-17) Soil								
Chloride	ND	20.0 mg/kg Wet	2	EL42307	12/23/04	12/23/04	SW 846 9253	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

### General Chemistry Parameters by EPA / Standard Methods - Quality Control

#### **Environmental Lab of Texas**

	Reporting			Spike Source			%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EL42307 - Water Extraction									<u>.</u>	
Blank (EL42307-BLK1)				Prepared	& Analyze	ed: 12/23/	04			
Chloride	ND	20.0	mg/kg Wet							
Blank (EL42307-BLK2)				Prepared	& Analyze	ed: 12/23/	04			
Chloride	ND	20.0	mg/kg Wet							
Matrix Spike (EL42307-MS1)	Soi	urce: 4L220	17-02	Prepared	& Analyze	ed: 12/23/	04			
Chloride	500	20.0	mg/kg Wet	500	74.4	85.1	80-120			
Matrix Spike (EL42307-MS2)	So	urce: 4L2201	17-21	Prepared	& Analyz	ed: 12/23/	04			
Chloride	436	20.0	mg/kg Wet	500	0.00	87.2	80-120			
Matrix Spike Dup (EL42307-MSD1)	So	urce: 4L220	17-02	Prepared	& Analyz	ed: 12/23/	04			
Chloride	489	20.0	mg/kg Wet	500	74.4	82.9	80-120	2.22	20	
Matrix Spike Dup (EL42307-MSD2)	So	urce: 4L220	17-21	Prepared	& Analyz	ed: 12/23/	04			
Chloride	447	20.0	mg/kg Wet	500	0.00	89.4	80-120	2.49	20	
Reference (EL42307-SRM1)				Prepared	& Analyz	ed: 12/23/	04			
Chloride	5000		mg/kg	5000		100	80-120			
Reference (EL42307-SRM2)				Prepared	& Analyz	ed: 12/23/	/04			
Chloride	5000		mg/kg	5000		100	80-120			

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

#### **Notes and Definitions**

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Date: d

Raland K. Tuttle, Lab Manager U Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director James L. Hawkins, Chemist/Geologist Sandra Sanchez, Lab Tech.

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Environmental Lab of Texas

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Page 5 of 5

Matrix	CLIENT NAME:	SITE MANAGER	PARAM	PARAMETERS/METHOD NUMBER	CHAIN-OF-CUSTODY RECORD	STODY RECORD
Политистов         Полити	XIO	۲,	Sa		A arson &	
Instruction		(V) \$00 #187	aniating Q		Associates, Inc. Environmental Consultants	Fax: 432-687-0456 432-687-0901
またした。	jo I	AB. PO #	nn Dr co		507 N. Marienfeld, Ste. 2	32 • Midland, TX 79701
R         RS.H.I.         L-3         I         I         V	1105 - 22107M - 311111	Sample IDENTIFICATION				Remarks Hittered, Unfintered, Erved, Undreserved, Srab composite)
1     Behl-J     L-3     1     L     -02       7     58 H-J     L-4     -03     -04       7     7     7     -04     -05       7     7     -04     -05     -06       7     7     -07     -06     -06       7     7     -07     -07     -06       7     7     -07     -07     -06       7     7     -07     -07     -06       7     7     -07     -07     -07       7     7     -07     -07     -07       7     7     -07     -07     -07       7     7     -07     -07     -07       7     7     -07     -07     -07       7     7     -07     -07     -07       7     7     -07     -07     -07       7     7     -07     -07     -07       7     7     -07     -07     -07       7     7     -07     -07     -07       7     7     -07     -07     -07       7     7     -07     -07     -07       7     7     -07     -07     -07    <	2 1449 W	BB H-1			23002-01	
***     ***     ***     ***       ***     ***     ***     ***       ***     ***       ***     *** <td> </td> <td>BBH-1 L-8'</td> <td></td> <td></td> <td>20-</td> <td></td>		BBH-1 L-8'			20-	
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## Environmental Lab of Texas Variance / Corrective Action Report – Sample Log-In

Client:	Larson+	Associates
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Date/Time: 12-23-04 @ 0815

Order #: 46 23002

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Initials: JMM

# Sample Receipt Checklist

Temperature of container/cooler?	(es)	No	-0.5. C	]
Shipping container/cooler in good condition?	Yes	No	NIA	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present M	4
Custody Seals intact on sample bottles?	Yes	No	(Not present)	
Chain of custody present?	(Fes)	No		
Sample Instructions complete on Chain of Custody?	(res)	No		]
Chain of Custody signed when relinquished and received?	(Yes)	No		
Chain of custody agrees with sample label(s)	Yes	No	NoLabels-written	
Container labels legible and intact?	Yes	No	NoLabels-written	pin lid
Sample Matrix and properties same as on chain of custody?	(Tes)	No		
Samples in proper container/bottle?	Ted	No		
Samples properly preserved?	(es)	No		
Sample bottles intact?	Tes	No		
Preservations documented on Chain of Custody?	(Yes)	No		
Containers documented on Chain of Custody?	(res)	No		
Sufficient sample amount for indicated test?	(Yes)	No		
All samples received within sufficient hold time?	(Yes)	No		
VOC samples have zero headspace?	Yes	No	Not Applicable	

Other observations:

Date/Time:	ation: Contacted by:	

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

Client:	Larson	~+ F	Associ	ates
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Date/Time: 12-23-04 @ 0815

JMM

Order #: 41 23002

Initials:

Sample Receipt Checklist

L OUCCRI	ųι.	
(es)	No	-0.5 C
Yes	No	NIA
Yes	No	Not present */4
Yes	No	(Not present )
(Tes3)	No	
(res)	No	
YES	No	
Yes	No	Notabels-written on lid
Yes	No	NoLabels - written on lid
(des)	No	
Ces	No	
Ves	No	
(Yes)	No	
(Yes)	No	
(es)	No	
(Yes)	No	
(Yes)	No	
Yes	No	Not Applicable
	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	YesNo

Other observations:

Variance Documentation:

Contact Person: -\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Regarding:

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Corrective Action Taken:

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12600 West I-20 East - Odessa, Texas 79765

# Analytical Report

### **Prepared for:**

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

Project: XTO/ EMSU #187 Project Number: 4-0119 Location: None Given

Lab Order Number: 6D19010

Report Date: 04/24/06

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HB-12 (15-17')	6D19010-01	Soil	04/04/06 10:15	04/05/06 12:20
HB-2A (10-12')	6D19010-02	Soil	04/04/06 10:38	04/05/06 12:20

### General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HB-12 (15-17') (6D19010-01) Soil									
Chloride	2980	50.0	mg/kg	100	ED62110	04/21/06	04/21/06	EPA 300.0	
HB-2A (10-12') (6D19010-02) Soil							_		_
Chloride	2360	50.0	mg/kg	100	ED62110	04/21/06	04/21/06	EPA 300.0	

Environmental Lab of Texas

### General Chemistry Parameters by EPA / Standard Methods - Quality Control

**Environmental Lab of Texas** 

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED62110 - Water Extraction										
Blank (ED62110-BLK1)				Prepared	& Analyze	ed: 04/21/	06			
Chloride	ND	0.500	mg/kg							
LCS (ED62110-BS1)				Prepared	& Analyz	ed: 04/21/	06			
Chloride	9.35		mg/L	10.0		93.5	80-120			
Calibration Check (ED62110-CCV1)				Prepared	& Analyz	ed: 04/21/	06			
Chloride	8.60		mg/L	10.0		86.0	80-120			
Duplicate (ED62110-DUP1)	So	urce: 6D190	11-09	Prepared	& Analyz	ed: 04/21/	06			
Chloride	2380	25.0	mg/kg		2450			2.90	20	

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The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Page 3 of 4

### **Notes and Definitions**

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By:

y: Kaland KJull Date: 4-25-06

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

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

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### **Jeanne McMurrey**

From:	"Cindy Crain" < cindy@laenvironmental.com>
To:	"Jeanne McMurrey" <jeanne@elabtexas.com></jeanne@elabtexas.com>
Sent:	Wednesday, April 19, 2006 10:02 AM
Subject:	Request for Additional Analysis

Jeanne,

Would you please run the following two (2) additional samples for Chloride analysis:

1015

Project:		XTO/EMSU	#187
Project I	Number:	4-0119	
Lab Ord	er Number:	6D05019	
Report [	Date:	4/13/06	
•	Sample H	B-12 (15-17′)	Sampled 4/4/06 at

Sample HB-2A (10-12') Sampled 4/4/06 at 1038

Please give me a call if you have any questions or need additional information.

Thank you,

Cindy K. Crain, P.G.

Larson and Associates, Inc. 507 N. Marienfeld, Ste.202 Midland, TX 79701

Office: (432) 687-0901 fax: (432) 687-0456 Cell: (432) 556-8665

This message has been scanned for viruses and dangerous content by <u>BasinBroadband</u>, and is believed to be clean.



12600 West I-20 East - Odessa, Texas 79765

# Analytical Report

### **Prepared for:**

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

Project: XTO/ EMSU #187 Project Number: 4-0119 Location: None Given

Lab Order Number: 6D05019

Report Date: 04/28/06

Larson & Associates, Inc.	Project: XTO/ EMSU #187	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 4-0119	Reported:
Midland TX, 79710	Project Manager: Cindy Crain	04/28/06 14:18

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HB-8A (5-7')	6D05019-01	Soil	04/03/06 10:40	04/05/06 12:20
HB-13 (0-2')	6D05019-05	Soil	04/03/06 12:00	04/05/06 12:20
HB-13 (5-7')	6D05019-06	Soil	04/03/06 12:05	04/05/06 12:20
HB-13 (10-12')	6D05019-07	Soil	04/03/06 12:09	04/05/06 12:20
HB-9A (10-12')	6D05019-10	Soil	04/03/06 12:34	04/05/06 12:20
HB-9A (15-17')	6D05019-11	Soil	04/03/06 12:39	04/05/06 12:20
HB-1A (10-12')	6D05019-13	Soil	04/03/06 13:00	04/05/06 12:20
HB-1A (15-17')	6D05019-14	Soil	04/03/06 13:06	04/05/06 12:20
HB-11A (10-12')	6D05019-16	Soil	04/03/06 13:41	04/05/06 12:20
HB-6A (10-12')	6D05019-19	Soil	04/03/06 14:20	04/05/06 12:20
HB-4A (10-12')	6D05019-22	Soil	04/03/06 14:58	04/05/06 12:20
HB-10A (10-12')	6D05019-25	Soil	04/04/06 09:36	04/05/06 12:20
HB-10A (15-17')	6D05019-26	Soil	04/04/06 09:42	04/05/06 12:20
HB-12 (0-2')	6D05019-28	Soil	04/04/06 09:58	04/05/06 12:20
HB-12 (5-7')	6D05019-29	Soil	04/04/06 10:04	04/05/06 12:20
HB-12 (10-12')	6D05019-30	Soil	04/04/06 10:09	04/05/06 12:20
HB-12 (20-22')	6D05019-32	Soil	04/04/06 10:20	04/05/06 12:20
HB-2A (5-7')	6D05019-33	Soil	04/04/06 10:31	04/05/06 12:20
HB-2A (15-17')	6D05019-35	Soil	04/04/06 10:47	04/05/06 12:20

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

### **General Chemistry Parameters by EPA / Standard Methods**

**Environmental Lab of Texas** 

									•
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HB-8A (5-7') (6D05019-01) Soil									
Chloride	489	20.0	mg/kg Wet	2	ED61207	04/05/06	04/12/06	SW 846 9253	
HB-13 (0-2') (6D05019-05) Soil								<u></u>	
Chloride	ND	20.0	mg/kg Wet	2	ED61207	04/05/06	04/12/06	SW 846 9253	
HB-13 (5-7') (6D05019-06) Soil					·····	· · · · · · · · · · · · · · · · · · ·			
Chloride	404	20.0	mg/kg Wet	2	ED61207	04/05/06	04/12/06	SW 846 9253	
HB-13 (10-12') (6D05019-07) Soil									
Chloride	170	20.0	mg/kg Wet	2	ED61207	04/05/06	04/12/06	SW 846 9253	
HB-9A (10-12') (6D05019-10) Soil									
Chloride	872	20.0	mg/kg Wet	2	ED61207	04/05/06	04/12/06	SW 846 9253	
HB-9A (15-17') (6D05019-11) Soil									
Chloride	766	10.0	mg/kg Wet	2	ED62808	04/27/06	04/28/06	SW 846 9253	
HB-1A (10-12') (6D05019-13) Soil									
Chloride	936	20.0	mg/kg Wet	2	ED61207	04/05/06	04/12/06	SW 846 9253	
HB-1A (15-17') (6D05019-14) Soil								,	
Chloride	1400	20.0	mg/kg Wet	2	ED62808	04/27/06	04/28/06	SW 846 9253	
HB-11A (10-12') (6D05019-16) Soil		·, ·· •							
Chloride	117	20.0	mg/kg Wet	2	ED61207	04/05/06	04/12/06	SW 846 9253	
HB-6A (10-12') (6D05019-19) Soil	- · · · · · · · · · · ·								
Chloride	223	20.0	mg/kg Wet	2	ED61207	04/05/06	04/12/06	SW 846 9253	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas. Page 2 of 6

