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# REPORTS

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Per [signature]

November 1, 2005

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

***RE: Mattie Price Site Supplemental Site Investigation Report & Remediation Work Plan***

Dear Mr. Ford,

As per our phone conversation I am forwarding to you this copy of the Mattie Price Site Supplemental Site Investigation Report & Remediation Work Plan. Please note that this document as we discussed does not include land owner signature.

I am looking forward to working with you on this project.

If you have any questions, please contact me at (432) 689-8675 or by e-mail at [debpennington@earthlink.net](mailto:debpennington@earthlink.net).

Sincerely,

A handwritten signature in black ink that reads "D. Pennington".

Deb Pennington

Enclosure

CC without enclosure:

Joyce Swayze, Osborn Heirs Company

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Per. 

## **Phase II ESA**

# **Supplemental Site Investigation Report and Remediation Work Plan**

## **Mattie Price Tank Battery**

**Lea County, New Mexico**

*Prepared for:*

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

**June 2005**

*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

At the request of Osborn Heirs Company, Kane Environmental Engineering, Inc. (Kane Environmental) conducted a Phase I Environmental Site Assessment (ESA) of the Mattie Price Tank Battery on August 26, 2004. Following submission of the site investigation report, New Mexico Oil Conservation Division (NMOCD) personnel requested additional vertical delineation in three boring locations (Borings 1, 9 and 10). A supplemental work plan was submitted to and approved by NMOCD, and Jack Ford and Paul Sheeley of NMOCD were notified via email on May 24, 2005 that the supplemental investigation fieldwork would be performed on June 14, 2005. Additional notification to Paul Sheeley was sent via email on June 13, 2005. All fieldwork for this supplemental investigation was completed on June 14, 2005.

This property is identified as being 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. A topographic map of the location is shown as **Figure 1**.

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

Previous Phase I and Phase II Environmental Site Assessments, performed by Larson & Associates, Inc., identified visual and olfactory evidence of hydrocarbon impacted soils, 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 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).

A second investigation was conducted by R.E. Environmental Services, Inc. This investigation consisted of four soil borings placed around the tank battery. Hydrocarbon impacted soils were reported at depths up to 14', with a maximum reported concentration of 25,900 ppm TPH identified at a depth of 7.5' in Test Point A. All chloride concentrations from the four borings were reported below 250 ppm. See **Figure 2** for a depiction of these soil boring placements and sampling results, as excerpted from the R.E. Environmental Services Report.

Five surface soil samples were also collected in the vicinity of the tank battery and associated well locations during the R.E. Environmental Services ESA. Chloride concentrations 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.

A windmill was identified during the Kane Environmental ESA as being located approximately 954 ft. south-southeast from the tank battery. This windmill is reported in the R.E. Environmental Services, Inc. ESA to have a total well depth of 80'. The R.E. Environmental Services, Inc. ESA reports that groundwater is found at a depth of 62' at the windmill location.

The windmill supplies water for a steel cattle watering stock tank. Overflow from the stock tank collects in an earthen overflow pond, located immediately to the south. This overflow pond is located 1,030' south-southwest of the tank battery.

General drainage in this area is to the south-southeast. A ridge, or increase in elevation, occurs between the tank battery and the windmill/stock tank/overflow pond area, isolating these surface water impoundments along their northern exposure. The elevated county road completes the isolation of the surface water along the eastern exposure. See **Figure 1** for a depiction of the topographic features in the windmill area.

Based on the Larson & Associates. ESA, groundwater depths at the Mattie Price Tank Battery ranged from depth of 80-100' bgs. Analytical results from the supplemental investigation conducted by Kane Environmental in June of 2005 indicate no hydrocarbon contamination exceeding applicable limits below depths of 22.5' bgs, thus yielding a minimum uncontaminated soil thickness (buffer zone) of greater than 50' between contaminated soils and groundwater at the tank battery. While a groundwater depth of 62' was reported by R.E. Environmental Services, the location of this measurement is 954 ft. south-southeast of the tank battery at the windmill and is not indicative of groundwater depths at the tank battery.

The NMOCD Guidelines for Remediation of Leaks, Spills and Releases utilize a site ranking protocol for determining the remediation requirements for hydrocarbon-impacted soil. Based on this guidance and available hydrogeologic information, this site is ranked as follows:

<b>Criterion</b>	<b>Measured Value</b>	<b>Ranking Score</b>
Depth to groundwater	50-99 ft	10
Distance to surface water	See Note 1	0
Distance to wellhead protection area	See Note 2	0
<b>Total Ranking Score</b>		<b>10</b>

Note 1: The overflow pond is located 1,030' from the tank battery. In addition, a ridge provides a natural barrier between the tank battery and the overflow pond, precluding surface drainage from migrating from the tank battery area to the pond.

Note 2: The windmill is not located in a wellhead protection area.

The site sensitivity ranking for Mattie Price Tank Battery is rated at 10. This ranking score yields the following remediation thresholds:

Constituent	Remediation Threshold
Total Petroleum Hydrocarbons	1,000 ppm
Benzene	10 ppm
BTEX	50 ppm

Based on the findings of the Phase I ESAs, a Phase II Site Investigation was conducted. This Phase II Site Investigation Report has been prepared as documentation of the site investigation activities at the Mattie Price Tank Battery, conducted on both December 2004 and June 2005.

## 2.0 FIELD INVESTIGATION AND LABORATORY ANALYSES 12/04/2004

Kane Environmental conducted site investigation activities on December 14 and 15, 2004. This investigation included the use of a mobile rotary drilling rig equipped with hollow-core augers and continuous coring equipment. 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.

### Field Investigation Protocols

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. report. Additional borings were performed northwest of AST #1 (MPB-3) and south of AST #2 (MPB-4) to provide delineation of potential hydrocarbon impact. Additional 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 were prepared during boring (**Table 1**) and field headspace readings (**Table 2**) were 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. A threshold value of 100 ppm was used to estimate compliance with these BTEX standards and to guide placement of additional borings.

For boring samples with field headspace readings in excess of 100 ppm (MPB-1, MPB-5, MPB-7, MPB-10 and MPB-12), additional borings were placed outward from the initial location in the four cardinal directions wherever possible, based on access limitations caused by surface equipment, piping, electrical lines and lease boundaries. Additional borings to the west and the south of boring MPB-12 were not performed due to physical access constraints, surface and underground piping, and the presence of electrical lines and equipment. For boring MPB-5, additional borings to the east and south were not performed due to access constraints.

The sample interval for each boring demonstrating a maximum field headspace reading and the terminal depth sample interval were submitted to OilLab, Inc. in Midland Texas under a Chain of Custody transport for the analysis of the following constituents:

- TPH-GRO
- TPH-DRO
- BTEX



Significant differences in hydrocarbon impact character (light end vs. heavy end) were encountered at some locations. Subjective cues (color, odor and apparent degree of hydrocarbon saturation) as well as field headspace readings were used to select the sample interval with the expected maximum heavy end impact levels for laboratory analyses from these soil samples.

Soils encountered during boring ranged from sandy loam surface soils (0-2.5',) to silty clay subsurface (2.5-5.0+' generally), overlying hard to very hard but friable caliche to depths of up to 20'. In most locations, boring speed (an indicator of material hardness) was slowest in the 10-15' depth range. Materials encountered were generally moist to wet, (but not saturated) in the 12.5-20.0' depth range.

### Laboratory Analysis

The site maximum benzene and total BTEX concentrations measured in sample borings encountered in MPB-1 5.0-7.5' (0.175 mg/kg benzene) and MPB-9 7.5-10.0' (15.0106 mg/kg BTEX) are below the NMOCD regulatory thresholds of 10 mg/kg for benzene and 50 mg/kg for BTEX.

Soil borings from the areas of AST #3 and #4 have measured TPH concentrations in excess of the 1,000 mg/kg NMOCD threshold. These soil borings are identified as:

MPB-1	MPB-9
MPB-5	MPB-10
MPB-7	MPB-12

A site maximum concentration of 2,740 mg/kg TPH was identified in boring MPB-5 7.5-10.0'.

Soils sample analysis demonstrated that the following borings had measured values of TPH below the 1,000 mg/kg NMOCD TPH threshold:

MPB-2	MPB-13
MPB-4	MPB-15
MPB-8	MPB-16
MPB-11	

These borings demonstrate, and serve to delineate, the boundary of the area of hydrocarbon impact to the north, south and the east. Complete horizontal delineation of the hydrocarbon contaminated area was not achievable to the west due to physical access constraints and safety restrictions for working the drilling rig in the area of electrical and process equipment.

In locations where total hydrocarbon levels measured by laboratory analysis exceeded the NMOCD regulatory threshold, field headspace readings in the surface and near surface

materials were much lower than the maximum levels for each boring, indicating surface leaks were not the source for these elevated hydrocarbons. Field personnel reported that a former pit may have been located in the vicinity of the borings showing elevated hydrocarbons. This pit was reportedly used by a previous operator for disposal of tank bottoms generated during the removal and replacement of ASTs that were located where ASTs #3 and #4 are currently positioned. The pattern of hydrocarbon distribution with depth supports this report.

Laboratory analyses are summarized in **Table 3**, with complete analytical reports including Chain of Custody documentation found in Appendix A.

### 3.0 SUPPLEMENTAL FIELD INVESTIGATION AND LABORATORY ANALYSES 6/14/2005

Supplemental site investigation activities were conducted on June 14, 2005 using a mobile air-rotary drilling rig equipped with hollow-core augers and continuous coring equipment. Under Kane Environmental's supervision, Groundwater Monitoring, Inc. of Grand Prairie, Texas performed 3 borings designed to further vertically delineate three specific locations from the December 2004 investigation conducted by Kane Environmental at the tank battery, as requested by the NMOCD.

#### Field Investigation Protocols

Three soil borings designed to complete vertical delineation of potential hydrocarbon impacts beyond the initial depth of investigation at soil borings locations MPB-1, MPB-9, and MPB-10 were performed on June 14, 2005. Each new soil boring was located in the identical location as the December 2004 boring, as evidenced by the grout encountered at the original boring depth. Borings were advanced by auger to the depth of original sampling, then additionally completed with continuous coring equipment from that position to the total boring depth. Boring locations are depicted in **Figure 3**.

Soil logs were prepared during boring (**Table 1**) and field headspace readings (**Table 2**) were 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. A threshold value of 50 ppm was used to estimate compliance with these BTEX standards and to guide placement of additional borings.

At MPB-1, samples were collected in 2.5' intervals from a depth of 15' bgs to the total boring depth of 25' bgs. All field headspace readings were below the 50 ppm level specified in the supplemental work plan. For borings MPB-9 and MPB-10, samples were collected in 2.5' intervals from a depth of 20' bgs to the total boring depth of 40' and 42.5' bgs, respectively. All field headspace readings at depths greater than 30' were below the 50 ppm threshold.

An optional intermediate depth sample interval and the terminal depth sample interval were submitted to OilLab, Inc. in Midland Texas for each boring demonstrating the maximum field headspace reading. These samples were shipped under a Chain of Custody transport for TPH-GRO and TPH-DRO analysis, as per the supplemental work plan.

Soils encountered during boring ranged from hard to very hard but friable caliche to limestone bedrock and sandstone type materials. No saturated materials were encountered, and all materials considered dry.

## Laboratory Analysis

The maximum total hydrocarbon concentration of 1,690 ppm was encountered at the intermediate depth of 15.0-17.5' bgs in MPB-1. All other TPH concentrations were below the 1,000 ppm TPH threshold.

These supplemental borings serve to delineate the vertical extent of contamination at the site. Laboratory analyses are summarized in **Table 3**, with complete analytical reports including Chain of Custody documentation found in the Appendix A.

