

## REPORTS

# DATE: 2006

## 1R421



December 1, 2006

Wayne Price Oil Conservation Division 1220 South St. Francis Drive Sante Fe, NM 87505

#### **RE:** Mattie Price Site Monitoring Report

Enclosed please find the Site Monitoring Report for the Mattie Price Tank Battery. This facility is located in Lea County, New Mexico.

Please review and provide comments or concurrence for the proposed actions described in Section 3.0, therein.

If you have any questions, please don't hesitate to give me a call at (318) 256-0660, or send me an e-mail at <u>debpennington@cebridge.net</u>. Please forward all written correspondence for this site investigation plan to me at the following address:

Deb Pennington Kane Environmental Engineering, Inc. 97 First Point Rd. Many, LA 71449

Sincerely,

D. Pennington

**Deb Pennington** 

Enclosure

CC: With Enclosure:

Larry Johnson Oil Conservation Division 1625 N. French Dr Hobbs, NM 88240

Joyce Swayze, Osborn Heirs Company

## Phase III ESA Site Monitoring Report

### **Mattie Price Tank Battery**

Lea County, New Mexico

Prepared for:

Osborn Heirs Company 1250 NE Loop 410 Suite 1100 San Antonio, TX 78209

**December 2006** 

Prepared by:



Kane Environmental Engineering, Inc. 5307 Oakdale Creek Court Spring, Texas 77379 Project No. 04-631



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#### **1.0 SITE HISTORY**

The Mattie Price Tank Battery, owned and operated by Osborn Heirs Company (Osborn), is located in Section 6, T17S R38E, Lea County, New Mexico, at a global position of North 32° 52' 3.4'', West 103° 10' 45.8'' (NAD 27 datum). A topographic map of the location is shown as **Figure 1**.

Phase I and II ESAs prepared by R.E. Environmental Services, Inc. and Larson & Associated, Inc. in 2003 identified hydrocarbon impacted soils in the vicinity of the tank battery, with impact alleged to 14' in depth, and surface contamination at the following locations:

- near the free water knockout.
- at an area reported as a buried pit.
- near the west end of the tank battery.
- near the flare.
- around the produced water injection points.

Kane Environmental Engineering Inc. (Kane Environmental) prepared a subsequent Phase II Site Investigation Plan (September 2003), detailing areas of investigation and determining a hydrocarbon remediation threshold site ranking score of 10.

Upon acceptance of the Plan by the NMOCD, Kane Environmental installed 16 borings designed to horizontally and vertically delineate potential impact around the tanks and equipment. Boring placements were designed to confirm or refute hydrocarbon impacts reported in the R.E. Environmental Services, Inc. and Larson & Associated, Inc. ESAs, and to further delineate any hydrocarbon impacted areas. Boring locations are depicted in **Figure 2**. TPH concentrations were found to exceed the site specific remediation threshold of 1,000 mg/kg in six borings.

Following submission of the site investigation report, NMOCD personnel requested additional vertical delineation at three boring locations (Borings 1, 9 and 10). Kane Environmental submitted and was granted approval for a Supplemental Work Plan to execute this delineation, which was conducted during the Supplemental Phase II ESA on June 14, 2005. This site investigation demonstrated the maximum depth of hydrocarbons in excess of the TPH threshold to be limited to 20'. A Phase II Supplemental Site Investigation Report and Remediation Work Plan was submitted to NMOCD in June 2005.

The Phase II ESA Supplemental Site Investigation Report and Remediation Work Plan, detailing the investigations to-date, the proposed soil removal and *in-situ* remediation procedures was sent for signature by the landowner in June of 2005. On December 1, 2005 Osborn, NMOCD and landowner representatives met on site, and approval for the Remediation Work Plan was granted with the following NMOCD requests:

#### 1.0 SITE HISTORY, Continued

- Installation of at least one temporary monitoring well to confirm or refute allegations of groundwater hydrocarbon and chloride contamination, and demonstrate groundwater depth and flow direction.
- Extent excavation boundaries as close as practicable (limited by safety concerns) to AST #4.

A completed C-141 did not accompany this site remediation report, as the areas of impact are the result of historical oil and gas operations, with no specific time of release identified.

Upon receipt of NMOCD approval, Kane Environmental directed the execution of the Remediation Work Plan during January 2006, with submission of the Phase III Site Remediation Report & Monitoring Plan in March 2006. This report and monitoring plan detailed:

- plans for excavation of hydrocarbon impacted soils.
- *in-situ* remediation of unexcavated materials by adding soil amendments.
- installation of three monitoring wells.
- installation of an air sparge system for *in-situ* remediation of soils below the depth of excavation.

Excavation was performed to the extent practical to preserve safe operations, keeping the integrity of the supporting foundations of the surface equipment and underground utilities intact. In most areas, excavation was completed to a depth of 10', with areas of excavation shown on **Figure 3**. A summary table of soil analyses performed during the site remediation excavation is included in **Table 1**. Following completion of excavation, approximately 332 yd<sup>3</sup> of contaminated soil was transported to J & L Landfarm in Hobbs, NM (Permit #NM-01-0023) for treatment and disposal.

Three monitoring wells were installed (shown on **Figures 3 and 4**). Well northing and easting, ground surface elevations, static water levels and groundwater elevations are shown in **Table 2**. Groundwater flow has been determined to be to the east-southeast.

BTEX analyses of monitoring well samples showed concentrations below drinking water thresholds. Chloride analyses for the monitoring well samples were below the Secondary drinking water threshold. A summary table of the analytical results is included in **Table 3.** Based on these analyses, operations at the Mattie Price have not impacted groundwater on-site. Following receipt of analyses, the wells were plugged as per previous agreement with NMOCD.

An 11-well air sparge system was installed, with each well drilled to a depth of 25'. Wells were spaced approximately 15' apart and a PVC pipe manifold system (shown in **Figure 4**) was constructed to connect the air sparge wells together. This manifold system was connected to an air compressor, with the air pressure on the manifold system maintained at 10 PSI for approximately 12 hours per day.

#### 2.0 **REMEDIATION MONITORING RESULTS**

On November 21, 2006, Kane Environmental directed the installation of four soil borings using an air/rotary drilling rig (John Scarborough Drilling Inc., Lamesa, TX) to monitor the status of *in-situ* remediation in areas where soil containing hydrocarbons above NMOCD site specific thresholds remain (MPB-1, MPB-7 and MPB-9, and MPB-10, 10-20'). At each location, air/rotary drilling was used to a depth of 10', with no samples collected, as these materials were backfill soils from previous excavation. At depths greater than 10', undisturbed cores were collected in 2.5' intervals to a total depth of 20'.

Field headspace analyses were performed using a hand-held PID instrument to screen samples for submittal to the laboratory. Sample collection and headspace readings were conducted according to the procedures outlined in NMOCD's Guidelines for Remediation of Leaks, Spills and Releases. The sample interval with the highest headspace reading and the terminal sample interval from each boring were submitted for laboratory TPH analyses. Soil boring logs are included in **Table 4**, with field headspace readings included in **Table 5** and boring sample analysis summarized in **Table 6**. Complete laboratory reports, including Chain of Custody documentation, are included in **Appendix A**.

In the area represented by MPB-1, boring MPB-1 11/06 was placed in the center of the former excavation area adjacent to the existing air sparge well to evaluate the soils below the former excavation floor. Samples from the 12.5-15' and 17.5-20' depth intervals were submitted for laboratory TPH analyses, with non-detect results for both samples.

In the area represented by MPB-7, boring MPB-7 11/06 was placed approximately 1' south of the former excavation area south sidewall to evaluate the strip of soil containing 1,070 mg/kg TPH that remained after site remedial excavation. Samples from the 12.5-15' and 17.5-20' depth intervals were submitted for laboratory TPH analyses, with non-detect and 44.2 mg/kg TPH concentrations, respectively.

At the area represented by MPB-9, boring MPB-9 11/06 was placed approximately adjacent to the former excavation area east sidewall to evaluate the soil containing 1870 mg/kg TPH that remained after site remedial excavation in the east sidewall, with boring completed to a depth of 20' to evaluate the soils below the former excavation floor. Samples from the 12.5-15' and 17.5-20' depth intervals were submitted for laboratory TPH analyses, with 117 and 184 mg/kg TPH concentrations, respectively.

Boring MPB-10 11/06 was placed in the area represented by MPB-10, with placement in the center of the former excavation area adjacent to the existing air sparge well to evaluate the soils below the former excavation floor. Samples from the 10-12.5' and 17.5-20' depth intervals were submitted for laboratory TPH analyses, with results (4,950 and 1,820 mg/kg, respectively) in excess of NMOCD thresholds.

#### 3.0 CONCLUSIONS AND RECOMMENDATIONS

Based on analytical results from the November 21, 2006 field investigation, remediation of residual hydrocarbons has been completed in areas MPB-1, MPB-7 and MPB-9. Additional remediation is required for area MPB-10, with soil hydrocarbon concentrations of 4,950 mg/kg at 10-12.5' and 1,820 mg/kg at 17.5-20'. To achieve complete remediation at the Mattie Price Tank Battery, Kane Environmental proposes the following remedial and monitoring actions:

- Capping of the 5 air sparge wells in areas MPB-1, MPB-7 and MPB-9 as indicated on Figure 4, reserving plugging operations until completion of site remediation.
- Rerouting of the surface manifold system to include only the 6 air sparging wells in and around area MPB-10 to provide a greater air volume for *in-situ* remediation of residual hydrocarbons in excess of NMOCD thresholds.
- Continued operation of the air sparge system, with the air pressure on the manifold system maintained at 10 PSI for approximately 12 hours per day.
- Continued monitoring of the function of the air sparge system by Kane Environmental personnel on a 90-day schedule.
- Continued monitoring of the status of remediation by collection of one boring in the MPB-10 area on a yearly basis until hydrocarbon concentrations are below the NMOCD site specific threshold of 1,000 mg/kg.

#### 4.0 QUALITY CONTROL AND SAFETY

All sample collection equipment was decontaminated between intervals by washing with soap and water followed by a clean-water rinse. All soil samples to be submitted for laboratory analysis were immediately packed on ice for shipment to the laboratory under a Chain of Custody transport. EPA approved pre-cleaned and certified containers were used for sample collection.

The PID used for headspace analysis was calibrated to assume a benzene response factor prior to arrival on location and the respective calibration sheet for this instrument is included in **Appendix B**.

Laboratory quality control measures used to insure the precision and accuracy of the data included:

- matrix spike analyses to demonstrate the effectiveness of the extraction procedures.
- known standard sample analyses and quality control spike analyses to demonstrate the accuracy of the equipment used for laboratory analyses.
- method blank analyses to demonstrate the purity of reagents used.

All analytical quality control measures were measured within acceptable limits.

All laboratory analyses were completed within required sample holding times, using EPA or NMOCD approved analytical methods.

#### Safety Protocol:

- 1. All work was performed in a safe manner.
- 2. A tailgate safety meeting was conducted each morning prior to initiation of work.
- 3. No excavation or boring was performed without clearing the area of utility lines.
- 4. Boom up/down was not performed without visual confirmation that the overhead area is clear of obstructions.
- 5. Call sheet and directions to local hospital was available to all on-site personnel.

#### Call Sheet:

Emergency Contacts	Phone number	email
One Call	800-321-2537	jtobin28@qwest.net
Osborn Heirs	210-826-8164	joys@osbornheirs.com
Landowner, Phillip Barry	505-396-6955	
Shawn Hokanson, Kane Environmental	806-570-3557	shawnhokanson@msn.com
Deb Pennington, Kane Environmental	318-256-0660	debpennington@cebridge.net

Emergency Contacts	Phone number
New Mexico State Police	(505) 392-5588
Lea County Sheriffs Office	(505) 393-2515
Weather and Road Conditions	(800) 432-4269
Hobbs Police Department	(505) 397-9265
Hobbs Fire Department	(505) 397-9308
Hobbs Ambulance	(505) 397-9308
Columbia Lea Regional Medical Center	5419 N Lovington Highway
	Hobbs, NM 88240
	505-392-6581



Mattie Price Tank Battery

Site Monitoring Report November 2006







Excavation Sample Area		Sample Date	GRO	DRO	Total Hydrocarbons
Aica			C6-C12	>C12-C35	iiyui ocui bons
				mg/kg	······································
MPB-1	Floor 10'	1/9/06	ND	124	124
MPB-1	ESW	1/9/06	ND	181	181
MPB-1	WSW	1/9/06	ND	289	289
MPB-1	N SW	1/9/06	ND	213	213
MPB-1	S SW	1/9/06	ND	259	259
MPB-3	Floor, 4'	1/9/06	5.36J	621	621
MPB-3	E SW	1/9/06	15.3	809	824
MPB-3	W SW	1/9/06	ND	191	191
MPB-3	N SW	1/9/06	13.0	886	899
MPB-3	S SW	1/9/06	8.07J	363	363
MPB-5	Floor, 9'	1/5/06	ND	55.5	55.5
MPB-5	E SW	1/5/06	ND	142	142
MPB-5	WSW	1/5/06	ND	ND	ND
MPB-5	N SW	1/5/06	ND	ND	ND
MPB-5	S SW	1/5/06	ND	ND	ND
MPB-7	Floor 10'	1/6/06	52.9	260	313
MPB-7	E SW	1/6/06	47.2	170	217
MPB-7	WSW	1/6/06	134	927	1060
MPB-7	W SW (B)	1/11/06	ND	751	751
MPB-7	N SW	1/6/06	152	1150	1300
MPB-7	S SW	1/6/06	289	1030	1320
MPB-7	S SW (B)	1/11/06	5.08J	1070	1070
MPB-9	Floor 10'	1/6/06	101	939	1040
MPB-9	ESW	1/6/06	177	1690	1870
MPB-9	W SW	1/6/06	8.69J	16.7	16.7
MPB-9	N SW	1/6/06	149	1550	1700
MPB-9	N SW (B)	1/11/06	6.92J	1500	1500
MPB-9	S SW	1/6/06	192	1810	2000
MPB-9	S SW(B)	1/11/06	5.78J	1303	1303

 Table 1 Remediation Sample Laboratory Analyses - January 2006

Excavation	Sample	Sample Date	GRO	DRO	Total
Агеа			C6-C12	>C12-C35	Hydrocardons
				mg/kg	
MPB-10	Floor 10'	1/9/06	239	1360	1600
MPB-10	E SW	1/9/06	8.76J	363	363
MPB-10	WSW	1/9/06	11.4	349	360
MPB-10	N SW	1/9/06	10.5	377	388
MPB-10	S SW	1/9/06	9.81J	343	343
MPB-12	Floor 8'	1/9/06	1180	3090	4270
MPB-12	Floor 10' (B)	1/10/06	ND	182	182
MPB-12	E SW	1/9/06	1330	3530	4860
MPB-12	E SW (B)	1/10/06	ND	231	231
MPB-12	WSW	1/9/06	504	1560	2060
MPB-12	W SW (B)	1/10/06	ND	637	637
MPB-12	N SW	1/9/06	421	1430	1850
MPB-12	N SW (B)	1/10/06	ND	183	183
MPB-12	S SW	1/9/06	261	895	1160
MPB-12	S SW (B)	1/10/06	ND	392	392
MP Excava	ted Soil Pile 1	1/9/06	ND	22100	22100
MPB-12S SWMPB-12S SW (B)MP Excavated Soil Pile 1MP Excavated Soil Pile 2		1/9/06	433	4040	4470
MP Ba	ckfill Soil	1/9/06	105	394	

 Table 1
 Remediation Sample Laboratory Analyses - January 2006, Continued

Well ID	Well Location, Northing	Well Location, Easting	TOC* Elevation, ft	Static water level, ft	Groundwater Elevation, ft				
MW 1	681334.136	854349.242	3726.31	78.39	3647.92				
MW 2	681246.554	854276.844	3725.56	77.50	3648.06				
MW 3	681256.234	854416.484	3726.31	78.89	3647.42				

 Table 2 Monitoring Well and Groundwater Data - January 2006

 Table 3 Groundwater Laboratory Analyses January - 2006

Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes, o	Xylenes, m,p	Chloride
			Mg	/l		
MW 1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	25.1
MW 2	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	45.1
MW 3	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	188
DW Std.*	0.005	1.0	0.7	10	(total)	250
*20	004 Edition	of the Drin	king Water Star	ndards and H	ealth Advisories,	US EPA.

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tion ]
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Table 4

MPB-1 11/06 Boring in center of section 1	Mixed fill, drilled with air, not sampled	Grayish white soft slightly sticky moist caliche with white clay	Grayish white soft slightly sticky moist caliche with white clay	Grayish white soft slightly sticky moist caliche with white clay	White calcified clay and caliche, hard	MPB-7 11/06 Boring in center of section 7, just inside facility berm	Mixed fill, drilled with air, not sampled	White soft slightly sticky moist caliche with orangeish white clay	White soft slightly sticky moist caliche with orangeish white clay	White soft slightly sticky moist caliche with light orange clay	Orange calcified clay and caliche, hard	MPB-9 11/06 Boring on east side of section 9, adjacent to production tank	Mixed fill, drilled with air, not sampled	Grayish white soft slightly sticky moist caliche with white clay	Grayish white soft slightly sticky moist caliche with white clay	Grayish white soft slightly sticky moist caliche with white clay	White calcified clay and caliche, hard	MPB-10 11/06 Boring in center of section 10	Mixed fill, drilled with air, not sampled	Grayish white soft slightly sticky moist caliche with white clay	Grayish white soft slightly sticky moist caliche with white clay	Grayish white soft slightly sticky moist caliche with white clay	White calcified clay and caliche, hard
Depth Interval, ft	0-10' N	10-12.5 <sup>°</sup> C	12.5-15 <sup>°</sup> 6	15-17.5' G	17.5-20 <sup>°</sup> V	Depth Interval, ft	0-10'	10-12.5' V	12.5-15' V	15-17.5' V	17.5-20° C	Depth Interval, ft	0-10 <sup>7</sup> N	10-12.5' G	12.5-15' G	15-17.5' G	17.5-20 <sup>°</sup> V	Depth Interval, ft	0-10 <sup>7</sup> N	10-12.5' G	12.5-15 <sup>°</sup> G	15-17.5° G	17.5-20 <sup>°</sup> V

Mattie Price Tank Battery

T-4

<b>Boring Location</b>	Sample Depth Interval, ft	Field Headspace Reading, ppm
MPB-1	10.0-12.5'	0.0
MPB-1	12.5-15.0'	3.1
MPB-1	15.0-17.5'	2.3
MPB-1	17.5-20.0'	3.9
MPB-7	10.0-12.5'	1.1
MPB-7	12.5-15.0'	2.2
MPB-7	15.0-17.5'	2.0
MPB-7	17.5-20.0'	4.9
MPB-9	10.0-12.5'	2.1
MPB-9	12.5-15.0'	2.4
MPB-9	15.0-17.5'	2.3
MPB-9	17.5-20.0'	3.7
MPB-10	10.0-12.5'	4.2
MPB-10	12.5-15.0'	1.2
MPB-10	15.0-17.5'	2.3
MPB-10	17.5-20.0'	3.7

 Table 5
 Field Headspace Analyses by PID - November 2006.

 Table 6
 Monitoring Sample Analyses - November 2006

Excavation Area	Depth	C6-C12	C12-C28	C28-C35	Total Hydrocarbons
			mg/kg	, dry weight	• • • • • • • • • • • • • • • • • • • •
MPB-1 11/06	12.5-15'	ND	ND	ND	ND
MPB-1 11/06	17.5-20'	ND	ND	ND	ND
MPB-7 11/06	12.5-15'	ND	ND	ND	ND
MPB-7 11/06	17.5-20'	12.4	31.8	2.01J	44.2
MPB-9 11/06	12.5-15'	7.65J	117	7.79J	117
MPB-9 11/06	17.5-20'	12.5	171	6.92J	184
MPB-10 11/06	12.5-15'	1550	3310	92.4	4950
MPB-10 11/06	17.5-20'	534	1250	36.7	1820

#### **APPENDIX A**

Laboratory Analyses and Chain of Custody Forms, November 2006



## Analytical Report

#### **Prepared for:**

Shawn Hokanson Kane Environmental (Amarillo) 3509 Lynette Amarillo, TX 79109

Project: Osborn Heirs Mattie Price Project Number: 04-631 Location: Lea County, NM

Lab Order Number: 6K22007

Report Date: 11/28/06

Kane Environmental (Amarillo) 3509 Lynette Amarillo TX, 79109

#### Project: Osborn Heirs Mattie Price Project Number: 04-631 Project Manager: Shawn Hokanson

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MPB-7-11/06 12.5-15	6K22007-01	Soil	11/21/06 09:25	11-22-2006 12:15
MPB-7-11/06 17.5-20	6K22007-02	Soil	11/21/06 09:30	11-22-2006 12:15
MPB-1-11/06 12.5-15	6K22007-03	Soil	11/21/06 10:25	11-22-2006 12:15
MPB-1-11/06 17.5-20	6K22007-04	Soil	11/21/06 10:30	11-22-2006 12:15
MPB-9-11/06 12.5-15	6K22007-05	Soil	11/21/06 11:25	11-22-2006 12:15
MPB-9-11/06 12.5-20	6K22007-06	Soil	11/21/06 11:30	11-22-2006 12:15
MPB-10-11/06 10-12.5	6K22007-07	Soil	11/21/06 12:25	11-22-2006 12:15
MPB-10-11/06 17.5-20	6K22007-08	Soil	11/21/06 12:30	11-22-2006 12:15

Project: Osborn Heirs Mattie Price Project Number: 04-631 Project Manager: Shawn Hokanson

#### Organics by GC

**Environmental Lab of Texas** 

A	Dervik	Reporting	Tuite						
	Result		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MPB-7-11/06 12.5-15 (6K22007-01) S	oil								- <u></u>
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EK62401	11/24/06	11/24/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	и	"		"	**	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	*1	
Total Hydrocarbons	ND	10.0	"	11		11	"	n	
Surrogate: 1-Chlorooctane		104 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		126 %	70-1	30	"	"	"	"	
MPB-7-11/06 17.5-20 (6K22007-02) S	oil								
Carbon Ranges C6-C12	12.4	10.0	mg/kg dry	1	EK62401	11/24/06	11/24/06	EPA 8015M	
Carbon Ranges C12-C28	31.8	10.0	"	*	"	"	"	"	
Carbon Ranges C28-C35	J [2.01]	10.0		ч	"	"	н	11	l
Total Hydrocarbons	44.2	10.0			"	"	u	11	
Surrogate: I-Chlorooctane		92.8 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		108 %	70-1	30	"	"	"	"	
MPB-1-11/06 12.5-15 (6K22007-03) S	oil								
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EK62401	11/24/06	11/24/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"		"	"	11	
Carbon Ranges C28-C35	ND	10.0	"	"	n		и	18	
Total Hydrocarbons	ND	10.0	"		"	"			
Surrogate: 1-Chlorooctane		84.8 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		102 %	70-1	30	"	"	"	"	
MPB-1-11/06 17.5-20 (6K22007-04) S	oil								
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	I.	EK62401	11/24/06	11/24/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"		п	*	"	"	
Carbon Ranges C28-C35	ND	10.0	11				**	"	
Total Hydrocarbons	ND	10.0		**	0	H	13	"	
Surrogate: I-Chlorooctane		99.2 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		118 %	70-1	30	"	"	"	"	

Project: Osborn Heirs Mattie Price Project Number: 04-631 Project Manager: Shawn Hokanson

#### Organics by GC

**Environmental Lab of Texas** 

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MPB-9-11/06 12.5-15 (6K22007-05) Soi									_
Carbon Ranges C6-C12	J [7.65]	10.0	mg/kg dry	I	EK62401	11/24/06	11/24/06	EPA 8015M	J
Carbon Ranges C12-C28	117	10.0	"			"	11	"	
Carbon Ranges C28-C35	J [7.79]	10.0			*	11	"	*1	J
Total Hydrocarbons	117	10.0	**	"	"	"	n	п	
Surrogate: 1-Chlorooctane		92.8 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		111 %	70-1	30	"	"	"	"	
MPB-9-11/06 12.5-20 (6K22007-06) Soil	l 								
Carbon Ranges C6-C12	12.5	10.0	mg/kg dry	1	EK62401	11/24/06	11/25/06	EPA 8015M	
Carbon Ranges C12-C28	171	10.0		"		"	"	**	
Carbon Ranges C28-C35	J [6.92]	10.0	19	"		н		89	J
Total Hydrocarbons	184	10.0	*	11	"	"	"	17	
Surrogate: 1-Chlorooctane		86.8 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		105 %	70-1	30	"	"	"	"	
MPB-10-11/06 10-12.5 (6K22007-07) So	il								
Carbon Ranges C6-C12	1550	10.0	mg/kg dry	1	EK62401	11/24/06	11/25/06	EPA 8015M	
Carbon Ranges C12-C28	3310	10.0	"	"	"	"	n	"	
Carbon Ranges C28-C35	92.4	10.0		"	"	"	"	**	
Total Hydrocarbons	4950	10.0	"	"		"	11		
Surrogate: 1-Chlorooctane		142 %	70-1	30	"	"	n	"	S-04
Surrogate: 1-Chlorooctadecane		185 %	70-1	30	"	"	"	u	S-04
MPB-10-11/06 17.5-20 (6K22007-08) So	il								
Carbon Ranges C6-C12	534	10.0	mg/kg dry	1	EK62401	11/24/06	11/25/06	EPA 8015M	
Carbon Ranges C12-C28	1250	10.0	**			"	"	"	
Carbon Ranges C28-C35	36.7	10.0	"	"		n	11	п	
Total Hydrocarbons	1820	10.0	11		"	II	"	н	
Surrogate: 1-Chlorooctane		115 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		116.01	70	20					<i>a a</i> .