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

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710 Project: XTO/ EMSU #187 Project Number: 4-0119 Project Manager: Cindy Crain Fax: (432) 687-0456 Reported: 04/28/06 14:18

General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HB-4A (10-12') (6D05019-22) Soil									
Chloride	553	20.0	mg/kg Wet	2	ED61209	04/05/06	04/12/06	SW 846 9253	
HB-10A (10-12') (6D05019-25) Soil					•				
Chloride	1070	20.0	mg/kg Wet	2	ED61209	04/05/06	04/12/06	SW 846 9253	·
HB-10A (15-17') (6D05019-26) Soil		·				<u></u>			
Chloride	1740	20.0	mg/kg Wet	2	ED62808	04/27/06	04/28/06	SW 846 9253	
HB-12 (0-2') (6D05019-28) Soil						_			
Chloride	ND	20.0	mg/kg Wet	2	ED61209	04/05/06	04/12/06	SW 846 9253	
HB-12 (5-7') (6D05019-29) Soil									
Chloride	510	20.0	mg/kg Wet	2	ED61209	04/05/06	04/12/06	SW 846 9253	
HB-12 (10-12') (6D05019-30) Soil							. <u>-</u>		
Chloride	2000	20.0	mg/kg Wet	2	ED61209	04/05/06	04/12/06	SW 846 9253	
HB-12 (20-22') (6D05019-32) Soil									
Chloride	3110	20.0	mg/kg Wet	2	ED62808	04/27/06	04/28/06	SW 846 9253	
HB-2A (5-7') (6D05019-33) Soil									
Chloride	3470	20.0	mg/kg Wet	2	ED61209	04/05/06	04/12/06	SW 846 9253	-
HB-2A (15-17') (6D05019-35) Soil									
Chloride	681	20.0	mg/kg Wet	2	ED62808	04/27/06	04/28/06	SW 846 9253	

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The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

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Page 3 of 6

04/28/06 14:18

### General Chemistry Parameters by EPA / Standard Methods - Quality Control

### **Environmental Lab of Texas**

		Reporting	Spike	Source		%REC		RPD	
Analyte	Result	Limit Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch ED61207 - Water Extraction									
Blank (ED61207-BLK1)			Prepared:	04/05/06	Analyzed	: 04/12/06			
Chloride	ND	20.0 mg/kg Wet							
LCS (ED61207-BS1)			Prepared	& Analyze	ed: 04/12/	06			
Chloride	96.8	mg/kg	100		96.8	80-120			
Matrix Spike (ED61207-MS1)	Sou	ırce: 6D04010-01	Prepared:	04/05/06	Analyzed	l: 04/12/06			
Chloride	510	20.0 mg/kg Wet	500	0.00	102	80-120			
Matrix Spike Dup (ED61207-MSD1)	Sou	rce: 6D04010-01	Prepared:	04/05/06	Analyzed	l: 04/12/06			
Chloride	500	20.0 mg/kg Wet	500	0.00	100	80-120	1.98	20	
Reference (ED61207-SRM1)			Prepared	& Analyze	ed: 04/12/	06			
Chloride	5050	mg/kg	5000		101	80-120			
Batch ED61209 - Water Extraction									
Blank (ED61209-BLK1)			Prepared	: 04/05/06	Analyzed	1: 04/12/06			
Chloride	ND	20.0 mg/kg Wet							
LCS (ED61209-BS1)			Prepared	& Analyze	ed: 04/12/	06			
Chloride	95.7	mg/kg	100		95.7	80-120			
Matrix Spike (ED61209-MS1)	So	urce: 6D05019-22	Prepared	: 04/05/06	Analyzed	1: 04/12/06			
Chloride	1060	20.0 mg/kg Wet	500	553	101	80-120			
Matrix Spike Dup (ED61209-MSD1)	So	urce: 6D05019-22	Prepared	: 04/05/06	Analyzed	d: 04/12/06			
Chloride	1050	20.0 mg/kg Wet		553	99.4	80-120	0.948	20	

Environmental Lab of Texas

### General Chemistry Parameters by EPA / Standard Methods - Quality Control

### **Environmental Lab of Texas**

	Reporting		Spike	Source		%REC		RPD	
Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
			Prepared	& Analyze	ed: 04/12/0	06			
4890		mg/kg	5000		97.8	80-120			
			Prepared:	04/27/06	Analyzed	1: 04/28/06			
ND	20.0	mg/kg We	t						
			Prepared	& Analyze	ed: 04/28/	06			
92.5		mg/kg	100		92.5	80-120			
So	urce: 6D050	19-11	Prepared:	04/27/06	Analyzed	l: 04/28/06			
2960		mg/kg	2000	766	110	80-120			
So	urce: 6D050	19-11	Prepared:	04/27/06	Analyzed	1: 04/28/06			
2980		mg/kg	2000	766	111	80-120	0.673	20	
			Prepared	& Analyze	ed: 04/28/	06			
	4890 ND 92.5 <u>Sot</u> 2960 Sot	4890 ND 20.0 92.5 Source: 6D050 2960 Source: 6D050	ResultLimitUnits4890mg/kg4890mg/kgND20.0 mg/kg We92.5mg/kgSource: 6D05019-112960mg/kgSource: 6D05019-11	ResultLimitUnitsLevelPreparedPrepared4890mg/kg50004890mg/kg5000Prepared:Prepared:ND20.0 mg/kg WetPrepared92.5mg/kg100Source: 6D05019-11Prepared:2960mg/kg2000Source: 6D05019-11Prepared:2980mg/kg2000	Result         Limit         Units         Level         Result           Prepared & Analyze           4890         mg/kg         5000           4890         mg/kg         5000           Prepared & Analyze           4890         mg/kg         5000           ND         20.0 mg/kg Wet         Prepared & Analyze           92.5         mg/kg         100           Source: 6D05019-11           Prepared: 04/27/06         2000           2960         mg/kg         2000           Source: 6D05019-11         Prepared: 04/27/06           2980         mg/kg         2000	Result         Limit         Units         Level         Result         %REC           Prepared & Analyzed:         04/12/4           4890         mg/kg         5000         97.8           4890         mg/kg         5000         97.8           Prepared:         04/27/06         Analyzed           ND         20.0         mg/kg         Wet           Prepared & Analyzed:         04/28/4           92.5         mg/kg         100         92.5           Source:         6D05019-11         Prepared:         04/27/06         Analyzed           2960         mg/kg         2000         766         110           Source:         6D05019-11         Prepared:         04/27/06         Analyzed           2980         mg/kg         2000         766         111	Result         Limit         Units         Level         Result         %REC         Limits           Prepared & Analyzed: 04/12/06           4890         mg/kg         5000         97.8         80-120           Prepared & Analyzed: 04/12/06           4890         mg/kg         5000         97.8         80-120           Prepared: 04/27/06         Analyzed: 04/28/06           ND         20.0         mg/kg         100         92.5         80-120           Source: 6D05019-11           Prepared: 04/27/06         Analyzed: 04/28/06           2960         mg/kg         2000         766         110         80-120           Source: 6D05019-11           Prepared: 04/27/06         Analyzed: 04/28/06           2960         mg/kg         2000         766         110         80-120           Source: 6D05019-11         Prepared: 04/27/06         Analyzed: 04/28/06	Result         Limit         Units         Level         Result         %REC         Limits         RPD           Prepared & Analyzed: 04/12/06           4890         mg/kg         5000         97.8         80-120           Prepared & Analyzed: 04/12/06           4890         mg/kg         5000         97.8         80-120           Prepared: 04/27/06         Analyzed: 04/28/06           ND         20.0 mg/kg Wet         Prepared: 04/27/06         Analyzed: 04/28/06           92.5         mg/kg         100         92.5         80-120           Source: 6D05019-11         Prepared: 04/27/06         Analyzed: 04/28/06           2960         mg/kg         2000         766         110         80-120           Source: 6D05019-11           Prepared: 04/27/06         Analyzed: 04/28/06           2980         mg/kg         2000         766         111         80-120         0.673	Result         Limit         Units         Level         Result         %REC         Limits         RPD         Limit           Prepared & Analyzed: 04/12/06           4890         mg/kg         5000         97.8         80-120           Prepared & Analyzed: 04/27/06           4890         mg/kg         5000         97.8         80-120           Prepared: 04/27/06         Analyzed: 04/28/06           ND         20.0 mg/kg Wet         Prepared & Analyzed: 04/28/06           92.5         mg/kg         100         92.5         80-120           Source: 6D05019-11           Prepared: 04/27/06         Analyzed: 04/28/06           2960         mg/kg         2000         766         110         80-120           Source: 6D05019-11           Prepared: 04/27/06         Analyzed: 04/28/06         2980         2000         766         111         80-120         0.673         20

Environmental Lab of Texas

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

#### **Notes and Definitions**

	DET	Analyte DETECTED
	ND	Analyte NOT DETECTED at or above the reporting limit
	NR	Not Reported
	dry	Sample results reported on a dry weight basis
	RPD	Relative Percent Difference
	LCS	Laboratory Control Spike
•	MS	Matrix Spike
	Dup	Duplicate

Kiene Date: Report Approved By:

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

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Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Page 6 of 6

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

	<u>anson</u>	
ate/Time:	4/5/04	12:20
rder #:	(eD05019	
itials:	Cle	

## Sample Receipt Checklist

Ognipic recoupe	0		
emperature of container/cooler?	Yes	No	45 CI
hipping container/cooler in good condition?	(FEE	No l	
ustody Seals intact on shipping container/cooler?	Yes	No	(Ici present
ustody Seals intact on sample bottles?	Yes	No	ALC DIESEL
usicdy Seals Intact on Sample Contest	X=s 1	No	1
hain of custody present?	Yes	No	
ample Instructions complete on Chain of Custody?		No	
hain of Custody signed when relinquished and received?	Yes	No	IDm in 1
hain of custody agrees with sample label(s)	Yes	No	n/a
Container labels legible and intact?		l No	140-
ample Matrix and properties same as on chain of custody?	<u>  Yes</u>		1
Jamples in proper container/bottle?	<u>Yes</u>	<u>No</u>	<u> </u>
amples properly preserved?	Yes	No	1
Sample hottles intact?	¥55	<u>No</u>	
Preservations documented on Chain of Custody?	1 733	I No	
Containers documented on Chain of Custody?	Yes	No	
Sufficient sample amount for indicated test?	- Ces	<u>  No</u>	
Ail samples received within sufficient hold time?	YES	No	
All samples received mann samaler note whet	Yes	No	Not Applicable
VOC samples have zero headspace?			

Other observations:

	· · · · · · · · · · · · · · · · · · ·	
contect Person:	Variance Documentation:	Contacted by:
legarding:		
	· · · · · · · · · · · · · · · · · · ·	
Corrective Action Taken:		
	· · · · · · · · · · · · · · · · · · ·	•
	· · · · · · · · · · · · · · · · · · ·	

### Jeanne McMurrey

From:	"Cindy Crain" <cindy@laenvironmental.com></cindy@laenvironmental.com>
To:	"Jeanne McMurrey" <jeanne@elabtexas.com></jeanne@elabtexas.com>
Sent:	Thursday, April 27, 2006 9:56 AM
Subiect:	Request for Additional Soil Analysis

#### Jeanne,

Would you please run the following five (5) additional samples for Chloride analysis:

Project:		XTO/EMSU #	187
Project Nu	mber:	4-0119	
Lab Order	Number:	6D05019	
Report Da	te:	4/13/06	
•	Sample HE	B-9A (15-17')	Sampled 4/3/06 at 1239
•	Sample HI	3-10A (15-17')	Sampled 4/4/06 at 0942
•	Sample HI	3-12 (20-22')	Sampled 4/4/06 at 1020
٠	Sample HI	3-2A (15-17')	Sampled 4/4/06 at 1047
٩	Sample HI	3-1A (15-17')	Sampled 4/3/06 at 1306

Please give me a call if you have any questions or need additional information.