#### **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; calibration sheet for the June 14, 2005 investigation 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 will be performed in a safe manner.
2. A tailgate safety meeting will be conducted each morning prior to initiation of work.
3. No excavation or boring will be performed without clearing the area of utility lines.
4. Boom up/down will not be performed without visual confirmation that the overhead area is clear of obstructions.
5. Call sheet and directions to local hospital will be available to all on-site personnel.

A completed site health and safety plan for the June 14, 2005 supplemental investigation is included in Appendix C.

**Call Sheet:**

<b>Emergency Contacts</b>	<b>Phone number</b>	<b>email</b>
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

<b>Emergency Contacts</b>	<b>Phone number</b>
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

## 5.0 SUMMARY AND REMEDIATION RECOMMENDATIONS

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 ASTs #3 and #4.

Complete excavation to remove all subsurface materials with hydrocarbon levels in excess of NMOCD regulatory thresholds is impractical, as this action will require 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 should be determined by the need to preserve safe operations, keeping the integrity of the supporting foundations of the surface equipment and underground utilities in tact. These determinations will largely be made in-field during the time of excavation, as underground utilities may be encountered that are not mapped. As such, it is recommended that the impacted soils be remediated as follows:

- excavation of shallow soils ( $\leq 5'$ ) for landspreading, and
- in situ remediation of the soils that are impractical to excavate, and
- in situ remediation of the deep ( $> 5'$ ) impacted soils.

### **Excavation and Bioremediation through Landspreading**

After the selected soils have been excavated to a depth of 5', the excavation floor should be divided into 625 square foot sections (25' x 25'), and each excavation sidewall divided into the same size sections. Soil samples will be extracted and collected from each section for laboratory analysis, as discussed below.

**Note:** No personnel should enter the excavation area unless confined space entry and OSHA slope/shoring procedures are followed.

Samples collected will be analyzed for total hydrocarbons to demonstrate that all residual hydrocarbon concentrations in soils that remain in place are below the NMOCD total petroleum thresholds. BTEX concentrations do not require further evaluation, as concentrations encountered during this investigation are reported below the NMOCD thresholds for this constituent.

Bioremediation will be achieved by constructing a landfarm cell adjacent to the location, and spreading the excavated soils in the landfarm area at depth of no greater than 6 inches. The landfarm cells will be equipped with 18" berm to prevent the migration of contaminants, with the berms constructed from native soil. The bioremediation cell will be sized appropriately to accommodate all excavated soils. After spreading is completed the cell will be fertilized with 300 lb. actual nitrogen per acre, and disked to distribute the fertilizer and aerate the soils.

The landfarm cell will be disked twice monthly, with approximately 2 inches of water applied to the cell after each disking for a minimum of two warm-season months (average daily temperatures of >65 °F).

The bioremediation cell will be divided into quadrants, with 4 soil samples collected from each quadrant and composited for analysis to determine the effectiveness of these remedial activities. If sample analysis is measured above the NMOCD total hydrocarbon threshold, an additional 300 lb. of actual nitrogen per acre fertilizer application will be applied, followed by an additional two months of disking and water applications to complete bioremediation. Additional composite samples will be collected and analyzed as described above. This procedure will be repeated until all soil in the bioremediation cell has achieved the NMOCD threshold for total hydrocarbons.

Once remediation is complete the remediated soils will be released for unrestricted use. These remediated soils will be used for backfilling the excavated area and surface grading.

#### **Excavation and In Situ Remediation - Fertilizer**

Excavation of the area to the west of ASTs #3 and #4 will be performed unless constrained by surface or subsurface equipment. In areas where hydrocarbon impact is >5' and <10', with unrestricted access, 1,000 lbs of nitrogen will be applied on a per acre basis and tilled into the soil with the aid of a backhoe, to the depth of measured contamination. Soil samples will be collected within six months, with samples extracted from each 4' interval to the maximum depth of impact for each area where this remedial method is employed. Upon achieving the NMOCD thresholds for total hydrocarbons in these areas, remediation will be considered complete.

#### **Excavation and In Situ Remediation – Fertilizer & Air Sparging**

Following excavation and in situ remediation of all accessible areas, remediation of the inaccessible areas will be conducted in situ using the application of subsurface amendments and air sparging. Soil borings will be placed using a drilling rig to a minimum depth of 15' or as indicated by field PID headspace readings (using a reading of 50 ppm as the cut-off depth) on a 15' grid pattern, as follows:

- Slotted 4" PVC pipe will be installed from 5' bgs to the total boring depth.
- Solid 4" PVC pipe will be used from the < 5' bgs to 1-ft above the surface.

Pea gravel or coarse well sand mixed with 40 lb. of ammonium sulfate fertilizer will be used as backfill to set the pipe, up to a depth of 5' bgs. The remaining backfill will be accomplished with bentonite, bringing this backfill material to, and sealing, the surface.

A surface manifold system will be constructed to connect the air sparging well piping, using 2" PVC pipe. Low pressure (5 - 10 PSI) compressed air will be applied to the



manifold system by use of a portable air compressor to aerate the subsurface soils, allowing for bioremediation of subsurface hydrocarbons to occur. The ammonium sulfate will encourage permeability of the soil, enabling the acceptance of the injected oxygen into the impacted area.

The air compressor will be run daily for approximately 1 hour per day. Progress sampling will be conducted within 6 months of the onset of the remediation project, analyzing for total hydrocarbons, and approximately every 6 months thereafter until the NMOCD total hydrocarbon thresholds are met. Sample depth will follow the original depth of hydrocarbon impact, with sample cores collected on 4' intervals.

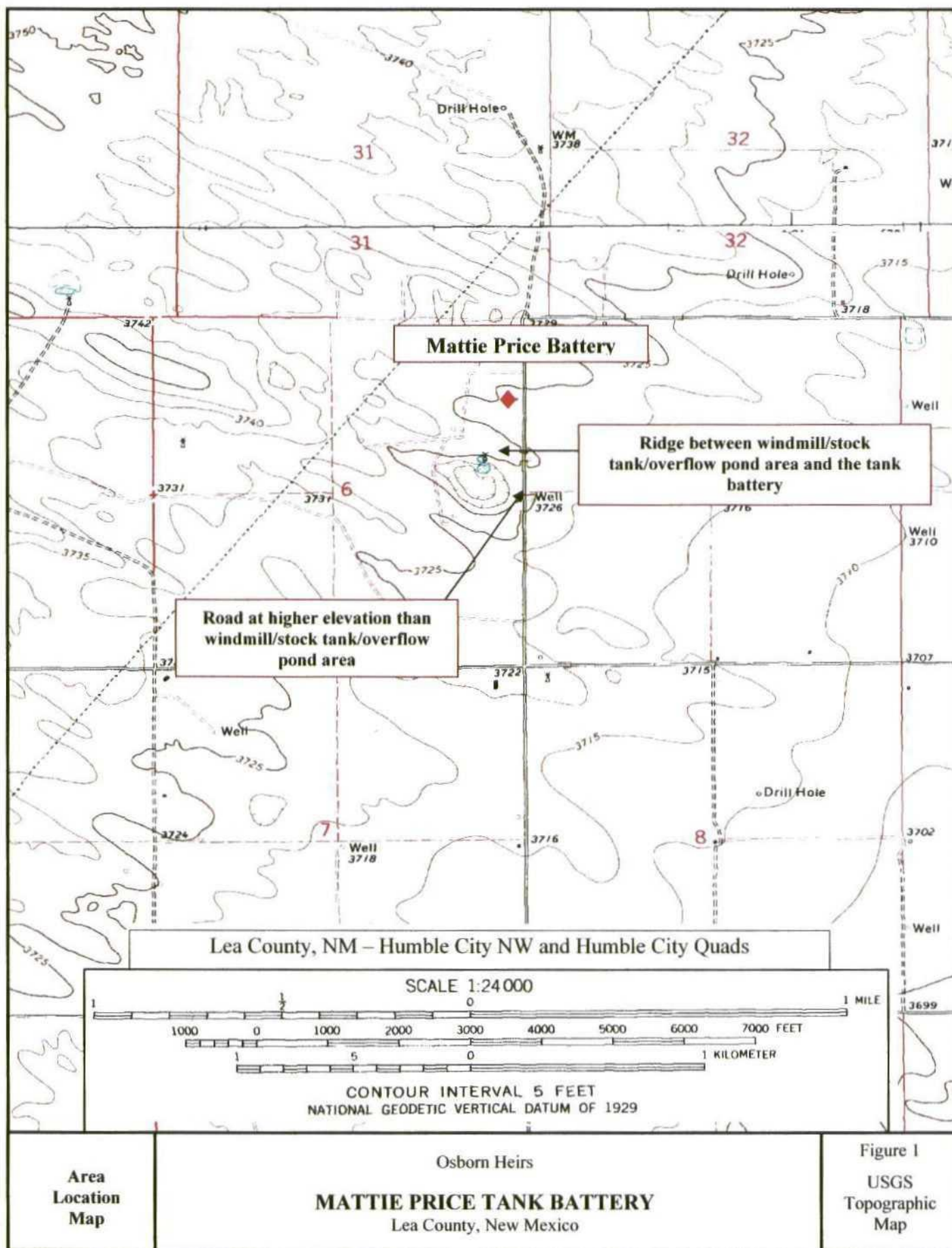
Upon completion of remediation at this site to the NMOCD thresholds, the landfarm area will be graded to its original contour. Air sparging wells will be removed and the well bores filled with native soil.

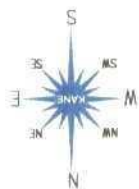
No remedial activities will be initiated without the expressed consent of the landowner (see Appendix D) and the approval of the NMOCD, including the initiation of landfarming activities and the application of fertilizers. A minimum of 48 hours notice will be given to NMOCD personnel prior to initiation of on-site activities.

Osborne anticipates initiating remediation within 60 days of receiving approval from the NMOCD, and completion of the construction phase of remediation within 1 year. Final completion of remediation for areas where in-situ remediation is required is anticipated to be complete within 2 years.

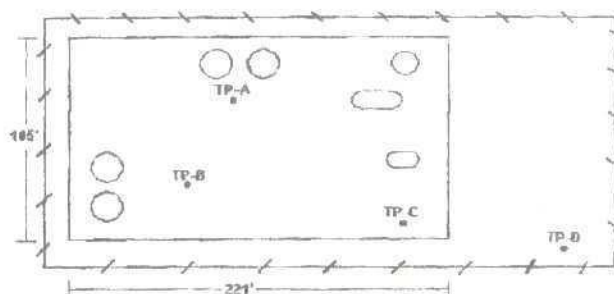
\_\_\_\_\_  
Signature of Osborn Agent

\_\_\_\_\_  
Date



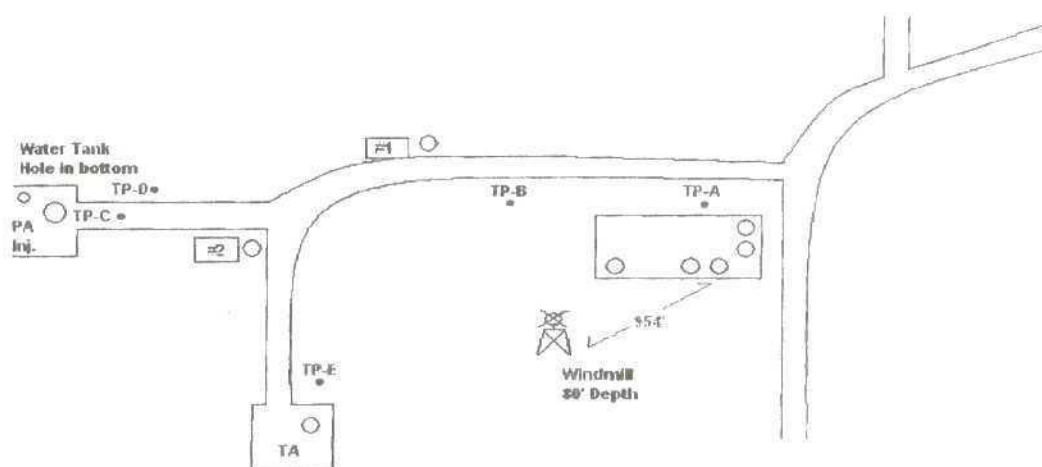


Mattie Price Tank Battery  
West Garrett Devonian Pool  
 NE ¼ NE ¼  
 Sec-6 TS-17-S R-38E  
 Lea Co. New Mexico