Environmental Lab of Texas

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

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

		Reporting							
Analyte	Result	Limít	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MPB-7-11/06 12.5-15 (6K22007-01) Soil		······							
% Moisture	14.7	0.1	%	1	EK62701	11/22/06	11/27/06	% calculation	
MPB-7-11/06 17.5-20 (6K22007-02) Soil									
% Moisture	8.1	0.1	%	1	EK62701	11/22/06	11/27/06	% calculation	
MPB-1-11/06 12.5-15 (6K22007-03) Soil									
% Moisture	13.7	0.1	%	1	EK62701	11/22/06	11/27/06	% calculation	
MPB-1-11/06 17.5-20 (6K22007-04) Soil									
% Moisture	10.6	0.1	%	1	EK62701	11/22/06	11/27/06	% calculation	
MPB-9-11/06 12.5-15 (6K22007-05) Soil									
% Moisture	11.2	0.1	%	1	EK62701	11/22/06	11/27/06	% calculation	
MPB-9-11/06 12.5-20 (6K22007-06) Soil									
% Moisture	8.6	0.1	%	1	EK62701	11/22/06	11/27/06	% calculation	
MPB-10-11/06 10-12.5 (6K22007-07) Soil									
% Moisture	6.1	0.1	%	1	EK62701	11/22/06	11/27/06	% calculation	
MPB-10-11/06 17.5-20 (6K22007-08) Soil									
% Moisture	7.7	0.1	%	1	EK62701	11/22/06	11/27/06	% calculation	

Environmental Lab of Texas

#### Project: Osborn Heirs Mattie Price Project Number: 04-631 Project Manager: Shawn Hokanson

#### **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 EK62401 - Solvent Extraction (GC)										
Blank (EK62401-BLK1)				Prepared &	د Analyzed	: 11/24/06				
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	49.1		mg/kg	50.0		98.2	70-130			· · · · · · · · · · · · · · · · · · ·
Surrogate: 1-Chlorooctadecane	57.2		"	50.0		114	70-130			
LCS (EK62401-BS1)				Prepared &	ک Analyzed	: 11/24/06				
Carbon Ranges C6-C12	552	10.0	mg/kg wet	500		110	75-125			······
Carbon Ranges C12-C28	506	10.0	11	500		101	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	1060	10.0	"	1000		106	75-125			
Surrogate: 1-Chlorooctane	75.2		mg/kg	100		75.2	70-130			
Surrogate: 1-Chlorooctadecane	<b>79</b> .7		"	100		<i>79.7</i>	70-130			
Calibration Check (EK62401-CCV1)				Prepared:	11/24/06 A	malyzed: 1	1/25/06			
Carbon Ranges C6-C12	250		mg/kg	250		100	80-120			
Carbon Ranges C12-C28	262		"	250		105	80-120			
Total Hydrocarbons	512		"	500		102	80-120			
Surrogate: 1-Chlorooctane	54.7		"	50.0		109	70-130			
Surrogate: 1-Chlorooctadecane	59.3		"	50.0		119	70-130			
Matrix Spike (EK62401-MS1)	Sou	ırce: 6K22007	7-04	Prepared: 1	11/24/06 A	nalyzed: 1	1/27/06			
Carbon Ranges C6-C12	474	10.0	mg/kg dry	559	ND	84.8	75-125			
Carbon Ranges C12-C28	450	10.0	"	559	ND	80.5	75-125			
Carbon Ranges C28-C35	ND	10.0	u.	0.00	ND		75-125			
Total Hydrocarbons	924	10.0	"	1120	ND	82.5	75-125			
Surrogate: 1-Chlorooctane	54.6		mg/kg	50.0		109	70-130			
Surrogate: 1-Chlorooctadecane	56.6		"	50.0		113	70-130			

#### Project: Osborn Heirs Mattie Price Project Number: 04-631 Project Manager: Shawn Hokanson

#### **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 EK62401 - Solvent Extraction (GC)

Matrix Spike Dup (EK62401-MSD1)	Source	e: 6K22007	-04	Prepared: 1	1/24/06 A	nalyzed: 1	/27/06			
Carbon Ranges C6-C12	497	10.0	mg/kg dry	559	ND	88.9	75-125	4.74	20	
Carbon Ranges C12-C28	457	10.0		559	ND	81.8	75-125	1,54	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	953	10.0		1120	ND	85.1	75-125	3.09	20	
Surrogate: 1-Chlorooctane	61.9		mg/kg	50.0		124	70-130			
Surrogate: 1-Chlorooctadecane	63.3		"	50.0		127	70-130			

Environmental Lab of Texas

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

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

		Panartína		Spiles	Source		%PEC		PPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EK62701 - General Preparation (Prep)							-			
Blank (EK62701-BLK1)				Prepared: 1	1/22/06 A	nalyzed: 11	/27/06			
% Solids	100		%							
Duplicate (EK62701-DUP1)	Sou	rce: 6K21007-0	01	Prepared: 1	1/22/06 A	nalyzed: 11	/27/06			
% Solids	90.7		%		89.5			1.33	20	
Duplicate (EK62701-DUP2)	Sou	rce: 6K22003-(	)2	Prepared: 1	1/22/06 A	nalyzed: 11	/27/06			
% Solids	95.4	-	%		95.6			0.209	20	
Duplicate (EK62701-DUP3)	Sour	rce: 6K22012-0	)1	Prepared: 1	1/22/06 A	nalyzed: 11	/27/06			
% Solids	92.2		%		91.9			0.326	20	

Environmental Lab of Texas

#### **Notes and Definitions**

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By:

Labore K. Juitte

11/28/2006

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

Date:

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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Phone: 432-563-1800 Fax: 432-563-1713	vame: Osburn Hens M	ect # 04-631	1 Loc: Lea Correlar No	160-4-631	at: 🕅 Standard 🗌 TRRP		TOTAL:	DS as	ations (Ca, Mg, Na, K) nions (Ca, Mg, Na, K) otatiles emivolatios emivolatios citi citi citi citi citi citi citi cit	A N S S S S S S S S S S S S S S S S S S								Laboratory Comments: Isamate Containers Intact?	VOCs Free of Headspace?	Custody seals on container(s) Custody seals on cooler(s)	Sample Hand Delivered by Sampler/Client Rep. 7 by Courser? UPS DHL	Temperature Upon Receipt Pr.(C
	Project I	Pro	Projec	]	Report Form	Children Children		e Matrix <sub>6</sub>	)liner (Specify) Maching Water SL=Studge M= Groundwater SL=Studge D=Non.Potable Specify Other M= A18.1 (8015M) 1005 TO											Date	Date Time	Date Time
12600 West I-20 East Odessa, Texas 79765					06 353 3127	aurholding men		Preservation & # of Containe	լգաց թեշչՆշ լեշը լեշը լէշ լէշ լէշ լէշ լէշ լէշ լէշ լէշ լէշ լէշ													
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	even	COM CO	1		12				rttqaD gninnìge Dig Depth		125 20	12.5 15	02 5121	125 15	12/ 20	10 12.	02 521		gale of		Time	Time V. 15
	Project Manager: Shaten Hok	Company Name Kane Ka	Company Address: 3509 / Unit /	CitulState/Zin	Telephone No: 806 570 35	Sampler Signature	(Aluo	** ON 44001		FIELD CODE	UPS-7-11/17 9.20	HPB-1-11/100	1981-11/06	M28-9-11/06	MPB-9-11/26	MPB-10-11/100	1202-10-11/00	Instructions	TPH CROMENTERS	thed by Date	hed by: Date	hed by Fred EX 111/10/40
							(lab use	ORDEF	(vino esu del) # 8.	<b>V</b> 1 (		, ç	70	Y	-05-	10.1	ଞ୍ଚ	Special		Relinquis	Retinguis	Relinquis

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

Client:	Kane Gru.	
Date/ Time:	11/22/de 12:15	
Lab ID # :	LEK12007	
Initials:		

#### Sample Receipt Checklist

				ł	Client Initials
#1	Temperature of container/ cooler?	Yes	No	2.0 °C	
#2	Shipping container in good condition?	8 BS	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Xes	No		
#6	Sample instructions complete of Chain of Custody?	tes	No		
#7	Chain of Custody signed when relinquished/ received?	des	No		
#8	Chain of Custody agrees with sample label(s)?	Xes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	Les	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Fes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Xes	No	See Below	
#14	Sample bottles intact?	Tes	No		
#15	Preservations documented on Chain of Custody?	Ves	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18	All samples received within sufficient hold time?	Yes	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Not Applicable	
#20	VOC samples have zero headspace?	Yes	No	Not Applicable	

#### Variance Documentation

Contact:	· · · · · · · · · · · · · · · · · · ·	Contacted by:	Date/ Time:
Regarding:			
Corrective Action Taken:			
	<u> </u>		
Check all that Apply:		See attached e-mail/ fax Client understands and would like to proceed with an Cooling process had begun shortly after sampling ev	alysis /ent

#### **APPENDIX B**

#### Field PID Calibration Sheet, November 2006



My coal is to provide you with 100% customer satisfaction. If you have any questions, please contact me or customer service at-

(800) 242-3910 / www.ashtead-technology.com

#### **Calibration** Certificate

CERTIFICATE NUMBER: 26805

ASSET NUMBER: ASSET DESCRIPTION: MANUFACTURER: SERIAL NUMBER: CALIBRATION DATE: CALIBRATION DUE: CALIBRATION PROCEDURE: ACCURACY OF UNIT: WORKSHOP TEMPERATURE: HUMIDITY: CALIBRATION ENGINEER: RESULTS FORM: Page 1 of 2 R3113 THERMO ENV 580B THERMO 63156-338 16 Nov 2006 Refer to manufacturers instructions. 4.155 Hazardous Waste Investigation Manufacturers Specifications 26 Degrees C 49 % DARWIN ALVAREZ Ref Workshop Manual

Measurement Equipment	Calibration Reference			
100ppm Isobutylene	109318812			
Zero air, PC405 Lab cylinder	NONE			

The measurement equipment used during the calibration procedure is traceable to National Standards. Details on any limitations to the use of the equipment:

Calibration Engineer:



## **Phase III ESA**

## Site Remediation Report and Monitoring Plan

## **Mattie Price Tank Battery**

#### Lea County, New Mexico



Prepared for:

Osborn Heirs Company 1250 NE Loop 410 Suite 1100 San Antonio, TX 78209

March 2006

Prepared by:



Kane Environmental Engineering, Inc. 5307 Oakdale Creek Court Spring, Texas 77379 Project No. 04-631





March 20, 2006

Jack Ford Oil Conservation Division 1220 South St. Francis Drive Sante Fe, NM 87505

#### **RE:** Mattie Price Site Remediation Report

As requested by Osborne Heirs Company, Kane Environmental Engineering, Inc. is forwarding to you the enclosed Site Remediation Report for the Mattie Price Tank Battery. This facility is located in Lea County, New Mexico.

This remediation project has been executed as per your approval. If you have any questions about this remediation project, please contact me at:

Deb Pennington Kane Environmental Engineering, Inc. 4713 Rosewood Dr. Midland, TX 79707

Sincerely,

D. Penning ton

**Deb Pennington** 

Enclosures

CC: (with enclosure)

Paul Sheeley Oil Conservation Division 1625 N. French Dr Hobbs, NM 88240

CC: (without enclosure)

Joyce Swayze Osborn Heirs Company 1250 NE Loop 410 Suite 1100 San Antonio, TX 78209



March 28, 2006

Paul Sheeley Oil Conservation Division 1625 N. French Dr Hobbs, NM 88240

#### **RE:** Mattie Price Site Remediation Report

As per your request, Kane Environmental Engineering, Inc. is forwarding to you the enclosed Site Remediation Report for the Mattie Price Tank Battery on CD in Adope PDF format.

Deb Pennington Kane Environmental Engineering, Inc. 4713 Rosewood Dr. Midland, TX 79707

Sincerely,

D. Pennington

**Deb Pennington** 

Enclosures

a al R D C

L L H H

CC: (with enclosure)

Jack Ford Oil Conservation Division 1220 South St. Francis Drive Sante Fe, NM 87505

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## **1.0 SITE HISTORY**

The Mattie Price Tank Battery located in Section 6, T17S R38E, Lea County, New Mexico, at a global position of North 32° 52' 3.4", West 103° 10' 45.8" (NAD 27 datum). A topographic map of the location is shown as **Figure 1**.

The Mattie Price Tank Battery was acquired by Osborn Heirs Company on January 1, 1986 as part of a property acquisition from Clemco. Records received during this transaction indicate that the Mattie Price #1 well was drilled in 1970 by the Freeport Oil Company.

A Phase I ESA was prepared by R.E. Environmental Services, Inc. at the request of Maralo, LLC on July 30, 2003. This investigation consisted of four soil borings placed around the tank battery and 5 borings collected in the vicinity of the tank battery and associated well locations. Hydrocarbon impacted soils were reported at the tank battery at depths up to 14', with a maximum reported concentration of 25,900 ppm total petroleum hydrocarbon (TPH) identified at a depth of 7.5' in Test Point A. Chloride concentrations from the four borings at the tank battery were reported below 250 ppm. Chloride concentrations from samples collected in the vicinity of the tank battery and at associated well locations were generally reported at a concentration of 100 ppm, with a maximum of 300 ppm measured at Test Point D. Test Point D is reported to be located adjacent to the onsite injection well. See **Figure 2** for a depiction of these soil boring placements and sampling results, as excerpted from the R.E. Environmental Services Report.

Larson & Associates, Inc. prepared Phase I and Phase II Environmental Site Assessments at the request of Three Span Oil & Gas on October 7, 2003. Visual and olfactory evidence of hydrocarbon impacted soils was reported, with this impact noted from the surface to depths of up to 3' (the point of auger refusal). Impacts were reported in these assessments at the following locations:

- near the Free Water Knockout
- at an area reported as a buried pit
- near the west end of the tank battery
- near the flare
- around the produced water injection points

No soil samples were submitted for laboratory analyses during the Larson & Associates Phase II ESA. The depth to groundwater in the vicinity of the tank battery was reported to range between 80 and 100' below ground surface (bgs).

Kane Environmental Engineering prepared a Phase II Site Investigation Plan at the request of Osborn Heirs Company on September 22, 2004 to confirm or deny allegations of hydrocarbon impacts to soil. Soil boring locations and sampling and analytical guidelines were detailed in this Plant. Hydrologic data from previous investigations, topographic features, and NMOCD Guidelines for Remediation of Leaks, Spills and



Releases site ranking protocol were used to determine the site sensitivity ranking and associated remediation requirements for hydrocarbon-impacted soils at the Mattie Price site. The site sensitivity ranking for Mattie Price Tank Battery is rated at 10. This ranking score yields the following remediation thresholds:

Constituent	<b>Remediation Threshold</b>
Total Petroleum Hydrocarbons	1,000 ppm
Benzene	10 ppm
BTEX	50 ppm

NMOCD accepted the SIP on November 3, 2004. On December 14-15, 2004, Kane Environmental conducted the Phase II ESA according to the September SIP. Under Kane Environmental's supervision, Groundwater Monitoring, Inc. of Grand Prairie, Texas performed 16 borings designed to horizontally and vertically delineate potential impact around the tanks and equipment at the Mattie Price Tank Battery. Initial boring placements (identified as "MPB" borings) were designed to confirm or refute hydrocarbon impact reported around the Test Points A (MPB-1) & B (MPB-2, as identified in the R.E. Environmental Services, Inc. ESA. Additional borings were performed northwest of AST #1 (MPB-3) and south of AST #2 (MPB-4) to provide delineation of potential hydrocarbon impact. Subsequent borings, labeled MPB-5 through MPB-16, were advanced to provide full delineation of hydrocarbon impacted areas as well as delineation around potential hydrocarbon source equipment. Boring locations are depicted in **Figure 3**.

Soil logs (**Table 1**) and field headspace readings (**Table 2**) were collected during boring, with headspace reading collected on each 2.5' sample interval using a photo-ionization detector (PID). Sample collection and headspace readings were conducted according to the procedures outlined in NMOCD's Guidelines for Remediation of Leaks, Spills and Releases. All maximum benzene and total BTEX (benzene, toluene, ethyl benzene and xylene) concentrations measured were below the NMOCD regulatory thresholds of 10 mg/kg for benzene and 50 mg/kg for BTEX. TPH concentrations exceeded the site specific 1000 mg/kg threshold in borings MPB-1, MPB-5, MPB-7, MPB-9, MPB-10 and MPB-12.

Following submission of the site investigation report, New Mexico Oil Conservation Division (NMOCD) personnel requested additional vertical delineation at three boring locations, (Borings 1, 9 and 10). In response to the request for additional delineation, Kane's Site Investigation Report and Supplemental Site Investigation Work Plan were prepared. This Plan, detailing additional depth sampling at locations MPB-1, MPB-9 and MPB-10, was submitted to NOMCD on March 25, 2005 and approved by NMOCD's Jack Ford on March 29, 2005. Kane Environmental conducted the Supplemental Phase II ESA on June 14, 2005 according to the approved work plan. Samples collected during the additional vertical delineation of borings MPB-1, MPB-9, and MPB-10 indicated the

maximum depth of hydrocarbons in excess of the site specific 1000 mg/kg TPH threshold to be 20'.

Kane's Phase II ESA Supplemental Site Investigation Report and Remediation Work Plan detailing the investigations to date and soil removal and *in-situ* remediation procedures was developed and sent for signature by the landowner in June of 2005. On December 1, 2005 Osborne, NMOCD and landowner representatives met on site, and approval for the Remediation Work Plan was granted with the following NMOCD requests:

- Installation of at least one temporary monitoring well to confirm or refute allegations of groundwater hydrocarbon and chloride contamination, demonstrate groundwater depth and flow direction.
- Extension of excavation boundaries as close as practicable (limited by safety concerns) to AST #4.

A completed C-141 does not accompany this site remediation report, as the areas of impact are the result of historical oil and gas operations with no specific time of release identified.



## 2.0 **REMEDIAL EXCAVATION PROCEDURES**

Based on analyses performed to-date, total hydrocarbon impact in excess of established NMOCD thresholds is present in certain subsurface soils at the Mattie Price Tank Battery. The most significant impact is found to be focused around and to the west of AST #4.

As discussed in the Remediation Work Plan and approved by NMOCD, complete excavation to remove all subsurface materials with hydrocarbon levels in excess of NMOCD regulatory thresholds was impractical, as this action would have required relocation and/or structural support of surface equipment, including ASTs #3 and #4, the doghouse, separator and electrical panel west of ASTs #3 and #4, as well as the relocation of underground utilities in this area.

The extent of excavation depth and area was determined by the need to preserve safe operations, keeping the integrity of the supporting foundations of the surface equipment and underground utilities intact. These safety determinations were made in-field during the time of excavation. All excavation and sampling was performed using a backhoe, with no personnel entering the excavation areas. In most areas excavation was completed to a depth of 10 feet, with the final excavation depth limited by the presence of bedrock or limit of contamination as determined by field headspace readings and subsequent laboratory analyses. All excavations were backfilled with a mix of uncontaminated overburden soils excavated during the remediation process and native soil and rock collected from a borrow location on Pinson Road approximately 5 miles Southwest of the Mattie Price Tank Battery. Analysis of the stockpile of site soils reserved for backfill materials (394 mg/kg TPH) showed hydrocarbon levels below the NMOCD site specific remediation threshold of 1000 mg/kg. Excavation locations are shown on **Figure 4**. All laboratory analyses and chain of custody forms for this investigation are included in **Appendix A**.

Excavation was initiated in the area represented by boring MPB-5 where site investigations indicated TPH levels of 2740 mg/kg in the 7.5-10' sample interval. An area 12' x 12' centered on MPB-5 was excavated to a depth of 9' where bedrock was encountered. Based on field headspace readings, the surface-5' soils were stockpiled for use as backfill soil. The 5-9' soils were stockpiled separately for disposal. An excavation floor sample (MPB-5 Floor 9') was collected using the backhoe to scrape the excavation floor and retrieve the loosened materials for subsequent sample collection. Each sidewall of the excavation was sampled using the backhoe to scrape the sidewall, catching the loosened materials in the backhoe bucket for subsequent sampling. MPB-5 Excavation Floor and sidewall samples indicated excavation of hydrocarbon contaminated soils in excess of the site specific TPH threshold was complete, with a maximum TPH concentration of 142 mg/kg remaining in the East Sidewall sample (MP5-ESW).



Excavation of the area represented by boring MPB-7 where site investigations indicated TPH levels of 2390 mg/kg in the 7.5-10' sample interval was then performed. An area 12' wide by 28' long was excavated to a depth of 10', with the excavation limited to the west and south to avoid potential disturbance to buried lines reported to be in the area. Based on previous investigations and current field headspace analyses, the surface-5' of soil was reserved for use as backfill soil, with the balance of the excavated soils stockpiled separately for disposal. Excavation floor and East sidewall sample analyses indicated hydrocarbon concentrations below the 1000 mg/kg site specific TPH threshold. North, South and West excavation sidewall sample analyses were above the TPH threshold with a maximum concentration of 1320 mg/kg TPH in the South sidewall sample.

An additional excavation 3' in width running the length of the excavation was performed to the South, extending the excavation to the South berm and fence line. Excavation was discontinued due to proximity to the previously identified buried line. South Sidewall analyses of the limit of additional excavation (MPB7 SSW B sample, 1070 mg/kg) showed a TPH concentration in excess of the site specific threshold. Due to safety constraints, additional excavation in this area was not performed. During the investigation phase, borings performed just outside the fence line immediately adjacent to the MPB 7 excavation (MPB-15, MPB-16) indicated hydrocarbon concentrations below the site specific threshold for all samples, delineating the limit of hydrocarbon contamination. Based on the limits of excavation and the position of MPB-15 and MPB-16, the volume of hydrocarbon contaminated soil remaining in the 7.5-10' zone with TPH concentrations in excess of the 1000 mg/kg threshold is a maximum of 8 yd<sup>3</sup> (28'length x 3' thickness from edge of excavation to MPB-15 and MPB-16 x 2.5' depth from 7.5-10').

Additional excavation in the MPB 7 area was performed west of the initial excavation, with dimension of 6' wide by 12' long by 10' deep, leaving a strip of unexcavated soil approximately 2' thick supporting a buried 4-inch line between the initial and subsequent excavation. West sidewall sample analyses indicated hydrocarbon concentrations below the site specific threshold, with a TPH concentration of 751 mg/kg (MPB 7 WSW B). Additional excavation to the North was limited on the East end by proximity to AST #4, but was performed for the majority of the excavation length as part of excavation for the area represented by MPB-9. Final excavation dimensions for the MPB 7 area were approximately 14' wide x 34' long x 10' deep.

Excavation of the area represented by boring MPB-9 where site investigations indicated TPH levels of 1880 mg/kg in the 7.5-10' and 2430 mg/kg in the 17.5-20' sample interval was performed following completion of the MPB 7 area excavation. An area 14' wide by 26' long was excavated to a depth of 10', with the excavation limited to the east by proximity to AST #4 and to the west by the 4-inch buried line. West of the buried 4-inch line, the excavation was resumed with dimensions of 4' width x 8' long by 10' deep, limited by proximity to a pump on the West and the doghouse to the North. The surface-5' soils were reserved for backfill soils based on previous investigations and current field headspace analyses, with the underlying hydrocarbon contaminated soils stockpiled separately for disposal. An area of soil approximately 5' thick in the middle of the

excavation was left in place to support the surface flow line to AST #4. Excavation sidewall and floor sample analyses indicated hydrocarbon concentrations in excess of the site specific threshold in the excavation floor (1040 mg/kg), East sidewall (1870 mg/kg), on the south side of the soil remaining under the surface flow line (South sidewall, 2000 mg/kg) and on the north side of the soil remaining under the surface flow line (North sidewall, 1700 mg/kg). The west sidewall sample indicated TPH levels within site specific limits (16.7 mg/kg).

Additional depth excavation and excavation to the East was not performed due to bedrock and proximity to AST #4, respectively. Excavation was continued in the vicinity of the surface flow line, removing approximately a 1-foot thick band of soil from each side of the soil bridge under the flow line. Subsequent samples indicated hydrocarbon levels still in excess of site specific limits (MPB9 NSW B, 1500 mg/kg, MPB9 SSW B, 1030 mg/kg) in the soil bridge supporting the surface flow line. After consultation with Osborne personnel, all soil remaining under the surface flow line was excavated across the length of the excavation. Final limits of excavation in area MPB-9 were approximately 14' wide x 30' long x 10' deep.