Thank you,

### Cindy K. Crain, P.G.

Larson and Associates, Inc. 507 N. Marienfeld, Ste.202 Midland, TX 79701

Office: (432) 687-0901 fax: (432) 687-0456 Cell: (432) 556-8665

This message has been scanned for viruses and dangerous content by <u>BasinBroadband</u>, and is believed to be clean.

4/27/2006

Larson & Associates, Inc.	Project: XTO/ Well #187	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 4-0119	Reported:
Midland TX, 79710	Project Manager: Cindy Crain	11/12/04 16:01

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HB-1 0-1'	4K10004-01	Soil	11/09/04 10:10	11/09/04 17:15
HB-1 1-2'	4K10004-02	Soil	11/09/04 10:18	11/09/04 17:15
HB-1 2-3'	4K10004-03	Soil	11/09/04 10:32	11/09/04 17:15
HB-2 0-1'	4K10004-04	Soil	11/09/04 10:49	11/09/04 17:15
HB-2 1-2'	4K10004-05	Soil	11/09/04 10:54	11/09/04 17:15
HB-2 2-3'	4K10004-06	Soil	11/09/04 11:06	11/09/04 17:15
HB-3 0-1'	4K10004-07	Soil	11/09/04 11:11	11/09/04 17:15
HB-3 1-2'	4K10004-08	Soil	11/09/04 11:17	11/09/04 17:15
HB-3 2-3'	4K10004-09	Soil	11/09/04 11:30	11/09/04 17:15
HB-4 0-1'	4K10004-10	Soil	11/09/04 11:37	11/09/04 17:15
HB-4 1-2'	4K10004-11	Soil	11/09/04 11:40	11/09/04 17:15
HB-4 2-3'	4K10004-12	Soil	11/09/04 12:48	11/09/04 17:15
HB-5 0-1'	4K10004-13	Soil	11/09/04 12:52	11/09/04 17:15
HB-5 1-2'	4K10004-14	Soil	11/09/04 12:58	11/09/04 17:15
HB-5 2-3'	4K10004-15	Soil	11/09/04 13:18	11/09/04 17:15
HB-6 0-1'	4K10004-16	Soil	11/09/04 13:21	11/09/04 17:15
HB-6 1-2'	4K10004-17	Soil	11/09/04 13:24	11/09/04 17:15
HB-6 2-3'	4K10004-18	Soil	11/09/04 13:38	11/09/04 17:15
HB-7 0-1'	4K10004-19	Soil	11/09/04 13:33	11/09/04 17:15
HB-7 1-2'	4K10004-20	Soil	11/09/04 13:38	11/09/04 17:15
HB-7 2-3'	4K10004-21	Soil	11/09/04 13:43	11/09/04 17:15
HB-8 0-1'	4K10004-22	Soil	11/09/04 13:54	11/09/04 17:15
HB-8 1-2'	4K10004-23	Soil	11/09/04 13:58	11/09/04 17:15
HB-8 2-3'	4K10004-24	Soil	11/09/04 14:01	11/09/04 17:15
Background 0-1'	4K10004-25	Soil	11/09/04 14:05	11/09/04 17:15
Background 1-2'	4K10004-26	Soil	11/09/04 14:10	11/09/04 17:15
Background 2-3'	4K10004-27	Soil	11/09/04 14:13	11/09/04 17:15
Background 1-2'	4K10004-26	Soil	11/09/04 14:10	11/09

Organics by GC

			0	5					
		Environn	nental L	ab of ]	exas				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
HB-1 0-1' (4K10004-01) Soil			_						
Gasoline Range Organics C6-C12	J [9.70]	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	66.0	10.0	"	11	11	н	n	18	
Total Hydrocarbon C6-C35	66.0	10.0	H	N	н	11	H	11	
Surrogate: 1-Chlorooctane		109 %	70-1	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		125 %	70-1	130	"	"	"	"	
HB-1 1-2' (4K10004-02) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	u	н		Ħ	н	89	
Total Hydrocarbon C6-C35	ND	10.0	и	"	n 	"	n 	11	
Surrogate: 1-Chlorooctane		108 %	70-1	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		123 %	70	130	"	"	"	"	
HB-1 2-3' (4K10004-03) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	**	н	ti	11	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	11	n	N	N	
Surrogate: 1-Chlorooctane		102 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		117 %	<b>70-</b> .	130	"	"	"	"	
HB-2 0-1' (4K10004-04) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	107	10.0	"	"	"	N	м	н	
Total Hydrocarbon C6-C35	107	10.0	11	H	11	11	11	11	
Surrogate: 1-Chlorooctane		102 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		117 %	70-	130	"	"	"	"	
HB-2 1-2' (4K10004-05) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	68.0	10.0	"	17	n	"	н	н	
Total Hydrocarbon C6-C35	68.0	10.0	17	"		"	"	ti	
Surrogate: 1-Chlorooctane		100 %	70-	130	"	"	"	17	
Surrogate: 1-Chlorooctadecane		116 %	i 70-	130	"	"	"	"	

Environmental Lab of Texas

		Or	ganics by	GC					
		Environn	nental La	ıb of T	exas				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
HB-2 2-3' (4K10004-06) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	N	"	H		"	PI	
Total Hydrocarbon C6-C35	ND	10.0	11	11	"		17	"	
Surrogate: 1-Chlorooctane		98.4 %	70-13	30	"	n	"	"	
Surrogate: 1-Chlorooctadecane		113 %	70-13	30	"	"	"	"	
HB-3 0-1' (4K10004-07) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	11	н	H	n	11	H	
Total Hydrocarbon C6-C35	ND	10.0	"	"	n	"	**		
Surrogate: 1-Chlorooctane		92.8 %	70-1.	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		107 %	70-1.	30	"	"	"	"	
HB-3 1-2' (4K10004-08) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	н	"	"	"	я	
Total Hydrocarbon C6-C35	ND	10.0	n	n	ŧ	H	"	"	
Surrogate: 1-Chlorooctane		87.6 %	70-1.	30	"	"	n	"	
Surrogate: 1-Chlorooctadecane		101 %	70-1.	30	"	"	"	"	
HB-3 2-3' (4K10004-09) Soil					_				
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	11	n	н	"		9	
Total Hydrocarbon C6-C35	ND	10.0	"	н	"	"	H	15	
Surrogate: 1-Chlorooctane		99.2 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		113 %	70-1	30	"	"	"	"	
HB-4 0-1' (4K10004-10) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg đry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	tt	"	и	w	N	н	
Total Hydrocarbon C6-C35	ND	10.0	"	"	¥	11	11	"	
Surrogate: 1-Chlorooctane		101 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		119 %	70-1	30	"	"	"	"	

Environmental Lab of Texas

		Or	ganics b	y GC					
		Environn	nental L	_ ab of T	Texas				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
HB-4 1-2' (4K10004-11) Soil								···••	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	n	**	łr	8	
Total Hydrocarbon C6-C35	ND	10.0	۳	"	11	n	N	n	
Surrogate: 1-Chlorooctane		102 %	70-1	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		118 %	70-1	130	"	"	"	"	
HB-4 2-3' (4K10004-12) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	н	"	н	н	м	
Total Hydrocarbon C6-C35	ND	10.0	**		н	"	u	n	
Surrogate: 1-Chlorooctane		102 %	70-1	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		116 %	70-1	130	"	"	"	"	
HB-5 0-1' (4K10004-13) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0		н	11	н	и	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	H	"	H	**	
Surrogate: 1-Chlorooctane		94.4 %	70	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		109 %	<b>70-</b> .	130	"	"	"	"	
HB-5 1-2' (4K10004-14) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	**	11	м	"	n	"	
Total Hydrocarbon C6-C35	ND	10.0	M	"	11	"	N	ti	
Surrogate: 1-Chlorooctane		95.6 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		109 %	70-	130	"	"	"	"	
HB-5 2-3' (4K10004-15) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	н	11	n	"	
Total Hydrocarbon C6-C35	ND	10.0	"	H	n	и	**	п	
Surrogate: 1-Chlorooctane		98.8 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		111 %	70-	130	"	"	"	"	

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# Organics by GC

**Environmental Lab of Texas** 

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Not
HB-6 0-1' (4K10004-16) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	286	10.0	0	"	"	н	Ħ	*	
Total Hydrocarbon C6-C35	286	10.0	и	H	11		"	11	
Surrogate: 1-Chlorooctane		87.4 %	70	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		102 %	70	130	"	"	"	"	
HB-6 1-2' (4K10004-17) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/10/04	EPA 8015M	
Diesel Range Organics >C12-C35	191	10.0	**	Ħ	"	"	"	"	
Total Hydrocarbon C6-C35	191	10.0	"	n	11	*	11	n	
Surrogate: 1-Chlorooctane		89.6 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		97.8 %	70-	130	"	"	"	"	
HB-6 2-3' (4K10004-18) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/11/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	11	н	**	17	11	n	
Total Hydrocarbon C6-C35	ND	10.0	H	"	"	u	"	u	
Surrogate: 1-Chlorooctane		87.8 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		100 %	70-	130	"	"	"	"	
HB-7 0-1' (4K10004-19) Soil									
Gasoline Range Organics C6-C12	ND		mg/kg dry	1	EK40906	11/10/04	11/11/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	11	11	"		"	"	
Total Hydrocarbon C6-C35	ND	10.0		u	н	"	"	**	
Surrogate: 1-Chlorooctane		95.8 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		110 %	70-	130	"	"	"	"	
HB-7 1-2' (4K10004-20) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/11/04	EPA 8015M	
Diesel Range Organics >C12-C35	142	10.0	н	11	11		н	17	
Total Hydrocarbon C6-C35	142	10.0	11	н	и	н	11	н	
Surrogate: 1-Chlorooctane		90.8 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		99.4 %	70-	130	"	"	"	"	

Organics by GC

		Environn	ental L	ab of T	exas				Environmental Lab of Texas											
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note											
HB-7 2-3' (4K10004-21) Soil																				
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/11/04	EPA 8015M												
Diesel Range Organics >C12-C35	ND	10.0	n	"	Ħ	11	"	n												
Total Hydrocarbon C6-C35	ND	10.0	11	11	11	п	"	u												
Surrogate: 1-Chlorooctane		89.4 %	70-1	30	"	"	H	"												
Surrogate: 1-Chlorooctadecane		103 %	70-1	130	"	"	"	"												
HB-8 0-1' (4K10004-22) Soil				·····																
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/11/04	EPA 8015M												
Diesel Range Organics >C12-C35	ND	10.0	"	9	н	"	n	n												
Total Hydrocarbon C6-C35	ND	10.0	"	91	*	"		"												
Surrogate: 1-Chlorooctane		96.2 %	70	130	"	"	"	"												
Surrogate: 1-Chlorooctadecane		107 %	7 <b>0-</b> .	130	"	"	"	"												
HB-8 1-2' (4K10004-23) Soil																				
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/11/04	EPA 8015M												
Diesel Range Organics >C12-C35	ND	10.0	н	H	11	n	"	"												
Total Hydrocarbon C6-C35	ND	10.0	"	и	"	"	**	N												
Surrogate: 1-Chlorooctane		71.2 %	70-	130	"	"	"	"												
Surrogate: 1-Chlorooctadecane		77.6 %	70-	130	"	"	"	"												
HB-8 2-3' (4K10004-24) Soil																				
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/11/04	EPA 8015M												
Diesel Range Organics >C12-C35	ND	10.0	н	"	n	"	11	n												
Total Hydrocarbon C6-C35	ND	10.0	. v	"	"	"	11	n												
Surrogate: 1-Chlorooctane		85.4 %	70-	130	"	"	"	"												
Surrogate: 1-Chlorooctadecane		97.6 %	70-	130	"	"	"	"												
Background 0-1' (4K10004-25) Soil																				
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/11/04	EPA 8015M												
Diesel Range Organics >C12-C35	ND	10.0	"	"	u	м	"													
Total Hydrocarbon C6-C35	ND	10.0		11	"	11	N	11												
Surrogate: 1-Chlorooctane		85.8 %	70-	130	"	"	"	"												
Surrogate: 1-Chlorooctadecane		82.0 %	5 70-	130	"	"	"	"												