Hydrocarbon & Chloride Test Results

Test Point	Results
A	16,860ppm @ 6"    25,900ppm @ 7 1/2"    2,160ppm @ 10"    516ppm @ 14"
B	3,130ppm @ 6"
C	460ppm @ 6"
D	18ppm @ 4"
Chlorides	<250ppm



Chloride Test Results

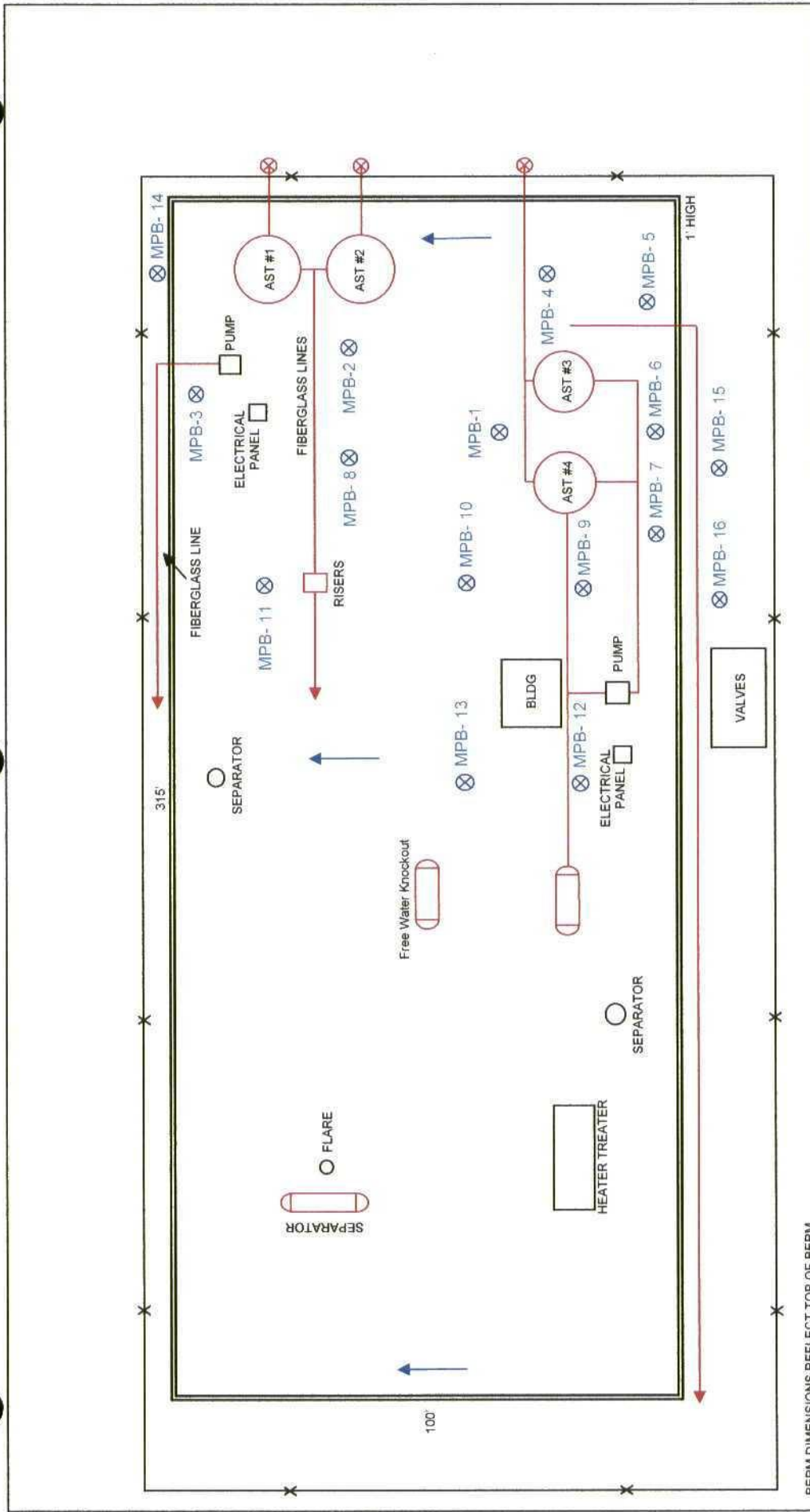
Test Point	Results
A.	100ppm @ Surface
B.	100ppm @ Surface
C.	100ppm @ Surface
D.	300ppm @ Surface
E.	150ppm @ Surface

TP B, eg.

**KANE**

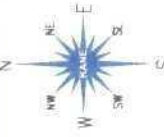

Environmental Engineering Inc.  
Spring Texas

Figure 2  
 R.E. Environmental Services, Inc.  
 Sample Locations and Analyses Results

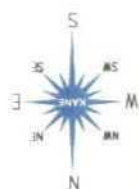


TANK LEGEND		TANK LEGEND	
—	SURFACE DRAINAGE	AST #1 PRODUCED WATER TANK	504 BBL
—X—	FENCE	AST #2 PRODUCED WATER TANK	504 BBL
□	SPCC-REGULATED STORAGE TANKS OR OIL CONTAINING EQUIPMENT	AST #3 PRODUCED OIL TANK	500 BBL
▭	EARTHEN BERM	AST #4 PRODUCED OIL TANK	500 BBL
⊗	SOIL BORING		

BERM DIMENSIONS REFLECT TOP OF BERM		Figure 3	
		<b>Mattie Price Battery Soil Boring Plot</b>	
		Lea County, New Mexico N 32° 52' 33" W 103° 10' 46.86"	
			
			
		Environmental Engineering Inc. Spring, Texas	
		DRAWN BY: TYH	PROJECT: 04-631
		DATE: 8/29/2004	APPROVED BY: DCP
		REVISED: 12/30/2004	NOT TO SCALE





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**KANE**

Environmental Engineering Inc.  
Spring Texas

Figure 4

Directions to Tank Battery &  
Lea County Medical Center

**Table 1 Site Investigation Soil Boring Logs – December 2004/June 2005**

Boring Location	Depth Interval, ft	Soil Description
MPB-1	0-2.5'	Brown sandy loam with caliche, hydrocarbon odor
	2.5-7.5'	Grayish brown stiff, sticky silty clay with caliche, hydrocarbon odor
	7.5-15.0'	Tan hard to very hard friable caliche with decreasing hydrocarbon odor
	15.0-20.0'	Tan hard to very hard friable caliche with decreasing hydrocarbon odor
	20.0-22.5'	Limestone bedrock, faint hydrocarbon odor
MPB-2	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
	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'
MPB-3	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
	2.5-5.0'	Black stiff, sticky silty clay with caliche, hydrocarbon odor
	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
MPB-4	0-2.5'	Tan sandy loam with caliche, gray hydrocarbon staining 1.5-2.5'
	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
MPB-5	0-2.5'	Tan sandy loam with caliche, gray hydrocarbon staining 1.5-2.5'
	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
MPB-6	0-2.5'	Tan sandy loam with caliche, gray hydrocarbon staining 1.5-2.5'
	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



**Table 1 Site Investigation Soil Boring Logs – December 2004/June 2005, continued**

Boring Location	Depth Interval, ft	Soil Description
MPB-7	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
	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
	15.0-20.0'	Tan sandy loam with caliche, faint light end hydrocarbon odor
MPB-8	0-2.5'	Tan sandy loam with caliche
	2.5-5.0'	Brown stiff silty clay with caliche
	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'
MPB-9	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
	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
MPB-10	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
	10.0-20.0'	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
	35.0-42.5'	Dry friable sandstone

**Table 1 Site Investigation Soil Boring Logs – December 2004/June 2005, continued**

MPB-11	0-2.5'	Tan sandy loam with caliche, hydrocarbon odor
	2.5-5.0'	Brown stiff silty clay with caliche, faint hydrocarbon odor
	5.0-12.5'	Tan hard to very hard friable caliche
MPB-12	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
	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
	2.5-5.0'	Brown stiff silty clay with caliche
MPB-14	5.0-12.5'	Light gray hard to very hard friable caliche
	0-2.5'	Dark brown sandy loam with caliche
	2.5-10.0'	Brown stiff silty clay with caliche
MPB-15	10.0-15.0'	Tan to reddish brown hard to very hard friable caliche
	0-2.5'	Dark brown sandy loam with caliche
	2.5-5.0'	Brown stiff silty clay with caliche
MPB-16	5.0-15.0'	Tan to reddish brown hard to very hard friable caliche



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

<b>Boring Location</b>	<b>Sample Depth Interval, ft</b>	<b>Field Headspace Reading, ppm</b>	<b>Boring Location</b>	<b>Sample Depth Interval, ft</b>	<b>Field Headspace Reading, ppm</b>
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

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

Boring Location	Sample Depth Interval, ft	Field Headspace Reading, ppm	Boring Location	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			
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 3 TPH and BTEX Analyses for December 2004/June 2005 Soil Samples.

Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	TPH GRO	TPH-DRO	Total Hydrocarbon
Mg/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'	--	--	--	--	--	462	1230	1690
MPB-1 22.5-25.0'	--	--	--	--	--	60.9	271	332
MPB-1 12.5-15.0'	<0.025	0.1060	0.1540	1.1770	1.4370	311	812	1120
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	--	--	--	50	1,000	1,000	1,000

**Table 3 Total Petroleum Hydrocarbon and Benzene, Toluene, Ethylbenzene, and Xylenes Analyses for Soil Samples.**

Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	TPH GRO	TPH-DRO	Total Hydrocarbon
<b>Mg/kg</b>								
MPB-9 2.5-5.0'	0.0215	0.2160	0.2460	2.0920	2.5755	114	293	407
MPB-9 7.5-10.0'	0.0946	1.2200	0.9360	12.7600	15.0106	701	1180	1880
MPB-9 17.5-20.0	0.0361	0.5520	0.2210	1.6180	2.4271	727	1700	2430
MPB-9 20.5-22.5	--	--	--	--	--	163	313	476
MPB-9 27.5-30.0	--	--	--	--	--	31.2	145	176
MPB-9 37.5-40.0	--	--	--	--	--	ND	ND	ND
MPB-10 2.5-5.0	0.2500	1.0300	0.6640	6.7590	8.7030	211	448	659
MPB-10 17.5-20.0	0.1320	1.0800	0.4270	2.5540	4.1930	771	1480	2250
MPB-10 20.5-22.5	--	--	--	--	--	252	717	969
MPB-10 27.5-30.0	--	--	--	--	--	25.4	293	318
MPB-10 40.0-42.5	--	--	--	--	--	ND	ND	ND
MPB-11 0.0-2.5	<0.025	0.0386	0.0581	0.3838	0.4805	<10	<10	<10
MPB-11 10.0-12.5	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
MPB-12 0.0-2.5	<0.025	0.0247	0.0429	0.0929	0.1605	14.9	<10	14.9
MPB-12 5.0-7.5'	0.0201	0.5460	0.2300	2.2060	3.0021	711	1430	2140
MPB-12 12.5-15.0'	<0.025	0.0973	0.0626	1.0270	1.1869	141	408	549
MPB-13 0.0-2.5	<0.025	0.0615	0.1000	0.5690	0.7305	34	347	381
MPB-13 12.5-15.0'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	30	30
MPB-14 0.0-2.5'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
MPB-14 10.0-12.5'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
MPB-15 0.0-2.5'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
MPB-15 12.5-15.0'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
MPB-16 0.0-2.5'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
MPB-16 12.5-15.0'	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
<b>NMOC Regulatory Thresholds</b>	<b>10</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>50</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>