For area MPB-10, site investigations indicated hydrocarbon levels of 2250 mg/kg in the 17.5-20' depth interval. Based on previous investigations and current field headspace analyses, the surface-5' of soil was reserved for use as backfill soil. Excavation of the MPB-10 area showed substantial hydrocarbon contamination from 5-10' in depth in the vicinity of AST #4 and on the Southwest end of the excavation during initial excavation phases. Materials excavated from these areas were sampled as Excavated Soil Pile 1 (22,100 mg/kg TPH) as a demonstration of the types of materials being set aside for subsequent disposal. As excavation progressed, hydrocarbon levels decreased substantially until sidewall samples indicated TPH levels below the site specific thresholds, with a maximum TPH concentration of 388 mg/kg in the North sidewall. The South sidewall sample was collected from the Southeast and Southwest ends of the excavation, adjacent to AST #4 and the building, and showed a TPH concentration of 343 The excavation floor sample (MPB10 Floor 10', 1600 mg/kg) showed mg/kg. hydrocarbon levels above the site specific threshold, but additional excavation was limited by bedrock. Final limits of excavation in area MPB-10 were approximately 15' wide x 33' long x 10' deep.

Excavation continued in the area represented by boring MPB-1 where site investigations indicated TPH levels of 1360, 1120, and 1690 mg/kg in the 5.0-7.5', 12.5-15' and 15-17.5' sample intervals, respectively. An area 10' x 10' centered on MPB-1 was excavated to a depth of 10'. Based on field headspace readings, the surface-4' soils were stockpiled for use as backfill soil. The 6-10' soils were stockpiled separately for disposal. Excavation floor and sidewall samples indicated excavation of hydrocarbon contaminated soils in excess of the site specific TPH threshold was complete to a depth of 10', with a maximum TPH concentration of 289 mg/kg remaining in the West Sidewall sample (MP1-WSW).

For area MPB-12, site investigations indicated hydrocarbon levels of 2140 mg/kg in the 5-7.5' depth interval. An excavation approximately 8' x 6', centered on boring MPB-12 was completed to a depth of 8'. Based on previous investigations and current field headspace analyses, the surface-4' of soil was reserved for use as backfill soil, with the remainder of excavated soils stockpiled for disposal. Sidewall and floor sample analyses indicated all hydrocarbon levels were above the site specific threshold (maximum concentration of 4860 mg/kg in MPB 12 ESW), so additional excavation was performed. The excavation was expanded to approximately 10' x 10' in size and a depth of 10'. Subsequent excavation floor and sidewall analyses indicated TPH levels below the site specific thresholds, with a maximum TPH concentration of 637 mg/kg in the West sidewall. Final limits of excavation in area MPB-12 were approximately 10' wide x 10' long x 10' deep.

Final excavation was performed in area MPB-3, where site investigations indicated hydrocarbon levels of 4620 mg/kg in the 0-2.5' depth interval. Osborne personnel had previously remediated this area, however NMOCD requested confirmation sampling. An area 5' x 5', centered on MPB-3, was excavated to a depth of 3'. Sidewall and floor sample analyses for this area indicated TPH levels below the site specific thresholds, with a maximum TPH concentration of 899 mg/kg in the North sidewall. All excavated materials were used to backfill the excavation.

Following completion of excavation, a composite sample of the soil stockpiled for disposal was collected (Excavated Soil Pile 2, 433 mg/kg TPH) to demonstrate the type of materials to be disposed. Prior to backfilling all excavations, approximately 250 lb. of 45-0-0 fertilizer was spread on the excavation floor. The excavation was then backfilled to grade with native soils and uncontaminated soils from the excavation (as demonstrated by soil analyses previously discussed), with an additional 200 lb. of 45-0-0 fertilizer distributed in the excavation as backfill progressed. The nitrogen source was provided to encourage bioremediation of residual contaminants in conjunction with the air sparge system.

Following completion of excavation backfill, approximately  $332 \text{ yd}^3$  of contaminated soil from the soil stockpiles was transported to J & L Landfarm in Hobbs, NM (Permit #NM-01-0023) for treatment and disposal (see **Appendix B** for disposal paperwork).



## 3.0 MONITORING WELL INSTALLATION, ANALYSES AND REMOVAL

Following completion of excavation and backfill activities, 3 monitoring wells were installed (shown on **Figures 4 and 5**) to confirm or refute allegations of groundwater contamination and determine the direction of groundwater flow. MW-1 was installed to a depth of 86' on the North side of the site, West of MPB-3. MW-2 was installed to a depth of 86' between the separator and heater treater on the Southwest side of the site. For wells 1 and 2, well screen was installed from 66-86', with solid riser pipe at depths less than 66'. MW-3 was installed to a depth of 91' in the Southeast corner of the site, and was screened from 66-91', with solid riser pipe at depths less than 66'. Screened sand was used to backfill the wells to a depth of two feet above the top of the well screen, with the remainder of the borehole backfilled with bentonite chips to seal the well from the surface.

Prior to collection of water samples, the wells were developed on January 19, 2006 by removing 20 gallons of water per well. On January 20, 2006, static water levels were determined, and then the wells were purged by removing 3 casing volumes of water prior to sampling. Samples for laboratory analyses to included BTEX and chloride analyses were collected, as recommended by NMOCD. To allow determination of groundwater elevation and flow direction, John West Surveying of Hobbs New Mexico was employed to provide well location, ground surface and top of casing elevations for each well. Well northing and easting, ground surface elevations, static water levels (77.50-78.89 ft bgs) and groundwater elevations are shown in Table 6. Based on these measurements, groundwater flow is towards the East-Southeast.

BTEX analyses of monitoring well samples showed concentrations below drinking water thresholds, with all analyses for all samples below the method detection limits of 0.001 mg/l. Chloride analyses for the monitoring well samples were below the Secondary drinking water threshold of 250 mg/l with a maximum concentration of 188 mg/l in MW-3. Laboratory reports including chain of custody documentation are included in **Appendix A**. Based on these analyses, operations at the Mattie Price have not impacted groundwater on-site. Following receipt of analyses, the wells were plugged as per previous agreement with NMOCD. Well drilling and plugging reports are included in **Appendix C**.



## 4.0 AIR SPARGE SYSTEM INSTALLATION

Following excavation and backfill operations, 11 wells were installed to a depth of for an air sparge system. Each well was drilled to a depth of 25 feet, with well screen installed from 10 to 25 feet and solid riser pipe to at least 2 feet above the surface. Screened sand and 20 lb. of ammonium sulfate was used to backfill each well bore to a depth of two feet above the top of the screen, with the remainder of the borehole backfilled with bentonite chips to seal the well from the surface. Wells were spaced approximately 15' to provide adequate coverage to the area subsurface.

Following well completions, a PVC pipe manifold system (shown in **Figure 5**) was constructed to connect the air sparge wells together. This manifold system was connected to an air compressor, with the air pressure on the manifold system maintained at 10 PSI for approximately 12 hours per day. The nitrogen provided during well sand pack, when coupled with the fresh air supplied by the air sparge system, will allow for rapid bioremediation of the residual hydrocarbons on site. The bentonite seal above the sand pack will insure that the supplied air is forced through the soil column, providing for remediation of hydrocarbons beyond the immediate vicinity of each well.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

Extension excavation and disposal of hydrocarbon contaminated soils was completed during the remedial excavation phase of this project. Based on site investigation and remediation phase soil analyses, excavation of all hydrocarbon contaminated soils exceeding the site specific threshold of 1000 mg/kg TPH was completed in areas represented by site investigation phase borings MPB-3, MPB-5, and MPB-12. Further evaluation and monitoring of these areas will not be performed.

In areas represented by site investigation phase borings MPB-1, MPB-7 and MPB-9, and MPB-10, additional remediation of hydrocarbons, generally to depth greater than 10 feet, is required to achieve the site specific TPH threshold. In-situ bioremediation, aided by subsurface applications of fertilizer and pressurized air, distributed through the soil subsurface via the installed air sparge system will serve to complete remediation at this location over time. Based on site investigation phase soil analyses, hydrocarbon contamination in excess of the site specific TPH thresholds remains at a maximum depth of 15.5-17.5' for MPB-1 (1690 mg/kg), 17.5-20.0' for MPB-9 (2430 mg/kg) and 17.5-20' for MPB-10 (2250 mg/kg). A thin strip of soil exceeding the site specific TPH threshold remains along the South sidewall at MPB-7 (1070 mg/kg), and along the East sidewall (1870 mg/kg) of the excavation (under AST #4). Air sparge wells were placed to allow for in-situ bioremediation of these areas.

Samples demonstrating the maximum depth and extent of hydrocarbon contamination in these areas were collected during the investigation phase, demonstrating compliance with the site specific TPH threshold at depths of 22.5-25.0', 17.5-20', 20.5-22.5', 20.5-22.5' in borings MPB-1, MPB-7, MPB-9 and MPB-10, respectively and horizontally at MPB-4, MPB-6, MPB-15 and MPB-16, where all samples collected were below the site specific TPH threshold..

Soil monitoring analyses in the air sparge system areas will be performed on a six-month basis, with boring to maximum depths of 22.5', 17.5', 20.0' and 20.0' at areas represented by MPB-1, MPB-7, MPB-9, and MPB-10, respectively. Samples will be collected from a depth of 10' to the maximum depth, and evaluated by Field PID, with the 2.5' interval having the maximum headspace reading submitted to the laboratory for analysis. Remediation will be considered complete at each location when laboratory samples demonstrate hydrocarbons levels below the site specific TPH threshold, and further evaluation of these areas will be discontinued.

Monitoring wells were installed to determine groundwater depth, direction of flow and confirm or refute allegations of groundwater contamination. Based upon data generated during this project, groundwater depths are approximately 78' below ground surface, with groundwater flow in the East-Southeast direction. Groundwater samples collected from the three wells showed no evidence of BTEX of chloride contamination, with all analyses for all wells below USEPA drinking water standards. The wells were therefore plugged, and no further evaluation of groundwater will be performed.

## 6.0 QUALITY CONTROL AND SAFETY

All sample collection equipment was decontaminated between intervals by washing with soap and water followed by a clean-water rinse. Dedicated bailers were used for each well during the well sampling process, with VOA samplers used in the bailers to limit the loss of volatiles during sample collection.

All soil samples to be submitted for laboratory analysis were immediately packed on ice for shipment to the laboratory under a Chain of Custody transport. EPA approved precleaned and certified containers were used for sample collection.

The PID used for headspace analysis was calibrated to assume a benzene response factor prior to arrival on location; calibration sheet for the January<sub>5</sub> 2006 investigation is included in **Appendix D**.

Laboratory quality control measures used to insure the precision and accuracy of the data included:

- matrix spike analyses to demonstrate the effectiveness of the extraction procedures.
- known standard sample analyses and quality control spike analyses to demonstrate the accuracy of the equipment used for laboratory analyses.
- method blank analyses to demonstrate the purity of reagents used.

All analytical quality control measures were measured within acceptable limits.

All laboratory analyses were completed within required sample holding times, using EPA or NMOCD approved analytical methods.

## **Safety Protocol:**

- 1. All work was performed in a safe manner.
- 2. A tailgate safety meeting was conducted each morning prior to initiation of work.
- 3. No excavation or boring was performed without clearing the area of utility lines.
- 4. Boom up/down was not performed without visual confirmation that the overhead area is clear of obstructions.
- 5. Call sheet and directions to local hospital was available to all on-site personnel.

A completed site health and safety plan for the January 2006 remedial action is included in **Appendix E**.



## Call Sheet:

<b>Emergency Contacts</b>	Phone number	email
One Call	800-321-2537	jtobin28@qwest.net
Osborn Heirs	210-826-8164	joys@osbornheirs.com
Landowner, Phillip Barry	505-396-6955	
Shawn Hokanson, Kane Environmental	979-229-8253	shawnhokanson@msn.com
Deb Pennington, Kane Environmental	432-689-8675	debpennington@earthlink.net

Emergency Contacts	Phone number
New Mexico State Police	(505) 392-5588
Lea County Sheriffs Office	(505) 393-2515
Weather and Road Conditions	(800) 432-4269
Hobbs Police Department	(505) 397-9265
Hobbs Fire Department	(505) 397-9308
Hobbs Ambulance	(505) 397-9308
Columbia Lea Regional Medical Center	5419 N Lovington Highway
	Hobbs, NM 88240
	505-392-6581



I.



Mattie Price Tank Battery June 2005 Supplemental Site Investigation Report & Remediation Plan



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Boring	Depth	Coil Decrimition
Location	Interval, ft	1000 Description
	0-2.5	Brown sandy loam with caliche, hydrocarbon odor
	2.5-7.5'	Grayish brown stiff, sticky silty clay with caliche, hydrocarbon odor
1 dmy	7.5-15.0°	Tan hard to very hard friable caliche with decreasing hydrocarbon odor
MFB-1	15.0-20.0'	Tan hard to very hard friable caliche with decreasing hydrocarbon odor
	20.0-22.5'	Limestone bedrock, faint hydrocarbon odor
	22.5-25.0'	Limestone bedrock
	0-2.5'	Brown sandy loam with caliche, hydrocarbon odor
	2.5-7.5	Grayish brown stiff, sticky silty clay with caliche, hydrocarbon odor
MPB-2	7.5-10.0°	Tan soft friable caliche, hydrocarbon odor, moist
	10.0-12.5	Tan soft friable caliche, hydrocarbon odor, wet at 12.0'
	12.5-15.0°	Tan hard to very hard friable caliche, dry, decreasing hydrocarbon odor
	0-2.5	Black sandy loam with caliche, hydrocarbon odor
C GUY	2.5-5.0	Black stiff, sticky silty clay with caliche, hydrocarbon odor
C-GIIM	5.0-10.0	Gray to light gray hard to very hard friable caliche with decreasing hydrocarbon odor
	10.0-15.0'	Tan hard to very hard friable caliche
	0-2.5	Tan sandy loam with caliche, gray hydrocarbon staining 1.5-2.5'
MPB-4	2.5-10.0°	Dark brown stiff, sticky silty clay with caliche, hydrocarbon staining 2.5-2.75', faint hydrocarbon odor
	10.0-15.0°	Tan hard to very hard friable caliche with white crystals
	0-2.5'	Tan sandy loam with caliche, gray hydrocarbon staining 1.5-2.5'
MPB-5	2.5-10.0°	Dark brown stiff, sticky silty clay with caliche, hydrocarbon staining 2.5-2.75', faint hydrocarbon odor
	10.0-15.0°	Tan hard to very hard friable caliche with white crystals
	0-2.5	Tan sandy loam with caliche, gray hydrocarbon staining 1.5-2.5'
MPB-6	2.5-10.0°	Dark brown stiff, sticky silty clay with caliche, hydrocarbon staining 2.5-2.75', faint hydrocarbon odor
	10.0-15.0'	Tan hard to very hard friable caliche with white crystals

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## Table 1. Site Investigation Soil Boring Logs - December 2004/June 2005

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# Table 1. Site Investigation Soil Boring Logs - December 2004/June 2005, continued

Boring	Depth	Soil Description
Location	Interval, ft	
	0-2.5	Tan sandy loam with caliche, hydrocarbon odor
	2.5-5.0°	Black to dark gray stiff, sticky silty clay with caliche, hydrocarbon odor
MPB-7	5.0-10.0'	Dark brown hard to very hard friable caliche, hydrocarbon odor
	10.0-15.0°	Tan hard to very hard friable caliche, decreasing hydrocarbon odor
	15.0-20.07	Tan sandy loam with caliche, faint light end hydrocarbon odor
	0-2.5	Tan sandy loam with caliche
0 CUM	2.5-5.0'	Brown stiff silty clay with caliche
IVIL D-0	5.0-10.0°	Tan hard to very hard friable caliche with decreasing hydrocarbon odor
	10.0-15.0'	Reddish tan hard to very hard friable caliche, saturated at 11°, dry at 12.5°
	0-2.5	Black sandy loam with caliche, hydrocarbon staining 2.0-2.5'
	2.5-5.0°	Black stiff, sticky silty clay with caliche, hydrocarbon staining 2.5-3.5'
	5.0-15.0'	Tan hard to very hard friable caliche, hydrocarbon odor
MPB-9	15.0-20.0°	Tan hard to very hard friable caliche with decreasing hydrocarbon odor
	20.0-30.0°	Limestone bedrock with decreasing hydrocarbon odor
	30.0-35.0'	Limestone bedrock, faint hydrocarbon odor
	35.0-40.0°	Dry friable sandstone
	0-2.5	Black sandy loam with caliche, hydrocarbon staining 2.0-2.5'
	2.5-5.0°	Black stiff, sticky silty clay with caliche, hydrocarbon saturated 3.0-4.0'
	5.0-10.0°	Tan hard to very hard friable caliche, hydrocarbon odor
<b>MPB-10</b>	10.0-20.07	Tan hard to very hard friable caliche with decreasing hydrocarbon odor
	20.0-30.0°	Limestone bedrock with decreasing hydrocarbon odor
	30.0-35.0°	Limestone bedrock, faint hydrocarbon odor
	35 0-47 5'	Dry friable canditome

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Table 1. Site Investigation Soil Boring Logs - December 2004/June 2005, continued

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	0-2-0	I all safity loaffi with calicitie, hydrocarooff odof
MPB-11	2.5-5.0'	Brown stiff silty clay with caliche, faint hydrocarbon odor
	5.0-12.5	Tan hard to very hard friable caliche
	0-2.5	Tan sandy loam with caliche, dark brown hydrocarbon staining from 1.5-2.5'
	2.5-5.0'	Brown stiff, stick silty clay with caliche, hydrocarbon odor
MILD-17	5.0-10.0°	Tan hard to very hard friable caliche with light end hydrocarbon odor
	10.0-15.0'	Tan hard to very hard friable caliche with light end hydrocarbon odor
	0-2.5	Reddish brown sandy loam with caliche, dark gray hydrocarbon staining from 1.5-2.5'
MPB-13	2.5-5.0°	Gray stiff, stick silty clay with caliche, hydrocarbon odor
	5.0-15.0'	Tan hard to very hard friable caliche with faint, decreasing light end hydrocarbon odor
	0-2.5	Tan sandy loam with caliche
MPB-14	2.5-5.0°	Brown stiff silty clay with caliche
	5.0-12.5'	Light gray hard to very hard friable caliche
	0-2.5	Dark brown sandy loam with caliche
MPB-15	2.5-10.0	Brown stiff silty clay with caliche
	10.0-15.0°	Tan to reddish brown hard to very hard friable caliche
	0-2.5	Dark brown sandy loam with caliche
MPB-16	2.5-5.0'	Brown stiff silty clay with caliche
	5.0-15.0'	Tan to reddish brown hard to very hard friable caliche

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Boring Location	Sample Depth Interval, ft	Field Headspace Reading, ppm	<b>Boring Location</b>	Sample Depth Interval, ft	Field Headspace Reading, ppm
MPB-1	0-2.5'	60	MPB-6	0-2.5'	1.1
MPB-1	2.5-5.0'	160	MPB-6	2.5-5.0'	1.0
MPB-1	5.0-7.5'	172	MPB-6	5.0-7.5'	28.6
MPB-1	7.5-10.0'	142	MPB-6	7.5-10.0'	2.4
MPB-1	10.0-12.5'	88	MPB-7	0-2.5'	89
MPB-1	12.5-15.0'	28	MPB-7	2.5-5.0'	70
MPB-1	15.0-17.5'	42.9	MPB-7	5.0-7.5'	225
MPB-1	17.5-20.0'	33.3	MPB-7	7.5-10.0'	327
MPB-1	20.0-22.5'	18.8	MPB-7	10.0-12.5'	105
MPB-1	22.5-25.0'	5.6	MPB-7	12.5-15.0'	57
MPB-2	0-2.5'	2.1	MPB-7	15.0-17.5'	1.1
MPB-2	2.5-5.0'	1.1	MPB-7	17.5-20.0'	1.1
MPB-2	5.0-7.5'	0.0	MPB-8	0-2.5'	0.0
MPB-2	7.5-10.0'	0.0	MPB-8	2.5-5.0'	1.0
MPB-2	10.0-12.5'	0.0	MPB-8	5.0-7.5'	1.1
MPB-2	12.5-15.0'	0.0	MPB-8	7.5-10.0'	37.5
MPB-3	0-2.5'	57	MPB-8	10.0-12.5'	2.3
MPB-3	2.5-5.0'	38	MPB-8	12.5-15.0'	1.0
MPB-3	5.0-7.5'	8.0	MPB-9	0-2.5'	98
MPB-3	7.5-10.0'	2.2	MPB-9	2.5-5.0'	102
MPB-3	10.0-12.5'	4.5	MPB-9	5.0-7.5'	179
MPB-3	12.5-15.0'	1.1	MPB-9	7.5-10.0'	289
MPB-4	0-2.5'	1.8	MPB-9	10.0-12.5'	255
MPB-4	2.5-5.0'	1.1	MPB-9	12.5-15.0'	232
MPB-4	5.0-7.5'	0.0	MPB-9	15.0-17.5'	1.8
MPB-4	7.5-10.0'	1.1	MPB-9	17.5-20.0'	1.1
MPB-4	10.0-12.5'	1.3	MPB-9	20.0-22.5'	225
MPB-4	12.5-15.0'	2.0	MPB-9	22.5-25.0'	185
MPB-5	0-2.5'	55.2	MPB-9	25.0-27.5'	110
MPB-5	2.5-5.0'	92.5	MPB-9	27.5-30.0'	64
MPB-5	5.0-7.5'	96.7	MPB-9	30.0-32.5'	8.0
MPB-5	7.5-10.0'	227	MPB-9	32.5-35.0'	4.2
MPB-5	10.0-12.5'	23.0	MPB-9	35.0-37.5'	3.1
MPB-5	12.5-15.0'	15.2	MPB-9	37.5-40.0*	0.8

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Table 2. Field Headspace Analysis by PID, December 2004/June 2005.