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### Organics by GC

### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Background 1-2' (4K10004-26) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/11/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	н	n	"	"	"	۲	
Total Hydrocarbon C6-C35	ND	10.0	и	"	"	11	"		
Surrogate: 1-Chlorooctane		88.6 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		100 %	70-1	30	"	"	"	"	
Background 2-3' (4K10004-27) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40906	11/10/04	11/11/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	H	11		"	11	n	
Total Hydrocarbon C6-C35	ND	10.0	11	Ħ	"	11	*	n	
Surrogate: 1-Chlorooctane		93.8 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		110 %	70-1	30	"	"	"	"	

Environmental Lab of Texas

### General Chemistry Parameters by EPA / Standard Methods

**Environmental Lab of Texas** 

A a	Popult	Reporting		D / 1	<b>.</b> .		14.4.1	N -
	Result	Limit Units	Dilution	Batch	Prepared	Analyzed	Method	Not
HB-1 0-1' (4K10004-01) Soil								
Chloride	638	20.0 mg/kg Wet	2	EK41208	11/10/04	11/11/04	SW 846 9253	
% Moisture	7.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-1 1-2' (4K10004-02) Soil								
Chloride	808	20.0 mg/kg Wet	2	EK41208	11/10/04	11/11/04	SW 846 9253	
% Moisture	11.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-1 2-3' (4K10004-03) Soil								
Chloride	399	20.0 mg/kg Wet	2	EK41208	11/10/04	11/11/04	SW 846 9253	
% Moisture	10.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-2 0-1' (4K10004-04) Soil								
Chloride	2800	20.0 mg/kg Wet	2	EK41208	11/10/04	11/11/04	SW 846 9253	
% Moisture	8.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-2 1-2' (4K10004-05) Soil								
Chloride	1300	20.0 mg/kg Wet	2	EK41208	11/10/04	11/11/04	SW 846 9253	
% Moisture	5.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-2 2-3' (4K10004-06) Soil								
Chloride	1130	20.0 mg/kg Wet	2	EK41208	11/10/04	11/11/04	SW 846 9253	
% Moisture	7.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-3 0-1' (4K10004-07) Soil								
Chloride	ND	20.0 mg/kg We	2	EK41208	11/10/04	11/11/04	SW 846 9253	
% Moisture	3.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-3 1-2' (4K10004-08) Soil								
Chloride	ND	20.0 mg/kg We	2	EK41208	11/10/04	11/11/04	SW 846 9253	
% Moisture	6.0	%	1	EK41101	11/10/04	11/11/04	% calculation	

Environmental Lab of Texas

G		stry Parameters b Environmental L	-		ard Metl	hods		
	· · · · · · · · · · · · · · · · · · ·	Reporting						
Analyte	Result	Limit Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HB-3 2-3' (4K10004-09) Soil								
Chloride	ND	20.0 mg/kg Wet	2	EK41208	11/10/04	11/11/04	SW 846 9253	
% Moisture	5.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-4 0-1' (4K10004-10) Soil								
Chloride	97.7	20.0 mg/kg Wet	2	EK41208	11/10/04	11/11/04	SW 846 9253	
% Moisture	11.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-4 1-2' (4K10004-11) Soil								
Chloride	638	20.0 mg/kg Wet	2	EK41208	11/10/04	11/11/04	SW 846 9253	
% Moisture	11.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-4 2-3' (4K10004-12) Soil								
Chloride	915	20.0 mg/kg Wet	2	EK41208	11/10/04	11/11/04	SW 846 9253	
% Moisture	12.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-5 0-1' (4K10004-13) Soil								
Chloride	ND	20.0 mg/kg Wet	2	EK41208	11/10/04	11/11/04	SW 846 9253	
% Moisture	6.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-5 1-2' (4K10004-14) Soil		_						
Chloride	31.9	20.0 mg/kg Wet	2	EK41208	11/10/04	11/11/04	SW 846 9253	• • • • • • •
% Moisture	14.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-5 2-3' (4K10004-15) Soil								
Chloride	ND	20.0 mg/kg Wet	2	EK41208	11/10/04	11/11/04	SW 846 9253	
% Moisture	11.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-6 0-1' (4K10004-16) Soil								
Chloride	362	20.0 mg/kg Wet	2	EK41208	11/10/04	11/11/04	SW 846 9253	
% Moisture	2.0	%	1	EK41101	11/10/04	11/11/04	% calculation	

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### General Chemistry Parameters by EPA / Standard Methods

**Environmental Lab of Texas** 

Analyte	Result	Reporting Limit Units	Dilution	Batch	Prepared	Analyzed	Method	Not
HB-6 1-2' (4K10004-17) Soil		····						
Chloride	319	20.0 mg/kg Wet	2	EK41209	11/10/04	11/11/04	SW 846 9253	
% Moisture	4.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-6 2-3' (4K10004-18) Soil								
Chloride	585	20.0 mg/kg Wet	2	EK41209	11/10/04	11/11/04	SW 846 9253	
% Moisture	6.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-7 0-1' (4K10004-19) Soil								
Chloride	ND	20.0 mg/kg Wet	2	EK41209	11/10/04	11/11/04	SW 846 9253	
% Moisture	10.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-7 1-2' (4K10004-20) Soil								
Chloride	ND	20.0 mg/kg Wet	2	EK41209	11/10/04	11/11/04	SW 846 9253	
% Moisture	12.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-7 2-3' (4K10004-21) Soil								
Chloride	ND	20.0 mg/kg Wet	2	EK41209	11/10/04	11/11/04	SW 846 9253	
% Moisture	12.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-8 0-1' (4K10004-22) Soil								
Chloride	ND	20.0 mg/kg Wet	2	EK41209	11/10/04	11/11/04	SW 846 9253	
% Moisture	4.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-8 1-2' (4K10004-23) Soil								
Chloride	42.5	20.0 mg/kg Wet	2	EK41209	11/10/04	11/11/04	SW 846 9253	
% Moisture	6.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
HB-8 2-3' (4K10004-24) Soil								
Chloride	63.8	20.0 mg/kg Wet	2	EK41209	11/10/04	11/11/04	SW 846 9253	
% Moisture	7.0	%	1	EK41101	11/10/04	11/11/04	% calculation	

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### General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit Units	Dilution	Batch	Prepared	Analyzed	Method	Note
Background 0-1' (4K10004-25)	Soil							
Chloride	ND	20.0 mg/kg Wet	2	EK41209	11/10/04	11/11/04	SW 846 9253	
% Moisture	3.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
Background 1-2' (4K10004-26)	Soil							
Chloride	ND	20.0 mg/kg Wet	2	EK41209	11/10/04	11/11/04	SW 846 9253	
% Moisture	8.0	%	1	EK41101	11/10/04	11/11/04	% calculation	
Background 2-3' (4K10004-27)	Soil							
Chloride	ND	20.0 mg/kg Wet	2	EK41209	11/10/04	11/11/04	SW 846 9253	
% Moisture	7.0	%	1	EK41101	11/10/04	11/11/04	% calculation	

Environmental Lab of Texas

### **Organics by GC - Quality Control**

### **Environmental Lab of Texas**

A 1- da	Domit	Reporting Limit	Units	Spike	Source	0/DEC	%REC	DDD	RPD	Madre
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EK40906 - Solvent Extraction	(GC)									
Blank (EK40906-BLK1)				Prepared:	11/09/04	Analyzed	1: 11/10/04			
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	n							
Total Hydrocarbon C6-C35	ND	10.0	n							
Surrogate: 1-Chlorooctane	38.4		mg/kg	50.0		76.8	70-130			
Surrogate: 1-Chlorooctadecane	45.4		"	50.0		90.8	70-130			
Blank (EK40906-BLK2)				Prepared	& Analyze	ed: 11/10/	04			
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	11							
Surrogate: 1-Chlorooctane	38.3		mg/kg	50.0		76.6	70-130			
Surrogate: 1-Chlorooctadecane	44.3		"	50.0		88.6	70-130			
LCS (EK40906-BS1)				Prepared:	11/09/04	Analyzed	l: 11/10/04			
Gasoline Range Organics C6-C12	439		mg/kg	500		87.8	75-125			
Diesel Range Organics >C12-C35	523		н	500		105	75-125			
Total Hydrocarbon C6-C35	962		n	1000		96.2	75-125			
Surrogate: 1-Chlorooctane	49.1		"	50.0		98.2	70-130			
Surrogate: 1-Chlorooctadecane	47.2		"	50.0		94.4	70-130			
LCS (EK40906-BS2)				Prepared	& Analyz	ed: 11/10/	04			
Gasoline Range Organics C6-C12	447	10.0	mg/kg wet			89.4	75-125			
Diesel Range Organics >C12-C35	530	10.0	n	500		106	75-125			
Total Hydrocarbon C6-C35	977	10.0		1000		97.7	75-125			
Surrogate: 1-Chlorooctane	49.8		mg/kg	50.0		99.6	70-130			
Surrogate: 1-Chlorooctadecane	49.1		"	50.0		98.2	70-130			
Calibration Check (EK40906-CCV1)				Prepared	: 11/09/04	Analyzed	1: 11/10/04	Ļ		
Gasoline Range Organics C6-C12	527		mg/kg	500		105	80-120			
Diesel Range Organics >C12-C35	561		n	500		112	80-120			
Total Hydrocarbon C6-C35	1090		Ħ	1000		109	80-120			
Surrogate: 1-Chlorooctane	57.0		"	50.0		114	70-130			
Surrogate: 1-Chlorooctadecane	57.7		"	50.0		115	70-130			

Environmental Lab of Texas

### **Organics by GC - Quality Control**

### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK40906 - Solvent Extraction (	GC)									
Calibration Check (EK40906-CCV2)				Prepared	& Analyze	ed: 11/10/0	04			
Gasoline Range Organics C6-C12	497		mg/kg	500	······································	99.4	80-120			
Diesel Range Organics >C12-C35	559		H	500		112	80-120			
Total Hydrocarbon C6-C35	1060		н	1000		106	80-120			
Surrogate: 1-Chlorooctane	53.8		"	50.0		108	70-130			
Surrogate: 1-Chlorooctadecane	55.0		"	50.0		110	70-130			
Matrix Spike (EK40906-MS1)	Sou	rce: 4K100	04-05	Prepared	& Analyze	ed: 11/10/	04			
Gasoline Range Organics C6-C12	548	10.0	mg/kg dry	526	ND	104	75-125		*****	
Diesel Range Organics >C12-C35	648	10.0	н	526	68.0	110	75-125			
Total Hydrocarbon C6-C35	1200	10.0		1050	68.0	108	75-125			
Surrogate: 1-Chlorooctane	63.6		mg/kg	50.0		127	70-130			
Surrogate: 1-Chlorooctadecane	62.7		"	50.0		125	70-130			
Matrix Spike (EK40906-MS2)	Sou	rce: 4K100	04-15	Prepared	& Analyze	ed: 11/10/	04			
Gasoline Range Organics C6-C12	572	10.0	mg/kg dry	562	ND	102	75-125			
Diesel Range Organics >C12-C35	628	10.0	H	562	ND	112	75-125			
Total Hydrocarbon C6-C35	1200	10.0	И	1120	ND	107	75-125			
Surrogate: 1-Chlorooctane	52.7		mg/kg	50.0		105	70-130		· · · ·	
Surrogate: 1-Chlorooctadecane	51.6		"	50.0		103	70-130			
Matrix Spike Dup (EK40906-MSD1)	Sou	rce: 4K10(	04-05	Prepared	& Analyz	ed: 11/10/	04			
Gasoline Range Organics C6-C12	537	10.0	mg/kg dry	526	ND	102	75-125	2.03	20	
Diesel Range Organics >C12-C35	661	10.0	м	526	68.0	113	75-125	1.99	20	
Total Hydrocarbon C6-C35	1200	10.0	"	1050	68.0	108	75-125	0.00	20	
Surrogate: 1-Chlorooctane	61.2		mg/kg	50.0		122	70-130	······································		
Surrogate: 1-Chlorooctadecane	57.1		"	50.0		114	70-130			
Matrix Spike Dup (EK40906-MSD2)	Sou	rce: 4K10	004-15	Prepared	& Analyz	ed: 11/10/	04			
Gasoline Range Organics C6-C12	569	10.0	mg/kg dry	562	ND	101	75-125	0.526	20	
Diesel Range Organics >C12-C35	625	10.0	"	562	ND	111	75-125	0.479	20	
Total Hydrocarbon C6-C35	1190	10.0	н	1120	ND	106	75-125	0.837	20	
Surrogate: 1-Chlorooctane	54.7		mg/kg	50.0		109	70-130			
Surrogate: 1-Chlorooctadecane	51.5		"	50.0		103	70-130			