## Analytical Report

**Prepared for:**

Deb Lambertson

Kane Environmental (Midland)

4713 Rosewood Drive

Midland, TX 79707

Project: Mattie Price Battery

Project Number: 04-631

Location: None Given

Lab Order Number: 4L17002

Report Date: 12/27/04

Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
12/27/04 10:29

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MPB-4 0-2, 5.0'	4L17002-01	Soil	12/15/04 14:30	12/17/04 08:00
MPB-4 12.5-15.0'	4L17002-02	Soil	12/15/04 14:50	12/17/04 08:00
MPB-5 7.5-10.0'	4L17002-03	Soil	12/15/04 15:00	12/17/04 08:00
MPB-5 12.5-15.0'	4L17002-04	Soil	12/15/04 15:20	12/17/04 08:00
MPB-6 5.0-7.5'	4L17002-05	Soil	12/15/04 15:55	12/17/04 08:00
MPB-6 12.5-15.0'	4L17002-06	Soil	12/15/04 16:00	12/17/04 08:00
MPB-7 7.5-10.0'	4L17002-07	Soil	12/15/04 16:41	12/17/04 08:00
MPB-7 17.5-20.0'	4L17002-08	Soil	12/15/04 17:01	12/17/04 08:00
MPB-1 5.0-7.5'	4L17002-09	Soil	12/16/04 08:04	12/17/04 08:00
MPB-1 12.5-15.0'	4L17002-10	Soil	12/16/04 08:18	12/17/04 08:00
MPB-2 0-2.5'	4L17002-11	Soil	12/16/04 08:35	12/17/04 08:00
MPB-2 12.5-15.0'	4L17002-12	Soil	12/16/04 08:45	12/17/04 08:00
MPB-8 7.5-10.0'	4L17002-13	Soil	12/16/04 09:08	12/17/04 08:00
MPB-8 12.5-15.0'	4L17002-14	Soil	12/16/04 09:21	12/17/04 08:00
MPB-9 2.5-5.0'	4L17002-15	Soil	12/16/04 09:40	12/17/04 08:00
MPB-9 7.5-10.0'	4L17002-16	Soil	12/16/04 10:00	12/17/04 08:00
MPB-9 17.5-20.0'	4L17002-17	Soil	12/16/04 10:15	12/17/04 08:00
MPB-10 2.5-5.0'	4L17002-18	Soil	12/16/04 10:28	12/17/04 08:00
MPB-10 17.5-20.0'	4L17002-19	Soil	12/16/04 10:55	12/17/04 08:00
MPB-11 0-2.5'	4L17002-20	Soil	12/16/04 11:30	12/17/04 08:00
MPB-11 10.0-12.5'	4L17002-21	Soil	12/16/04 11:34	12/17/04 08:00
MPB-3 0-2.5'	4L17002-22	Soil	12/16/04 12:35	12/17/04 08:00
MPB-3 12.5-15.0'	4L17002-23	Soil	12/16/04 12:50	12/17/04 08:00
MPB-12 0-2.5'	4L17002-24	Soil	12/16/04 13:10	12/17/04 08:00
MPB-12 5.0-7.5'	4L17002-25	Soil	12/16/04 13:20	12/17/04 08:00
MPB-12 12.5-15.0'	4L17002-26	Soil	12/16/04 13:30	12/17/04 08:00
MPB-13 0-2.5'	4L17002-27	Soil	12/16/04 14:00	12/17/04 08:00
MPB-13 12.5-15.0'	4L17002-28	Soil	12/16/04 14:10	12/17/04 08:00
MPB-14 0-2.5'	4L17002-29	Soil	12/16/04 14:21	12/17/04 08:00
MPB-14 10-12.5'	4L17002-30	Soil	12/16/04 14:47	12/17/04 08:00
MPB-15 0-2.5'	4L17002-31	Soil	12/16/04 15:05	12/17/04 08:00
MPB-15 12.5-15.0'	4L17002-32	Soil	12/16/04 15:25	12/17/04 08:00
MPB-16 0-2.5'	4L17002-33	Soil	12/16/04 15:40	12/17/04 08:00
MPB-16 12.5-15.0'	4L17002-34	Soil	12/16/04 15:55	12/17/04 08:00

Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

**Reported:**  
12/27/04 10:29

Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

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Reported:  
12/27/04 10:29

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MPB-4 0-2, 5.0' (4L17002-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42010	12/17/04	12/17/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		90.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		111 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		105 %	70-130		"	"	"	"	
<b>MPB-4 12.5-15.0' (4L17002-02) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42010	12/17/04	12/17/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		87.3 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		103 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		96.0 %	70-130		"	"	"	"	
<b>MPB-5 7.5-10.0' (4L17002-03) Soil</b>									
Benzene	0.154	0.0250	mg/kg dry	25	EL42010	12/17/04	12/17/04	EPA 8021B	
Toluene	1.41	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.388	0.0250	"	"	"	"	"	"	
Xylene (p/m)	1.90	0.0250	"	"	"	"	"	"	
Xylene (o)	0.385	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		184 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		139 %	80-120		"	"	"	"	S-04
Gasoline Range Organics C6-C12	1090	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	1650	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2740	10.0	"	"	"	"	"	"	

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Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
12/27/04 10:29

**Organics by GC**  
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MPB-5 7.5-10.0' (4L17002-03) Soil</b>									
Surrogate: 1-Chlorooctane		119 %	70-130		EL41710	12/17/04	12/17/04	EPA 8015M	
Surrogate: 1-Chlorooctadecane		107 %	70-130		"	"	"	"	
<b>MPB-5 12.5-15.0' (4L17002-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42010	12/17/04	12/17/04	EPA 8021B	
Toluene	J [0.0160]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	J [0.0203]	0.0250	"	"	"	"	"	"	J
Xylene (p/m)	0.0325	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		84.4 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		115 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	15.5	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	22.0	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	37.5	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		106 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		97.8 %	70-130		"	"	"	"	
<b>MPB-6 5.0-7.5' (4L17002-05) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42010	12/17/04	12/17/04	EPA 8021B	
Toluene	0.0287	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0542	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.277	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0717	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		92.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	29.4	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	65.6	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	95.0	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		96.6 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		91.6 %	70-130		"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MPB-6 12.5-15.0' (4L17002-06) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42010	12/17/04	12/17/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		83.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		97.4 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		88.8 %	70-130		"	"	"	"	
<b>MPB-7 7.5-10.0' (4L17002-07) Soil</b>									
Benzene	J [0.0169]	0.0250	mg/kg dry	25	EL42010	12/17/04	12/17/04	EPA 8021B	J
Toluene	0.966	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.375	0.0250	"	"	"	"	"	"	
Xylene (p/m)	2.31	0.0250	"	"	"	"	"	"	
Xylene (o)	0.418	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		111 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		147 %	80-120		"	"	"	"	S-04
Gasoline Range Organics C6-C12	863	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	1530	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2390	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		121 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		124 %	70-130		"	"	"	"	
<b>MPB-7 17.5-20.0' (4L17002-08) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42010	12/17/04	12/20/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		81.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	

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Project Number: 04-631  
Project Manager: Deb Lambertson

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MPB-7 17.5-20.0' (4L17002-08) Soil</b>									
Surrogate: 1-Chlorooctane		100 %	70-130		EL41710	12/17/04	12/17/04	EPA 8015M	
Surrogate: 1-Chlorooctadecane		91.4 %	70-130		"	"	"	"	
<b>MPB-1 5.0-7.5' (4L17002-09) Soil</b>									
Benzene	0.175	0.0250	mg/kg dry	25	EL42010	12/17/04	12/17/04	EPA 8021B	
Toluene	1.42	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.457	0.0250	"	"	"	"	"	"	
Xylene (p/m)	1.71	0.0250	"	"	"	"	"	"	
Xylene (o)	0.441	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		215 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		164 %	80-120		"	"	"	"	S-04
Gasoline Range Organics C6-C12	527	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	828	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1360	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		110 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		99.4 %	70-130		"	"	"	"	
<b>MPB-1 12.5-15.0 (4L17002-10) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42010	12/17/04	12/17/04	EPA 8021B	
Toluene	0.106	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.154	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.924	0.0250	"	"	"	"	"	"	
Xylene (o)	0.253	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		95.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		136 %	80-120		"	"	"	"	S-04
Gasoline Range Organics C6-C12	311	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	812	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1120	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		111 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		105 %	70-130		"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MPB-2 0-2.5' (4L17002-11) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42010	12/17/04	12/17/04	EPA 8021B	
Toluene	J [0.0248]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	J [0.0169]	0.0250	"	"	"	"	"	"	J
Xylene (p/m)	0.0389	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0272	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		84.7 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		130 %	80-120		"	"	"	"	S-04
Gasoline Range Organics C6-C12	13.6	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	26.5	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	40.1	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		106 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		96.8 %	70-130		"	"	"	"	
<b>MPB-2 12.5-15.0' (4L17002-12) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42010	12/17/04	12/17/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		92.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		118 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		103 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		93.6 %	70-130		"	"	"	"	
<b>MPB-8 7.5-10.0' (4L17002-13) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42010	12/17/04	12/17/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0455	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.310	0.0250	"	"	"	"	"	"	
Xylene (o)	0.118	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		82.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		115 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	52.7	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	218	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	271	10.0	"	"	"	"	"	"	

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Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

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12/27/04 10:29

**Organics by GC**  
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**MPB-8 7.5-10.0' (4L17002-13) Soil**

Surrogate: 1-Chlorooctane		98.6 %	70-130		EL41710	12/17/04	12/17/04	EPA 8015M	
Surrogate: 1-Chlorooctadecane		89.6 %	70-130		"	"	"	"	

**MPB-8 12.5-15.0' (4L17002-14) Soil**

Benzene	ND	0.0250	mg/kg dry	25	EL42010	12/17/04	12/17/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		86.1 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		114 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		104 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		92.0 %	70-130		"	"	"	"	

**MPB-9 2.5-5.0' (4L17002-15) Soil**

Benzene	J [0.0215]	0.0250	mg/kg dry	25	EL42010	12/17/04	12/17/04	EPA 8021B	J
Toluene	0.216	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.246	0.0250	"	"	"	"	"	"	
Xylene (p/m)	1.52	0.0250	"	"	"	"	"	"	
Xylene (o)	0.572	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		95.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	114	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	293	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	407	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		99.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		87.6 %	70-130		"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MPB-9 7.5-10.0' (4L17002-16) Soil</b>									
Benzene	0.0946	0.0250	mg/kg dry	25	EL42010	12/17/04	12/17/04	EPA 8021B	
Toluene	1.22	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.936	0.0250	"	"	"	"	"	"	
Xylene (p/m)	8.23	0.0250	"	"	"	"	"	"	
Xylene (o)	4.53	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		182 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		141 %	80-120		"	"	"	"	S-04
Gasoline Range Organics C6-C12	701	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	1180	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1880	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		111 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		110 %	70-130		"	"	"	"	
<b>MPB-9 17.5-20.0' (4L17002-17) Soil</b>									
Benzene	0.0361	0.0250	mg/kg dry	25	EL42010	12/17/04	12/18/04	EPA 8021B	
Toluene	0.552	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.221	0.0250	"	"	"	"	"	"	
Xylene (p/m)	1.29	0.0250	"	"	"	"	"	"	
Xylene (o)	0.328	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		108 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		132 %	80-120		"	"	"	"	S-04
Gasoline Range Organics C6-C12	727	10.0	mg/kg dry	1	EL41710	12/17/04	12/17/04	EPA 8015M	
Diesel Range Organics >C12-C35	1700	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2430	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		106 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		116 %	70-130		"	"	"	"	
<b>MPB-10 2.5-5.0' (4L17002-18) Soil</b>									
Benzene	0.250	0.0250	mg/kg dry	25	EL42103	12/20/04	12/20/04	EPA 8021B	
Toluene	1.03	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.664	0.0250	"	"	"	"	"	"	
Xylene (p/m)	6.16	0.0250	"	"	"	"	"	"	
Xylene (o)	0.599	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		548 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		145 %	80-120		"	"	"	"	S-04
Gasoline Range Organics C6-C12	211	10.0	mg/kg dry	1	EL41710	12/17/04	12/18/04	EPA 8015M	
Diesel Range Organics >C12-C35	448	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	659	10.0	"	"	"	"	"	"	