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Boring Location	Sample Depth Interval, ft	Field Headspace Reading, ppm	<b>Boring Location</b>	Sample Depth Interval, ft	Field Headspace Reading, ppm
MPB-10	0-2.5'	289	MPB-13	0-2.5'	50
MPB-10	2.5-5.0'	435	MPB-13	2.5-5.0'	5.7
MPB-10	5.0-7.5'	547	MPB-13	5.0-7.5'	2.5
MPB-10	7.5-10.0'	408	MPB-13	7.5-10.0'	1.5
MPB-10	10.0-12.5'	400	MPB-13	10.0-12.5'	0.0
MPB-10	12.5-15.0'	289	MPB-13	12.5-15.0'	0.0
MPB-10	15.0-17.5'	214	MPB-14	0-2.5'	1.2
MPB-10	17.5-20.0'	87.0	MPB-14	2,5-5,0'	0.0
MPB-10	20.0-22.5'	218	MPB-14	5.0-7.5'	0.0
MPB-10	22.5-25.0'	142	MPB-14	7.5-10.0'	0.0
MPB-10	25.0-27.5'	118	MPB-14	10.0-12.5'	0.0
MPB-10	27.5-30.0'	68	MPB-15	0-2.5'	0.0
MPB-10	30.0-32.5'	39.9	MPB-15	2.5-5.0'	0.0
MPB-10	32.5-35.0'	30.6	MPB-15	5,0-7.5'	0.0
MPB-10	35.0-37.5'	8.0	MPB-15	7.5-10.0'	0.0
MPB-10	37.5-40.0'	0.8	MPB-15	10.0-12.5'	0.0
MPB-10	40.0-42.5'	0.0	MPB-15	12.5-15.0'	0.0
MPB-11	0-2.5'	8.0	MPB-16	0-2.5'	0.0
MPB-11	2.5-5.0'	3.4	MPB-16	2.5-5.0'	0.0
MPB-11	5.0-7.5'	12.4	MPB-16	5.0-7.5'	0.0
MPB-11	7.5-10.0'	2.2	MPB-16	7.5-10.0'	0.0
MPB-11	10.0-12.5'	1.0	MPB-16	10.0-12.5	0.0
MPB-12	0-2.5'	22	MPB-16	12.5-15.0'	0.0
MPB-12	2.5-5.0'	35			.1.
MPB-12	5.0-7.5'	85			
MPB-12	7.5-10.0'	78			
MPB-12	10.0-12.5'	81			
MPB-12	12.5-15.0'	76			

## Table 2. Field Headspace Analysis by PID, December 2004/June 2005, continued.









Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	TPH GRO	TPH-DRO	Total Hydrocarbon
			4	Ag/kg				
MPB-1 5.0-7.5'	0.1750	1.4200	0.4570	2.1510	4.2030	527	828	1360
MPB-1 12.5-15.0°	<0.025	0.1060	0.1540	1.1770	1.4370	311	812	1120
MPB-1 15.5-17.5'	1	1	1	ł	1	462	1230	1690
MPB-1 22.5-25.0°	1	1	1	1	1	60.9	271	332
MPB-2 0.0-2.5'	<0.025	0.0248	0.0169	0.0661	0.1078	13.6	26.5	40.1
MPB-2 12.5-15.0°	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
MPB-3 0.0-2.5'	<0.025	0.0111	0.0268	0.1214	0.1593	260	4360	4620
MPB-3 12.5-15.0°	<0.025	<0.025	<0.025	<0.025	<0.025	<10	12.5	12.5
MPB-4 0.0-2.5'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
MPB-4 12.5-15.0°	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
MPB-5 7.5-10.0°	0.1540	1.4100	0.3880	2.2850	4.2370	1090	1650	2740
MPB-5 12.5-15.0°	<0.025	0.0160	0.0203	0.0325	0.0688	15.5	22	37.5
MPB-6 5.0-7.5°	<0.025	0.0287	0.0542	0.3487	0.4316	29.4	65.6	95
MPB-6 12.5-15.0'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
MPB-7 7.5-10.0	0.0169	0.9660	0.3750	2.7280	4.0859	863	1530	2390
MPB-7 17.5-20.0°	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
MPB-8 7.5-10.0°	<0.025	<0.025	0.0455	0.4280	0.4735	52.7	218	271
MPB-8 12.5-15.0°	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
NMOCD Regulatory Thresholds	10	I	I	I	50	1,000	1,000	1,000

Mattie Price Tank Battery

Site Remediation Report & Monitoring Plan March 2006

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Samula ID	Ronzono	Toluone	<b>F</b> thylhanzana	Vulanae	Total RTEV	TPUCPO	Can nar	Total
oampro m	DCHECHC	T NIRCHC	Fulyinguizenc	VAICINGS	LUIAI DI EA		ONG-HIT	Hydrocarbon
			W	g/kg				
B-9 2.5-5.0°	0.0215	0.2160	0.2460	2.0920	2.5755	114	293	407
·B-9 7.5-10.0°	0.0946	1.2200	0.9360	12.7600	15.0106	701	1180	1880
B-9 17.5-20.0	0.0361	0.5520	0.2210	1.6180	2.4271	727	1700	2430
B-9 20.5-22.5	1	J	1	1	1	163	313	476
B-9 27.5-30.0	1	1	1	1	1	31.2	145	176
B-9 37.5-40.0	1	ł	1	1	ł	Q	Q	QN
B-10 2.5-5.0	0.2500	1.0300	0.6640	6.7590	8.7030	211	448	629
B-10 17.5-20.0	0.1320	1.0800	0.4270	2.5540	4.1930	171	1480	2250
B-10 20.5-22.5	ł	I	1	1	1	252	717	696
B-10 27.5-30.0	1	ł	1	1	I	25.4	293	318
B-10 40.0-42.5	1	1	1	1	4	QN	QN	QN
B-11 0.0-2.5	<0.025	0.0386	0.0581	0.3838	0.4805	<10	<10	<10
B-11 10.0-12.5	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
8-12 0.0-2.5	<0.025	0.0247	0.0429	0.0929	0.1605	14.9	<10	14.9
B-12 5.0-7.5'	0.0201	0.5460	0.2300	2.2060	3.0021	711	1430	2140
8-12 12.5-15.0'	<0.025	0.0973	0.0626	1.0270	1.1869	141	408	549
B-13 0.0-2.5	<0.025	0.0615	0.1000	0.5690	0.7305	34	347	381
8-13 12.5-15.0'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	30	30
8-14 0.0-2.5'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
8-14 10.0-12.5'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
8-15 0.0-2.5'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
8-15 12.5-15.0'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
3-16 0.0-2.5'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
3-16 12.5-15.0'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
OCD Regulatory	10	I	1	1	50	1 000	1 000	1 000

Mattie Price Tank Battery

Site Remediation Report & Monitoring Plan March 2006

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Excavation Area	Sample	Field Headspace Reading, ppm	Excavation Area	Sample	Field Headspace Reading, ppm
MPB-1	Floor 9'	18	MPB-1	Floor 10'	18
MPB-1	E SW	21	MPB-1	E SW	21
MPB-1	W SW	20	MPB-1	W SW	20
MPB-1	N SW	19	MPB-1	N SW	19
MPB-1	S SW	17	MPB-1	S SW	17
MPB-3	Floor, 4'	2	MPB-3	Floor, 4'	2
MPB-3	E SW	0	MPB-3	E SW	0
MPB-3	W SW	1	MPB-3	W SW	1
MPB-3	N SW	0	MPB-3	N SW	0
MPB-3	S SW	0	MPB-3	S SW	0
MPB-5	Floor, 9'	11	MPB-5	Floor, 9'	11
MPB-5	E SW	7	MPB-5	E SW	7
MPB-5	W SW	2	MPB-5	W SW	2
MPB-5	N SW	5	MPB-5	N SW	5
MPB-5	S SW	7	MPB-5	S SW	7
MPB-7	Floor 10'	24	MPB-7	Floor 10'	24
MPB-7	E SW	22	MPB-7	E SW	22
MPB-7	W SW	65	MPB-7	W SW	65
MPB-7	W SW (B)	35	MPB-7	W SW (B)	35
MPB-7	N SW	48	MPB-7	N SW	48
MPB-7	S SW	85	MPB-7	S SW	85
MPB-7	S SW (B)	41	MPB-7	S SW (B)	41
MPB-9	Floor 10'	56	MPB-9	Floor 10'	56
MPB-9	E SW	82	MPB-9	E SW	82
MPB-9	W SW	2	MPB-9	W SW	2
MPB-9	N SW	62	MPB-9	N SW	62
MPB-9	N SW (B)	37	MPB-9	N SW (B)	37
MPB-9	S SW	58	MPB-9	S SW	58
MPB-9	S SW(B)	24	MPB-9	S SW(B)	24
MPB-10	Floor 10'	65	MPB-10	Floor 10'	65
MPB-10	E SW	17	MPB-10	E SW	17
MPB-10	W SW	20	MPB-10	W SW	20
MPB-10	N SW	18	MPB-10	N SW	18

 Table 4. Remediation Excavation Field Headspace Analyses, January, 2006.

Mattie Price Tank Battery

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Excavation Area	Sample	Sample Date	GRO C6-C12	DRO >C12-C35	Total Hydrocarbons
		1		mg/kg	
MPB-1	Floor 10'	1/9/06	ND	124	124
MPB-1	E SW	1/9/06	ND	181	181
MPB-1	WSW	1/9/06	ND	289	289
MPB-1	N SW	1/9/06	ND	213	213
MPB-1	S SW	1/9/06	ND	259	259
MPB-3	Floor, 4'	1/9/06	5.36J	621	621
MPB-3	ESW	1/9/06	15.3	809	824
MPB-3	WSW	1/9/06	ND	191	191
MPB-3	NSW	1/9/06	13.0	886	899
MPB-3	S SW	1/9/06	8.07J	363	363
MPB-5	Floor, 9'	1/5/06	ND	55.5	55.5
MPB-5	ESW	1/5/06	ND	142	142
MPB-5	WSW	1/5/06	ND	ND	ND
MPB-5	N SW	1/5/06	ND	ND	ND
MPB-5	S SW	1/5/06	ND	ND	ND
MPB-7	Floor 10'	1/6/06	52.9	260	313
MPB-7	E SW	1/6/06	47.2	170	217
MPB-7	WSW	1/6/06	134	927	1060
MPB-7	W SW (B)	1/11/06	ND	751	751
MPB-7	N SW	1/6/06	152	1150	1300
MPB-7	S SW	1/6/06	289	1030	1320
MPB-7	S SW (B)	1/11/06	5.08J	1070	1070
MPB-9	Floor 10'	1/6/06	101	939	1040
MPB-9	ESW	1/6/06	177	1690	1870
MPB-9	WSW	1/6/06	8.69J	16.7	16.7
MPB-9	N SW	1/6/06	149	1550	1700
MPB-9	N SW (B)	1/11/06	6.92J	1500	1500
MPB-9	S SW	1/6/06	192	1810	2000
MPB-9	S SW(B)	1/11/06	5.78J	1303	1303

## Table 5. Remediation Sample Laboratory Analyses, January, 2006.



Excavation Area	Sample	Sample Date	GRO C6-C12	DRO >C12-C35	Total Hydrocarbons
				mg/kg	
MPB-10	Floor 10'	1/9/06	239	1360	1600
MPB-10	ESW	1/9/06	8.76J	363	363
MPB-10	WSW	1/9/06	11.4	349	360
MPB-10	N SW	1/9/06	10.5	377	388
MPB-10	S SW	1/9/06	9.81J	343	343
MPB-12	Floor 8'	1/9/06	1180	3090	4270
MPB-12	Floor 10' (B)	1/10/06	ND	182	182
MPB-12	ESW	1/9/06	1330	3530	4860
MPB-12	E SW (B)	1/10/06	ND	231	231
MPB-12	WSW	1/9/06	504	1560	2060
MPB-12	W SW (B)	1/10/06	ND	637	637
MPB-12	N SW	1/9/06	421	1430	1850
MPB-12	N SW (B)	1/10/06	ND	183	183
MPB-12	S SW	1/9/06	261	895	1160
MPB-12	S SW (B)	1/10/06	ND	392	392
MP Excava	ted Soil Pile 1	1/9/06	ND	22100	22100
MP Excava	ted Soil Pile 2	1/9/06	433	4040	4470
MP Ba	ckfill Soil	1/9/06	105	289	394

## Table 5. Remediation Sample Laboratory Analyses, January, 2006.



Well ID	Well Location, Northing	Well Location, Easting	TOC* Elevation, ft	Static water level, ft	Groundwater Elevation, ft
MW 1	681334.136	854349.242	3726.31	78.39	3647.92
MW 2	681246.554	854276.844	3725.56	77.50	3648.06
MW 3	681256.234	854416.484	3726.31	78.89	3647.42

 Table 6. Monitoring Well and Groundwater Information.

## Table 7. Groundwater Laboratory Analyses, January 2006.

Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes, o	Xylenes, m,p	Chloride
			Mg	;/l		
MW 1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	25.1
MW 2	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	45.1
MW 3	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	188
DW Std.*	0.005	1.0	0.7	10 (total)		250
DW Std.* *20	0.005 004 Edition	1.0 of the Drin	0.7 Iking Water Star	10 ndards and H	(total) ealth Advisories, U	$\frac{25}{\text{US EPA.}}$





## Analytical Report

Prepared for:

Shawn Hokanson Kane Environmental- College Station 607 Peyton Street College Station, TEXAS 77840

> Project: Mattie Price Project Number: 0 Location: Hobbs, NM

Lab Order Number: 6A07001

Report Date: 01/10/06

Kane Environmental- College Station 607 Peyton Street College Station TEXAS, 77840

Project:Mattie PriceProject Number:0Project Manager:Shawn Hokanson

Fax: (979) 693-3231

Reported:

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01/10/06 13:51

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MPB5-SSW	6A07001-01	Soil	01/05/06 14:00	01/07/06 09:40
MPB5-ESW	6A07001-02	Soil	01/05/06 14:10	01/07/06 09:40
MPB5-NSW	6A07001-03	Soil	01/05/06 14:30	01/07/06 09:40
MPB5-WSW	6A07001-04	Soil	01/05/06 14:40	01/07/06 09:40
MPB5-Floor 9'	6A07001-05	Soil	01/05/06 15:10	01/07/06 09:40
MPB7-SSW	6A07001-06	Soil	01/06/06 08:10	01/07/06 09:40
MPB7-ESW	6A07001-07	Soil	01/06/06 08:15	01/07/06 09:40
MPB7-NSW	6A07001-08	Soil	01/06/06 08:25	01/07/06 09:40
MPB7-WSW	6A07001-09	Soil	01/06/06 08:35	01/07/06 09:40
MPB7-Floor 10'	6A07001-10	Soil	01/06/06 08:20	01/07/06 09:40
MPB9-Floor 10'	6A07001-11	Soil	01/06/06 15:00	01/07/06 09:40
MPB9-WSW	6A07001-12	Soil	01/06/06 15:10	01/07/06 09:40
MPB9-ESW	6A07001-13	Soil	01/06/06 15:30	01/07/06 09:40
MPB9-SSW	6A07001-14	Soil	01/06/06 15:50	01/07/06 09:40
MPB9-NSW	6A07001-15	Soil	01/06/06 16:10	01/07/06 09:40



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

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607 Peyton Street         Project Number: 0 Project Manager: Shawn Hokanson         01//           Organics by GC         Corganics by GC         Corganics by GC         Corganics by GC           Analyte         Reporting Limit         Dilution         Batch         Prepared         Analyzed         Method           MPB5-SSW (6A07001-01) Soil         Easoline Range Organics C6-C12         ND         10.0         mg/kg dry         1         EA60907         01/09/06         01/10/06         EPA 8015N           Diesel Range Organics >C12-C35         ND         10.0         "	Reported: 10/06 13:51
Ollege Station TEXAS, 77840         Project Manager: Shawn Hokanson         01/           Organics by GC           Environmental Lab of Texas           Analyte         Reporting Limit         Dilution         Batch         Prepared         Analyzed         Method           MPB5-SSW (6A07001-01) Soil         Environmental         Units         Dilution         Batch         Prepared         Analyzed         Method           Gasoline Range Organics C6-C12         ND         10.0         mg/kg dry         1         EA60907         01/09/06         01/10/06         EPA 8015N           Diesel Range Organics >C12-C35         ND         10.0         "	10/06 13:51
Organics by GC         Environmental Lab of Texas         Analyte       Reporting Limit       Dilution       Batch       Prepared       Analyzed       Method         MPB5-SSW (6A07001-01) Soil       Gasoline Range Organics C6-C12       ND       10.0       mg/kg dry       1       EA60907       01/09/06       01/10/06       EPA 8015N         Diesel Range Organics >C12-C35       ND       10.0       "	
Environmental Lab of Texas           Analyte         Result         Imit         Units         Dilution         Batch         Prepared         Analyzed         Method           MPB5-SSW (6A07001-01) Soil	
Analyte         Result         Limit         Units         Dilution         Batch         Prepared         Analyzed         Method           MPB5-SSW (6A07001-01) Soil	
MPB5-SSW (6A07001-01) Soil           Gasoline Range Organics C6-C12         ND         10.0         mg/kg dry         1         EA60907         01/09/06         01/10/06         EPA 8015N           Diesel Range Organics >C12-C35         ND         10.0         "	Notes
Gasoline Range Organics C6-C12       ND       10.0       mg/kg dry       1       EA60907       01/09/06       01/10/06       EPA 8015N         Diesel Range Organics >C12-C35       ND       10.0       "	
Diesel Range Organics >C12-C35       ND       10.0       """"""""""""""""""""""""""""""""""""	1
Total Hydrocarbon C6-C35       ND       10.0       " <th< td=""><td></td></th<>	
Surrogate: 1-Chlorooctane       75.6 %       70-130       "	
Surrogate: 1-Chlorooctadecane       121 %       70-130       " <td></td>	
MPB5-ESW (6A07001-02) Soil         Gasoline Range Organics C6-C12       ND       10.0       mg/kg dry       1       EA60907       01/09/06       EPA 8015N         Diesel Range Organics >C12-C35       142       10.0       " </td <td></td>	
Gasoline Range Organics C6-C12       ND       10.0       mg/kg dry       1       EA60907       01/09/06       EPA 8015N         Diesel Range Organics >C12-C35       142       10.0       "	
Diesel Range Organics > C12-C35         142         10.0         "	1
Total Hydrocarbon C6-C35         142         10.0         " <th"< td=""><td></td></th"<>	
Surrogate: 1-Chlorooctane         77.0 %         70-130         " <th"< th="">         "         "</th"<>	
Surrogate: 1-Chlorooctadecane 82.0 % 70-130 " " " "	
MPB5-NSW (6A07001-03) Soil	
Gasoline Range Organics C6-C12 ND 10.0 mg/kg dry 1 EA60907 01/09/06 01/09/06 EPA 8015M	í
Diesel Range Organics >C12-C35 ND 10.0 " " " " " " " "	
Al Hydrocarbon C6-C35 ND 10.0 " " " " " "	
Surrogate: 1-Chlorooctane 81.6 % 70-130 " " " "	
Surrogate: 1-Chlorooctadecane 76.6 % 70-130 " " " " "	
MPB5-WSW (6A07001-04) Soil	
Gasoline Range Organics C6-C12 ND 10.0 mg/kg dry 1 EA60907 01/09/06 01/09/06 EPA 8015N	1
Diesel Range Organics >C12-C35 ND 10.0 " " " " " " " "	
Total Hydrocarbon C6-C35 ND 10.0 " " " " " " " "	
Surrogate: 1-Chlorooctane 77.0 % 70-130 " " " "	
Surrogate: 1-Chlorooctadecane 73.0 % 70-130 " " " " "	
MPB5-Floor 9' (6A07001-05) Soil	
Gasoline Range Organics C6-C12 ND 10.0 mg/kg dry 1 EA60907 01/09/06 01/09/06 EPA 8015M	1
Diesel Range Organics >C12-C35 55.5 10.0 " " " " " " "	
Total Hydrocarbon C6-C35         55.5         10.0         " <th"< th="">         "         <th"< td=""><td></td></th"<></th"<>	
Surrogate: 1-Chlorooctane 99.0 % 70-130 " " " " "	
Surrogate: 1-Chlorooctadecane 106 % 70-130 " " " " "	

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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		O	rganics by	y GC					
		Environ	mental La	ab of To	exas				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	
MPB7-SSW (6A07001-06) Soil									
Gasoline Range Organics C6-C12	289	10.0	mg/kg dry	1	EA60907	01/09/06	01/09/06	EPA 8015M	
Diesel Range Organics >C12-C35	1030	10.0	"	"			"	н	
Total Hydrocarbon C6-C35	1320	10.0	"	"		"			
Surrogate: 1-Chlorooctane		94.4 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		292 %	70-1	30	"	"	n	"	
MPB7-ESW (6A07001-07) Soil									
Gasoline Range Organics C6-C12	47.2	10.0	mg/kg dry	1	EA60907	01/09/06	01/09/06	EPA 8015M	
Diesel Range Organics >C12-C35	170	10.0			н	11	**		
Total Hydrocarbon C6-C35	217	10.0	"	п	н	"	н	"	
Surrogate: 1-Chlorooctane		84.6 %	70-1.	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		82.8 %	70-1.	30	"	"	"	**	
MPB7-NSW (6A07001-08) Soil									
Gasoline Range Organics C6-C12	152	10.0	mg/kg dry	1	EA60907	01/09/06	01/09/06	EPA 8015M	
Riesel Range Organics >C12-C35	1150	10.0	"		"	11	"	и	
Ital Hydrocarbon C6-C35	1300	10.0	"		n	"	'n	19	
Surrogate: 1-Chlorooctane		90.8 %	70-1.	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		318 %	70-1.	30	"	"	"	n	
MPB7-WSW (6A07001-09) Soil									
Gasoline Range Organics C6-C12	134	10.0	mg/kg dry	1	EA60907	01/09/06	01/09/06	EPA 8015M	
Diesel Range Organics >C12-C35	927	10.0	"	**	"	u	11	н	
Total Hydrocarbon C6-C35	1060	10.0	11	**	"	μ	**	п	
Surrogate: 1-Chlorooctane		83.0 %	70-1.	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		276 %	70-1.	30	II	"	"	n	
MPB7-Floor 10' (6A07001-10) Soil									
Gasoline Range Organics C6-C12	52.9	10.0	mg/kg dry	1	EA60907	01/09/06	01/09/06	EPA 8015M	
Diesel Range Organics >C12-C35	260	10.0	"		н	**	"	"	
Total Hydrocarbon C6-C35	313	10.0	n	"	н			u	

Project: Mattie Price Project Number: 0 Project Manager: Shawn Hokanson Fax: (979) 693-3231

**Reported:** 01/10/06 13:51

Notes

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

70-130

70-130

82.8 %

147 %

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Surrogate: 1-Chlorooctane

Surrogate: 1-Chlorooctadecane

Kane Environmental- College Station			Project: Mat	tie Price				Fax: (979) 6	593-3231
607 Peyton Street		Project N	lumber: 0					Report	ted:
College Station TEXAS, 77840		Project M	anager: Sha	wn Hokan	son			01/10/06	13:51
		O	rganics by	y GC					
		Environ	mental La	ab of To	exas				
Angleta	Dati	Reporting							
MDD0 Electron 101 (( A 07001 11) Set)	Kesun		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
WPB9-Floor 10 (6A0/001-11) Soll			· _• ·						
Gasoline Range Organics C6-C12	101	10.0	mg/kg dry	1	EA60907	01/09/06	01/09/06	EPA 8015M	
Diesel Range Organics >C12-C35	939	10.0	u		17		u		
Total Hydrocarbon C6-C35	1040	10.0	"	"	"	u.	11		
Surrogate: 1-Chlorooctane		81.2 %	70-1	30	"	"	n	"	
Surrogate: 1-Chlorooctadecane		272 %	70-1.	30	"	"	"	"	S-04
MPB9-WSW (6A07001-12) Soil			_						
Gasoline Range Organics C6-C12	J [8.69]	10.0	mg/kg dry	1	EA60907	01/09/06	01/09/06	EPA 8015M	
Diesel Range Organics >C12-C35	16.7	10.0			"	e	п		
Total Hydrocarbon C6-C35	16.7	10.0	•		"	n.	"	н	
Surrogate: 1-Chlorooctane		83.4 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		73.0 %	70-1	30	"	"	"	"	
MPB9-ESW (6A07001-13) Soil									
Gasoline Range Organics C6-C12	177	10.0	mg/kg dry	1	EA60907	01/09/06	01/10/06	EPA 8015M	
Diesel Range Organics >C12-C35	1690	10.0					"	"	
tal Hydrocarbon C6-C35	1870	10.0		u	u		н		
Surrogate: 1-Chlorooctane		91.8 %	70-1	30	"	,,	"	"	and the second s
Surrogate: 1-Chlorooctadecane		384 %	70-1	30	"	v	"	"	S-0-
MPB9-SSW (6A07001-14) Soil									
Gasoline Range Organics C6-C12	192	10.0	mg/kg dry		EA60907	01/09/06	01/10/06	EPA 8015M	
Diesel Range Organics >C12-C35	1810	10.0	"		"	II.	"	н	
Total Hydrocarbon C6-C35	2000	10.0		п	п	"		"	
Surrogate: 1-Chlorooctane		93.0 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		418 %	70-1	30	"	"	"	"	S-0-
MPB9-NSW (6A07001-15) Soil									
Gasoline Range Organics C6-C12	149	10.0	mg/kg dry	1	EA60907	01/09/06	01/10/06	EPA 8015M	·····
Diesel Range Organics >C12-C35	1550	10.0	"					н	
Total Hydrocarbon C6-C35	1700	10.0	II	п	и			"	
Surrogate: 1-Chlorooctane		91.0 %	70-1	30	"	"	п	"	
Surrogate: 1-Chlorooctadecane		414 %	70-1	30	"	u	"	"	S-0-

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Reported: 01/10/06 13:51

### General Chemistry Parameters by EPA / Standard Methods

## **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MPB5-SSW (6A07001-01) Soil									
% Moisture	9.0	0.1	%	1	EA61001	01/09/06	01/10/06	% calculation	
MPB5-ESW (6A07001-02) Soil									
% Moisture	11.1	0.1	%	1	EA61001	01/09/06	01/10/06	% calculation	
MPB5-NSW (6A07001-03) Soil									
% Moisture	9.4	0.1	%	1	EA61001	01/09/06	01/10/06	% calculation	
MPB5-WSW (6A07001-04) Soil									
% Moisture	8.5	0.1	%	1	EA61001	01/09/06	01/10/06	% calculation	
MPB5-Floor 9' (6A07001-05) Soil									
% Moisture	5.7	0.1	%	1	EA61001	01/09/06	01/10/06	% calculation	
MPB7-SSW (6A07001-06) Soil									
Moisture	8.5	0.1	%	1	EA61001	01/09/06	01/10/06	% calculation	
MPB7-ESW (6A07001-07) Soil									
% Moisture	9.8	0.1	%	1	EA61001	01/09/06	01/10/06	% calculation	
MPB7-NSW (6A07001-08) Soil		_							
% Moisture	4.9	0.1	%	t	EA61001	01/09/06	01/10/06	% calculation	
MPB7-WSW (6A07001-09) Soil									
% Moisture	5.5	0.1	%	1	EA61001	01/09/06	01/10/06	% calculation	
MPB7-Floor 10' (6A07001-10) Soil									
% Moisture	11.7	0.1	%	1	EA61001	01/09/06	01/10/06	% calculation	
MPB9-Floor 10' (6A07001-11) Soil									
% Moisture	3.7	0.1	%	1	EA61001	01/09/06	01/10/06	% 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	Notes
MPB9-WSW (6A07001-12) Soil	<u> </u>		<del>,</del>						
% Moisture	2.1	0.1	%	1	EA61001	01/09/06	01/10/06	% calculation	
MPB9-ESW (6A07001-13) Soil									
% Moisture	1.9	0.1	%	I	EA61001	01/09/06	01/10/06	% calculation	
MPB9-SSW (6A07001-14) Soil									
% Moisture	1.7	0.1	%	1	EA61001	01/09/06	01/10/06	% calculation	
MPB9-NSW (6A07001-15) Soil									
% Moisture	2.4	0.1	%	1	EA61001	01/09/06	01/10/06	% calculation	