General Chemis	•	-			ods - Q	uality C	ontro	1	
	E	Invironmental	Lab of T	exas					
Analyte	Result	Reporting Limit Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK41101 - General Preparation	ı (Prep)				_				
Blank (EK41101-BLK1)			Prepared	11/10/04	Analyzed:	11/11/04			
% Moisture	0.0	%							
Duplicate (EK41101-DUP1)	Sou	irce: 4K10004-01	Prepared	11/10/04	Analyzed:	11/11/04			
% Moisture	7.0	%		7.0			0.00	20	
Batch EK41208 - Water Extraction									
Blank (EK41208-BLK1)			Prepared	: 11/09/04	Analyzed	: 11/11/04			
Chloride	ND	20.0 mg/kg V	/et						
Matrix Spike (EK41208-MS1)	So	arce: 4K09008-01	Prepared	: 11/09/04	Analyzed	: 11/11/04			
Chloride	2140	20.0 mg/kg V	/et 500	1630	102	80-120			
Matrix Spike Dup (EK41208-MSD1)	So	ırce: 4K09008-01	Prepared	: 11/09/04	Analyzed	: 11/11/04			
Chloride	2150	20.0 mg/kg V	· · · · · · · · · · · · · · · · · · ·	1630	104	80-120	0.466	20	
Reference (EK41208-SRM1)			Prepared	& Analyz	ed: 11/11/0	)4			
Chloride	5000	mg/kg		<b>·</b>	100	80-120			
Batch EK41209 - Water Extraction									
Blank (EK41209-BLK1)			Prepared	: 11/10/04	Analyzed	: 11/11/04			
Chloride	ND	20.0 mg/kg V			*			····	
Matrix Spike (EK41209-MS1)	So	urce: 4K10004-17	Prepared	: 11/10/04	Analyzed	: 11/11/04			
Chloride	808	20.0 mg/kg V	Vet 500	319	97.8	80-120			

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Environmental Lab of Texas

Page 14 of 16

### General Chemistry Parameters by EPA / Standard Methods - Quality Control

**Environmental Lab of Texas** 

Analyte	Result	Reporting Limit Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK41209 - Water Extraction									
Matrix Spike Dup (EK41209-MSD1)	Sour	ce: 4K10004-17	Prepared	: 11/10/04	Analyzed	1: 11/11/04			
Chloride	819	20.0 mg/kg V	/et 500	319	100	80-120	1.35	20	
Reference (EK41209-SRM1)			Prepared	& Analyz	ed: 11/11/	04			
Chloride	5000	mg/kg	5000		100	80-120			

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Page 15 of 16

Larson & As	ssociates, Inc.	Project: XTO/ Well #187	Fax: (432) 687-0456
P.O. Box 50	685	Project Number: 4-0119	Reported:
Midland TX	, 79710	Project Manager: Cindy Crain	11/12/04 16:01
		Notes and Definitions	
J	Detected but below the Report	rting Limit; therefore, result is an estimated concentration (CLP J-Fla	ng).

- Analyte DETECTED DET
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- **Relative Percent Difference** RPD
- LCS Laboratory Control Spike
- MS Matrix Spike
- Dup Duplicate

Kalandk Just Report Approved By: Date: 11-15-04

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director James L. Hawkins, Chemist/Geologist Sandra Sanchez, Lab Tech.

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If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

CLIENT NAME:	AME:			S	SITE MANAGER:		PARAM	PARAMETERS/METHOD NUMBER	CHAIN-0	-OFCUSTODY RECORD
×	(70				Cirdy Cri	rain				
PROJECT NO .:	NO.:			<u>م</u>			INEBS		A arson & A	S. IDC. Fox: 432-687-0456
r	4-0119	~			EMSU #	187			Environment	ltants
PAGE	/ OF ,	3		LAB. PO #	#(				507 N. Marier	507 N. Marienfeld, Ste. 202 • Midland, TX 79701
IIV0	311/1	MATER	1105	d'alter Olther	SAMPLE IDENTIFICATION	NO	ИД И∩WBEB (		LAB. I.D. NUMBER (LAB USE ONLY)	Remarks II.E., Filtered, Unfiltered, Preserved, Undreserved, Grab Composite)
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	1055		7		) 1.	15-17')			-03	
11	10.59		7		, , ,	20-221)			10-	
11	1200		7	4	HB-13 (	(0-21)	7		Vo-	
1.	1205		7		) 1,	(2-2)	7		-06	
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1	1213		7		-	(12-17)	-		жо- -	
۲,	1216		7		-	(120-02)			50-	
:	1234		7		HB-9A	(10-12)	7		7	
:	1239		7		11	(12-17)			)1-	
	1244		7	-	11	(20-22)			-12	
11	1300		7		HB-IA	(10 - 12)	7		-13	-
11	1306		7		11	(15-17)	1		h-	
11	1316		7		-	(20-22')	1		-15	
:	1341		7		HB-IIA	(10-12))	7		-16	
"	1354		7		h	(15-17)	1		21-	
11	404		7		11	20-22'	l		-18	
SAMPLE	SAMPKED BY: (Signorture)	prture)	•		DATE: <u>4/3/07</u> TIME: 1404	RELINQUES	HED BY: (Stathature)	DATE: <u>415/04</u> TIME: <u>1220</u>	RECEIVED BY: (Signature)	Jre) DATE
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					TIME:			TIME:	FEDEX	BUS AIRBILL #:
COMMENTS:	NTS:							TURNAROUND TIME NEEDED	WATNE DELIVERED	UPS OTHER: 5 LAB
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<b>RECEIVIN</b>	RECEIVING LABORATORY: ADDRESS:	TORY		EL	21	ß	RECEIVED BY: (Signature)	ure) KOOV		RECEIPT)
				ראן האון	STATE: PHONF-	ZIP:	DATE: 4/5/00	TIME: 12:20	• •	DA/QC COORDINATOR
SAMPLE CO	SAMPLE CONDITION WHEN RECEIVED	EN RECE	NED:					Ż	SAMPLE TYDE.	
4	4.5		Q u	<i>v</i> / 0	hel 1 no	Gen/	S. Car	-and		
				14	1 V V V V	1000	5			

CLIENT NAME:	AME:			SITE A	SITE MANAGER:			PARAMETERS/METHOD NUMBER	THOD NUMBER	CHAIN-OF-	-CUSTODY RECORD
	XTD			2	Lindy Cra	rain					
PROJECT NO .:	NO.:			PROJE	PROJECT NAME:					A arson & Sociates. Inc.	DC. Fox: 432-687-0456
	4-0119	6		E	EM54 # 187	27				Environmental Cons	litants 432-687-0901
PAGE ,	د م	S		LAB. PO #			01-07 01-00			507 N. Marienfeld,	507 N. Marienfeld, Ste. 202 • Midland, TX 79701
ILVO	JWIL	<u>ц</u>	1105	OFYER SAMP	SAMPLE IDENTIFICATION		NUMBER			Lab. I.D. Number (Lab use only)	Remarks (1.E., Filtered, Unfiltered, Preserved, Undreserved, Grab Composite)
4/3/06	1420	+	1	-	HB-6A (	10-12')	-			6205019-19	
11			7	1	)	(15-17)	-			02-	
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1	1502		7		$\sim$	15-17')	-			-23	
11	1506		7	4	)	20-221)	_			H2_	
4/4/00	. 0936		7	θH	HB-IDA /1	10-12)	- 7			-25	
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11	0958		7	HB-	12 (	(0-21)	- 7			-2%	
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=	6001		7	11		10-12')	- 7			-30	
:	1015		7	:		15-17').	_			18-	
	10-20		7			(.22-02	_			-32	
=	1031		7	HE	B-2A 1	(5-71)	7			-33	
ų	1038		7			(10-121)	-			-34 h	
11	1047		7		,	(15-17)	_			-35	
:	1054		7	-		(20-22)	_		- 1	-36	
SAMPLE	SAMPLED BY; (Signature)	et upp			DATE: 4/4/104 TIME: 10.54	RELINQUISH	PD BY: (Sighighure)	highure).	DATE: 415/00 TIME: 1220	246RECEIVED BY: (Signature)	DATE: TIME:
RELINOL	RELINQUISHED BY: (Signature)	(Signat	ture)		DATE	RECEIVED BY Signature)	Signature		DATE:	SAMPLE SHIPPED BY: (Circle)	(5)
					TIME:		,		TIME:		BUS AIRBILL #:
COMMENTS:	NTS:			:				TURNAROU	Turnaround time needed 🔾	DELIVERED	JPS OTHER:
				Ĭ	1					White - Receiving Lab Yellow - Receiving Lab	- Receiving Lab - Receiving Lab (to be retijrned to
RECEIVING ADDRESS:	RECEIVING LABORATORY: ADDRESS:	VTORY:		IZ A		REC	JEIVED BY	ECEIVED BY: (Signature)	21		Lc Lc
CITY: CONTACT:	   H			PHONE:	E:ZIP: NE:		DATE: 4/	1-3/06 TIME: 1	2:20	•	INATOR
SAMPLE C	SAMPLE CONDITION WHEN RECEIVED	IEN RECE	NED:				A CONF	LA CONTACT PERSON:		SAMPLE TYPE:	
-	40		ou	In he	label 1 no sea	al	-	C. Crain		1100	



12600 West I-20 East - Odessa, Texas 79765

# Analytical Report

# **Prepared for:**

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

Project: XTO/ EMSU #187 Project Number: 4-0119 Location: None Given

Lab Order Number: 6E01001

Report Date: 05/04/06

Larson & Associates, Inc.	Project: XTO/ EMSU #187	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 4-0119	Reported:
Midland TX, 79710	Project Manager: Cindy Crain	05/04/06 12:02

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HB-1A (20-22')	6E01001-01	Soil	04/03/06 13:16	04/05/06 12:20
HB-10A (20-22')	6E01001-02	Soil	04/04/06 09:48	04/05/06 12:20
HB-12 (20-22')	6E01001-03	Soil	04/04/06 10:20	04/05/06 12:20

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

Gen	eral Chem	istry Parar	neters	by EPA	/ Stand	ard Metl	hods		
		Environn	nental I	Lab of I	<b>Texas</b>				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HB-1A (20-22') (6E01001-01) Soil									
Chloride	441	10.0	mg/kg	20	EE60204	05/02/06	05/02/06	EPA 300.0	O-04
HB-10A (20-22') (6E01001-02) Soil									
Chloride	959	25.0	mg/kg	50	EE60204	05/02/06	05/02/06	EPA 300.0	O-04
HB-12 (20-22') (6E01001-03) Soil									
Chloride	177	10.0	mg/L	2	EE60312	05/04/06	05/04/06	1312/9253	