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Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
12/27/04 10:29

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MPB-10 2.5-5.0' (4L17002-18) Soil</b>									
Surrogate: 1-Chlorooctane		96.8 %	70-130		EL41710	12/17/04	12/18/04	EPA 8015M	
Surrogate: 1-Chlorooctadecane		87.2 %	70-130		"	"	"	"	
<b>MPB-10 17.5-20.0' (4L17002-19) Soil</b>									
Benzene	0.132	0.0250	mg/kg dry	25	EL42103	12/20/04	12/20/04	EPA 8021B	
Toluene	1.08	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.427	0.0250	"	"	"	"	"	"	
Xylene (p/m)	2.35	0.0250	"	"	"	"	"	"	
Xylene (o)	0.204	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		195 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		116 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	771	10.0	mg/kg dry	1	EL41710	12/17/04	12/18/04	EPA 8015M	
Diesel Range Organics >C12-C35	1480	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2250	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		114 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		122 %	70-130		"	"	"	"	
<b>MPB-11 0-2.5' (4L17002-20) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42103	12/20/04	12/20/04	EPA 8021B	
Toluene	0.0386	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0581	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.309	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0748	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		96.4 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/18/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		87.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		74.4 %	70-130		"	"	"	"	

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4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
12/27/04 10:29

**Organics by GC**  
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MPB-11 10.0-12.5' (4L17002-21) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42103	12/20/04	12/21/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		80.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.7 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/18/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		99.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		87.8 %	70-130		"	"	"	"	
<b>MPB-3 0-2.5' (4L17002-22) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42103	12/20/04	12/20/04	EPA 8021B	
Toluene	J [0.0111]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	0.0268	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0900	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0314	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		97.1 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	260	10.0	mg/kg dry	1	EL41710	12/17/04	12/18/04	EPA 8015M	
Diesel Range Organics >C12-C35	4360	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	4620	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		111 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		84.8 %	70-130		"	"	"	"	
<b>MPB-3 12.5-15.0' (4L17002-23) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42103	12/20/04	12/20/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		96.4 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.8 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/18/04	EPA 8015M	
Diesel Range Organics >C12-C35	12.5	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	12.5	10.0	"	"	"	"	"	"	

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Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
12/27/04 10:29

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**MPB-3 12.5-15.0' (4L17002-23) Soil**

Surrogate: 1-Chlorooctane		107 %	70-130		EL41710	12/17/04	12/18/04	EPA 8015M	
Surrogate: 1-Chlorooctadecane		99.2 %	70-130		"	"	"	"	

**MPB-12 0-2.5' (4L17002-24) Soil**

Benzene	ND	0.0250	mg/kg dry	25	EL42103	12/20/04	12/20/04	EPA 8021B	
Toluene	J [0.0247]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	0.0429	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0607	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0322	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		94.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.0 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	14.9	10.0	mg/kg dry	1	EL41710	12/17/04	12/18/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	14.9	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		103 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		92.2 %	70-130		"	"	"	"	

**MPB-12 5.0-7.5' (4L17002-25) Soil**

Benzene	J [0.0201]	0.0250	mg/kg dry	25	EL42103	12/20/04	12/20/04	EPA 8021B	J
Toluene	0.546	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.230	0.0250	"	"	"	"	"	"	
Xylene (p/m)	2.01	0.0250	"	"	"	"	"	"	
Xylene (o)	0.196	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		149 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		132 %	80-120		"	"	"	"	S-04
Gasoline Range Organics C6-C12	711	10.0	mg/kg dry	1	EL41710	12/17/04	12/18/04	EPA 8015M	
Diesel Range Organics >C12-C35	1430	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2140	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		113 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		123 %	70-130		"	"	"	"	

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Project Number: 04-631  
Project Manager: Deb Lambertson

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MPB-12 12.5-15.0' (4L17002-26) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42206	12/20/04	12/20/04	EPA 8021B	
Toluene	0.0973	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0626	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.881	0.0250	"	"	"	"	"	"	
Xylene (o)	0.146	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		101 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	141	10.0	mg/kg dry	1	EL41710	12/17/04	12/18/04	EPA 8015M	
Diesel Range Organics >C12-C35	408	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	549	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		101 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		93.4 %	70-130		"	"	"	"	
<b>MPB-13 0-2.5' (4L17002-27) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42206	12/20/04	12/21/04	EPA 8021B	
Toluene	0.0615	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.100	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.444	0.0250	"	"	"	"	"	"	
Xylene (o)	0.125	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		102 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	34.0	10.0	mg/kg dry	1	EL41710	12/17/04	12/18/04	EPA 8015M	
Diesel Range Organics >C12-C35	347	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	381	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		94.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		88.8 %	70-130		"	"	"	"	
<b>MPB-13 12.5-15.0' (4L17002-28) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42206	12/20/04	12/21/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		95.1 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.0 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/18/04	EPA 8015M	
Diesel Range Organics >C12-C35	30.0	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	30.0	10.0	"	"	"	"	"	"	

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Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
12/27/04 10:29

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**MPB-13 12.5-15.0' (4L17002-28) Soil**

Surrogate: 1-Chlorooctane		96.0 %	70-130		EL41710	12/17/04	12/18/04	EPA 8015M	
Surrogate: 1-Chlorooctadecane		85.4 %	70-130		"	"	"	"	

**MPB-14 0-2.5' (4L17002-29) Soil**

Benzene	ND	0.0250	mg/kg dry	25	EL42206	12/20/04	12/21/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		93.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/18/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		97.6 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		85.6 %	70-130		"	"	"	"	

**MPB-14 10-12.5' (4L17002-30) Soil**

Benzene	ND	0.0250	mg/kg dry	25	EL42206	12/20/04	12/21/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		83.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.1 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/18/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		94.4 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		82.8 %	70-130		"	"	"	"	

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Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

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**Organics by GC**  
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MPB-15 0-2.5' (4L17002-31) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42206	12/20/04	12/21/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		81.1 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		85.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/18/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		109 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		94.8 %	70-130		"	"	"	"	
<b>MPB-15 12.5-15.0' (4L17002-32) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42206	12/20/04	12/21/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		86.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/23/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		127 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		115 %	70-130		"	"	"	"	
<b>MPB-16 0-2.5' (4L17002-33) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42206	12/20/04	12/21/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		93.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.0 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/19/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	

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Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
12/27/04 10:29

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MPB-16 0-2.5' (4L17002-33) Soil</b>									
Surrogate: 1-Chlorooctane		103 %	70-130		EL41710	12/17/04	12/19/04	EPA 8015M	
Surrogate: 1-Chlorooctadecane		90.0 %	70-130		"	"	"	"	
<b>MPB-16 12.5-15.0' (4L17002-34) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL42206	12/20/04	12/21/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		92.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		82.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL41710	12/17/04	12/19/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		95.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		81.0 %	70-130		"	"	"	"	

Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
12/27/04 10:29

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MPB-4 0-2, 5.0' (4L17002-01) Soil</b>									
% Moisture	15.0		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-4 12.5-15.0' (4L17002-02) Soil</b>									
% Moisture	14.2		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-5 7.5-10.0' (4L17002-03) Soil</b>									
% Moisture	14.1		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-5 12.5-15.0' (4L17002-04) Soil</b>									
% Moisture	14.3		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-6 5.0-7.5' (4L17002-05) Soil</b>									
% Moisture	14.8		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-6 12.5-15.0' (4L17002-06) Soil</b>									
% Moisture	11.4		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-7 7.5-10.0' (4L17002-07) Soil</b>									
% Moisture	15.4		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-7 17.5-20.0' (4L17002-08) Soil</b>									
% Moisture	15.9		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-1 5.0-7.5' (4L17002-09) Soil</b>									
% Moisture	13.2		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-1 12.5-15.0 (4L17002-10) Soil</b>									
% Moisture	9.6		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-2 0-2.5' (4L17002-11) Soil</b>									
% Moisture	14.9		%	1	EL42003	12/17/04	12/20/04	% calculation	

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Project Number: 04-631  
Project Manager: Deb Lambertson

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**General Chemistry Parameters by EPA / Standard Methods**  
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MPB-2 12.5-15.0' (4L17002-12) Soil</b>									
% Moisture	15.5		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-8 7.5-10.0' (4L17002-13) Soil</b>									
% Moisture	13.0		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-8 12.5-15.0' (4L17002-14) Soil</b>									
% Moisture	18.8		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-9 2.5-5.0' (4L17002-15) Soil</b>									
% Moisture	15.6		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-9 7.5-10.0' (4L17002-16) Soil</b>									
% Moisture	12.9		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-9 17.5-20.0' (4L17002-17) Soil</b>									
% Moisture	12.4		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-10 2.5-5.0' (4L17002-18) Soil</b>									
% Moisture	17.4		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-10 17.5-20.0' (4L17002-19) Soil</b>									
% Moisture	12.0		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-11 0-2.5' (4L17002-20) Soil</b>									
% Moisture	17.4		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-11 10.0-12.5' (4L17002-21) Soil</b>									
% Moisture	8.2		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-3 0-2.5 (4L17002-22) Soil</b>									
% Moisture	15.5		%	1	EL42003	12/17/04	12/20/04	% calculation	

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Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

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**General Chemistry Parameters by EPA / Standard Methods**  
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MPB-3 12.5-15.0' (4L17002-23) Soil</b>									
% Moisture	7.3		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-12 0-2.5' (4L17002-24) Soil</b>									
% Moisture	16.0		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-12 5.0-7.5' (4L17002-25) Soil</b>									
% Moisture	10.7		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-12 12.5-15.0' (4L17002-26) Soil</b>									
% Moisture	14.1		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-13 0-2.5' (4L17002-27) Soil</b>									
% Moisture	13.3		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-13 12.5-15.0' (4L17002-28) Soil</b>									
% Moisture	11.3		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-14 0-2.5' (4L17002-29) Soil</b>									
% Moisture	15.8		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-14 10-12.5' (4L17002-30) Soil</b>									
% Moisture	5.7		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-15 0-2.5' (4L17002-31) Soil</b>									
% Moisture	14.9		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-15 12.5-15.0' (4L17002-32) Soil</b>									
% Moisture	14.4		%	1	EL42003	12/17/04	12/20/04	% calculation	
<b>MPB-16 0-2.5' (4L17002-33) Soil</b>									
% Moisture	15.1		%	1	EL42003	12/17/04	12/20/04	% calculation	

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**General Chemistry Parameters by EPA / Standard Methods**  
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MPB-16 12.5-15.0' (4L17002-34) Soil</b>									
% Moisture	15.8		%	1	EL42003	12/17/04	12/20/04	% calculation	

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**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL41710 - Solvent Extraction (GC)**