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Kane Environmental- College Station		I	Project: Ma	ttie Price					Fax: (979)	693-3231
607 Peyton Street		Project N	umber: 0						Repo	orted:
College Station TEXAS, 77840		Project M	anager: Sha	wn Hokans	on				01/10/0	6 13:51
	Oı	ganics by	y GC - Q	uality C	ontrol					
		Environ	mental L	ab of Te	xas					
	<u> </u>	Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EA60907 - Solvent Extraction (GC)	·			··· <u></u>						
Blank (EA60907-BLK1)				Prepared:	01/09/06 A	nalyzed: 01	/10/06			
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								
Surrogate: 1-Chlorooctane	38.6		mg/kg	50.0	<u></u>	77.2	70-130			
Surrogate: 1-Chlorooctadecane	36.2		"	50.0		72.4	70-130			
LCS (EA60907-BS1)				Prepared &	& Analyzed:	01/09/06				
Gasoline Range Organics C6-C12	426	10.0	mg/kg wet	500		85.2	75-125			
Diesel Range Organics >C12-C35	395	10.0		500		79.0	75-125			
Total Hydrocarbon C6-C35	821	10.0	0	1000		82.1	75-125			
Surrogate: 1-Chlorooctane	42.5		mg/kg	50.0	··· ···-	85.0	70-130			
Surrogate: 1-Chlorooctadecane	45.9		"	50.0		91.8	70-130			
Calibration Check (EA60907-CCV1)				Prepared:	01/09/06 A	nalyzed: 01	/10/06			
Gasoline Range Organics C6-C12	416		mg/kg	500		83.2	80-120			2010 West
Diesel Range Organics >C12-C35	400		"	500		80.0	80-120			
Total Hydrocarbon C6-C35	816		0	1000		81.6	80-120			
progate: 1-Chlorooctane	51.8		"	50.0		104	70-130			
rrogate: 1-Chlorooctadecane	43.9		"	50.0		87.8	70-130			
Matrix Spike (EA60907-MS1)	Sou	rce: 6A0700	1-01	Prepared &	& Analyzed:	01/09/06				
Gasoline Range Organics C6-C12	455	10.0	mg/kg dry	549	ND	82.9	75-125			
Diesel Range Organics >C12-C35	518	10.0	"	549	ND	94.4	75-125			
Total Hydrocarbon C6-C35	973	10.0	н	1100	ND	88.5	75-125			
Surrogate: 1-Chlorooctane	52.3		mg/kg	50.0		105	70-130			
Surrogate: 1-Chlorooctadecane	45.3		"	50.0		90.6	70-130			
Matrix Spike Dup (EA60907-MSD1)	Sour	rce: 6A07001	1-01	Prepared 8	2 Analyzed:	01/09/06				
Gasoline Range Organics C6-C12	450	10.0	mg/kg dry	549	ND	82.0	75-125	1,10	20	
Diesel Range Organics >C12-C35	506	10,0	"	549	ND	92.2	75-125	2.34	20	
Total Hydrocarbon C6-C35	956	10.0	"	1100	ND	86.9	75-125	1.76	20	
Surrogate: 1-Chlorooctane	51.6		mg/kg	50.0		103	70-130			
Surrogate: 1-Chlorooctadecane	47.9		u	50.0		95.8	70-130			



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Fax: (979) 693-3231

**Reported:** 01/10/06 13:51

### 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 EA61001 - General Preparation (Prep)										
Blank (EA61001-BLK1)				Prepared: (	01/09/06	Analyzed: 01	/10/06			
% Solids	100		%					· · ·		
Duplicate (EA61001-DUP1)	Sour	ce: 6A07001-	01	Prepared: (	)1/09/06 /	Analyzed: 01	/10/06			
% Solids	90.1		%		91.0			0.994	20	
Duplicate (EA61001-DUP2)	Sour	ce: 6A09001-	13	Prepared: (	)1/09/06	Analyzed: 01	/10/06			
% Solids	78.8		%		81.3			3.12	20	

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	Notes and Definitions
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike

Dup Duplicate

Report Approved By:

Raland Kituts 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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1/10/2006

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

Continuential Lab of Texas     Continuential Lab of Texas <t< th=""><th>STODY RECORD AND ANALYSIS RE</th><th>Name: Mallichlick</th><th>oject #; 🖉</th><th>et Loc: Harbert My</th><th>PO#:</th><th></th><th></th><th>Analyze For:</th><th>TOTAL</th><th>۲ ۹</th><th>/д. /д. /д. /д. /д. /д. /д. /д. /д. /д.</th><th>Cations (Ca. J. Anions (Ci. S( Anions (Ci. S( Sernivolatiles Sernivolatiles BTEX B0218/ A10.R.M. A0.R.M. A10.R.M. A10.R.M.</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>Sample Containers Intact? (V N Labels on container? V N</th><th>Custody Seats: Containers / Cooler) Temperature Upon Receipt:</th><th>Laboratory Comments:</th><th>Hozalass onice</th><th></th><th>0</th></t<>	STODY RECORD AND ANALYSIS RE	Name: Mallichlick	oject #; 🖉	et Loc: Harbert My	PO#:			Analyze For:	TOTAL	۲ ۹	/д.	Cations (Ca. J. Anions (Ci. S( Anions (Ci. S( Sernivolatiles Sernivolatiles BTEX B0218/ A10.R.M. A0.R.M. A10.R.M. A10.R.M.											Sample Containers Intact? (V N Labels on container? V N	Custody Seats: Containers / Cooler) Temperature Upon Receipt:	Laboratory Comments:	Hozalass onice		0
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Company Name C			X		X 1			nb): nZa			pəjo	ime2 etsO	15/22	114/05	1/3/102	114/18	111105	11/0/03	1/11/05	(10)3	11/0/05	1/10/15	Ν.		Received by:		Received by El	Near
Some stars 79765 Fax. 42   Project Manager: 7 ALA   Project Manager: 7 ALA   Company Name 7 ALA   Company Name 7 ALA   Company Address: 007   Particip: 007   Sampler Signature: 007   Email: 5400/6   Project Marker 500   Project Marker 108	<b>CX3S</b> -563-1800 -563-1713	Nenson	On Minte	Allen St	Father	5		2610																	Time	61114-1 9	9 <u>0</u>	
Company Name Kd/A   Project Manager: Kd/A   Company Name Kd/A   Company Address: CO   Company Address: CO   Company Address: CO   Company Address: CO   City/State/zip: CO   Telephone No: 272   Telephone No: 272   Sampler Signature: Co   City/State/zip: CO   R # (ab use only) FIE   Project Hange CO   Project Manager: Co   Project Manager: Co   Company Address: CO   City/State/zip: Co   Sampler Signature: Co   City/State/zip: Co   Project Manager: Co   Project Manager: Co   Project Manager: Co   Mainture: Co   City/State/zip: Co   Project Manager: Co   Droject Manager: Co   Mainture: Co   Droject Manager: Co   Mainture: Co   Co Mager:   Co Mager:   Co Mager:   Co Mager:   Co Mager: </td <td>Phone: 432 Fax: 432</td> <td>LA Pres</td> <td>Ealin</td> <td>7 BU</td> <td>lett '</td> <td>02992</td> <td><math>\bigwedge</math></td> <td>where the</td> <td></td> <td></td> <td></td> <td>SLD CODE</td> <td>556</td> <td>560</td> <td>52</td> <td>561</td> <td>21 8</td> <td>560</td> <td>5W</td> <td>152</td> <td>51-1</td> <td></td> <td></td> <td></td> <td>Date</td> <td>11105</td> <td>Date</td> <td></td>	Phone: 432 Fax: 432	LA Pres	Ealin	7 BU	lett '	02992	$\bigwedge$	where the				SLD CODE	556	560	52	561	21 8	560	5W	152	51-1				Date	11105	Date	
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A DRIMIN

ODY RECORD AND ANALYSIS R	lame: Mattie Price	ect #:	1 Loci Filiply Nrg	PO#			Tote: Analyze For:		Anions (Cl. SO4, CO3, HCO3) Anions (Cl. SO4, CO3, HCO3) SAR / ESP / CEC Mebls: As Ag Ba Cd Cr Pb Hg Se BrtEX B0218/5030 or BTEX 6260 RCI RCI N.O.R.M. Standard TAT (Pre-Schredule Standard TAT (Pre-Schredule	X							Sample Containers Intact? N Labels on container? N Custody Seals: Containers (Cooler Temperature Upon Receipt:	Laboratory Comments:	Hozalass on ice	>
DF CUST	roject N	Proj	Project						Celiars (C9 Mo Na K)	Х	$\times$	$\mathbf{x}$	×	4	 			Time	Time	0460
CHAIN D	2							Matrix										tt	5	1-06
								╞	Other ( Specify)				_					Da	Da	0-0
								Preservative	урие H <sup>3</sup> 20 <sup>4</sup> И90Н НСI НИО <sup>3</sup> IC6	X		~~					•			4
	)			40	Fax No:				Time Sampled	15/10	110	1532	1550	1610					LOT:	emenu
				1 779.			407143		beiqms2 steD	11/6/05	\$				 •	Z		Received by:	Received by E	Jan
Texas 32-563-1800	32-563-1713	CA MENTS	Kn 54	Alle &	23		15 m & M						5 52					- GUL	Time	
iental Lab of <sup>Phone: 43</sup>	Fax: 43	Name Kane Early	dress: 607 Per	to Zip: 6 / lege She	1e No: 579 229 82	ature:	Email: Sharrho Ka			HPB9 Flar 10'	M289 W 52	11287 ESN	Truston 11989	MPB 7 NSW				Date	Date	
126 est 1-20 East	Odessa, Texas 79765 Profect Mar	Company	Company Add	City/Stat	Telephor	Sampler Sign			LAB# (lab use only)			13. 13.	ショント	<u>-15</u>			Special Instructions:	Relinquisher by	Relifiquished by:	

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

Clines:	KaneEnvironmental	
		ī

Date/Time: 01-07-06@ 0940

Order #: 6407001

Initials: JMM

Sample Receipt Checklist

Temperature of container/cooler?	(Tes No	LID C	
Shipping container/cooler in good condition?	Yes No		
Custody Seals intact on shipping container/cooler?	(res) No	Not present	
Custody Seals intact on sample bottles?	Yes No	Not present	
Chain of custody present?	(Yes) No		
Sample Instructions complete on Chain of Custody?	Yes No	see attachede-m	a:1
Chain of Custody signed when relinquished and received?	Yes No		
Chain of custody agrees with sample label(s)	Yés No		
Container labels legible and intact?	(Yés) No		
Sample Matrix and properties same as on chain of custody?	Yes No		
Samples in proper container/bottle?	(Yes) No		
Samples properly preserved?	YES NO		
Sample bottles intact?	(Yes)   No		
Preservations documented on Chain of Custody?	Yes No		
Containers documented on Chain of Custody?	Yès No		
Sufficient sample amount for indicated test?	Yes No	{	
Imples received within sufficient hold time?	Yes No		
VOC samples have zero headspace?	Yes No	Not Applicable	

Other observations:

- H.

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



# Analytical Report

Prepared for:

Shawn Hokanson Kane Environmental- College Station 607 Peyton Street College Station, TEXAS 77840

> Project: Mattie Price Project Number: 04-631 Location: Hobbs, NM

Lab Order Number: 6A10011

Report Date: 01/18/06

Kane Environmental- College Station 607 Peyton Street Sollege Station TEXAS, 77840

I I I I I I I

Project: Mattie Price Project Number: 04-631 Project Manager: Shawn Hokanson Fax: (979) 693-3231

Reported:

01/18/06 11:20

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MPB 3 Floor 4'	6A10011-01	Soil	01/09/06 07:40	01/10/06 14:30
MPB 3 E SW	6A10011-02	Soil	01/09/06 07:50	01/10/06 14:30
MPB 3 W SW	6A10011-03	Soil	01/09/06 07:52	01/10/06 14:30
MPB 3 N SW	6A10011-04	Soil	01/09/06 07:44	01/10/06 14:30
MPB 3 S SW	6A10011-05	Soil	01/09/06 07:42	01/10/06 14:30
MPB 12 Floor 8'	6A10011-06	Soil	01/09/06 10:00	01/10/06 14:30
MPB 12 E SW	6A10011-07	Soil	01/09/06 10:05	01/10/06 14:30
MPB 12 W SW	6A10011-08	Soil	01/09/06 10:10	01/10/06 14:30
MPB 12 N SW	6A10011-09	Soil	01/09/06 10:12	01/10/06 14:30
MPB 12 S SW	6A10011-10	Soil	01/09/06 10:15	01/10/06 14:30
MPB 1 Floor 10'	6A10011-11	Soil	01/09/06 11:50	01/10/06 14:30
MPB 1 N SW	6A10011-12	Soil	01/09/06 11:54	01/10/06 14:30
MPB 1 E SW	6A10011-13	Soil	01/09/06 11:56	01/10/06 14:30
MPB 1 S SW	6A10011-14	Soil	01/09/06 11:58	01/10/06 14:30
MPB 1 W SW	6A10011-15	Soil	01/09/06 12:02	01/10/06 14:30
MP Backfill Soil	6A10011-16	Soil	01/09/06 12:40	01/10/06 14:30
IP Excavated Soil Pile 2	6A10011-17	Soil	01/09/06 12:33	01/10/06 14:30
MP Excavated Soil Pile 1	6A10011-18	Soil	01/09/06 12:30	01/10/06 14:30
MPB 10 Floor 10'	6A10011-19	Soil	01/09/06 12:20	01/10/06 14:30
MPB 10 N SW	6A10011-20	Soil	01/09/06 12:25	01/10/06 14:30
MPB 10 S SW	6A10011-21	Soil	01/09/06 12:27	01/10/06 14:30
MPB 10 E SW	6A10011-22	Soil	01/09/06 12:22	01/10/06 14:30
MPB 10 W SW	6A10011-23	Soil	01/09/06 12:24	01/10/06 14:30

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11 i i i

Kane Environmental- College Station			Project: Matt	ie Price				Fax: (979) 6	593-3231
607 Peyton Street		Project N	lumber: 04-6	31				Repor	ted:
College Station TEXAS, 77840		Project M	lanager: Shav	vn Hokan	son			01/18/06	11:20
		0	rganics by	GC					
		Environ	mental La	b of T	exas				
Analyta	Popult	Reporting	llmite						
MPB 3 Floor 4' (6410011-01) Soil			Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Gasoline Range Organics Co-C12	J [5.36]	10.0	mg/kg dry	1	EA61119	01/11/06	01/11/06	EPA 8015M	L.
Total Hydrogerbon C6 C35	621	10.0	n					п	
Surrogate: 1 Chloropatana	021	10.0	70.12						
Surrogate: 1-Chlorooctadecane		122 %	70-13	0	"	"	"	"	
MPB 3 E SW (6A10011-02) Soil									
Gasoline Range Organics C6-C12	15.3	10.0	mg/kg dry	1	EA61119	01/11/06	01/11/06	EPA 8015M	
Diesel Range Organics >C12-C35	809	10.0		11	"	"	H		
1 otal Hydrocarbon C6-C35	824	10.0			"	"			
Surrogate: 1-Chlorooctane		106 %	70-13	0	"	"	"	"	
Surrogate: 1-Chiorooctaaecane		94.2 70	70-13	0	"	"			
MPB 3 W SW (6A10011-03) Soil						<u></u>			
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA61119	01/11/06	01/11/06	EPA 8015M	
Siesel Range Organics >C12-C35	191	10.0	u	"		"		"	
stal Hydrocarbon C6-C35	191	10.0		"	"	"	11		
Surrogate: 1-Chlorooctane		102 %	70-13	0	"	"	"	н	
Surrogate: 1-Chlorooctadecane		89.6 %	70-13	0	"	"	"	H	
MPB 3 N SW (6A10011-04) Soil									
Gasoline Range Organics C6-C12	13.0	10.0	mg/kg dry	1	EA61119	01/11/06	01/11/06	EPA 8015M	
Diesel Range Organics >C12-C35	886	10.0	н ,	п	п	**	14	**	
Total Hydrocarbon C6-C35	899	10.0	н	н	н		"		
Surrogate: 1-Chlorooctane		104 %	70-13	0	"	"	"	"	
Surrogate: 1-Chlorooctadecane		97.0 %	70-13	0	"	n	"	IJ	
MPB 3 S SW (6A10011-05) Soil									
Gasoline Range Organics C6-C12	J [8.07]	10.0	mg/kg dry	1	EA61119	01/11/06	01/11/06	EPA 8015M	ļ
Diesel Range Organics >C12-C35	363	10.0	"				и	н	
Total Hydrocarbon C6-C35	363	10.0	н		н	ч	"		
Surrogate: 1-Chlorooctane		111 %	70-13	0	"	"	"	n	
Surrogate: 1-Chlorooctadecane		98.6 %	70-13	0	п	"	"	"	

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Page 2 of 13

Kane Environmental- College Station 607 Peyton Street		Broject N	Project: Matti	e Price				Fax: (979)	693-3231
Sollege Station TEXAS, 77840		Project N Project M	lanager: Shaw	n Hokan	son			<b>керог</b> 01/18/06	5 11:20
		O	rganics by	GC					
		Environ	mental La	b of To	exas				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MPB 12 Floor 8' (6A10011-06) Soil					*				
Gasoline Range Organics C6-C12	1180	10.0	mg/kg dry	1	EA61119	01/11/06	01/11/06	EPA 8015M	
Diesel Range Organics >C12-C35	3090	10.0	*	u	н		0	н	
Total Hydrocarbon C6-C35	4270	10.0	н	п	н	н	"	н	
Surrogate: 1-Chlorooctane		126 %	70-13	0	"	"	"	**	
Surrogate: 1-Chlorooctadecane		92.8 %	70-13	0	"	"	"	"	
MPB 12 E SW (6A10011-07) Soil									
Gasoline Range Organics C6-C12	1330	10.0	mg/kg dry	1	EA61119	01/11/06	01/11/06	EPA 8015M	
Diesel Range Organics >C12-C35	3530	10.0	"	"		н	"	"	
Total Hydrocarbon C6-C35	4860	10.0	"	"	•	1)	"	"	
Surrogate: 1-Chlorooctane		136 %	70-13	0	"	"	"	"	S-04
Surrogate: 1-Chlorooctadecane		104 %	70-13	0	"	"	"	"	
MPB 12 W SW (6A10011-08) Soil									
Gasoline Range Organics C6-C12	504	10.0	mg/kg dry	1	EA61119	01/11/06	01/11/06	EPA 8015M	
iesel Range Organics >C12-C35	1560	10.0	0		н	"	н	н	
tal Hydrocarbon C6-C35	2060	10.0	u	u	"	u	n	н	
Surrogate: 1-Chlorooctane		119 %	70-13	0	"	"	"	"	
Surrogate: 1-Chlorooctadecane		112 %	70-13	0	"	"	"	"	
MPB 12 N SW (6A10011-09) Soil									
Gasoline Range Organics C6-C12	421	10.0	mg/kg dry	1	EA61119	01/11/06	01/12/06	EPA 8015M	
Diesel Range Organics >C12-C35	1430	10.0	н	**	"		"	н	
Total Hydrocarbon C6-C35	1850	10.0		и	11	U	н	a	
Surrogate: 1-Chlorooctane		117 %	70-13	0	"	"	н	"	
Surrogate: 1-Chlorooctadecane		109 %	70-13	0	"	n	"	"	
MPB 12 SSW (6A10011-10) Soil									
Gasoline Range Organics C6-C12	261	10.0	mg/kg dry	1	EA61119	01/11/06	01/12/06	EPA 8015M	
Diesel Range Organics >C12-C35	895	10.0	н	**	"		"	"	
Total Hydrocarbon C6-C35	1160	10.0		**	"	н	"	"	
Surrogate: 1-Chlorooctane		110 %	70-13	0	"	n	"	"	
Surrogate: 1-Chlorooctadecane		97.2 %	70-13	0	"	"	"	"	

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Page 3 of 13

Kane Environmental- College Station			Project: Matt	ie Price				Fax: (979) 6	593-3231		
607 Peyton Street		Project N	lumber: 04-6	31				Reported:			
ollege Station TEXAS, 77840		Project M	anager: Shav	vn Hokan	son			01/18/06	11:20		
		O	rganics by	GC							
		Environ	mental La	b of Te	exas						
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prenared	Analyzed	Method	Notes		
MPB 1 Floor 10' (6A10011-11) Soil				Ditation	Baten	Trepared	Analyzed	weenou			
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA61119	01/11/06	01/12/06	EPA 8015M			
Diesel Range Organics >C12-C35	124	10.0	"		1	"		11			
Total Hydrocarbon C6-C35	124	10.0	**			"	"				
Surrogate: 1-Chlorooctane		101 %	70-13	10	"	"	"	"			
Surrogate: 1-Chlorooctadecane		88.0 %	70-13	10	"	"	n	"			
MPB 1 N SW (6A10011-12) Soil											
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA61119	01/11/06	01/12/06	EPA 8015M			
Diesel Range Organics >C12-C35	213	10.0	**		**	"	"	22			
Total Hydrocarbon C6-C35	213	10.0	"	"	*	н	"				
Surrogate: 1-Chlorooctane		105 %	70-13	10	n	"	"	"			
Surrogate: 1-Chlorooctadecane		92.0 %	70-13	10	"	"	"	н			
MPB 1 E SW (6A10011-13) Soil											
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA61119	01/11/06	01/12/06	EPA 8015M			
Diesel Range Organics >C12-C35	181	10.0	"	"	•	н	"	**			
tal Hydrocarbon C6-C35	181	10.0	11	"		11		11			
Surrogate: 1-Chlorooctane		111 %	70-13	10	"	"	n	"			
Surrogate: 1-Chlorooctadecane		97.4 %	70-13	80	"	"	"	"			
MPB 1 S SW (6A10011-14) Soil											
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	I	EA61119	01/11/06	01/12/06	EPA 8015M			
Diesel Range Organics >C12-C35	259	10.0	"	"		"	n				
Total Hydrocarbon C6-C35	259	10.0	11	"		11	"	••			
Surrogate: 1-Chlorooctane		101 %	70-13	10	"	"	n	"			
Surrogate: 1-Chlorooctadecane		88.6 %	70-13	10	"	"	"	n			
MPB 1 W SW (6A10011-15) Soil								5			
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA61119	01/11/06	01/12/06	EPA 8015M			
Diesel Range Organics >C12-C35	289	10.0	н		н	н	11	0			
Total Hydrocarbon C6-C35	289	10.0		11	11	•	н	н			
Surrogate: 1-Chlorooctane		111 %	70-13	80	"	"	"	"			
Surrogate: 1-Chlorooctadecane		97.2 %	70-13	10	"	"	"	"			

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Kane Environmental- College Station			Project: Ma	ttie Price				Fax: (979)	693-3231
607 Peyton Street		Project N	lumber: 04-	631				Repor	ted:
ollege Station TEXAS, 77840		Project M	lanager: Sha	awn Hokan	son			01/18/06	5 11:20
		0	rganics b	y GC					
		Environ	mental L	ab of To	exas				
Analista	Develo	Reporting	FT 1.						
MP Baskfill Soil (64 10011 16) Soil	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		·			····				
Gasoline Range Organics C6-C12	105	10.0	mg/kg dry	I	EA61119	01/11/06	01/12/06	EPA 8015M	
Diesei Range Organics >C12-C35	289	10.0			n		"		
Total Hydrocarbon Co-C35	394	10.0			"	n	**		
Surrogate: 1-Chlorooctane		105 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		90.2 %	70-1	30	"	"	"	"	
MP Excavated Soil Pile 2 (6A10011-17) So	il								
Gasoline Range Organics C6-C12	433	10.0	mg/kg dry	1	EA61119	01/11/06	01/12/06	EPA 8015M	
Diesel Range Organics >C12-C35	4040	10.0				u		"	
Total Hydrocarbon C6-C35	4470	10.0	"				*	u	
Surrogate: 1-Chlorooctane		113 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		103 %	70-1	30	"	"	n	"	
MP Excavated Soil Pile 1 (6A10011-18) Soi	il								
Gasoline Range Organics C6-C12	ND	100	mg/kg dry	10	EA61119	01/11/06	01/12/06	EPA 8015M	
iesel Range Organics >C12-C35	22100	100	н			н	"	н	
tal Hydrocarbon C6-C35	22100	100	п		11	н	"		
Surrogate: 1-Chlorooctane		10.6 %	70-1	30	"	"	"	"	S-06
Surrogate: 1-Chlorooctadecane		15.2 %	70-1	30	"	"	"	"	S-06
MPB 10 Floor 10' (6A10011-19) Soil									
Gasoline Range Organics C6-C12	239	10.0	mg/kg dry	1	EA61119	01/11/06	01/12/06	EPA 8015M	
Diesel Range Organics >C12-C35	1360	10.0	"	••		п	"		
Total Hydrocarbon C6-C35	1600	10.0	"			в	"	ч	
Surrogate: 1-Chlorooctane		118 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		103 %	70-1	30	"	"	"	"	
MPB 10 N SW (6A10011-20) Soil									
Gasoline Range Organics C6-C12	10.5	10.0	mg/kg dry	1	EA61119	01/11/06	01/12/06	EPA 8015M	
Diesel Range Organics >C12-C35	377	10.0	"	•			u	"	
Total Hydrocarbon C6-C35	388	10.0	0	**	**	**	11	"	
Surrogate: 1-Chlorooctane		106 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		91.8 %	70-1	30	"	"	"	"	