Environmental Lab of Texas

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Page 2 of 4

**Reported:** 05/04/06 12:02

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control

**Environmental Lab of Texas** 

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
L										
Batch EE60204 - Water Extraction						·			_	
Blank (EE60204-BLK1)				Prepared	& Analyz	ed: 05/02/	06			
Chloride	ND	0.500	mg/kg							
LCS (EE60204-BS1)				Prepared	& Analyz	ed: 05/02/	06			
Chloride	10.1	0.500	mg/kg	10.0		101	80-120	/* I* i		
Calibration Check (EE60204-CCV1)				Prepared	& Analyz	ed: 05/02/	06			
Chloride	9.88		mg/L	10.0	·····	98.8	80-120			
Duplicate (EE60204-DUP1)	So	urce: 6D2500	)2-21	Prepared	& Analyz	ed: 05/02/	06			
Chloride	124	5.00	mg/kg		125			0.803	20	
Batch EE60312 - EPA 1312/9253				Dranarad	& Apoly	rad: 05/04/				
Blank (EE60312-BLK1) Chloride	14.2	10.0	mg/L	Frepareo	& Analyz	zed: 05/04/	00			
LCS (EE60312-BS1)	17,2	10.0	mg/L	Prepared	& Analyz	ved: 05/04/	06			
Chloride	97.5		mg/L	100	•	97.5	80-120			
Matrix Spike (EE60312-MS1)	So	urce: 6E0100	)1-03	Prepared	& Analyz	ed: 05/04/	'06			
Chloride	674	10.0	mg/L	500	177	99.4	80-120			
Matrix Spike Dup (EE60312-MSD1)	So	urce: 6E0100	)1-03	Prepared	& Analyz	zed: 05/04/	′06			
Chloride	665	10.0	mg/L	500	177	97.6	80-120	1.34	20	
Reference (EE60312-SRM1)				Prepared	& Analyz	zed: 05/04/	/06			
Chloride	4960		mg/L	5000		99.2	80-120			

Environmental Lab of Texas

#### Notes and Definitions

O-04	This sample was analyzed outside the EPA recommended holding time.
В	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

alandkitul Report Approved By: 5-04-06 Date:

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

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Environmental Lab of Texas

- I.					
CLIENT NAME:	SITE MANAGER:	PARAMETERS/METHOD	THOD NUMBER	CHAIN-OF	FCUSTODY RECORD
$\chi  au o$	( indy ( rain)				
PROJECT NO .:	د د	min		Ausoriates, Inc. 1 Environmental Consultants	S, INC. Fax: 432-687-0456 Consultants
1 6111	101 m 1017	Service Servic		507 NI Marianfald	Ste 202 • 1
PAGE / OF 🔮 U	LAB. PO #				707 - 207
105 431	SAMPLE IDENTIFICATION	MUMBER MUMBER		LAB. I.D. NUMBER (LAB USE ONLY)	REMARKS I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, GRAB, COMPOSITE)
.1 01701	NE-8A (5-7)			6D (5019-01	
}	((1,01))			20-	
- 1959U -	(15.17)			-03	
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1213 V		-		(Ko-	
1216	1. (20.22.)			- ţir	
11 1234 6	(10-12-) AP-9A	- -		-10	
	(12-17)			11	
1 /2/2/2/				2)-	
11 1340	HP. 1A (10-12.)	- V		- 2	
11 1316 1	(12 17)			M-	1-
.1 1311.		8		2 51-	A 6E01001-01
11 1341 1	112-11A (10-12)	)7		~{k	
" 1354) "				11	
11 11/01 11	1.21			101-	
SAMPLED BY: (Signature)	DATE: 4/ 3/22 RELINQUI	RELINQUISHED BY: (Signature)	DATE: <u>イノジ// C</u> R TIME: <u>ノンシク</u>	RECEIVED BY: (Signature)	re) DATE: TIME:
RELINQUISHED BY: (Signature)		RECEIVED BY: (Signature)	DATE:	SAMPLE SHIPPED BY: (Circle)	Circle)
				FEDEX	BUS AIRBILL #:
COMMENTS:	(X) Add 5-1-5 attached	e-mail		Manud Ululivered White - Receiving LAB Yellow - Receiving LAB	ITO BE RE
RECEIVING LABORATORY: Z	10-7-2				ECEIPT) ANAGER
CITY:	STATE: ZIP: PHONF:	- DATE: 4/5// ( TIME: 0	0 07:21	1	QA/QC COORDINATOR
SAMPLE CONDITION WHEN RECEIVED:	/100	LA CONTACT PERSON:		SAMPLE TYPE:	
		~			<u> </u>

#### Jeanne McMurrey

From:	"Cindy Crain" <cindy@laenvironmental.com></cindy@laenvironmental.com>
To:	"Jeanne McMurrey" <jeanne@elabtexas.com></jeanne@elabtexas.com>
Sent:	Monday, May 01, 2006 9:21 AM
Subject:	FW: Request for Additional Soil Analysis

#### Jeanne,

Would you please run the following two (2) additional samples for Chloride analysis:

Project:	XTO/EMSU #187	
Project Number:	4-0119	
Lab Order Number:	6D05019	
Report Date:	4/13/06	

•	Sample HB-10A (20-22')	<ul> <li>Sampled 4/4/06 at 0948</li> </ul>
۲	Sample HB-1A (20-22')	Sampled 4/3/06 at 1316

In addition, please run the following sample for SPLP analysis for chloride:

• Sample HB-12 (20-22') Sampled 4/4/06 at 1020

Please give me a call if you have any questions or need additional information.

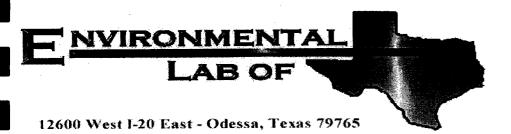
Thank you,

Cindy K. Crain, P.G.

Larson and Associates, Inc. 507 N. Marienfeld, Ste.202 Midland, TX 79701

office: (432) 687-0901 fax: (432) 687-0456 Cell: (432) 556-8665

This message has been scanned for viruses and dangerous content by <u>BasinBroadband</u>, and is believed to be clean.



# Analytical Report

### **Prepared for:**

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

Project: XTO/ EMSU #187 Project Number: 4-0119 Location: None Given

Lab Order Number: 6G07011

Report Date: 07/14/06

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

#### Project: XTO/ EMSU #187 Project Number: 4-0119 Project Manager: Mark Larson

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HB-12, 25-26'	6G07011-01	Soil	07/06/06 09:18	07/07/06 11:10
HB-12, 30-31'	6G07011-02	Soil	07/06/06 09:30	07/07/06 11:10
HB-12, 35-36'	6G07011-03	Soil	07/06/06 09:36	07/07/06 11:10
HB-14, 0-2'	6G07011-05	Soil	07/06/06 10:10	07/07/06 11:10
HB-14, 5-6'	6G07011-06	Soil	07/06/06 10:15	07/07/06 11:10
HB-14, 10-11'	6G07011-07	Soil	07/06/06 10:20	07/07/06 11:10
HB-14, 15-16'	6G07011-08	Soil	07/06/06 10:23	07/07/06 11:10
HB-14, 20-21'	6G07011-09	Soil	07/06/06 10:28	07/07/06 11:10
HB-14, 25-26'	6G07011-10	Soil	07/06/06 10:34	07/07/06 11:10
HB-14, 30-31'	6G07011-11	Soil	07/06/06 10:40	07/07/06 11:10
HB-14, 35-36'	6G07011-12	Soil	07/06/06 10:48	07/07/06 11:10
Background, 0-2'	6G07011-14	Soil	07/06/06 13:26	07/07/06 11:10
Background, 5-6'	6G07011-15	Soil	07/06/06 13:30	07/07/06 11:10
Background, 10-11'	6G07011-16	Soil	07/06/06 13:34	07/07/06 11:10
Background, 15-16'	6G07011-17	Soil	07/06/06 13:36	07/07/06 11:10
Background, 20-21'	6G07011-18	Soil	07/06/06 13:43	07/07/06 11:10
Background, 25-26'	6G07011-19	Soil	07/06/06 13:50	07/07/06 11:10
Background, 30-31'	6G07011-20	Soil	07/06/06 14:02	07/07/06 11:10
Background, 35-36'	6G07011-21	Soil	07/06/06 14:10	07/07/06 11:10
HB-8A, 10-11'	6G07011-23	Soil	07/06/06 14:42	07/07/06 11:10
HB-8A, 15-16'	6G07011-24	Soil	07/06/06 14:46	07/07/06 11:10
HB-8A, 20-21'	6G07011-25	Soil	07/06/06 14:53	07/07/06 11:10
HB-15, 0-2'	6G07011-27	Soil	07/06/06 15:30	07/07/06 11:10
HB-15, 5-6'	6G07011-28	Soil	07/06/06 15:35	07/07/06 11:10
HB-15, 10-11'	6G07011-29	Soil	07/06/06 15:40	07/07/06 11:10
HB-15, 15-16'	6G07011-30	Soil	07/06/06 15:45	07/07/06 11:10
HB-15, 20-21'	6G07011-31	Soil	07/06/06 15:48	07/07/06 11:10
HB-9A, 20-21'	6G07011-33	Soil	07/06/06 16:20	07/07/06 11:1
HB-9A, 25-26'	6G07011-34	Soil	07/06/06 16:27	07/07/06 11:1
HB-9A, 30-31'	6G07011-35	Soil	07/06/06 16:34	07/07/06 11:10

#### Project: XTO/ EMSU #187 Project Number: 4-0119 Project Manager: Mark Larson

#### Organics by GC

**Environmental Lab of Texas** 

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HB-12, 25-26' (6G07011-01) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF62601	07/07/06	07/08/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	н	"	**	"	11	
Carbon Ranges C28-C35	ND	10.0		н	n	"	11	"	
Total Hydrocarbon nC6-nC35	ND	10.0	н	н	и	11	11	ŧf	
Surrogate: 1-Chlorooctane		96.0 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		98.2 %	70-1	30	"	"	"	"	
HB-14, 15-16' (6G07011-08) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF62601	07/07/06	07/08/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	H	n		n	м	11	
Carbon Ranges C28-C35	ND	10.0	"	11	11	H	Ħ	"	
Total Hydrocarbon nC6-nC35	ND	10.0	н	Ħ	н	ĸ	N	N	
Surrogate: 1-Chlorooctane		98.6 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		99.0 %	70-,	130	"	"	"	"	
HB-15, 5-6' (6G07011-28) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF62601	07/07/06	07/08/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	н	н	H		H	U	
Carbon Ranges C28-C35	ND	10.0	n	11	W	"	"	H	
Total Hydrocarbon nC6-nC35	ND	10.0	н	н	н	"	11	n	
Surrogate: 1-Chlorooctane		94.8 %	70	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		96.8 %	7 <b>0-</b> .	130	"	"	"	"	

Environmental Lab of Texas

#### Project: XTO/ EMSU #187 Project Number: 4-0119 Project Manager: Mark Larson

### General Chemistry Parameters by EPA / Standard Methods

**Environmental Lab of Texas** 

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
HB-12, 25-26' (6G07011-01) Soil	<u> </u>								
Chloride	2340	20.0	mg/kg Wet	2	EG61003	07/10/06	07/11/06	SW 846 9253	
% Moisture	4.3	0.1	%	1	EG61010	07/07/06	07/10/06	% calculation	
HB-12, 30-31' (6G07011-02) Soil									
Chloride	510	20.0	mg/kg Wet	2	EG61003	07/10/06	07/11/06	SW 846 9253	
HB-12, 35-36' (6G07011-03) Soil									
Chloride	1020	20.0	mg/kg Wet	2	EG61003	07/10/06	07/11/06	SW 846 9253	
HB-14, 0-2' (6G07011-05) Soil									
Chloride	ND	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
HB-14, 5-6' (6G07011-06) Soil									
Chloride	978	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
HB-14, 10-11' (6G07011-07) Soil									
Chloride	681	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
HB-14, 15-16' (6G07011-08) Soil									
Chloride	893	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
% Moisture	6.9	0.1	%	1	EG61010	07/07/06	07/10/06	% calculation	
HB-14, 20-21' (6G07011-09) Soil									
Chloride	1700	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
HB-14, 25-26' (6G07011-10) Soil									
Chloride	638	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
HB-14, 30-31' (6G07011-11) Soil									
Chloride	553	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	