**Blank (EL41710-BLK1)**

Prepared: 12/17/04 Analyzed: 12/23/04

Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	40.5		mg/kg	50.0		81.0	70-130			
Surrogate: 1-Chlorooctadecane	39.1		"	50.0		78.2	70-130			

**Blank (EL41710-BLK2)**

Prepared: 12/17/04 Analyzed: 12/23/04

Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	49.6		mg/kg	50.0		99.2	70-130			
Surrogate: 1-Chlorooctadecane	43.9		"	50.0		87.8	70-130			

**LCS (EL41710-BS1)**

Prepared: 12/17/04 Analyzed: 12/23/04

Gasoline Range Organics C6-C12	466	10.0	mg/kg wet	500		93.2	75-125			
Diesel Range Organics >C12-C35	477	10.0	"	500		95.4	75-125			
Total Hydrocarbon C6-C35	943	10.0	"	1000		94.3	75-125			
Surrogate: 1-Chlorooctane	47.8		mg/kg	50.0		95.6	70-130			
Surrogate: 1-Chlorooctadecane	40.5		"	50.0		81.0	70-130			

**LCS (EL41710-BS2)**

Prepared: 12/17/04 Analyzed: 12/23/04

Gasoline Range Organics C6-C12	454	10.0	mg/kg wet	500		90.8	75-125			
Diesel Range Organics >C12-C35	497	10.0	"	500		99.4	75-125			
Total Hydrocarbon C6-C35	951	10.0	"	1000		95.1	75-125			
Surrogate: 1-Chlorooctane	45.8		mg/kg	50.0		91.6	70-130			
Surrogate: 1-Chlorooctadecane	40.6		"	50.0		81.2	70-130			

**Calibration Check (EL41710-CCV1)**

Prepared: 12/17/04 Analyzed: 12/23/04

Gasoline Range Organics C6-C12	478		mg/kg	500		95.6	80-120			
Diesel Range Organics >C12-C35	487		"	500		97.4	80-120			
Total Hydrocarbon C6-C35	965		"	1000		96.5	80-120			
Surrogate: 1-Chlorooctane	53.0		"	50.0		106	70-130			
Surrogate: 1-Chlorooctadecane	45.2		"	50.0		90.4	70-130			

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Kane Environmental (Midland)  
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Project Number: 04-631  
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**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL41710 - Solvent Extraction (GC)**

**Calibration Check (EL41710-CCV2)**

Prepared: 12/17/04 Analyzed: 12/23/04

Gasoline Range Organics C6-C12	483		mg/kg	500		96.6	80-120			
Diesel Range Organics >C12-C35	548		"	500		110	80-120			
Total Hydrocarbon C6-C35	1030		"	1000		103	80-120			
Surrogate: 1-Chlorooctane	51.5		"	50.0		103	70-130			
Surrogate: 1-Chlorooctadecane	42.7		"	50.0		85.4	70-130			

**Matrix Spike (EL41710-MS1)**

Source: 4L17002-01

Prepared: 12/17/04 Analyzed: 12/23/04

Gasoline Range Organics C6-C12	586	10.0	mg/kg dry	588	ND	99.7	75-125			
Diesel Range Organics >C12-C35	609	10.0	"	588	ND	104	75-125			
Total Hydrocarbon C6-C35	1200	10.0	"	1180	ND	102	75-125			
Surrogate: 1-Chlorooctane	58.1		mg/kg	50.0		116	70-130			
Surrogate: 1-Chlorooctadecane	53.7		"	50.0		107	70-130			

**Matrix Spike (EL41710-MS2)**

Source: 4L17002-21

Prepared: 12/17/04 Analyzed: 12/23/04

Gasoline Range Organics C6-C12	525	10.0	mg/kg dry	545	ND	96.3	75-125			
Diesel Range Organics >C12-C35	557	10.0	"	545	ND	102	75-125			
Total Hydrocarbon C6-C35	1080	10.0	"	1090	ND	99.1	75-125			
Surrogate: 1-Chlorooctane	54.4		mg/kg	50.0		109	70-130			
Surrogate: 1-Chlorooctadecane	45.5		"	50.0		91.0	70-130			

**Matrix Spike Dup (EL41710-MSD1)**

Source: 4L17002-01

Prepared: 12/17/04 Analyzed: 12/23/04

Gasoline Range Organics C6-C12	593	10.0	mg/kg dry	588	ND	101	75-125	1.19	20	
Diesel Range Organics >C12-C35	631	10.0	"	588	ND	107	75-125	3.55	20	
Total Hydrocarbon C6-C35	1220	10.0	"	1180	ND	103	75-125	1.65	20	
Surrogate: 1-Chlorooctane	57.7		mg/kg	50.0		115	70-130			
Surrogate: 1-Chlorooctadecane	53.9		"	50.0		108	70-130			

**Matrix Spike Dup (EL41710-MSD2)**

Source: 4L17002-21

Prepared: 12/17/04 Analyzed: 12/23/04

Gasoline Range Organics C6-C12	535	10.0	mg/kg dry	545	ND	98.2	75-125	1.89	20	
Diesel Range Organics >C12-C35	558	10.0	"	545	ND	102	75-125	0.179	20	
Total Hydrocarbon C6-C35	1090	10.0	"	1090	ND	100	75-125	0.922	20	
Surrogate: 1-Chlorooctane	55.2		mg/kg	50.0		110	70-130			
Surrogate: 1-Chlorooctadecane	45.8		"	50.0		91.6	70-130			

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Project Number: 04-631  
Project Manager: Deb Lambertson

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**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL42010 - EPA 5030C (GC)**

**Blank (EL42010-BLK1)**

Prepared & Analyzed: 12/17/04

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	85.6		ug/kg	100		85.6	80-120			
Surrogate: 4-Bromofluorobenzene	108		"	100		108	80-120			

**LCS (EL42010-BS1)**

Prepared & Analyzed: 12/17/04

Benzene	99.1		ug/kg	100		99.1	80-120			
Toluene	98.8		"	100		98.8	80-120			
Ethylbenzene	105		"	100		105	80-120			
Xylene (p/m)	234		"	200		117	80-120			
Xylene (o)	114		"	100		114	80-120			
Surrogate: a,a,a-Trifluorotoluene	104		"	100		104	80-120			
Surrogate: 4-Bromofluorobenzene	116		"	100		116	80-120			

**Calibration Check (EL42010-CCV1)**

Prepared: 12/17/04 Analyzed: 12/18/04

Benzene	104		ug/kg	100		104	80-120			
Toluene	105		"	100		105	80-120			
Ethylbenzene	105		"	100		105	80-120			
Xylene (p/m)	232		"	200		116	80-120			
Xylene (o)	107		"	100		107	80-120			
Surrogate: a,a,a-Trifluorotoluene	107		"	100		107	80-120			
Surrogate: 4-Bromofluorobenzene	116		"	100		116	80-120			

**Matrix Spike (EL42010-MS1)**

Source: 4L17002-17

Prepared: 12/17/04 Analyzed: 12/18/04

Benzene	2680		ug/kg	2500	31.6	106	80-120			
Toluene	3230		"	2500	484	110	80-120			
Ethylbenzene	2600		"	2500	194	96.2	80-120			
Xylene (p/m)	6270		"	5000	1130	103	80-120			
Xylene (o)	2540		"	2500	287	90.1	80-120			
Surrogate: a,a,a-Trifluorotoluene	124		"	100		124	80-120			S-04
Surrogate: 4-Bromofluorobenzene	131		"	100		131	80-120			S-04

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Project Number: 04-631  
Project Manager: Deb Lambertson

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**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL42010 - EPA 5030C (GC)**

**Matrix Spike Dup (EL42010-MSD1)**

Source: 4L17002-17

Prepared: 12/17/04 Analyzed: 12/18/04

Benzene	2720		ug/kg	2500	31.6	108	80-120	1.87	20	
Toluene	3270		"	2500	484	111	80-120	0.905	20	
Ethylbenzene	2960		"	2500	194	111	80-120	14.3	20	
Xylene (p/m)	7030		"	5000	1130	118	80-120	13.6	20	
Xylene (o)	3020		"	2500	287	109	80-120	19.0	20	
Surrogate: a,a,a-Trifluorotoluene	132		"	100		132	80-120			S-04
Surrogate: 4-Bromofluorobenzene	165		"	100		165	80-120			S-04

**Batch EL42103 - EPA 5030C (GC)**

**Blank (EL42103-BLK1)**

Prepared & Analyzed: 12/20/04

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	86.0		ug/kg	100		86.0	80-120			
Surrogate: 4-Bromofluorobenzene	104		"	100		104	80-120			

**LCS (EL42103-BS1)**

Prepared & Analyzed: 12/20/04

Benzene	90.0		ug/kg	100		90.0	80-120			
Toluene	90.8		"	100		90.8	80-120			
Ethylbenzene	99.8		"	100		99.8	80-120			
Xylene (p/m)	224		"	200		112	80-120			
Xylene (o)	108		"	100		108	80-120			
Surrogate: a,a,a-Trifluorotoluene	98.5		"	100		98.5	80-120			
Surrogate: 4-Bromofluorobenzene	117		"	100		117	80-120			

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**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL42103 - EPA 5030C (GC)**

**Calibration Check (EL42103-CCV1)**

Prepared & Analyzed: 12/20/04

Benzene	93.0		ug/kg	100		93.0	80-120			
Toluene	93.9		"	100		93.9	80-120			
Ethylbenzene	97.6		"	100		97.6	80-120			
Xylene (p/m)	215		"	200		108	80-120			
Xylene (o)	101		"	100		101	80-120			
Surrogate: a,a,a-Trifluorotoluene	114		"	100		114	80-120			
Surrogate: 4-Bromofluorobenzene	107		"	100		107	80-120			

**Matrix Spike (EL42103-MS1)**

Source: 4L17002-25

Prepared & Analyzed: 12/20/04

Benzene	2190		ug/kg	2500	17.9	86.9	80-120			
Toluene	2900		"	2500	488	96.5	80-120			
Ethylbenzene	2720		"	2500	205	101	80-120			
Xylene (p/m)	6670		"	5000	1790	97.6	80-120			
Xylene (o)	2530		"	2500	175	94.2	80-120			
Surrogate: a,a,a-Trifluorotoluene	168		"	100		168	80-120			S-04
Surrogate: 4-Bromofluorobenzene	128		"	100		128	80-120			S-04

**Matrix Spike Dup (EL42103-MSD1)**

Source: 4L17002-25

Prepared & Analyzed: 12/20/04

Benzene	2400		ug/kg	2500	17.9	95.3	80-120	9.22	20	
Toluene	3090		"	2500	488	104	80-120	7.48	20	
Ethylbenzene	2710		"	2500	205	100	80-120	0.995	20	
Xylene (p/m)	6790		"	5000	1790	100	80-120	2.43	20	
Xylene (o)	2500		"	2500	175	93.0	80-120	1.28	20	
Surrogate: a,a,a-Trifluorotoluene	175		"	100		175	80-120			S-04
Surrogate: 4-Bromofluorobenzene	131		"	100		131	80-120			S-04

**Batch EL42206 - EPA 5030C (GC)**

**Blank (EL42206-BLK1)**

Prepared & Analyzed: 12/20/04

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	94.2		ug/kg	100		94.2	80-120			
Surrogate: 4-Bromofluorobenzene	95.1		"	100		95.1	80-120			

Environmental Lab of Texas

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Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
12/27/04 10:29

**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
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**Batch EL42206 - EPA 5030C (GC)**

**LCS (EL42206-BS1)**

Prepared & Analyzed: 12/20/04

Benzene	88.7		ug/kg	100		88.7	80-120			
Toluene	90.6		"	100		90.6	80-120			
Ethylbenzene	98.5		"	100		98.5	80-120			
Xylene (p/m)	217		"	200		108	80-120			
Xylene (o)	102		"	100		102	80-120			
Surrogate: a,a,a-Trifluorotoluene	114		"	100		114	80-120			
Surrogate: 4-Bromofluorobenzene	115		"	100		115	80-120			