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	Organic	s by GC	
Sollege Station TEXAS, 77840	Project Manager:	Shawn Hokanson	01/18/06 11:20
607 Peyton Street	Project Number:	04-631	Reported:
Kane Environmental- College Station	Project:	Mattie Price	Fax: (979) 693-3231

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prenared	Anaiyzed	Method	Notes
MPB 10 S SW (6A10011-21) Soil				Enation				du	
Gasoline Range Organics C6-C12	J [9.81]	10.0	mg/kg dry	1	EA61120	01/11/06	01/12/06	EPA 8015M	J
Diesel Range Organics >C12-C35	343	10.0	н	"	11	u	"	u	
Total Hydrocarbon C6-C35	343	10.0	н	"		11	"	*	
Surrogate: 1-Chlorooctane		115 %	70-13	80	n	"	"	"	
Surrogate: 1-Chlorooctadecane		101 %	70-13	10	"	"	"	"	
MPB 10 E SW (6A10011-22) Soil									
Gasoline Range Organics C6-C12	J [8.76]	10.0	mg/kg dry	1	EA61120	01/11/06	01/12/06	EPA 8015M	J
Diesel Range Organics >C12-C35	363	10.0	н	"	"	н	"	•	
Total Hydrocarbon C6-C35	363	10.0	"	•		п	"	••	
Surrogate: 1-Chlorooctane		108 %	70-13	80	"	"	"	"	
Surrogate: 1-Chlorooctadecane		94.6 %	70-13	10	"	"	"	"	
MPB 10 W SW (6A10011-23) Soil									
Gasoline Range Organics C6-C12	11.4	10.0	mg/kg dry	1	EA61120	01/11/06	01/12/06	EPA 8015M	
Diesel Range Organics >C12-C35	349	10.0	н		"	н	11	n	
tal Hydrocarbon C6-C35	360	10.0	н	н	11	и	11	п	
Surrogate: 1-Chlorooctane		108 %	70-13	0	"	"	"	"	
Surrogate: 1-Chlorooctadecane		95.0 %	70-13	10	"	"	"	"	

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**Reported:** 01/18/06 11:20

### General Chemistry Parameters by EPA / Standard Methods

### **Environmental Lab of Texas**

Analyte	Result	Reporting	Units	Dilution	Patab	Dranarad	Analugad	Mathad	Natas
MPB 3 Floor 4' (6A10011-01) Soil				Ditation	Batch		Analyzeu		
% Moisture	2.5	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MPB 3 E SW (6A10011-02) Soil									
% Moisture	3.4	0.1	%	I	EA61105	01/10/06	01/11/06	% calculation	
MPB 3 W SW (6A10011-03) Soil									
% Moisture	2.8	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MPB 3 N SW (6A10011-04) Soil									
% Moisture	2.5	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MPB 3 S SW (6A10011-05) Soil						1			
% Moisture	5.9	0.1	%	ł	EA61105	01/10/06	01/11/06	% calculation	
MPB 12 Floor 8' (6A10011-06) Soil									
Moisture	10.0	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MPB 12 E SW (6A10011-07) Soil									
% Moisture	9.3	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MPB 12 W SW (6A10011-08) Soil									
% Moisture	6.4	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MPB 12 N SW (6A10011-09) Soil									
% Moisture	4.8	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MPB 12 S SW (6A10011-10) Soil									
% Moisture	5.5	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MPB 1 Floor 10' (6A10011-11) Soil									
% Moisture	12.6	0.1	%	1	EA61105	01/10/06	01/11/06	% 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	Notes
MPB 1 N SW (6A10011-12) Soil					•••••				
% Moisture	12.7	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MPB 1 E SW (6A10011-13) Soil									
% Moisture	12.1	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MPB 1 S SW (6A10011-14) Soil									
% Moisture	12.1	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MPB 1 W SW (6A10011-15) Soil									
% Moisture	11.8	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MP Backfill Soil (6A10011-16) Soil									
% Moisture	15.1	0.1	%	l	EA61105	01/10/06	01/11/06	% calculation	
MP Excavated Soil Pile 2 (6A10011-17) Soil									
Moisture	9.8	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MP Excavated Soil Pile 1 (6A10011-18) Soil									
% Moisture	5.5	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MPB 10 Floor 10' (6A10011-19) Soil									
% Moisture	11.3	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MPB 10 N SW (6A10011-20) Soil									
% Moisture	7.6	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MPB 10 S SW (6A10011-21) Soil									
% Moisture	8.0	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	
MPB 10 E SW (6A10011-22) Soil									
% Moisture	7.1	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	

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**Reported:** 01/18/06 11:20

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

**Environmental Lab of Texas** 

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MPB 10 W SW (6A10011-23) Soil									
% Moisture	8.7	0.1	%	1	EA61105	01/10/06	01/11/06	% calculation	



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Kane Environmental- College Station		I	Project: Ma	ttie Price					Fax: (979	) 693-3231
607 Peyton Street		Project N	umber: 04-	631					Repo	orted:
ollege Station TEXAS, 77840		Project M	anager: Sha	awn Hokanso	on				01/18/0	06 11:20
	Or	ganics by	y GC - Q	uality Co	ontrol					
		Environ	mental L	ab of Te	xas					
		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EA61119 - Solvent Extraction (GC)										
Blank (EA61119-BLK1)				Prepared &	Analyzed:	01/11/06				
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	н							
Total Hydrocarbon C6-C35	ND	10.0	н							
Surrogate: 1-Chlorooctane	51.8		mg/kg	50.0		104	70-130			
Surrogate: 1-Chlorooctadecane	43.6		"	50.0		87.2	70-130			
LCS (EA61119-BS1)				Prepared &	z Analyzed:	01/11/06				
Gasoline Range Organics C6-C12	476	10.0	mg/kg wet	500		95.2	75-125			
Diesel Range Organics >C12-C35	497	10.0	11	500		99.4	75-125			
Total Hydrocarbon C6-C35	973	10.0	"	1000		97.3	75-125			
Surrogate: 1-Chlorooctane	58.4		mg/kg	50.0		117	70-130			
Surrogate; 1-Chlorooctadecane	48.7		н	50.0		97.4	70-130			
Calibration Check (EA61119-CCV1)				Prepared: (	)1/11/06 A	nalyzed: 01	1/12/06			
Gasoline Range Organics C6-C12	482		mg/kg	500		96.4	80-120			
Diesel Range Organics >C12-C35	528			500		106	80-120			
Total Hydrocarbon C6-C35	1010		"	1000		101	80-120			
rogate: 1-Chlorooctane	59.4		"	50.0		119	70-130			
rrogate: 1-Chlorooctadecane	50.3		"	50.0		101	70-130			
Matrix Spike (EA61119-MS1)	Sour	ce: 6A1001	1-11	Prepared &	z Analyzed:	01/11/06				
Gasoline Range Organics C6-C12	538	10.0	mg/kg dry	572	ND	94.1	75-125			
Diesel Range Organics >C12-C35	607	10.0	"	572	124	84.4	75-125			
Total Hydrocarbon C6-C35	1140	10.0		1140	124	89.1	75-125			
Surrogate: 1-Chlorooctane	56.8		mg/kg	50.0		114	70-130			
Surrogate: 1-Chlorooctadecane	44.9		"	50.0		89.8	70-130			
Matrix Spike Dup (EA61119-MSD1)	Sour	ce: 6A1001	1-11	Prepared &	Analyzed:	01/11/06				
Gasoline Range Organics C6-C12	535	10.0	mg/kg dry	572	ND	93.5	75-125	0.559	20	
Diesel Range Organics >C12-C35	609	10.0	"	572	124	84.8	75-125	0.329	20	
Total Hydrocarbon C6-C35	1140	10.0		1140	124	89.1	75-125	0.00	20	
Surrogate: 1-Chlorooctane	56.4		mg/kg	50.0		113	70-130			
Surrogate: 1-Chlorooctadecane	44.8		"	50.0		89.6	70-130			

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Kane Environmental- College Station		1	Proiect: Ma	ttie Price			-		Fax: (979)	693-3231
607 Peyton Street Sollege Station TEXAS, 77840		Project N Project M	umber: 04- anager: Sha	631 wn Hokanse	on				<b>Rеро</b> 01/18/0	orted: 6 11:20
·	0	rganics by	y GC - Q	uality Co	ontrol					
		Environ	nental L	ab of Te	xas					
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA61120 - Solvent Extraction (GC)							·			
Blank (EA61120-BLK1)				Prepared: (	01/11/06 A	nalyzed: 01	1/12/06			
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet						-	
Diesel Range Organics >C12-C35	ND	10.0	u.							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	53.3		mg/kg	50.0		107	70-130			
Surrogate: 1-Chlorooctadecane	45.8		"	50.0		91.6	70-130			
LCS (EA61120-BS1)				Prepared: (	01/11/06 A	nalyzed: 01	1/12/06			
Gasoline Range Organics C6-C12	479	10.0	mg/kg wet	500		95.8	75-125			
Diesel Range Organics >C12-C35	530	10.0	"	500		106	75-125			
Total Hydrocarbon C6-C35	1010	10.0		1000		101	75-125			
Surrogate: 1-Chlorooctane	59.0		mg/kg	50.0		118	70-130			
Surrogate: 1-Chlorooctadecane	50.0		"	50.0		100	70-130			
Calibration Check (EA61120-CCV1)				Prepared: (	01/11/06 A	nalyzed: 01	/12/06			
Gasoline Range Organics C6-C12	485		mg/kg	500		97.0	80-120			
Diesel Range Organics >C12-C35	544		н	500		109	80-120			
Total Hydrocarbon C6-C35	1030		"	1000		103	80-120			
rogate: 1-Chlorooctane	59.6		"	50.0		119	70-130			
Frogate: 1-Chlorooctadecane	50.4		"	50.0		101	70-130			
Matrix Spike (EA61120-MS1)	Sou	rce: 6A10012	2-01	Prepared: (	01/11/06 A	nalyzed: 01	/12/06			
Gasoline Range Organics C6-C12	521	10.0	mg/kg dry	553	8.36	92.7	75-125			
Diesel Range Organics >C12-C35	608	10.0	н	553	138	85.0	75-125			
Total Hydrocarbon C6-C35	1130	10.0	**	1110	138	89.4	75-125			
Surrogate: 1-Chlorooctane	60.0		mg/kg	50.0		120	70-130			
Surrogate: 1-Chlorooctadecane	51.7		"	50.0		103	70-130			
Matrix Spike Dup (EA61120-MSD1)	Sou	rce: 6A10012	2-01	Prepared: (	01/11/06 A	nalyzed: 01	/12/06			
Gasoline Range Organics C6-C12	524	10.0	mg/kg dry	553	8.36	93.2	75-125	0.574	20	
Diesel Range Organics >C12-C35	620	10.0	н	553	138	87.2	75-125	1.95	20	
Total Hydrocarbon C6-C35	1140	10.0	н	1110	138	90,3	75-125	0.881	20	
Surrogate: 1-Chlorooctane	60.2		mg/kg	50.0		120	70-130			
Surrogate: 1-Chlorooctadecane	51.8		"	50.0		104	70-130			

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### 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 EA61105 - General Preparation (Prep)										
Blank (EA61105-BLK1)				Prepared: 0	1/10/06 A	nalyzed: 01/	11/06			
% Solids	100		%							
Duplicate (EA61105-DUP1)	Source	e: 6A10001-01		Prepared: 0	1/10/06 A	nalyzed: 01/	11/06			
% Solids	83.2		%		84.6			1.67	20	
Duplicate (EA61105-DUP2)	Source	e: 6A10005-01		Prepared: 0	1/10/06 A	nalyzed: 01/	11/06			
% Solids	90.0		%		90.0			0.00	20	
Duplicate (EA61105-DUP3)	Source	e: 6A10011-10		Prepared: 0	1/10/06 A	nalyzed: 01/	11/06			
% Solids	95.4		%		94.5			0.948	20	

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**Reported:** 01/18/06 11:20

### **Notes and Definitions**

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Raland Kitus Report Approved By:

1/18/2006

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

Date:

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



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TODY RECORD AND ANALYSIS LEST Name: MM/10. V. C.C. Ject #: DIV 6271 it Loc: HNV 5 J17 PD #:	Analyze For:	chedule) Sr Pb Hg Se BTEX 8260 HCO3)	Cations (Ca. Mg, Va. J. Anions (Cl. SO4, CO3 SAR / ESP / CEC Metals: As Ag Ba Cd ( Volatiles BTEX 80218/5030 or RCI RCI N.O.R.M. N.O.R.M. SUSH TAT (Pre-S SUSH TAT (Pre-S SUSH TAT (Pre-S SUSH TAT (Pre-S									Sample Containers Intacl?	Labels on container? ON N Custody Seals: Containers / OODEP Temperature Upon Receipt: 1.5	Laboratory Comments:	
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## Environmental Lab of Texas Variance / Corrective Action Report – Sample Log-In

	Kape Environ.
Date/Time:	1/10/12 2:30
Order #:	6A10011
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## Sample Receipt Checklist

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() £5	No	Nct Applicable
	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	Yes No   Xes No   Yes No

Other observations:

Variance Documentation:

\_\_\_Date/Time: \_\_\_\_\_Contacted by: \_\_\_\_\_ Contact Person: -\_\_\_\_ Regarding:

Corrective Action Taken:

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## Analytical Report

Prepared for:

Shawn Hokanson Kane Environmental- College Station 607 Peyton Street College Station, TEXAS 77840

> Project: Mattie Price Project Number: 04-631 Location: Hobbs, NM

Lab Order Number: 6A18008

Report Date: 01/19/06

Kane Environmental- College Station 607 Peyton Street Sollege Station TEXAS, 77840

### Project: Mattie Price Project Number: 04-631 Project Manager: Shawn Hokanson

Fax: (979) 693-3231

Reported:

01/19/06 12:14

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MPB12 Floor 10' B	6A18008-01	Soil	01/10/06 12:40	01/18/06 10:00
MPB12 ESW B	6A18008-02	Soil	01/10/06 12:45	01/18/06 10:00
MPB12 NSW B	6A18008-03	Soil	01/10/06 12:55	01/18/06 10:00
MPB12 WSW B	6A18008-04	Soil	01/10/06 12:58	01/18/06 10:00
MPB12 SSW B	6A18008-05	Soil	01/10/06 13:10	01/18/06 10:00

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College Station TEXAS, 77840 Project Manager: Shawn Hokanson								01/19/06 12:14		
		O	rganics by	GC						
		Environ	mental La	b of Te	exas					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	N	
MPB12 Floor 10' B (6A18008-01) Soil										
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA61808	01/18/06	01/18/06	EPA 8015M		
Diesel Range Organics >C12-C35	182	10.0	u	н		"	н	"		
Total Hydrocarbon C6-C35	182	10.0	u	н		u	"	н		
Surrogate: 1-Chlorooctane		114 %	70-13	0	"	"	"	"		
Surrogate: 1-Chlorooctadecane		105 %	70-13	0	"	"	"	"		
MPB12 ESW B (6A18008-02) Soil										
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA61808	01/18/06	01/19/06	EPA 8015M		
Diesel Range Organics >C12-C35	231	10.0	n	n	n	11	"			
Total Hydrocarbon C6-C35	231	10.0	a	п	n	"	н	"		
Surrogate: 1-Chlorooctane		127 %	70-13	0	"	"	"	n		
Surrogate: 1-Chlorooctadecane		115 %	70-13	0	"	"	**	"		
MPB12 NSW B (6A18008-03) Soil										
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	I	EA61808	01/18/06	01/19/06	EPA 8015M		
Diesel Range Organics >C12-C35	183	10.0	"	"		"	"			
al Hydrocarbon C6-C35	183	10.0	"	н	0	51	"	11		
Surrogate: 1-Chlorooctane		110 %	70-13	0	"	"	"	"		
Surrogate: 1-Chlorooctadecane		101 %	70-13	0	"	"	"	"		
MPB12 WSW B (6A18008-04) Soil										
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA61808	01/18/06	01/19/06	EPA 8015M		
Diesel Range Organics >C12-C35	637	10.0	**	"	"		11	u		
Total Hydrocarbon C6-C35	637	10.0	"	"	"	u	11	H		
Surrogate: 1-Chlorooctane		112 %	70-13	0	"	11	"	"		
Surrogate: 1-Chlorooctadecane		107 %	70-13	0	"	"	"	n		
MPB12 SSW B (6A18008-05) Soil										
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA61808	01/18/06	01/19/06	EPA 8015M		
Diesel Range Organics >C12-C35	392	10.0	н		н		н	u		
Total Hydrocarbon C6-C35	392	10.0	н		н	"		**		

Project: Mattie Price

Project Number: 04-631

Total Hydrocarbon C6-C35 Surrogate: 1-Chlorooctane

Kane Environmental- College Station

607 Peyton Street

Surrogate: 1-Chlorooctadecane

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Page 2 of 6

Fax: (979) 693-3231

**Reported:** 

### General Chemistry Parameters by EPA / Standard Methods

### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MPB12 Floor 10' B (6A18008-01) Soil							·		
% Moisture	2.0	0.1	%	I	EA61901	01/18/06	01/19/06	% calculation	
MPB12 ESW B (6A18008-02) Soil									
% Moisture	2.2	0.1	%	1	EA61901	01/18/06	01/19/06	% calculation	
MPB12 NSW B (6A18008-03) Soil									
% Moisture	2.2	0.1	%	1	EA61901	01/18/06	01/19/06	% calculation	
MPB12 WSW B (6A18008-04) Soil									
% Moisture	1.6	0.1	%	1	EA61901	01/18/06	01/19/06	% calculation	
MPB12 SSW B (6A18008-05) Soil									
% Moisture	1.5	0.1	%	1	EA61901	01/18/06	01/19/06	% calculation	



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Kane Environmental- College Station		I	Project: Ma	ttie Price					Fax: (979)	693-3231	
607 Peyton Street		Project N	umber: 04-	631					Reported:		
College Station TEXAS, 77840		Project M	anager: Sha	wn Hokanso	on				01/19/0	6 12:14	
	0	rganics by	y GC - Q	uality Co	ontrol						
		Environ	nental L	ab of Te	xas						
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch EA61808 - Solvent Extraction (GC)											
Blank (EA61808-BLK1)				Prepared &	2 Analyzed	: 01/18/06					
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	"								
Surrogate: 1-Chlorooctane	55.5		mg/kg	50.0		111	70-130				
Surrogate: 1-Chlorooctadecane	48.9		"	50.0		97.8	70-130				
LCS (EA61808-BS1)				Prepared &	2 Analyzed	01/18/06					
Gasoline Range Organics C6-C12	474	10.0	mg/kg wet	500		94.8	75-125				
Diesel Range Organics >C12-C35	573	10.0	"	500		115	75-125				
Total Hydrocarbon C6-C35	1050	10.0	"	1000		105	75-125				
Surrogate: 1-Chlorooctane	61.3		mg/kg	50.0		123	70-130				
Surrogate: 1-Chlorooctadecane	52.4		"	50.0		105	70-130				
Calibration Check (EA61808-CCV1)				Prepared: (	)1/18/06 A	nalyzed: 01	/19/06				
Gasoline Range Organics C6-C12	462		mg/kg	500		92.4	80-120				
Diesel Range Organics >C12-C35	558		"	500		112	80-120				
Total Hydrocarbon C6-C35	1020		н	1000		102	80-120				
rogate: 1-Chlorooctane	63.3		"	50.0		127	70-130				
rogate: 1-Chlorooctadecane	51.6		"	50.0		103	70-130				
Matrix Spike (EA61808-MS1)	Sou	rce: 6A18004	4-01	Prepared &	Analyzed	01/18/06					
Gasoline Range Organics C6-C12	509	10.0	mg/kg dry	551	ND	92.4	75-125				
Diesel Range Organics >C12-C35	624	10.0	*	551	ND	113	75-125				
Total Hydrocarbon C6-C35	1130	10.0		1100	ND	103	75-125				
Surrogate: 1-Chlorooctane	64.5		mg/kg	50.0		129	70-130				
Surrogate: 1-Chlorooctadecane	55.7		"	50.0		111	70-130				
Matrix Spike Dup (EA61808-MSD1)	Sou	rce: 6A18004	4-01	Prepared &	2 Analyzed	01/18/06					
Gasoline Range Organics C6-C12	515	10.0	mg/kg dry	551	ND	93.5	75-125	1.17	20		
Diesel Range Organics >C12-C35	632	10.0	"	551	ND	115	75-125	1.27	20		
Total Hydrocarbon C6-C35	1150	10.0		1100	ND	105	75-125	1.75	20		
Surrogate: 1-Chlorooctane	64.6		mg/kg	50.0		129	70-130				
Surrogate: 1-Chlorooctadecane	56.5		"	50.0		113	70-130				

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**Reported:** 01/19/06 12:14

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

**Environmental Lab of Texas** 

		Deporting		Enileo	Course		N/DEC	<u></u>	nno	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EA61901 - General Preparation (Prep)										
Blank (EA61901-BLK1)				Prepared: 0	)1/18/06 A	Analyzed: 01	/19/06			
% Solids	100		%							
Duplicate (EA61901-DUP1)	Sour	ce: 6A18001-	01	Prepared: 0	)1/18/06 A	Analyzed: 01	/19/06			
% Solids	87.2		%		87.1			0.115	20	
Duplicate (EA61901-DUP2)	Sour	ce: 6A18005-	13	Prepared: 0	)1/18/06 A	Analyzed: 01	/19/06			
% Solids	92.2		%		91.8			0.435	20	

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Kane Environmental- College Station 607 Peyton Street ollege Station TEXAS, 77840

Project: Mattie Price Project Number: 04-631 Project Manager: Shawn Hokanson

01/19/06 12:14

### 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:

Raland Kitus

1/19/2006

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

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

Date:

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TAT bisbust2 RUSH TAT (Pre-Schedule) z z u Ũ (De) Labels on container? Custody Seals: Containers/ Control Temperature Upon Receipt: 1.00 CHAIN OF CUSTODY RECORD AND ANALYSIS REV Project Name: Mattic R. C. M.R.O.N tor glad ЮЯ Sample Containers Intact? Laboratory Comments: 24165 BTEX 80218/5030 of BTEX 8260 Analvze sellielovimes sameio/ Weters: As Ag Ba Cd Cr Ph Hg Se TCLP: TOTAL DED / 48E / BAS Project Loc: Project #: PO #: Anians (Cl, 504, CO3, HCO3) Calions (Ca, Mg, Va, K) Time [ 0,00 Time 9001 5001 (MSLOB 1.814 Hal q. Ofher (specify): Fed EX # 8550 3881 860 68 llo2 Matrix 111310W Sladge 19)6VV Orher ( Specify) DUON Preservative 05°H HOBN юн FONH in the X R K 90( Ŷ Ś No. of Containers Fax No: belgme2 smiT 1140 い 256 ~ 3 Ľ m50. Car 1/18/00 Received by belqme2 ateQ Received C. . . Z Entronmental Lab of Texas Phone: 432-563-1800 Fax: 432-563-1713 1230 10:00 lime 200 925 UNO ALL ON MARY 101 C. 2 80 12 ゆいこ 11 \$1000 FIELD CODE Date le cir 1000 as' V 2 6000 Kark 603 Telephone No: 979 City/State/Zip: 100 San Company Address: Sampler Signature: 201 じょく Company Name Email: Project Manager: 12600 West I-20 East Odessa, Texas 79765 Special Instructions Ż LAB # (lab use only) 04 10-103 0 C 201 ł ł Relinquished by vd bardshu 202 2

Variance / Corrective Action Report - Sample Log-In

	ane Eni	J.
Date/Time:	1/18/06	10:00
Order #:	LeA1800	3
Initials:	CK	

### Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	3.5 CI
Shipping container/cooler in good condition?	CTES	No	
Custody Seals intact on shipping container/cooler?	Cas	Na	Not present
Custody Seals intact on sample bottles?	X D	No	Not present
Chain of custody present?	Yes	No	
Sample Instructions complete on Chain of Custody?	XE3	No	i
Chain of Custody signed when relinquished and received?	1 Ces	No	
Chain of custody agrees with sample label(s)	1 Yes	No	
Container labels legible and intact?	YES	No	
Sample Matrix and procerties same as on chain of custody?	¥E\$	No	
Samples in procer container/bottle?	1 3	No	
Samples properly preserved?	ÇÊS	No	
Sample bottles intact?	(F5	No	
Preservations documented on Chain of Custody?		No	
Containers documented on Chain of Custody?	255	No	
Sufficient sample amount for indicated test?	YES	Na	
A ppies received within sufficient hold time?	16	No	
VOC samples have zero headspace?	1 Yes	No	Not Applicable