Environmental Lab of Texas

#### Project: XTO/ EMSU #187 Project Number: 4-0119 Project Manager: Mark Larson

Gener	ral Chen	nistry Para Environn		-		ard Met	hods		
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HB-14, 35-36' (6G07011-12) Soil								:	
Chloride	298	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
Background, 0-2' (6G07011-14) Soil									
Chloride	ND	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
Background, 5-6' (6G07011-15) Soil	<u>-</u>								
Chloride	31.9	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
Background, 10-11' (6G07011-16) Soil								· · · · · · · · · · · · · · · · · · ·	
Chloride	ND	20.0	mg/kg Wet	2	EĠ61004	07/10/06	07/11/06	SW 846 9253	
Background, 15-16' (6G07011-17) Soil									
Chloride	85.1	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
Background, 20-21' (6G07011-18) Soil								:	
Chloride	42.5	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
Background, 25-26' (6G07011-19) Soil									
Chloride	21.3	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
Background, 30-31' (6G07011-20) Soil									
Chloride	ND	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
Background, 35-36' (6G07011-21) Soil									
Chloride	ND	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
HB-8A, 10-11' (6G07011-23) Soil		······································							
Chloride	31.9	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	

Environmental Lab of Texas

#### General Chemistry Parameters by EPA / Standard Methods

**Environmental Lab of Texas** 

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
HB-8A, 15-16' (6G07011-24) Soil							<u> </u>	·····	
Chloride	21.3	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
HB-8A, 20-21' (6G07011-25) Soil									
Chloride	ND	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
HB-15, 0-2' (6G07011-27) Soil									-
Chloride	31.9	20.0	mg/kg Wet	2	EG61004	07/10/06	07/11/06	SW 846 9253	
HB-15, 5-6' (6G07011-28) Soil									
Chloride	74.4	20.0	mg/kg Wet	2	EG61005	07/10/06	07/11/06	SW 846 9253	
% Moisture	3.0	0.1	%	. 1	EG61010	07/07/06	07/10/06	% calculation	
HB-15, 10-11' (6G07011-29) Soil									
Chloride	ND	20.0	mg/kg Wet	2	EG61005	07/10/06	07/11/06	SW 846 9253	
HB-15, 15-16' (6G07011-30) Soil									
Chloride	ND	20.0	mg/kg Wet	2	EG61005	07/10/06	07/11/06	SW 846 9253	
HB-15, 20-21' (6G07011-31) Soil									
Chloride	ND	20.0	mg/kg Wet	2	EG61005	07/10/06	07/11/06	SW 846 9253	
HB-9A, 20-21' (6G07011-33) Soil								:	
Chloride	1470	20.0	mg/kg Wet	2	EG61005	07/10/06	07/11/06	SW 846 9253	
HB-9A, 25-26' (6G07011-34) Soil			<u></u>						
Chloride	319	20.0	mg/kg Wet	2	EG61005	07/10/06	07/11/06	SW 846 9253	
HB-9A, 30-31' (6G07011-35) Soil									
Chloride	340	20.0	mg/kg Wet	2	EG61005	07/10/06	07/11/06	SW 846 9253	

Environmental Lab of Texas

#### **Organics by GC - Quality Control**

**Environmental Lab of Texas** 

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF62601 - Solvent Extraction (	(GC)	**** <b>_</b>		*	<u>.</u>					
Blank (EF62601-BLK1)	<b>.</b>			Prepared:	07/07/06	Analyzed	: 07/08/06			
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	I							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbon nC6-nC35	ND	10.0	"							
Surrogate: 1-Chlorooctane	47.9		mg/kg	50.0	<u>-</u>	95.8	70-130			
Surrogate: 1-Chlorooctadecane	47.0		"	50.0		94.0	70-130			
LCS (EF62601-BS1)				Prepared:	07/07/06	Analyzed	: 07/08/06			
Carbon Ranges C6-C12	511	10.0	mg/kg wet	500		102	75-125			
Carbon Ranges C12-C28	517	10.0	11	500		103	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbon nC6-nC35	1030	10.0		1000		103	75-125			
Surrogate: 1-Chlorooctane	56.8		mg/kg	50.0		114	70-130			
Surrogate: 1-Chlorooctadecane	48.I		"	50.0		96.2	70-130			
Calibration Check (EF62601-CCV1)				Prepared:	07/07/06	Analyzed	l: 07/10/06		2	
Carbon Ranges C6-C12	272		mg/kg	250		109	80-120			
Carbon Ranges C12-C28	277		**	250		111	80-120			
Total Hydrocarbon nC6-nC35	549		W	500		110	80-120			
Surrogate: 1-Chlorooctane	46.9		"	50.0		93.8	70-130			
Surrogate: 1-Chlorooctadecane	44.9		n	50.0		89.8	70-130			
Matrix Spike (EF62601-MS1)	So	ource: 6G07	010-02	Prepared	: 07/07/06	Analyzed	1: 07/08/06			
Carbon Ranges C6-C12	509	10.0	mg/kg dry	541	ND	94.1	75-125	***.** ***********		
Carbon Ranges C12-C28	521	10.0		541	ND	96.3	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbon nC6-nC35	1030	10.0	н	1080	ND	95.4	75-125			
Surrogate: 1-Chlorooctane	55.8		mg/kg	50.0		112	70-130			
Surrogate: 1-Chlorooctadecane	48.6		"	50.0		<i>97.2</i>	70-130			

Environmental Lab of Texas

#### **Organics by GC - Quality Control**

**Environmental Lab of Texas** 

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

### Batch EF62601 - Solvent Extraction (GC)

Matrix Spike Dup (EF62601-MSD1)	Sour	ce: 6G070	10-02	Prepared:	07/07/06	Analyzed	1: 07/08/06		
Carbon Ranges C6-C12	513	10.0	mg/kg dry	541	ND	94.8	75-125	0.783	20
Carbon Ranges C12-C28	522	10.0	н	541	ND	96.5	75-125	0.192	20
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20
Total Hydrocarbon nC6-nC35	1040	10.0	Ħ	1080	ND	96.3	75-125	0.966	20
Surrogate: 1-Chlorooctane	58.7		mg/kg	50.0		117	70-130		
Surrogate: 1-Chlorooctadecane	49.6		n	50.0		99.2	70-130		

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Page 7 of 11

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limiț	Notes
Batch EG61003 - General Preparation	n (WetCher	n)								
Blank (EG61003-BLK1)				Prepared:	07/10/06	Analyzed:	07/11/06			
Chloride	ND	20.0	mg/kg Wet							
LCS (EG61003-BS1)				Prepared	& Analyze	d: 07/11/0	6			
Chloride	83.0		mg/kg	100		83.0	80-120			
Matrix Spike (EG61003-MS1)	So	urce: 6G0706	06-01	Prepared:	07/10/06	Analyzed:	07/11/06			
Chloride	17800	20.0	mg/kg Wet	500	17200	120	80-120			
Matrix Spike Dup (EG61003-MSD1)	So	urce: 6G0700	06-01	Prepared:	07/10/06	Analyzed:	07/11/06			
Chloride	17800	20.0	mg/kg Wet	500	17200	120	80-120	0.00	20	
Reference (EG61003-SRM1)				Prepared	& Analyze	ed: 07/11/0	6			
Chloride	50.0		mg/kg	50.0		100	80-120			
Batch EG61004 - General Preparatio	n (WetChei	n)				-				
Blank (EG61004-BLK1)				Prepared:	07/10/06	Analyzed:	07/11/06			
Chloride	ND	20.0	mg/kg Wet						;	
LCS (EG61004-BS1)				Prepared	& Analyze	ed: 07/11/0	6			
Chloride	80.8		mg/kg	100		80.8	80-120			
Matrix Spike (EG61004-MS1)	So	urce: 6G070	11-07	Prepared:	07/10/06	Analyzed	07/11/06			
Chloride	1110	20.0	mg/kg Wet	500	681	85.8	80-120			
Matrix Spike Dup (EG61004-MSD1)	So	urce: 6G070	11-07	Prepared	07/10/06	Analyzed	: 07/11/06			
Chloride	1110	20.0	mg/kg Wet	500	681	85.8	80-120	0.00	20	

Environmental Lab of Texas

General Chemi	•	neters by Environm				ods - Q	Quality C	Contro	1	
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG61004 - General Preparatio	n (WetChen	1)								
Reference (EG61004-SRM1)				Prepared	& Analyze	ed: 07/11/0	06			
Chloride	51.0		mg/kg	50.0		102	80-120			
Batch EG61005 - General Preparatio	n (WetChen	n)								
Blank (EG61005-BLK1)				Prepared:	07/10/06	Analyzed	: 07/11/06			
Chloride	ND	20.0	mg/kg We	t					:	
LCS (EG61005-BS1)				Prepared	& Analyze	ed: 07/11/	06			
Chloride	84.0		mg/kg	100		84.0	80-120			
Matrix Spike (EG61005-MS1)	So	urce: 6G070	11-30	Prepared:	07/10/06	Analyzed	l: 07/11/06			
Chloride	489	20.0	mg/kg We	t 500	0.00	97.8	80-120			
Matrix Spike Dup (EG61005-MSD1)	So	urce: 6G070	11-30	Prepared	07/10/06	Analyzed	1: 07/11/06			
Chloride	489	20.0	mg/kg We	t 500	0.00	97.8	80-120	0.00	20	
Reference (EG61005-SRM1)				Prepared	& Analyz	ed: 07/11/	06			
Chloride	52.1		mg/kg	50.0		104	80-120		······································	
Batch EG61010 - General Preparatio	on (Prep)									
Blank (EG61010-BLK1)				Prepared	07/07/06	Analyzed	1: 07/11/06			
% Moisture	ND	0.1	%							
Duplicate (EG61010-DUP1)	So	urce: 6G070	02-01	Prepared	07/07/06	Analyzed	1: 07/10/06			•
% Solids	92.8		%	<u>.</u>	94.6			1.92	20	

Environmental Lab of Texas

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control

**Environmental Lab of Texas** 

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG61010 - General Prepar	ation (Prep)									
Duplicate (EG61010-DUP2)	Sou	urce: 6G070(	)4-12	Prepared:	07/07/06	Analyzed	l: 07/10/06			
% Solids	86.8		%		87.8			1.15	20	
Duplicate (EG61010-DUP3)	So	urce: 6G070(	07-03	Prepared:	07/07/06	Analyzed	I: 07/10/06			
% Solids	90.1		%		89.0			1.23	20	
Duplicate (EG61010-DUP4)	So	urce: 6G0701	12-03	Prepared:	07/07/06	Analyzed	l: 07/10/06			•
% Solids	95.2		%		94.0			1.27	20	

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The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Page 10 of 11

#### **Notes and Definitions**

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

aland K the Report Approved By: Date: 7-14-06

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

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If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

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Page 11 of 11

CHAIN-OF-CUSTODY RECORD	A drson & Lax: 432-687-0456 Environmental Consultants 432-687-0901	507 N. Marienfeld, Ste. 202 • Midland, TX 79701	LAB. I.D. REMARKS NUMBER II.E., FILTERED, UNFILTERED, FRESERVED, UNPRESERVED, (LAB USE ONLY) GRAB COMPOSITE)	6907011 -01	20-	-03	-64	. ya	-0r	L.9-	-06	-0 <u>4</u>	() <b>-</b>	<b>-</b>	-12	-13	h/-	- (S	-16	L'~	81- 18	RECEIVED BY: (Signature) DATE:	SAMPLE SHIPPED BY: (Circle)	BUS AI	(HAND/DELIVERED UPS OTHER: WHITE _ PECTENNIG I AR	>	LA AFTER RECEIPT) PINK - PROJECT MANAGER GOLD - QA/QC COORDINATOR	sample TYPE: Stail
A PARAMETERS/METHOD NUMBER	NUTRINERS	De co	GM1 MOWBER	) ) )	~			2		>		2	2	→ →	<b>&gt;</b>		2	······································		2		BY: (Signature) DATE:TIME:	(Signature) DATE:	TIME	TURNAROUND TIME NEEDED		ECEIVED BY: (Signature) LELLUL LELL DATE: 7/17/00 TIME: 011:10	LA CONTACT PERSON:
SITE MANAGER:	PROJECT NAME: PROJECT NAME: ETSU URDet 187		SAMPLE IDENTIFICATION	HB-12 25-27°	130 - 31	HB-12, 35-36' 1	HB-12, 40-41' 1	HB-14, 0.2' 1	14-14, 5-41	118-14, 10-11'	HB-14, 15-16				HB-14, 35-36' 1	40-14, 40-41' 1	Barkgrand, 6-2 1	Bachand, 5-th' 1	"hacken ud 10-11' 1	Pro	1,12-02, that for any	DATE: 1/6/06 RELINQUISHED BY: (Signature) TIME: 16 341	TTAK RECEIVED BY:	TIME: 11.10			- 20 E STATE: TX ZIP 79765	
Š	XTO Energy In. PROJECT NO.: 4 - 0119	PAGE 1 OF 2 LAB	2014 105 2011 3011 3011 3011 2011	x Carls		0934	0415	10:10	10:15	10:20	(0:23	52. 35	[O: ¥	10:40	24.01	10:55	13:26	[3:30	13:34	13:36	<ul> <li>↓</li> <li>↓</li></ul>	SAMPLE VISION	RELINGUISHER BY: [Signature]		COMMENTS:		RECEINING LABORATORY: ELT ADDRESS: 12.600 UC	ITION WHEN RECEI