**Calibration Check (EL42206-CCV1)**

Prepared: 12/20/04 Analyzed: 12/21/04

Benzene	87.2		ug/kg	100		87.2	80-120			
Toluene	82.0		"	100		82.0	80-120			
Ethylbenzene	81.4		"	100		81.4	80-120			
Xylene (p/m)	180		"	200		90.0	80-120			
Xylene (o)	87.7		"	100		87.7	80-120			
Surrogate: a,a,a-Trifluorotoluene	105		"	100		105	80-120			
Surrogate: 4-Bromofluorobenzene	96.0		"	100		96.0	80-120			

**Matrix Spike (EL42206-MS1)**

Source: 4L17002-33

Prepared: 12/20/04 Analyzed: 12/21/04

Benzene	90.6		ug/kg	100	ND	90.6	80-120			
Toluene	90.5		"	100	ND	90.5	80-120			
Ethylbenzene	99.7		"	100	ND	99.7	80-120			
Xylene (p/m)	225		"	200	ND	112	80-120			
Xylene (o)	109		"	100	ND	109	80-120			
Surrogate: a,a,a-Trifluorotoluene	113		"	100		113	80-120			
Surrogate: 4-Bromofluorobenzene	113		"	100		113	80-120			

**Matrix Spike Dup (EL42206-MSD1)**

Source: 4L17002-33

Prepared: 12/20/04 Analyzed: 12/21/04

Benzene	93.2		ug/kg	100	ND	93.2	80-120	2.83	20	
Toluene	93.2		"	100	ND	93.2	80-120	2.94	20	
Ethylbenzene	100		"	100	ND	100	80-120	0.300	20	
Xylene (p/m)	225		"	200	ND	112	80-120	0.00	20	
Xylene (o)	108		"	100	ND	108	80-120	0.922	20	
Surrogate: a,a,a-Trifluorotoluene	118		"	100		118	80-120			
Surrogate: 4-Bromofluorobenzene	119		"	100		119	80-120			

Environmental Lab of Texas

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Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
12/27/04 10:29

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

#### Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch EL42003 - General Preparation (Prep)

##### Blank (EL42003-BLK1)

Prepared: 12/17/04 Analyzed: 12/20/04

% Moisture	0.004	%
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##### Duplicate (EL42003-DUP1)

Source: 4L17002-01

Prepared: 12/17/04 Analyzed: 12/20/04

% Moisture	15.6	%	15.0	3.92	20
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Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
12/27/04 10:29

### 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 K. Tuttle*

Date:

12/27/2004

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

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

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Environmental Lab of Texas

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# Environmental Lab of Texas

## Variance / Corrective Action Report – Sample Log-In

Client: Kane Environmental

Date/Time: 12-17-04 0830

Order #: 4L17002

Initials: MT

### Sample Receipt Checklist

Temperature of container/cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2.5 C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Custody Seals intact on shipping container/cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Not present
Custody Seals intact on sample bottles?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Not present
Chain of custody present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Container labels legible and intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Samples in proper container/bottle?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Samples properly preserved?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Sample bottles intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Applicable

Other observations:

Trip Blank arrived w/ sample. 2 Vials - not on COC,  
No method listed for TTH.

### Variance Documentation:

Contact Person: - Deb Date/Time: 12-17-04 Contacted by: MT

Regarding:

Let message will return call.

Corrective Action Taken:

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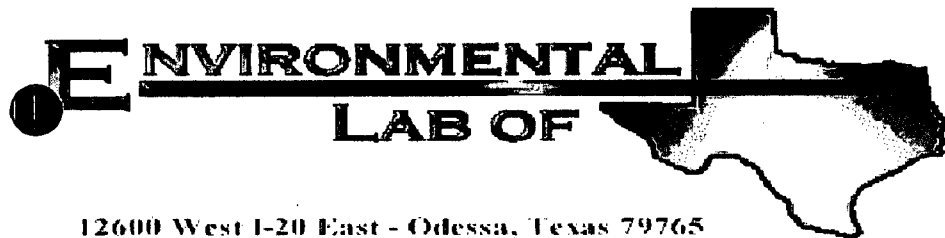
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12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Deb Lambertson

Kane Environmental (Midland)

4713 Rosewood Drive

Midland, TX 79707

Project: Mattie Price Battery

Project Number: 04-631

Location: Lea County, NM

Lab Order Number: 5F15002

Report Date: 06/20/05



Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
06/20/05 08:22

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Boring 1 15.0- 17.5'	5F15002-01	Soil	06/14/05 09:30	06/15/05 07:45
Boring 1 22.5- 25.0'	5F15002-02	Soil	06/14/05 09:55	06/15/05 07:45
Boring 9 20.0- 22.5'	5F15002-03	Soil	06/14/05 10:25	06/15/05 07:45
Boring 9 27.5- 30.0'	5F15002-04	Soil	06/14/05 11:00	06/15/05 07:45
Boring 10 20.0- 22.5'	5F15002-05	Soil	06/14/05 11:43	06/15/05 07:45
Boring 10 27.5- 30.0'	5F15002-06	Soil	06/14/05 12:10	06/15/05 07:45
Boring 10 40- 42.5'	5F15002-07	Soil	06/14/05 13:12	06/15/05 07:45
Boring 9 37.5- 40.0'	5F15002-08	Soil	06/14/05 14:24	06/15/05 07:45

Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
06/20/05 08:22

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boring 1 15.0- 17.5' (5F15002-01) Soil</b>									
Gasoline Range Organics C6-C12	462	10.0	mg/kg dry	1	EF51510	06/15/05	06/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	1230	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1690	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		124 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		159 %	70-130		"	"	"	"	S-04
<b>Boring 1 22.5- 25.0' (5F15002-02) Soil</b>									
Gasoline Range Organics C6-C12	60.9	10.0	mg/kg dry	1	EF51510	06/15/05	06/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	271	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	332	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		114 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		137 %	70-130		"	"	"	"	S-04
<b>Boring 9 20.0- 22.5' (5F15002-03) Soil</b>									
Gasoline Range Organics C6-C12	163	10.0	mg/kg dry	1	EF51510	06/15/05	06/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	313	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	476	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		110 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		135 %	70-130		"	"	"	"	S-04
<b>Boring 9 27.5- 30.0' (5F15002-04) Soil</b>									
Gasoline Range Organics C6-C12	31.2	10.0	mg/kg dry	1	EF51510	06/15/05	06/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	145	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	176	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		111 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		126 %	70-130		"	"	"	"	
<b>Boring 10 20.0- 22.5' (5F15002-05) Soil</b>									
Gasoline Range Organics C6-C12	252	10.0	mg/kg dry	1	EF51510	06/15/05	06/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	717	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	969	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		109 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		135 %	70-130		"	"	"	"	S-04

Environmental Lab of Texas

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Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
06/20/05 08:22

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boring 10 27.5- 30.0' (5F15002-06) Soil</b>									
Gasoline Range Organics C6-C12	25.4	10.0	mg/kg dry	1	EF51510	06/15/05	06/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	293	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	318	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		103 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		126 %	70-130		"	"	"	"	
<b>Boring 10 40- 42.5' (5F15002-07) Soil</b>									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EF51510	06/15/05	06/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		105 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		127 %	70-130		"	"	"	"	
<b>Boring 9 37.5- 40.0' (5F15002-08) Soil</b>									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EF51510	06/15/05	06/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		112 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		124 %	70-130		"	"	"	"	

Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
06/20/05 08:22

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boring 1 15.0- 17.5' (5F15002-01) Soil</b>									
% Moisture	6.7	0.1	%	1	EF51603	06/15/05	06/16/05	% calculation	
<b>Boring 1 22.5- 25.0' (5F15002-02) Soil</b>									
% Moisture	9.6	0.1	%	1	EF51603	06/15/05	06/16/05	% calculation	
<b>Boring 9 20.0- 22.5' (5F15002-03) Soil</b>									
% Moisture	11.5	0.1	%	1	EF51603	06/15/05	06/16/05	% calculation	
<b>Boring 9 27.5- 30.0' (5F15002-04) Soil</b>									
% Moisture	25.0	0.1	%	1	EF51603	06/15/05	06/16/05	% calculation	
<b>Boring 10 20.0- 22.5' (5F15002-05) Soil</b>									
% Moisture	24.8	0.1	%	1	EF51603	06/15/05	06/16/05	% calculation	
<b>Boring 10 27.5- 30.0' (5F15002-06) Soil</b>									
% Moisture	25.6	0.1	%	1	EF51603	06/15/05	06/16/05	% calculation	
<b>Boring 10 40- 42.5' (5F15002-07) Soil</b>									
% Moisture	25.6	0.1	%	1	EF51603	06/15/05	06/16/05	% calculation	
<b>Boring 9 37.5- 40.0' (5F15002-08) Soil</b>									
% Moisture	13.8	0.1	%	1	EF51603	06/15/05	06/16/05	% calculation	

Environmental Lab of Texas

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Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
06/20/05 08:22

**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
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**Batch EF51510 - Solvent Extraction (GC)**

**Blank (EF51510-BLK1)**

Prepared & Analyzed: 06/15/05

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	38.3		mg/kg	50.0		76.6	70-130			
Surrogate: 1-Chlorooctadecane	44.2		"	50.0		88.4	70-130			

**LCS (EF51510-BS1)**

Prepared & Analyzed: 06/15/05

Gasoline Range Organics C6-C12	416	10.0	mg/kg wet	500		83.2	75-125			
Diesel Range Organics >C12-C35	418	10.0	"	500		83.6	75-125			
Total Hydrocarbon C6-C35	834	10.0	"	1000		83.4	75-125			
Surrogate: 1-Chlorooctane	49.2		mg/kg	50.0		98.4	70-130			
Surrogate: 1-Chlorooctadecane	49.5		"	50.0		99.0	70-130			

**Calibration Check (EF51510-CCV1)**

Prepared: 06/15/05 Analyzed: 06/16/05

Gasoline Range Organics C6-C12	556		mg/kg	500		111	80-120			
Diesel Range Organics >C12-C35	551		"	500		110	80-120			
Total Hydrocarbon C6-C35	1110		"	1000		111	80-120			
Surrogate: 1-Chlorooctane	63.9		"	50.0		128	70-130			
Surrogate: 1-Chlorooctadecane	64.7		"	50.0		129	70-130			

**Matrix Spike (EF51510-MS1)**

Source: 5F14004-02

Prepared & Analyzed: 06/15/05

Gasoline Range Organics C6-C12	555	10.0	mg/kg dry	580	ND	95.7	75-125			
Diesel Range Organics >C12-C35	528	10.0	"	580	ND	91.0	75-125			
Total Hydrocarbon C6-C35	1080	10.0	"	1160	ND	93.1	75-125			
Surrogate: 1-Chlorooctane	62.9		mg/kg	50.0		126	70-130			
Surrogate: 1-Chlorooctadecane	63.4		"	50.0		127	70-130			

**Matrix Spike Dup (EF51510-MSD1)**

Source: 5F14004-02

Prepared & Analyzed: 06/15/05

Gasoline Range Organics C6-C12	591	10.0	mg/kg dry	580	ND	102	75-125	6.28	20	
Diesel Range Organics >C12-C35	574	10.0	"	580	ND	99.0	75-125	8.35	20	
Total Hydrocarbon C6-C35	1160	10.0	"	1160	ND	100	75-125	7.14	20	
Surrogate: 1-Chlorooctane	62.8		mg/kg	50.0		126	70-130			
Surrogate: 1-Chlorooctadecane	64.9		"	50.0		130	70-130			

Environmental Lab of Texas

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Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