Other observations:

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 Variance Documentation:

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

Corrective Action Taken: 



# Analytical Report

Prepared for: Shawn Hokanson

Kane Environmental- College Station 607 Peyton Street College Station, TEXAS 77840

> Project: Mattie Price Project Number: 04-631 Location: Hobbs, NM

Lab Order Number: 6A13021

Report Date: 01/20/06

Kane Environmental- College Station 607 Peyton Street College Station TEXAS, 77840

**HHI** 

### Project: Mattie Price Project Number: 04-631 Project Manager: Shawn Hokanson

Fax: (979) 693-3231

Reported:

01/20/06 10:20

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MPB 7 SSW B	6A13021-01	Soil	01/11/06 08:05	01/13/06 15:45
MPB 7 WSW B	6A13021-02	Soil	01/11/06 08:10	01/13/06 15:45
MPB 9 NSW B	6A13021-03	Soil	01/11/06 08:15	01/13/06 15:45
MPB 9 SSW B	6A13021-04	Soil	01/11/06 08:18	01/13/06 15:45

#### Project: Mattie Price Project Number: 04-631 Project Manager: Shawn Hokanson

**Reported:** 01/20/06 10:20

### Organics by GC

**Environmental Lab of Texas** 

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MPB 7 SSW B (6A13021-01) Soil									
Gasoline Range Organics C6-C12	J [5.08]	10.0	mg/kg dry	1	EA61611	01/16/06	01/16/06	EPA 8015M	J
Diesel Range Organics >C12-C35	1070	10.0			u	n	0	*	
Total Hydrocarbon C6-C35	1070	10.0	н		н		н	"	
Surrogate: I-Chlorooctane		101 %	70-130		n	n	"	"	
Surrogate: 1-Chlorooctadecane		93.4 %	70-1	30	"	"	"	"	
MPB 7 WSW B (6A13021-02) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA61611	01/16/06	01/17/06	EPA 8015M	
Diesel Range Organics >C12-C35	751	10.0	н	"	н	"	н		
Total Hydrocarbon C6-C35	751	10.0	U.			"	н	n	
Surrogate: 1-Chlorooctane		103 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		91.8 %	70-1	30	"	"	"	"	
MPB 9 NSW B (6A13021-03) Soil									
Gasoline Range Organics C6-C12	J [6.92]	10.0	mg/kg dry	1	EA61611	01/16/06	01/16/06	EPA 8015M	J
Diesel Range Organics >C12-C35	1500	10.0	н		и	"	н	н	
al Hydrocarbon C6-C35	1500	10.0	п		н		н	н	
Surrogate: I-Chlorooctane		80.6 %	70-1	30	"	"	"	"	
Surrogate: I-Chlorooctadecane		76.0 %	70-1	30	"	"	"	"	
MPB 9 SSW B (6A13021-04) Soil									
Gasoline Range Organics C6-C12	J [5.78]	10.0	mg/kg dry	1	EA61611	01/16/06	01/16/06	EPA 8015M	J
Diesel Range Organics >C12-C35	1030	10.0	"		"	"	"		
Total Hydrocarbon C6-C35	1030	10.0	"	"	0	11	11		
Surrogate: 1-Chlorooctane		94.8 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		86.2 %	70-1	30	"	"	"	"	



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**Reported:** 01/20/06 10:20

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

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

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MPB 7 SSW B (6A13021-01) Soil									
% Moisture	2.0	0.1	%	1	EA61603	01/13/06	01/16/06	% calculation	
MPB 7 WSW B (6A13021-02) Soil									
% Moisture	13.8	0.1	%	1	EA61603	01/13/06	01/16/06	% calculation	
MPB 9 NSW B (6A13021-03) Soil									
% Moisture	1.7	0.1	%	1	EA61603	01/13/06	01/16/06	% calculation	
MPB 9 SSW B (6A13021-04) Soil									
% Moisture	8.1	0.1	%	1	EA61603	01/13/06	01/16/06	% calculation	



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Kane Environmental- College Station		I	Project: Ma	ttie Price					Fax: (979)	693-3231	
607 Peyton Street	Project Number: 04-631								Reported:		
College Station TEXAS, 77840		Project Ma	anager: Sha	awn Hokanso	on				01/20/0	6 10:20	
	О	rganics by	y GC - Q	uality Co	ontrol						
Environmental Lab of Texas											
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch EA61611 - Solvent Extraction (GC)											
Blank (EA61611-BLK1)				Prepared &	2 Analyzed	: 01/16/06	•				
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet	•		·					
Diesel Range Organics >C12-C35	ND	10.0	u								
Total Hydrocarbon C6-C35	ND	10.0	н								
Surrogate: 1-Chlorooctane	50.6		mg/kg	50.0		101	70-130				
Surrogate: 1-Chlorooctadecane	46.5		"	50.0		93.0	70-130				
LCS (EA61611-BS1)				Prepared &	z Analyzed:	: 01/16/06					
Gasoline Range Organics C6-C12	446	10.0	mg/kg wet	500		89.2	75-125				
Diesel Range Organics >C12-C35	530	10.0	н	500		106	75-125				
Total Hydrocarbon C6-C35	976	10.0	н	1000		97.6	75-125				
Surrogate: 1-Chlorooctane	51.8		mg/kg	50.0		104	70-130				
Surrogate: 1-Chlorooctadecane	41.5		"	50.0		83.0	70-130				
Calibration Check (EA61611-CCV1)				Prepared: (	01/16/06 A	nalyzed: 0	1/17/06				
Gasoline Range Organics C6-C12	475		mg/kg	500		95.0	80-120				
Diesel Range Organics >C12-C35	567		н	500		113	80-120				
Total Hydrocarbon C6-C35	1040		н	1000		104	80-120				
rrogate: 1-Chlorooctane	58.6		"	50.0		117	70-130				
rogate: 1-Chlorooctadecane	47.3		"	50.0		94.6	70-130				
Matrix Spike (EA61611-MS1)	Sou	rce: 6A13021	-02	Prepared: (	01/16/06 A	nalyzed: 0	1/17/06				
Gasoline Range Organics C6-C12	574	10.0	mg/kg dry	580	ND	99.0	75-125				
Diesel Range Organics >C12-C35	1420	10.0	**	580	751	115	75-125				
Total Hydrocarbon C6-C35	1990	10.0	*	1160	751	107	75-125				
Surrogate: 1-Chlorooctane	59.9		mg/kg	50.0		120	70-130				
Surrogate: 1-Chlorooctadecane	<b>4</b> 8.7		"	50.0		97.4	70-130				
Matrix Spike Dup (EA61611-MSD1)	Sou	rce: 6A13021	-02	Prepared: (	01/16/06 A	nalyzed: 0	1/17/06				
Gasoline Range Organics C6-C12	599	10.0	mg/kg dry	580	ND	103	75-125	4.26	20		
Diesel Range Organics >C12-C35	1420	10.0	н	580	751	115	75-125	0.00	20		
Total Hydrocarbon C6-C35	2020	10.0	н	1160	751	109	75-125	1.50	20		
Surrogate: 1-Chlorooctane	58.8		mg/kg	50.0		118	70-130				
Surrogate: L-Chlorooctadecane	512		"	50.0		102	70-130				

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01/20/06 10:20

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

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

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		Reporting		Spike	Source		%REC		RPD					
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes				
Batch EA61603 - General Preparation (Prep)														
Blank (EA61603-BLK1)		Prepared: 01/13/06 Analyzed: 01/16/06												
% Solids	100		%											
Duplicate (EA61603-DUP1)	Source: 6A13003-01		Prepared: 0	1/13/06 /	Analyzed: 01/	/16/06								
% Solids	97.0		%		97.3			0.309	20					
Duplicate (EA61603-DUP2)	Sour	ce: 6A13007-	06	Prepared: 0	1/13/06	Analyzed: 01/	/16/06							
% Solids	93.1		%		93.4			0.322	20					
Duplicate (EA61603-DUP3)	Sour	ce: 6A13009-	01	Prepared: 0	1/13/06	Analyzed: 01/	/16/06							
% Solids	97.5		%		97.8			0.307	20					
Duplicate (EA61603-DUP4)	Source: 6A13014-01		Prepared: 0	1/13/06	Analyzed: 01/	/16/06								
% Solids	78.0		%		79,0		-	1.27	20					



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Kane Environmental- College Station 607 Peyton Street College Station TEXAS, 77840 Project: Mattie Price Project Number: 04-631 Project Manager: Shawn Hokanson

**Reported:** 01/20/06 10:20

#### **Notes and Definitions**

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

Dup Duplicate

Report Approved By:

Raland K that

1/20/2006

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

Date:

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TAT bisbrisic aluberio&-erg) TAT H2UR z z 4 0 ŝ Price Custody Seals: Containers / Ceon Temperature Upon Receipt: CHAIN OF CUSTODY RECORD AND ANALYSIS A IO.R.M. SCI Sample Containers Intact3 in/v Laboratory Comments: Analyze For 402 80218/2030 or BTEX 80218/5030 or BTEX Labels on container? Mall. 04-103. Softer selitaio\ eS pH d9 tO bO s8 pA sA SIEION TCLP: SAR / ESP / CEC TOTAL Project Loc: Project Name: Project #: 14 O H (EOOH, EOO, 102, 10) anoina Callons (Ca. Mg, Va. K) 3.4 Ē Time 1001 5001 WS108 1817 Hat Other (specify); Fed EX# 85503881865 102 Matrix 113/06 appnis Date Valer Offet ( Specify) AUON Preservative "OS" H HOPN 1 ЮH <sup>E</sup>ONH 1020g Fax No: 979 ခၥ၊ No. of Containers 620 230 Rewy  $\delta \stackrel{<}{\scriptstyle \sim} \delta_{i}$ belgms2 emiT 600 018 013 s X 2 0 Received by ELOT 44 MA tak Received by: Date Sampled ton Son a Mi SM. Cort 0050 V13/06 13:45 Time Vironmental Lab of Texas lime Lans on Phone: 432-563-1800 Fax: 432-563-1713 Call UN CORNER i B 1 KRit Q V Telephone No: 579 225 325. r e 1 ž X i P 9-70-X La UL 10 × 10 × 10 × 10 × Date FIELD CODE Silv 515 3 い Caller 185K 1000 Kane-Company Address: 607 KO V ſ Email: 54 MPB 10 MPB10 MPBIC NPB 4PB 9 4, P.8 9 Company Name City/State/Zip: Project Manager: Sampler Signature: 804 HPB 12600 West I-20 East Odessa, Texas 79765 Special Instructions: AB # (lab use only) t A telinquished by Relinquished by 0 9 100 Ç q and and and the counter of na george state

i La lock (A) en, ÷.,

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

Clim K(	the Env.	
Date/Time:	1/13/06 3:45	
Order #:	6A13021	
Initials:	re	

# Sample Receipt Checklist

Temperature of container/cooler?	Yes No	4.0 C
Shipping container/cooler in good condition?	No No	
Custody Seals intact on shipping container/cooler?	XES   No	Not present
Custody Seals intact on sample bottles?	Yes No	cict present
Chain of custody present?	KES I NO	
Sample Instructions complete on Chain of Custody?	NO NO	
Chain of Custody signed when relinquished and received?	Xas, I No	!
Chain of custody agrees with sample label(s)	No No	( <u> </u>
Container labels legible and intact?	Xes   No	
Sample Matrix and procerties same as on chain of custody?	TES NO	• • • •
Samples in proper container/bottle?	1 X531 No	
Samples properly preserved?	No No	1
Sample bottles intact?	YES NO	. :
Preservations documented on Chain of Custody?	I Yes I No	
Containers documented on Chain of Custody?	YAN NO	
Sufficient sample amount for indicated test?	VES NO	
amples received within sufficient hold time?	NO NO	
VOC samples have zero headspace?	Yes No	Not Applicable

Other observations:

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



# Analytical Report

Prepared for:

Shawn Hokanson Kane Environmental- College Station 607 Peyton Street College Station, TEXAS 77840

> Project: Mattie Price Project Number: 04-631 Location: Hobbs, NM

Lab Order Number: 6A20019

Report Date: 01/23/06

# Kane Environmental- College StationProject:Mattie PriceFax: (979) 693-3231607 Peyton StreetProject Number:04-631Reported:jollege Station TEXAS, 77840Project Manager:Shawn Hokanson01/23/06 15:49

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	6A20019-01	Water	01/20/06 09:05	01/20/06 16:05
MW-2	6A20019-02	Water	01/20/06 09:10	01/20/06 16:05
MW-3	6A20019-03	Water	01/20/06 09:14	01/20/06 16:05

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Organics by GC Environmental Lab of Toyos											
College Station TEXAS, 77840	Project Manager: Shawn Hokanson	01/23/06 15:49									
607 Peyton Street	Project Number: 04-631	Reported:									
Kane Environmental- College Station	Project: Mattie Price	Fax: (979) 693-3231									

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (6A20019-01) Water		·····							
Benzene	ND	0.00100	mg/L	1	EA62304	01/23/06	01/23/06	EPA 8021B	
Toluene	ND	0.00100		"	н	н	"	87	
Ethylbenzene	ND	0.00100	0	0		п		н	
Xylene (p/m)	ND	0.00100	"	п		"	н	"	
Xylene (o)	ND	0.00100	"	"		"	н	"	
Surrogate: a,a,a-Trifluorotoluene	the second s	95.5 %	80-1	20	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.8 %	80-120		"	"	"	"	
MW-2 (6A20019-02) Water									
Benzene	ND	0.00100	mg/L	J	EA62304	01/23/06	01/23/06	EPA 8021B	
Toluene	ND	0.00100	н		11	н	"		
Ethylbenzene	ND	0.00100	*				"		
Xylene (p/m)	ND	0.00100		11	н	"	н	11	
Xylene (o)	ND	0.00100	U	u	u	u	n		
Surrogate: a,a,a-Trifluorotoluene		92.0 %	80-1.	20	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.5 %	80-1.	20	"	"	"	"	
MW-3 (6A20019-03) Water									
Benzene	ND	0.00100	mg/L	1	EA62304	01/23/06	01/23/06	EPA 8021B	
Toluene	ND	0.00100	п	"	"	"	"	11	
Ethylbenzene	ND	0.00100	"		"	"	н	"	
Xylene (p/m)	ND	0.00100	"		п	"	и	"	
Xylene (o)	ND	0.00100	ш	"	**	н	"	и	
Surrogate: a,a,a-Trifluorotoluene		92.5 %	80-1.	20	"	"	"	n	
Surrogate: 4-Bromofluorobenzene		80.0 %	80-1.	20	"	"	"	"	

ivironmental Lab of Texas

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

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (6A20019-01) Water									
Chloride	25.1	2.50	mg/kg	5	EA62303	01/21/06	01/23/06	EPA 300.0	
MW-2 (6A20019-02) Water									
Chloride	45.1	5.00	mg/kg	10	EA62303	01/21/06	01/23/06	EPA 300.0	
MW-3 (6A20019-03) Water					_				
Chloride	188	5.00	mg/kg	10	EA62303	01/21/06	01/23/06	EPA 300.0	

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Kane Environmental- College Station	Project: Mattie Price	Fax: (979) 693-3231
607 Peyton Street	Project Number: 04-631	Reported:
College Station TEXAS, 77840	Project Manager: Shawn Hokanson	01/23/06 15:49

#### **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 EA62304 - EPA 5030C (GC)										

Blank (EA62304-BLK1)				Prepared &	Analyzed	: 01/23/06	<u> </u>	<u></u>	
Benzene	ND	0.00100	mg/L					and the second sec	
Toluene	ND	0.00100							
Ethylbenzene	ND	0.00100							
Xylene (p/m)	ND	0.00100	"						
Xylene (o)	ND	0.00100	"						
Surrogate: a,a,a-Trifluorotoluene	37.5		ug/l	40.0		93.8	80-120	* +	
Surrogate: 4-Bromofluorobenzene	32.6		"	40.0		81.5	80-120		
LCS (EA62304-BS1)				Prepared &	Analyzed	: 01/23/06			
Benzene	0.0461	0.00100	mg/L	0.0500		92.2	80-120		
Toluene	0.0462	0.00100		0.0500		92.4	80-120		
Ethylbenzene	0.0427	0.00100	н	0.0500		85.4	80-120		
Xylene (p/m)	0.0846	0.00100		0,100		84.6	80-120		
Xylene (0)	0.0451	0.00100		0.0500		90.2	80-120		
Surrogate: a,a,a-Trifluorotoluene	38.5		ug/l	40.0		96.2	80-120		
Surrogate: 4-Bromofluorobenzene	37.9		"	40.0		94.8	80-120		
Nlibration Check (EA62304-CCV1)				Prepared &	Analyzed	: 01/23/06			
izene	44.4		ug/l	50.0		88.8	80-120		
Toluene	45.2		"	50.0		90.4	80-120		
Ethylbenzene	42.5			50.0		85.0	80-120		
Xylene (p/m)	83.1		0	100		83.1	80-120		
Xylene (o)	44.5		в	50.0		89.0	80-120		
Surrogate: a,a,a-Trifluorotoluene	35.8		n	40.0		89.5	80-120		
Surrogate: 4-Bromofluorobenzene	35.5		"	40.0		88.8	80-120		
Matrix Spike (EA62304-MS1)	Sou	rce: 6A20019-	-01	Prepared &	Analyzed	: 01/23/06			
Benzene	0.0455	0.00100	mg/L	0.0500	ND	91.0	80-120		
Toluene	0.0452	0.00100		0.0500	ND	90.4	80-120		
Ethylbenzene	0.0417	0.00100		0.0500	ND	83.4	80-120		
Xylene (p/m)	0.0829	0.00100		0.100	ND	82.9	80-120		
Xylene (o)	0.0445	0.00100	н	0.0500	ND	89.0	80-120		
Surrogate: a,a,a-Trifluorotoluene	38.2		ug/l	40.0		95.5	80-120		
Surragate: 1-Bromofluorobenzene	36.2		"	.10.0		90.5	80-120		

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Xylene (p/m)

#### Project: Mattie Price Project Number: 04-631 Project Manager: Shawn Hokanson

Fax: (979) 693-3231

Reported: 01/23/06 15:49

#### **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 EA62304 - EPA 5030C (GC)										
Matrix Spike Dup (EA62304-MSD1)	Source: 6A20019-01		Prepared &	Analyzed:	01/23/06					
Benzene	0.0427	0.00100	mg/L	0.0500	ND	85.4	80-120	6.35	20	
Toluene	0.0428	0.00100	"	0.0500	ND	85.6	80-120	5.45	20	
Ethylbenzene	0.0404	0.00100	*	0.0500	ND	80.8	80-120	3.17	20	

ŧ1

0.100

ND

80.2

80-120

80-120

80-120

80-120

3.31

4.13

20

20

Xylene (0)	0.0427	0.00100		0.0500	ND	85.4
Surrogate: a,a,a-Trifluorotoluene	37.2		ug/l	40.0		93.0
Surrogate: 4-Bromofluorobenzene	35.4		"	40.0		88.5

0.00100

0.0802



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#### Project: Mattie Price Project Number: 04-631 Project Manager: Shawn Hokanson

01/23/06 15:49

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 EA62303 - General Preparation (V	VetChem)									
Blank (EA62303-BLK1)				Prepared: (	01/21/04 A	nalyzed: 01	/23/06			
Chloride	ND	0.500	mg/kg					- forest second		
LCS (EA62303-BS1)				Prepared: (	01/21/04 A	nalyzed: 01	/23/06			
Chloride	8.54		mg/L	10.0		85.4	80-120			
Calibration Check (EA62303-CCV1)				Prepared: (	01/21/04 A	nalyzed: 01	/23/06			
Chloride	9.04		mg/L	10.0		90.4	80-120			
Duplicate (EA62303-DUP1)	Sou	rce: 6A20019-	-01	Prepared: (	01/21/04 A	nalyzed: 01	/23/06			
Chloride	24.5	2.50	mg/kg		25.1	···		2.42	20	

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Project: Mattie Price Project Number: 04-631 Project Manager: Shawn Hokanson Fax: (979) 693-3231

**Reported:** 01/23/06 15:49

#### **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:

Raland Kitus

1/23/2006

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

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

Date:

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TAT bisbriet2 XXX RUSH TAT (Pre-Schedule z z Custody Seals: Centainer? Cooler Temperature Upon Receipt: ST L-porl CHAIN OF CUSTODY RECORD AND ANALYSIS R Project Name: Watthe Arch 55 NO.R.W. ВСI - 500m Laboratory Comments: BTEX 80218/5030 M BTEX 8260 ¥ ÷ × 04-1031 Analyze PO#: 04663 2-VOA Project Loc: 40665 sellislovime2 saii)sio As Ag Ba Cd Cr Pb Hg Se TCLP: TOTAL: DED / USE / MAS Project #: X Ľ O4, CO3, HCO3) noinA \* (X 'RN '6W 'RO) SUDIEC Time M8108 1.814 H91 1002 1008 Other (specify): lioS Matrix agbuið Date 9 S ла)елд 1 Other ( Specify) Fax No: 979 693 323 элоИ Preservative 'os²H HOPN hra 19 19 IOH K Q <sup>2</sup>ONH 1 ¢ 90| ever lella Signisine 2 to oN 20 000 202 belgine2 emiT してのつ asplantes on a my air LON-Received by ELOT: 20/02 Received by: 20/0 beigme2 eje0 Disting water DL an Bill HULGNSON Date Time Favironmental Lab of Texas Ine <sup>2</sup>hone: 432-563-1800 Fax: 432-563,17<sub>3</sub>3 227925 Special Instructions: C/ Only for a sions Date FIELD CODE Leio.h 262 100 2100 Shand Telephone No: \$79 -Ŷ MW3 MWZ Sampler Signature: Email: Company Address: City/State/Zip: Company Name MN Project Manager: 12655 West I-20 East Odessa, Texas 79765 Ch Ch AB # (lab use only) uished by telinguis

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

Client:	Kane-	· · · · · · · · · · · · · · · · · · ·
DenTime	1/20/00	16:05
Order #:	6A20019	
Initials:	CR_	

#### Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	4.0 CI
Shipping container/cooler in good condition?	YER	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?	des 1	No	
Sample Instructions complete on Chain of Custody?	6.	No	
Chain of Custody signed when relinquished and received?	Yes	No	
Chain of custody agrees with sample label(s)	1 (5)	No	
Container labels legible and intact?	XES	No	······································
Sample Matrix and properties same as on chain of custody?	Yes	No	
Samples in procer container/bottle?	1 Cas	No	•,
Samples properly preserved?	Yes	No	
Sample bottles intact?	(C)	l No	
Preservations documented on Chain of Custody?	1 235	l No	
Containers documented on Chain of Custody?	Xes	No	1
Sufficient sample amount for indicated test?	Yes	No	
All samples received within sufficient hold time?	<b>४</b> ंड∌	No	
V amples have zero headspace?	(723	No	Not Apolicable

Other observations:

 Variance Documentation:

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

1,

Regarding:

Corrective Action Taken:



J & L LANDFARM, INC. P.O. BOX 356 HOBBS, NEW MEXICO 88241-0356 PHONE (505) 392-9697 • PERMIT # NM-01-0023

Generator/Company OSbornd HEIRS CE Authorized Representative \_\_\_\_\_\_ ROGER GRAVES Originating Site MATTIE FRE TANK BATTERY 'H' Transporter <u>Read Runner Tracking</u> Authorized Representative Lynholdg Brief Description of Material Non - HAZ- Soil Estimated Volume 332 yards TPH Sez TEST BE-TEX \_\_\_\_\_\_ SET ZEST CERTIFICATE OF CHEMICAL ANALYSIS (if required) LITY AUTHORIZED REPRESENTATIVE JAN. 10, 11, 2006 B-3186

## Certificate of Waste Status

# NMOCD 711 FACILITY: J&L LANDFARM, INC.

GENERATOR _ OSCORN HEIRS LE	<u>ð í </u>
GENERATING SITE MATTIE PRICE (TANK	Ballery H
SEC_6TOWNSHIP_175	RANGE 38E
COUNTY LEA STATE N. MEX	
WASTE DESCRIPTION NON-HAZ-SOIL	WASTE QTY. 332 yARds
TRUCKING COMPANY Read Runner	TRucking
EXEMPT WASTE	

condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the EPA(Environmental Protection Agency). Waste is generated from oil and gas exploration and production operations; exempt from RCRA(Resource Conservation and Recovery Act, Subtitle C regulations. I do certify that hazardous or listed waste pursuant to EPA provisions has not been added or mixed with the waste, nor mixed with any non-exempt material.