			<b>APARAMETI</b>	A PARAMETERS/METHOD NUMBER	CHAIN-OF-CUSTODY RECORD
X 10 CV	Crevey, Inc	PROJECT NAME	<b>уо 1 С  </b> ИБК2		A groon & hours of hours of hours of hours
4-0119		EHSU WELL'187	alatuc 15 0 L		Associates, in to, rax: 432-987-0430     Environmental Consultants     432-687-0901
PAGE Z OF Z		LAB. PO #	DF CC		507 N. Marienfeld, Ste. 202 • Midland, TX 79701
JUNI JUNI JUNO	OTHER SON	SAMPLE IDENTIFICATION	CPJ' HJL NOWBER		Lab. I.D. REMARKS NUMBER (I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, (LAB USE ONLY) GRAB COMPOSITE)
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		1 1	7 -		02-
14:0			2		12~
S1:H1		Backgrow Ho-41	-		22-
2H: 14	-	17 10-11, 10-11,	7 -		-23
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[1:3			<u>→</u>		- 25
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Y		TIME: <b><i>U</i></b> . <b>/O</b>		TIME:	BUS AI
COMMENTS:			2	TURNAROUND TIME NEEDED	DELIVERED
	ţ	<b>}</b>			WHTTE - RECEIVING LAB YELLOW - RECEIVING LAB (TO BE RETURNED TO
RECEIVING LABORATORY: STVICTON PAR	ORY: STALIA	р С С С С С С С С С С С С С С С С С С С	RECEIVED BY: (Signature)	leer	
CITY: Odered CONTACT: Doleral	H	UHL PHONE: (432) 563- 1830 D	рате: <u>1/1/64</u>	TIME 0/://0	GOLD - QA/QC COORDINATOR
SAMPLE CONDITION WHEN RECEIVED	N RECEIVED:		LA CONTACT PERSON		sample TYPE: Bar

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

Client:	lyson		
Date/Time:	7/7/06	11-10	
Order #:	6401011		
Initials:	CK		

### Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	40 CI
Shipping container/cooler in good condition?		No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	Xes	No	
Sample Instructions complete on Chain of Custody?	Ang I	No	
Chain of Custody signed when relinquished and received?	Xes 1	No	
Chain of custody agrees with sample label(s)	Kes I	No	ED on lid
Container labels legible and intact?	Yes	No	
Sample Matrix and properties same as on chain of custody?	Xes	No	
Samples in procer container/bottle?	1 Xas	No	· · · ·
Samples properly preserved?	155	No	
Sample bottles intact?	Yes	No	
Preservations documented on Chain of Custody?		No	
Containers documented on Chain of Custody?	YES	No	
Sufficient sample amount for indicated test?	Yes	No	
All samples received within sufficient hold time?	Æs	No	
VOC samples have zero headspace?	(C)	No	Nct Applicable

Other observations:

	Variance Documen	tation:	
Contact Person:	Date/Time:	Contacted by:	

-

\_\_\_\_\_  .

\_ \_\_\_\_

Regarding:

Corrective Action Taken:

# NVIRONMENTAL

12600 West I-20 East - Odessa, Texas 79765

# Analytical Report

# **Prepared for:**

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

Project: XTO/ EMSU #187 Project Number: 4-0119 Location: None Given

Lab Order Number: 6G17005

Report Date: 07/20/06

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

#### Project: XTO/ EMSU #187 Project Number: 4-0119 Project Manager: Mark Larson

Fax: (432) 687-0456

#### **ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HB-12 40-41'	6G17005-01	Soil	07/06/06 09:45	07/07/06 11:10

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

#### Project: XTO/ EMSU #187 Project Number: 4-0119 Project Manager: Mark Larson

#### **General Chemistry Parameters by EPA / Standard Methods**

**Environmental Lab of Texas** 

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HB-12 40-41' (6G17005-01) Soil									
Chloride	1110	20.0	mg/kg	40	EG61910	07/19/06	07/19/06	EPA 300.0	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Page 2 of 4

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG61910 - General Preparation	n (WetChen	n)								<u> </u>
Blank (EG61910-BLK1)				Prepared	& Analyz	ed: 07/19/	06			
Chloride	ND	0.500	mg/kg							
LCS (EG61910-BS1)				Prepared	& Analyz	ed: 07/19/	06			
Chloride	10.2	0.500	mg/kg	10.0		102	80-120		,	
Calibration Check (EG61910-CCV1)				Prepared	& Analyz	ed: 07/19/	06			
Chloride	10.2		mg/L	10.0		102	80-120			
Duplicate (EG61910-DUP1)	So	urce: 6G140	12-02	Prepared	& Analyz	ed: 07/19/	06			
Chloride	542	10.0	mg/kg		544			0.368	20	
Duplicate (EG61910-DUP2)	So	urce: 6G140	08-03	Prepared	& Analyz	ed: 07/19/	06			
Chloride	63.5	5.00	mg/kg		67.2			5.66	20	
Matrix Spike (EG61910-MS1)	So	urce: 6G140	12-02	Prepared	& Analyz	ed: 07/19/	06			
Chloride	796	10.0	mg/kg	200	544	126	80-120			S-0′
Matrix Spike (EG61910-MS2)	So	urce: 6G140	08-03	Prepared	& Analyz	ed: 07/19/				
Chloride	168	5.00	mg/kg	100	67.2	101	80-120			

Environmental Lab of Texas

#### **Notes and Definitions**

S-07	Recovery outside Laboratory historical or method prescribed limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Rosandk Ju Report Approved By: Date: 7-20-06

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

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Page 4 of 4

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	, Inc. Fax: 432-687-0456 Asultants 432-687-0901	507 N. Marienfeld, Ste. 202 • Midland, TX 79701	Remarks (I.E., Filtered, Unfiltered, Preserved, Unpreserved, Grab Composite)	G07011 -01	-02	-03	-64	S¢	-06	۲٥ <del>-</del>	-143	-04	-10	-1-	-12	-13	-14	- 15	-16	L1-	A	DATE: TIME:	cle)	A	LIVERED UPS OTHER: - RECEIVING LAB		ADIN TOR (COC) Y	2
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CHAIN-OF-CUSTODY RECORD	Acrson & Inc. Fax: 432-687-0456 Environmental Consultants 432-687-0901	JU/ N. Mariemeia, Sie. 202     Ivilaidia, 12,7701       LAB. I.D.     REMARKS       NUMBER     (I.E., FILTERED, UNRITERED, PRESERVED, UNPRESERVED,       (LAB USE ONLY)     GRAB COMPOSITE)	(G07011 - 19	12-	-22	-23	- 25	-21	L2-	~28	-25	-30	-32	- 33	-34	V -35	RECEIVED BY: (Signature) DATE:	TIME:	.E SHIPPED BY: (Circle)	FEDEX BUS AIRBILL #:	ING LAB		sample TYPE: Bail
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SITE MANAGER:	181,1120	LAB. PO # SAMPLE IDENTIFICATION	Brekgmund	Dach grand 35-36 1	:	146-84, 10-11' 1		Â	-		NB515 20-11/1	1 12-02 21-841	- ·	¥.	{ هر ۲	HB-9 A, 30-311 1	<ul> <li>RELINQUISHE</li> </ul>	16 <u>5</u> 21	1	TIME: 11.4.0	]		THUR THE TACK INCLU
CLIENT NAME XTO Conversi In-	PROJECT NO.: PROJECT NO.: 21-0119	PAGE Z. OF Z. LAB.P.	04 B 50 X	14:00 14:00	141:15	217: H	14:53	15:00	J538	15:35	1520	(Kit	15:55	K. 20	16:27	16:34	SAMPLED BY ISlanduret	6	RELINQUISHED BY: (Signature)	B	COMMENTS:	RECEIVING LABORATORY: ZINITA MADRESS. 12 Cas. 20 E. ADDRESS. 12 Cas. 20 E. CITY: Ord-1201, 7 11 STATE: 7 X	ITION WHEN RECEIVE

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

heat	Lárzon
Jate/Time:	1/1/06 11:10
rder #:	-tefenott 641105
nitials:	Cle

COPY

Sample Receipt Checklist emperature of container/cooler? Yes | 4.0 No С hipping container/cooler in good condition? XESI No Custody Seals intact on shipping container/cooler? Yes No NOT Dresedt Eustody Seals intact on sample bottles? Yes | No HOLDIESSAL No Chain of custody present? Xes | Sample Instructions complete on Chain of Custody? Tês | No Chain of Custody signed when relinquished and received? No Zas I chain of custody agrees with sample label(s) No | ID on lic Fes Container labels legible and intact? Yes | No Sample Matrix and properties same as on chain of custody? Xes | No Samples in procer container/bottle? No Xas | Samples properly preserved? 1 255 No Sample bottles intact? Yes 1 No Preservations documented on Chain of Custody? Veg 1 No Containers documented on Chain of Custody? 1 63 No Sufficient sample amount for indicated test? Nc YESI All samples received within sufficient hold time? YES No VOC samples have zero headsoace? Nc Not Applicable

Other observations:

Variance Documentation:

\_

Contact Person: -\_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Regarding:

Corrective Action Taken:

#### **Jeanne McMurrey**

From:"Mark Larson" <mark@laenvironmental.com>To:<jeanne@elabtexas.com>Sent:Saturday, July 15, 2006 10:39 PMSubject:Re: Additional Analysis, Report No. 6G07011

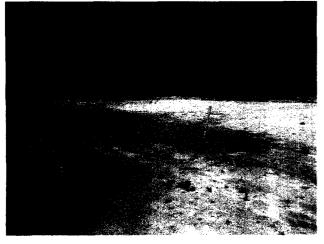
Jeanne: Please run the following sample for chloride: HB-12, 40 to 41' Also, I detected a typo in the report for sample 6G07011-21 (Background, 35-26'), which should be Background, 35 - 36'? Thanks, Mark

This message has been scanned for viruses and dangerous content by <u>BasinBroadband</u>, and is believed to be clean.

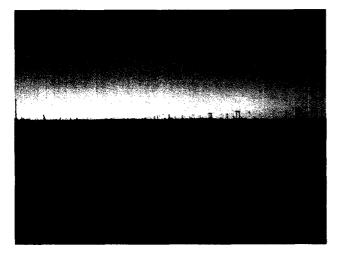
Appendix C

Photographs

EMSU # 187 NW/4, NW/4, SECTION 5, T-21-S, R-36-E LEA COUNTY, NEW MEXICO



1. EMSU # 187 - looking north

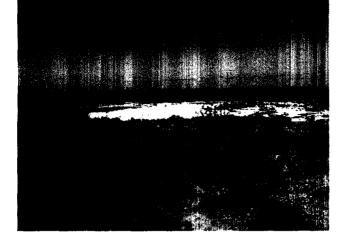


2. EMSU # 187 - looking south



3. EMSU # 187 - looking east

EMSU # 187 NW/4, NW/4, SECTION 5, T-21-S, R-36-E LEA COUNTY, NEW MEXICO



4. EMSU # 187 - looking west





5. EMSU # 187 - wellhead

6. EMSU # 187 - looking west from BH-11

District III 1000 Rio Brazo District IV	Avenue, Artos Road, Azte	csia, NM 8821(		Energy Mi Oil C 1220	nerals Conser South	New Mex and Natura vation Div on St. France NM 875	l Resources vision is Dr.		Form C Revised October 10, Submit 2 Copies to approp District Office in accord with Rule 116 on side of				
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