**Reported:**  
06/20/05 08:22

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

#### Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch EF51603 - General Preparation (Prep)

##### Blank (EF51603-BLK1)

Prepared: 06/15/05 Analyzed: 06/16/05

% Moisture	ND	0.1	%
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##### Duplicate (EF51603-DUP1)

Source: 5F14003-01

Prepared: 06/15/05 Analyzed: 06/16/05

% Moisture	7.9	0.1	%	8.8	10.8	20
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Kane Environmental (Midland)  
4713 Rosewood Drive  
Midland TX, 79707

Project: Mattie Price Battery  
Project Number: 04-631  
Project Manager: Deb Lambertson

Fax: (432) 689-7785

Reported:  
06/20/05 08:22

#### Notes and Definitions

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:

*Raland K Tuttle*

Date:

6/20/2005

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

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

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

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

Environmental Lab of Texas

*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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# Environmental Lab of Texas

## Variance / Corrective Action Report – Sample Log-In

Client: Kane ENW.  
 Date/Time: 6/5/05 8:30  
 Order #: 5F15002  
 Initials: CK

### Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	-1.0 C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/> Yes	No	
Custody Seals intact on shipping container/cooler?	<input checked="" type="checkbox"/> Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	<del>Not present</del>
Chain of custody present?	<input checked="" type="checkbox"/> Yes	No	
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/> Yes	No	
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/> Yes	No	
Container labels legible and intact?	<input checked="" type="checkbox"/> Yes	No	
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/> Yes	No	
Samples in proper container/bottle?	<input checked="" type="checkbox"/> Yes	No	
Samples properly preserved?	<input checked="" type="checkbox"/> Yes	No	
Sample bottles intact?	<input checked="" type="checkbox"/> Yes	No	
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/> Yes	No	
All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	No	
VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	No	Not Applicable

Other observations:

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### Variance Documentation:

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

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Corrective Action Taken:

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## Calibration Certificate

CERTIFICATE NUMBER: 10643

ASSET NUMBER: R3120  
ASSET DESCRIPTION: THERMO ENV 580B  
MANUFACTURER: THERMO  
SERIAL NUMBER: 63157-338  
CALIBRATION DATE: 13 Jun 2005  
CALIBRATION DUE: Refer to manufacturers instructions.  
CALIBRATION PROCEDURE: 4.155 Hazardous Waste Investigation  
ACCURACY OF UNIT: Manufacturers Specifications  
WORKSHOP TEMPERATURE: 27 Degrees C  
HUMIDITY: 49 %  
CALIBRATION ENGINEER: JASON MILLER  
RESULTS FORM: Ref Workshop Manual

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### Measurement Equipment

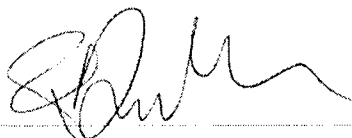
### Calibration Reference

100 PPM ISOBUTYLENE

407001C

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:

  
JASON MILLER

## SITE HEALTH AND SAFETY PLAN

### A. INTRODUCTION

Site Owner/Operator Name: Osborne Hairs

Name of Site: Mattie Price Tank Battery

Date of Investigation: 6/14/05

Location of Property: La County, NM

### B. SITE DESCRIPTION

Description of Project: additional soil borings in 3 locations

Description of Site: O'Kild production tank battery

Description of Surrounding Area: Topography: ☒ rocky \_\_\_\_\_ sandy beach  
\_\_\_\_\_ docks \_\_\_\_\_ cliffs \_\_\_\_\_ marshes \_\_\_\_\_ other: arid desert

Description of Surrounding Population: \_\_\_\_\_ industrial \_\_\_\_\_ residential  
☒ rural \_\_\_\_\_ unpopulated \_\_\_\_\_ other: \_\_\_\_\_

Additional Information: \_\_\_\_\_

Weather Conditions: Hot dry, windy

Wind	Current	6-Hr Forecast	12-Hr Forecast
Direction:	<u>E</u>	<u>E</u>	<u>E</u>
Velocity:	<u>20</u>	<u>20</u>	<u>20</u>
Character:	<u>sustained</u>	<u>sustained</u>	<u>sustained</u>

C. CHAIN OF COMMAND

Onsite Supervisor:

Shawn Hokanson

Other Onsite Personnel:

Mario Robles, Jesus Rios, Felix Torres

D. Pre-Entry Briefing/Work plan (brief description of activities, tasks, approximate work force, special equipment required, and potential safety and health hazards).

Soil boring, hazards are underground piping/overhead piping/wiring

E. Other Safety and Health Hazards (description of safety and health hazards which may be associated with the project activities described above.) Potential hazards may include: (Check those that apply.)

- | Y   | N   |   |
|-----|-----|---|
| ( ) | (X) | Skin contact with hazardous substance. (List material)  |
| ( ) | (X) | Water hazards including high winds and boating hazards;   |
| (X) | ( ) | Heat stress/Heat exhaustion;  |
| (X) | ( ) | Hazards to the eye;   |
| ( ) | (X) | Cuts and abrasions;   |
| ( ) | (X) | Vehicular/pedestrian traffic;   |
| ( ) | (X) | Slippery ground;  |
| ( ) | (X) | Uneven terrain;   |
| (X) | ( ) | Sunburn/Hypothermia   |
| ( ) | (X) | Poor visibility;  |
| ( ) | (X) | Water hazards;  |
| (X) | ( ) | Dust hazards;   |
| (X) | ( ) | Hearing hazards;  |
| (X) | ( ) | Ultraviolet radiation/sunlight;   |
| ( ) | (X) | Elevated work;  |
| ( ) | (X) | Overhead loads;   |
| (X) | ( ) | Heavy equipment operation hazards;  |
| ( ) | (X) | Aircraft operation hazards;   |
| ( ) | (X) | Burn hazards (heat tracing, boilers, warming fires, etc.);  |
| ( ) | (X) | Uncontrolled fire;  |
| ( ) | (X) | Unignited flammable vapors;   |
| ( ) | (X) | Biological hazards (medical waste);   |
| ( ) | (X) | Electrical hazards;   |
| ( ) | (X) | Other (Specify) in high airborne concentrations, the use of an approved respirator is recommended. Do not attempt rescue without approved supplied air or self-contained breathing equipment. |

**F. HAZARD EVALUATION**

Complete as applicable:

Hazard	Concentrations	Primary Hazards
LEL/Oxygen	N/A	N/A
Total Hydrocarbons (Benzene, Toluene, Xylene)	N/A	N/A
Hydrogen Sulfide	N/A	N/A

Material Safety Data Sheets for these substances are available?

**G. EMERGENCY MEDICAL INFORMATION FOR SUBSTANCES PRESENT**

Substance: (list material)

Exposure Symptoms  
(i.e. skin, ingestion)

First Aid Instructions

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**H. FIRST AID EQUIPMENT AVAILABLE ON SITE OR AT THE FOLLOWING LOCATIONS:**

First Aid Kit Shaw's Truck  
Emergency Eye Wash N/A Hobbs, Lea County Regional Medical Center  
Emergency Shower N/A " " " " " "  
Other \_\_\_\_\_

**I. EMERGENCY MEDICAL ASSISTANCE (EMS, Hospitals)**

See emergency contact information in Section 4.

**J. HAZARD REDUCTION PROCEDURES**

Hazard	Method
Eye Contact	Wear Chemical Safety Goggles
Skin Contact	Wear Impervious Protective Clothing
High Airborne Concentrations	Use Approved Respiratory Protection
Fire Protection	When Fighting Fires, Do Not Enter a Confined Space Without Proper Protective Equipment, Including Self-Contained Breathing Apparatus.

**K. PERSONAL PROTECTIVE EQUIPMENT**

Rain Suits _____	Air Purifying Respirator _____
Goggles <u>✓</u> _____	Sunscreen <u>✓</u> _____
Gloves (Impervious) _____	Flotation Devices _____
Boots <u>✓</u> _____	Hard Hats <u>✓</u> _____
Barrier Cream _____	Duct Tape _____
SCBA/Respirator _____	Other (Specify) _____

**L. SITE CONTROL**

1. Anyone entering or departing a WORK AREA shall report to the site supervisor or designated representative.
2. No personnel shall enter a site without subscribing to the Site Safety and Health Plan.
3. The buddy system is preferred at every site, and mandatory if H<sub>2</sub>S gas is present.
4. Training.
  - a. In general, all personnel on site shall be trained adequately to perform their assigned tasks safely. The general training level requirement is technician level and/or routine site worker (40 hours and 3 days OJT min.) except as noted below.

JOB DESCRIPTION:

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TRAINING LEVEL:

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- b. All personnel entering the site shall be fully informed about applicable hazards and procedures on site.

**M. DECONTAMINATION**

Partial Decontamination  
Station Locations

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Procedures

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Full Decontamination  
Station Locations

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Procedures

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## N. AIR MONITORING

Monitoring shall be conducted with monitoring equipment calibrated and maintained in accordance with the manufacturer's instructions (electronic equipment shall be calibrated before each day's use) when hazardous gases are present.

### Monitor:

### Frequency:

<input type="checkbox"/> Combustible gas	<input type="checkbox"/> continuous, <input type="checkbox"/> hourly, <input type="checkbox"/> daily, OTHER:
<input type="checkbox"/> Oxygen	<input type="checkbox"/> continuous, <input type="checkbox"/> hourly, <input type="checkbox"/> daily, OTHER:
<input type="checkbox"/> H2S dosimeter	<input type="checkbox"/> continuous, <input type="checkbox"/> hourly, <input type="checkbox"/> daily, OTHER:
<input type="checkbox"/> H2S level	<input type="checkbox"/> continuous, <input type="checkbox"/> hourly, <input type="checkbox"/> daily, OTHER:
<input type="checkbox"/> HNU	<input type="checkbox"/> continuous, <input type="checkbox"/> hourly, <input type="checkbox"/> daily, OTHER:
<input type="checkbox"/> OVA	<input type="checkbox"/> continuous, <input type="checkbox"/> hourly, <input type="checkbox"/> daily, OTHER:
<input type="checkbox"/> WBGT	<input type="checkbox"/> continuous, <input type="checkbox"/> hourly, <input type="checkbox"/> daily, OTHER:
<input type="checkbox"/> Noise	<input type="checkbox"/> continuous, <input type="checkbox"/> hourly, <input type="checkbox"/> daily, OTHER:
<input type="checkbox"/> OTHER:	<input type="checkbox"/> continuous, <input type="checkbox"/> hourly, <input type="checkbox"/> daily, OTHER:

## O. COMMUNICATIONS PLAN

The following standard hand signals have the following meanings:

Hand gripping throat.....	Out of air/can't breath
Grip buddy's wrist.....	Leave area immediately
Both hands around waist.....	Leave area immediately
Hands on top of head.....	Need assistance
Thumbs up.....	O.K., I'm all right, I understand
Thumbs down.....	No, negative

## P. MEDICAL SURVEILLANCE REQUIRED:

Q. ALL SITE PERSONNEL HAVE READ THE ABOVE PLAN, AND ARE FAMILIAR WITH THE PROVISIONS HEREIN.

Site Safety Officer

Name

Shawn Hollister

Signature/Date

[Signature] 6/14/05

Project Personnel

Mario Robles

Mar Robles

JESUS RIOS

Jesus Rios

FELIX S. TORRES

Felix S. Torres

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### **Landowner Approval**

By signature herein, I have read the Supplemental Site Investigation Report & Remediation Plan dated June 2005 for the Mattie Price Tank Battery site, and I approve of the work plan as described therein. This approval is limited to the work to be performed as described in that Supplemental Site Investigation Report & Remediation Plan, upon approval by the New Mexico Oil Conservation Division.

**Name** \_\_\_\_\_ **Date** \_\_\_\_\_

**Signature** \_\_\_\_\_