#### NON-EXEMPT WASTE

As a condition of acceptance for disposal, I hereby certify that this waste is a non-exempt waste as defined by the EPA's (Environmental Protection Agency) July 1988 Regulatory determination. To my knowledge, this waste will be analyzed pursuant to the provisions of 40 CFR Part 261 to verify the nature as nonhazardous. I further certify that to my knowledge "hazardous or listed waste" pursuant to the provisions of 40 CFR, Part 261, Subparts C and D, has not been added or mixed with the waste so as to make the resultant mixture a "hazardous waste" pursuant to the provisions of 40 CFR, Section 2613.

I certify that this waste has been surveyed for Naturally Occurring Radioactive Material(NORM) and NORM concentrations do not exceed that listed in 20 NMAC 3.1 Subpart 1402. C and D.

COMPANY AGENT (Original Signature)	in	
ADDRESS PO (Name) ISOX 17968	SAN ANTONIO	Tex
DATE JAN. 10 2006	7828	36

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### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

1. OWNER OF WELL Name: Osborn Heirs Company	Work Phone: 979-229-8253
Address: 1250 NE Loop 40 Ste 1100	Home Phone:
city: Son antonio, TX	State: 78 Zip: 78209
2. LOCATION OF WELL (A, B, C, or D required, E or F if known)	
A. $NE_{1/4}$ NE 1/4 NE 1/4 Section: 6 Township: in $2ea$	2. <u>175</u> Range: <u>38E</u> N.M.P.M. County.
B. X = feet, Y = feet Zone in the U.S.G.S. Quad Map	et, N.M. Coordinate System Grant.
C. Latitude: <u>32 d 52 m 3.4</u> s Longitude:	103 d 10 m 45.4 s
D. East (m), North (m), UTM 2	Cone 13, NAD (27 or 83)
E. Tract No, Map No of the	Hydrographic Survey
F. Lot No, Block No of Unit/Tract Subdivision recorded in	of the County.
G. Other:	
H. Give State Engineer File Number if existing well	.:
I. On land owned by (required):	na manana manana mana mana mana manana ma
3. DRILLING CONTRACTOR	
License Number: Name: Agent: Mailing Address: WD - 1488 Ground Water Mondoring Trc Roddy Clualls HD. Box 531461	Work Phone: <u>977-986-7003</u> Home Phone:
city: Grand Prairie, TX	State: 🕱 Zip: <u>25053</u>
4. DRILLING RECORD	
Drilling began: <u>//1/06</u> ; Completed: <u>/2006</u> ; Size of hole: <u>5</u> in.; Total depth of well: <u>86</u> Completed well is: <u>Monitor Well</u> (shallow, artes Depth to water upon completion of well:	Type tools: <u>Air</u> ; ft.; ian); ft.
File Number: Trr Form: wr-20 page 1 of 4	Number:

11

#### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

## 5. PRINCIPAL WATER-BEARING STRATA

I F	Pepth From	in Feet To	Thickness in feet	Description of water-bearing formation	Estimated Yield (GPM)
**		• ••••••••••••••••••••••••••••••••••			
~	*****	· ·····			
				······································	
-		· ····			

#### 6. RECORD OF CASING

M

Diameter (inches)	Pounds per ft.	Threads per in.	Depth Top	in Feet Bottom	Length (feet)	Type of Shoe	Perfo: From	rations <sup>To</sup> //
2	PVC	4-	0	86		PUC. Cap	<u>-86</u>	
······		•		······	<u></u>			

#### 7. RECORD OF MUDDING AND CEMENTING

Depth i	in Feet	Hole	Sacks	Cubic Feet	Method of Placement
From 63	To 2	Diameter 5	of mud 12	of Cement <u>8,5</u>	Gravity Feed
2	0	5			Gainty Food
8. PLUGGIN	G RECOR	1 <b>D</b>	<b>a</b> 1		
Pluggin Plu Date	ng Contr Ad ugging M Well Pl	actor: dress: ethod: ugged:		· · · · · · · · · · · · · · · · · · ·	
Pluggin	ng appro	vëd by:		State Enginee	er Representative
		No. Dept Top 1 2	h in Feet Bottom	Cubic Feeto	of Cement
		3 4 5.			
File Numb	er:				Trn Number:
F	orm: wr-	-20		page 2 of 4	

#### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

#### 9. LOG OF HOLE

Depth 5 From 0 4 10 13 13 13 13 14 70	In Feet To 4 $10^{\circ}$ $13^{\circ}$ 24 $44^{\circ}$ $70^{\circ}$ $84^{\circ}$	Thickness in feet 3 1 22 24 1	Color and Type of Material Encountered Black Silty Clay Fight Brown to Flat from Soly Calific Light Tan Mod have Calific Sent Tan Hard Calific Medium Brown Sine Sand Light Brown Sine Sand Med Brown Sine Sond Med Brown Sand Slightly Claypy Med Wet
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Trn Number:

page 3 of 4

File Number: \_\_\_\_\_

#### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

**10. ADDITIONAL STATEMENTS OR EXPLANATIONS:** The well numbers for these Two wells are MWH 1+2 The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole. Driller 2 (mm, FOR STATE ENGINEER USE ONLY

Quad \_\_\_\_; FWL \_\_\_; FSL \_\_\_; Use \_\_\_\_; Location No. \_\_\_\_\_

File Number: Form: wr-20

Trn Number:

page 4 of 4

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#### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

1. OWNER OF WELL Name: OSborn Heirs Omfand Contact: Shawn Hokanson P.G. Address: 1250 NELoop 410 Ste. 1100 Work Phone: 977-327-8253 Home Phone:
city: <u>San Antonio, TX</u> state: 7 Zip: 78709
2. LOCATION OF WELL (A, B, C, or D required, E or F if known)
A. <u>NE</u> 1/4 <u>NE</u> 1/4 <u>NE</u> 1/4 Section: <u>6</u> Township: <u>75</u> Range: <u>38E</u> N.M.P.M. in County.
B. X =feet, Y =feet, N.M. Coordinate System Zone in theGrant. U.S.G.S. Quad Map
C. Latitude: <u>32 d 52 m 3.4</u> s Longitude: <u>103 d 10 m 45.4</u> s
D. East (m), North (m), UTM Zone 13, NAD (27 or 83)
E. Tract No, Map No of the Hydrographic Survey
F. Lot No, Block No of Unit/Tract of the of the County.
G. Other:
H. Give State Engineer File Number if existing well:
I. On land owned by (required):
3. DRILLING CONTRACTOR
License Number: WD -/488 Name: Gound Watter Monitoring Inc. Work Phone: 972-986-7003 Agent: Roddy Qualls Home Phone: Mailing Address: P.D. Box 53/46/
City: <u>Grand Parrie, 770</u> State: TC 2ip: <u>75053</u>
4. DRILLING RECORD Drilling began: <u>//17/06</u> ; Completed: <u>//20/06</u> ; Type tools: <u>Air</u> ; Size of hole: <u>5</u> in.; Total depth of well: <u>9</u> ft.; Completed well is: <u>Montpr Well</u> (shallow, artesian); Depth to water upon completion of well: <u>ft</u> .
File Number:     Trn Number:       Form: wr-20     page 1 of 4

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#### **NEW MEXICO OFFICE OF THE STATE ENGINEER** WELL RECORD

#### 5. PRINCIPAL WATER-BEARING STRATA

Depth : From	in Feet To	Thickness in feet	Description of water-bearing formation	Estimated Yield (GPM)
		·······		
······································	. <del></del>	<u></u>		
				<u></u>

#### 6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in	Depth : Top	in Feet Bottom	Length (feet)	Type of Shoe	Perfor From	rations To
$-\mathcal{P}^{r}$	PUC	4	0	_9/		PUC Cap	_9/_	lola
								<u></u>

#### 7. RECORD OF MUDDING AND CEMENTING

Depth i	n Feet	Hole	Sacks	Cubic Feet	Method of Placement
From	То	Diameter	of mud	of Cement	$\Lambda$ $\Lambda$ $\Gamma$ $\Gamma$ $\Gamma$
63	2	5	12	_8,5_	Gravity heed
					1,
2	_0_	5			Gavily Feed
~					/

#### 8. PLUGGING RECORD

Plugging Contractor: Address:	
Plugging Method:	
Date Well Plugged:	
Plugging approved by:	
	State Engineer Representative

	No. Depth Top	in Feet Bottom	Cubic Feetof Cement
1 2		· · · · · · · · · · · · · · · · · · ·	
3		·	
5		· · · · · · · · · · · · · · · · · · ·	

File Number: Form: wr-20

Trn Number:

page 2 of 4

#### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

9. LOG OF HOLE





File Number: Form: wr-20

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Trn Number:

page 3 of 4

File Number: \_\_\_\_\_

#### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

**10. ADDITIONAL STATEMENTS OR EXPLANATIONS:** The well number is MW#3 The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole. em Driller FOR STATE ENGINEER USE ONLY Quad \_\_\_\_; FWL \_\_\_\_; FSL \_\_\_\_; Use \_\_\_\_\_; Location No. \_\_\_\_\_

File Number: Form: wr-20

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Trn Number: \_\_\_\_\_ page 4 of 4

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NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD 1. OWNER OF WELL Name: OSborn Heirs Company Work Phone: <u>972-229-8253</u> Contact: Shawn Hokanson RG, Home Phone: \_\_\_\_\_ Address: <u>1250 NE Loop 410 Ste 1/60</u> city: Son antonio State: 72 Zip: 78209 2. LOCATION OF WELL (A, B, C, or D required, E or F if known) A. <u>NE1/4</u> <u>NE1/4</u> <u>NE1/4</u> Section: <u>6</u> Township:<u>175</u> Range: <u>38E</u>N.M.P.M. in\_\_\_\_\_\_County. feet, Y = \_\_\_\_\_ feet, N.M. Coordinate System B. X = \_\_\_\_\_ feet, Y = \_\_\_\_\_\_ reet, n.m. course Grant. C. Latitude: 32 d 52 m 314 s Longitude: 103 d 10 m 45,4 s D. East \_\_\_\_\_ (m), North \_\_\_\_\_ (m), UTM Zone 13, NAD \_\_ (27 or 83) E. Tract No. \_\_\_\_\_, Map No. \_\_\_\_\_ of the \_\_\_\_\_ Hydrographic Survey G. Other:\_\_\_\_\_ H. Give State Engineer File Number if existing well: I. On land owned by (required): **3. DRILLING CONTRACTOR** License Number: WD - 1488 Name: Ground under Monitoring Tric. Work Phone: 972-986-7003 Agent: Roddy (Nualls Home Phone: Mailing Address: PiDi Box 531461 city: Grand Prairie, State: TX Zip: 75053 4. DRILLING RECORD Drilling began: Size of hole: 5 in.; Total depth of Well: 25 ft.; Completed well is: Monitor Well (shallow, artesian); Depth to water upon completion of well: ft.

File Number: Form: wr-20 Trn Number: \_\_\_\_\_

File Number:

#### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

#### 5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From To 	Thickness in feet	Descrip water-b	otion of earing format	i on	Estimate (GE	ed Yield PM)
RECORD OF CASIN	C	• ••••••••••••••••••••••••••••••••••••	a Marine and a second			
Diameter Pound (inches) per t	ds Threads ft. per in.	Depth in Top B	Feet Length ottom (feet)	Type or	f Shoe E	Perforation Trom To 25 //
RECORD OF MUDD	ING AND CEM	ENTING	an a			
Depth in Feet From To 	Hole Diameter 5 <sup>47</sup>	Sacks of mud 2	Cubic Feet of Cement	Method	of Place	ement.
PLUGGING RECOR Plugging Contra Add Plugging Me Date Well Plu	D actor: iress: sthod: ugged:					
Plugging approv	ved by:		State Engineer	Represe	entative	
	No. Depth Top 1	in Feet Bottom	Cubic Feeto:	Cement		
	2 3 4 5					
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#### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

#### 9. LOG OF HOLE

Depth	in Feet	Thickness	Color and Type of Material Encountered
From	To	in feet	Ol 11 and al 1
0	4'	_4'	Black Sitty Clay
4	10	1.1	Lt. Brown to DK Ton Soft Calichi
10	13	3.	H. Tan med hard Calichi
13	25	12	Lt Tan hard Calkhi
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File Number: Form: wr-20

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page 3 of 4

#### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

**10. ADDITIONAL STATEMENTS OR EXPLANATIONS:** IS For SVE 1 thru 11 This Wells The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole. mm FOR STATE ENGINEER USE ONLY Quad \_\_\_\_; FWL \_\_\_\_; FSL \_\_\_; Use \_\_\_\_; Location No. \_\_\_\_\_

File Number: Form: wr-20

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page 4 of 4

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Fil	e Number:	
()sh	orn Heire Common	**
NEW MEXICO OFFICE OF THE STATE E	NGINEER	X
WELL RECORD		
1 OWNED OF WELL		
Name: Osborn Heirs Company	Work Phone:	
Contact:	Home Phone:	*****
Address: <u>1250 NE Loop 410 - Suite 1100</u>	·	
City: San Antonio	State: TX Zip: 782	09
2. LOCATION OF WELL (A, B, C, or D required, E or F if known)		
A. 1/4 1/4 1/4 Section: Townshin	· Range N	MDM
in Lea	· Nange, N	County.
B.X = feet, Y = fe	et. N.M. Coordinate	System
Zone in the		Grant.
0.5.G.S. Quad Map	103 10 44 6413	112 min - 111
C. Latitude:dms Longitude:	103.10.44.6413 dm	NADZ/ NM
D. East (m), North (m), UTM	Zone 13, NAD 27 (27	or 83)
E. Tract No. , Map No. of the	Hydrographic	Survey
F. LOL NO, BLOCK NO OF UNIT/TRACT Subdivision recorded in		County.
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	· · · · · · · · · · · ·
G. OCNEF:		
H. Give State Engineer File Number if existing wel	1:	and a subscription of the
I. On land owned by (required): Osborn Heirs C	ompany	
3 DDILLING CONTRACTOR		
J. DRILLING CONTRACTOR		
License Number:	Work Phone:	
Agent:	Home Phone:	
Mailing Address:		
City:	_ State: Zip:	
A DRILLING BECORD		
Drilling began: ; Completed: Size of hole: in.: Total depth of well:	; Type tools:	
Completed well is: (shallow, art	esian);	
Depth to water upon completion of well:	ft.	
×		
and the second	rn Number:	
File Number: page 1 of 4	A. S.L. STULLING TO L. P	and a second

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Osborn Heirs Company

#### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

#### 5. PRINCIPAL WATER-BEARING STRATA

Depth i From	In Feet To	Thickness in feet	Description of water-bearing formation	Estimated Yield (GPM)
				ту - <del>Шананан каканан каканан каканан какана</del> н каканан каканан каканан каканан каканан каканан каканан каканан какана 
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#### 6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth i Top	ln Feet Bottom	Length (feet)	Type of Shoe	Perfor From	ations To
			-		-			
	And and for constitution that the second	terdenenerationer. 1997-1997-1997-1997				•*************************************	*****	- <del>Maudadaanijii).aaji</del> ‡
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#### 7. RECORD OF MUDDING AND CEMENTING

Depth i From	in Feet To	Hole Diameter	Sacks of mud	Cubic Feet of Cement	Method of	Placement
*****				*****	***************************************	
*****	*****					
	-			******		

#### 8. PLUGGING RECORD

P1	ugging Contra Add Plugging Me Date Well Plu	ctor: <u>Alán</u> ress: <u>1200</u> thod: <u>Bent</u> gged: <u>Febr</u>	G. Eade E. Bend onite pl uary 8,	es - Eades Drilling & Pump Servic der Blvd., Hobbs, NM 88240 lug from td to 12'bgs, cement plu 2006	e_WD1044 g_from 12 surface
P1	ugging approv	ed by:	S	State Engineer Representative	
		No. Depth Top 1 3 4 5	in Feet Bottom 91	Cubic Feetof Cement	
File	Number: Form: wr-2	20	1	Trn Number:	_

Osborn Heirs Company

#### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

#### 9. LOG OF HOLE

Depth From	in Fee T	t Thickness o in feet	Color and Type of Material Encountered
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Osborn Heirs Company

#### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

**10. ADDITIONAL STATEMENTS OR EXPLANATIONS:** 

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

lun Ead (mm/dd/year) Driller Und

FOR STATE ENGINEER USE ONLY

Quad \_\_\_\_; FWL \_\_\_; FSL \_\_\_\_; Use \_\_\_\_; Location No. \_\_\_\_\_

File Number: Form: wr-20

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page 4 of 4

			File Number:	
		(	Osborn Heirs Com	pany
	NEW MEXICO	OFFICE OF THE STAT	<b>TE ENGINEER</b>	
		WELL RECORD		
D .				
I. OWNER OF	WELL		ter an the second s	
Contact:	USDOFIL Heirs Co	mpany	Home Phone:	
Address:	1250 NE Loop 41	0 - Suite 1100		
City:	San Antonio		State: my Zip: '	78200
2. LOCATION	OF WELL (A. B. C. a. D.		antennyanyan anta anta anta anta anta anta a	teris bis bash da bada yang basa sa
L. LOCATION	OF WELL (A, B, C, OF D)	required, E or F ii known)		
A1/	/41/A1/ Lea	4 Section: Towns	hip: Range:	N.M.P.M. County.
B. X =	feet, Y Zone in the		feet, N.M. Coordin	ate System Grant
U.S.G.	S. Quad Map	un <sup>1</sup>	annan an a	₩# Ja ₩# 3 £ ₩ 2
C. Latitu	32.52.03.0252 ide:dm	s Longitu	103.10.46.2795 de:dm	NAD27 NME
D. East	(m), Nor	th(m), U	TM Zone 13, NAD 27	(27 or 83)
E. Tract	No, Map No.	of the	Hydrograp	hic Survey
F. Lot No	, Block No.	of Unit/Tract		of the
			<b>.</b> 	
G. Other				
H. Give	State Engineer File	Number if existing	well:	
I. On la	nd owned by (requir	ed): Osborn Heirs	s Company	
3. DRILLING C	CONTRACTOR			
License	Number:			
	Name:		Work Phone:	
Mailing a	Agent: Address:	· · · · · · · · · · · · · · · · · · ·	Home Phone:	<u></u>
×1.	City.		States Zine	
				· <del>#</del>
4. DRILLING I	RECORD			
Drilling	began:	Completed:	_; Type tools:	
Complete	noie: in.; To d well is:	stal depth of well: (shallow, a	it.; Ttesian):	
Depth to	water upon complet	ion of well:	ft.	
-				
File Number	•		Trn Number:	
For	m: wr-20	page 1 of 4	a a 4 6 69 valiteter VI a 6 7 menuserannen	40-90-00-00-00-00-00-00-00-00-00-00-00-00

Osborn Heirs Company

### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

#### **5. PRINCIPAL WATER-BEARING STRATA**

Depth From	in Feet To	Thickness in feet	Description of water-bearing formation	Estimated Yield (GPM)
		*****		
·····				

#### 6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth d Top	in Feet Bottom	Length (feet)	Type of Shoe	Perfor From	rations To
						,		
					******			
								-
		****		•			******	

#### 7. RECORD OF MUDDING AND CEMENTING

Depth : From	in Feet To	Hole Diameter	Sacks of mud	Cubic Feet of Cement	Method of	Placement
-						
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#### 8. PLUGGING RECORD

P.	lugging Contra Add Plugging Me Date Well Plu lugging approv	ctor: Alan G. ress: 1200 E. thod: Bentoni gged: Februar ed by:	Eades - Ea Bender Bly Ite plug fro y 8, 2006 State Er	ndes Drilling Vd., Hobbs, NM om td to 12'bg ngineer Represent	& Pump Service 88240 s, cement plug	WD1044 from 12' surface
		No. Depth in Top Bo 1 8 2 3 4 5	Feet Cubic ottom <u>6 3</u>	Feetof Cement		
Dile	Number: Form: wr-2	0	page 2 (	Trn Number of 4	:	

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File Number: \_\_\_\_\_

Ostorn Heirs Company

# NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

#### 9. LOG OF HOLE

Depth in From	To	Thickness in feet	Color and Type of Material Encountered
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page 3 of 4

Osborn Heirs Company

#### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

### **10. ADDITIONAL STATEMENTS OR EXPLANATIONS:**

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

a by 02-11-06 (mm/dd/year) Driller

FOR STATE ENGINEER USE ONLY

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Quad \_\_\_\_; FWL \_\_\_\_; FSL \_\_\_\_; Use \_\_\_\_\_; Location No. \_\_\_\_\_

File Number: Form: wr-20 Trn Number: \_\_\_\_\_

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Osborn Heirs Company NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

File Number:

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LOWNER OF WELL	
Name: Osborn Heirs Company	Work Phone:
Contact:	Home Phone:
Address: 1250 NE Loop 410 - Suite 1100	
City: San Antonio	State: my Zip: 78200
2. LOCATION OF WELL (A. B. C. or D required, F or F if known)	
and survey of a mine (of of a to folding the a transmit	
A. <u>1/4 1/4 1/4 Section:</u> Townsh in <u>Lea</u>	ip: Range: N.M.P.M. County.
B. X = feet, Y = Zone in the	feet, N.M. Coordinate System Grant.
U.S.G.S. Quad Map	
32.52.03.8839 C. Latitude:dms Longitud	le:dms NAD27 NME
D. East (m), North (m), UT	M Zone 13, NAD 27 (27 or 83)
E. Tract No, Map No of the	Hydrographic Survey
F. Lot No Block No. of Unit/Tract	of the
Subdivision recorded in	County.
ματιστικό το ματιστικό το ματιστικό το ματιστικό το το ματιστικό το ματιστικό το ματιστικό το ματιστικό το ματ Από το ματιστικό το μ	••••••••••••••••••••••••••••••••••••••
G. Other:	an din manufandi ang sa Sana ang ang ang ang ang ang ang ang ang
H. Give State Engineer File Number if existing w	vell:
I. On land owned by (required): Osborn Heirs	Company
3. DRILLING CONTRACTOR	
License Number:	Work Phone:
Name;	Home Phone:
Mailing Address:	
turreid voor oog i	
City:	State: Zip:
4. DRILLING RECORD	
Drilling began:; Completed:; Size of hole: in.; Total depth of well:	_; Type tools:; ft.;
Completed well is: (snallow, a	restan);
Depth to water upon completion of well:	ilia, است المعادية ال
,	
	Marin Missin Marine
File Number:	III NUUJEL;
Form: wr-20 page 1 of 4	

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File Number:

Osborn Heirs Company

#### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

# 5. PRINCIPAL WATER-BEARING STRATA

-	rtom	To 		i	n feet	wate:	e-b	earing	formati	on		(	GPM)	
6. RI	ECORD Diamet (inche	OF er es)	CASIN Poun per	iG ds ft.	Threads per in.	Depth Top	in	Feet	Length (feet)	Туре	of	Shoe	Perfo: From	rations To
7. R	ECORI Depth From	) OF in To	MUDI Feet	DING	AND CEN Hole ameter	IENTING Sacks of mu	d	Cubic of Ce	Feet	Metho	>d	of Pla	cement	

### 8. PLUGGING RECORD

Plugging Contractor:	Alan G. Eades - Eades Drilling & Pump Service W	ID1044
Address:	1200 E. Bender Blvd., Hobbs, NM 88240	
Plugging Method:	Bentonite plug from td to 12'bas, cement plug f	from 12
Date Well Plugged:	February 8, 2006 s	surface

Plugging approved by: \_\_\_\_\_\_\_\_State Engineer Representative

	No. D	Depth	in	Feet	Cubic	Feetof	Cement
	Top	>	Bo	ottom			
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Trn Number:

page 2 of 4

File Number:

Osborn Heirs Company

# NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

#### 9. LOG OF HOLE

Depth From	in Feet To	Thickness in feet	Color and Type of Material Encountered
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#### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

**10. ADDITIONAL STATEMENTS OR EXPLANATIONS:** 

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Man Eader by Driller Andua Eader 02-11-06 (mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad \_\_\_\_; FWL \_\_\_\_; FSL \_\_\_\_; Use \_\_\_\_\_; Location No. \_\_\_\_\_

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# **Calibration Certificate**

#### CERTIFICATE NUMBER: 15360

ASSET NUMBER: ASSET DESCRIPTION: MANUFACTURER: SERIAL NUMBER: CALIBRATION DATE: CALIBRATION DUE: CALIBRATION PROCEDURE: ACCURACY OF UNIT: WORKSHOP TEMPERATURE: HUMIDITY: CALIBRATION ENGINEER: RESULTS FORM: Page 1 of 2 R2128 THERMO ENV 580B THERMO 29065-233 06 Jan 2006 Refer to manufacturers instructions. 4.155 Hazardous Waste Investigation Manufacturers Specifications 22 Degrees C 48 % EDGAR HERNANDEZ Ref Workshop Manual

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# Measurement Equipment

**Calibration Reference** 

**100 PPM ISOBUTYLENE** 

10372000

The measurement equipment used during the calibration procedure is traceable to National Standards. Details on any limitations to the use of the equipment:

Calibration Engineer:

EDGAR HERNANDEZ

http://intranet.ashtead-group.com/Calibrations/InternalForms/Cal\_PrintCert.asp?ID=15360 1/6/2006