

**1R – 272**

**2011 SOIL  
INVESTIGATION  
REPORT**

**12 / 12 / 2011**



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December 12, 2011

Mr. Glen von Gonten  
New Mexico Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

**Subject: Comprehensive Soil Investigation Report  
Lovington Paddock Remediation Project (1R272)  
Lea County, New Mexico**

Dear Glen:

Please find enclosed the Comprehensive Soil Investigation Report for the Lovington Paddock remediation site (1R272) in Lea County. As part of the on-going remediation efforts, Chevron has reviewed historical soil and groundwater data to better understand potential sources of the hydrocarbons detected in the groundwater at the site. The results of the data review are summarized in the report.

Based on this review, Chevron believes that the hydrocarbons in the groundwater are attributable to sources other than the former pit and tank battery, for which Chevron is responsible, most likely the result of operations of several pipelines that cross the area.

We are requesting that the NMOCD review these data, followed by a subsequent meeting to discuss our responsibilities with respect to continuing groundwater remediation.

Thank you for your time and consideration. I look forward to discussing with you soon. If you have any questions regarding the application, please contact me at (713) 372-9207.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew P. Hudson", written over a horizontal line.

Matthew P. Hudson

Attachments:



**Stantec**

**Comprehensive Soil Investigation  
Report**

Lovington Paddock Site  
Lea County, New Mexico  
NMOCD Permit: 1R272

Township: 17 South  
Range: 36 East  
Section: 1

Prepared by:

Heather Stevens  
Associate Engineer

Reviewed by:

Seth Maher, PE  
Project Manager

March 2010

**Stantec**  
**COMPREHENSIVE SOIL INVESTIGATION REPORT**

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**COMPREHENSIVE SOIL INVESTIGATION REPORT**

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## **1.0 Introduction**

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On behalf of Chevron Environmental Management Company (Chevron), Stantec Consulting Corporation (Stantec) prepared this *Comprehensive Soil Investigation Report* to comprehensively evaluate results of soil investigations conducted at the Lovington Paddock Unit (the Site) in 2006 and 2008.

This work was conducted under the regulatory oversight of the New Mexico Oil Conservation Division (NMOCD).

This report is organized into the following sections:

- Section 2 summarizes background and characterization information for the Site;
- Section 3 describes field activities conducted at the Site in 2006 and 2008;
- Section 4 summarizes results; and
- Section 5 provides conclusions and recommendations.

## **2.0 Site Background and Characterization**

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### **2.1 SITE LOCATION AND REGIONAL SETTING**

The Site is located within the Lovington Paddock Unit, an active oil production field, which is located in the southeast corner of New Mexico, in the central portion of Lea County, approximately five miles south-southeast of the City of Lovington. A Site location map is presented as **Figure 1**.

The Site lies in the Colorado River Basin of the Great Plains physiographic province on the Lea Plateau of the Southern High Plains, which is bounded on the south and west by the Mescalero Escarpment and on the north and northeast by the Brazos River Basin. Surface acreage in the area of the Site is predominately comprised of oil field features. Topography at the Site is generally flat with an approximate elevation of 3,838 feet above mean sea level. A Site satellite photograph is presented as **Figure 2**.

Current Site features include the following:

- One former/abandoned pit location;
- Five known pipelines;
- A three-well biosparge remediation system utilizing wells BW-1, MW-T (converted when BW-2 failed), and BW-3;
- 10 destroyed monitoring wells (MW-1 through MW-10) and collapsed well MW-A;
- 22 monitoring wells (MW-B through MW-J, MW-L through MW-W, and MW-D2); and
- Oil field production wells and oil field injection wells located throughout the Site.

A Site details map is presented on **Figure 3**.

### **2.2 GEOLOGICAL AND HYDROGEOLOGICAL CHARACTERIZATION**

A general interpretation of lithology observed during the 2006 and 2008 soil investigations at the Site is shown on cross-sections A-A' and B-B' in **Figure 4**. Based on this interpretation, general, stratigraphy at the Site is as follows:

- A layer of caliche from near ground surface to approximately 10 to 25 feet below ground surface (bgs);
- A layer of fine sand underlying the caliche and extending to a depth of approximately 75 to 90 feet bgs;
- A relatively thin (approximately 2-foot thick) layer of sandstone within the fine sand layer between approximately 35 and 50 feet bgs; and
- A layer of medium sand underlying the fine sand layer and extending to the total depth explored during the 2006 and 2008 soil investigations (maximum of 120 feet bgs).

The geologic formations of interest in the vicinity of the Site include (from the oldest to the youngest): Triassic, undifferentiated; Cretaceous, undifferentiated; and Tertiary Ogallala. The monitoring wells advanced at the Site were believed to have penetrated only the upper one-third portion of the Ogallala Formation and were not drilled to a sufficient depth to encounter the Triassic and Cretaceous Formations. The lower Tertiary Ogallala Formation is the primary freshwater-bearing formation in the vicinity and under the Site. The Ogallala Formation is believed to rest unconformably upon the claystones, sandstones, and siltstones of the Triassic Chinle Formation. The Chinle forms the base of the fresh groundwater in the area because of the Chinle's low vertical permeability. The lower Ogallala Formation has not been encountered at the Site but is believed to be a heterogeneous combination of clay, silt, sand, and gravel of braided-stream deposits interbedded with, and overlain by, eolian sediments deposited as sand sheets and loess. These river- or stream-related (fluvial or alluvial) sediments were deposited on a sloping plain in the form of coalescing alluvial fans by streams that originated in the Rocky Mountains to the west and northwest. In contrast to the fluvial deposition of the lower Ogallala sediments, the upper part of the Ogallala is composed of eolian deposits of fine- to very fine-grained sandstones. Hard, often siliceous, caliche caps the Ogallala and appears as cobbles in the surface soil.

## **2.3 PREVIOUS INVESTIGATIONS AND REMEDIATION**

In June 1998, the initial assessment of an abandoned pit by Highlander Environmental Corporation (Highlander) included the installation of five soil borings (BH-1 through BH-5). Four of the borings were installed around the edge of the pit, and one was installed in the bottom of the pit. In July 1998 and August 1998, sludge material and soils were excavated approximately two feet deep, where a hard caliche layer was encountered. In October 1998, monitoring wells MW-1 through MW-4 were installed, and groundwater samples were collected in November 1998. Monitoring wells MW-5 and MW-6 were installed, and in March 1999, monitoring wells MW-7, MW-8, and MW-9 were installed at the Site. Based on groundwater sampling results, two separate plumes (one associated with the abandoned pit and one south of the abandoned pit) were identified. Soil borings BH-6 through BH-9 were installed to investigate the plume south of the abandoned pit. Note that regarding the location of the second plume with respect to the first plume (from the abandoned pit), the term "up-gradient" was used in place of "south" in the investigation report, indicating the groundwater gradient was approximately toward the north during the time of this investigation. Soil boring BH-11 was converted to monitoring well MW-10. The results from the borings and monitoring wells exhibited petroleum hydrocarbon concentrations and phase-separated hydrocarbons (PSH) in eight of the ten monitoring wells (MW-1 through MW-10). Based on these results, it is believed that there are two separate petroleum hydrocarbon plumes.

In March 2001, Environmental Plus, Inc. (EPI), on behalf of EOTT Energy, LLC (EOTT), uncovered 300 feet of EOTT pipeline to look for previously-repaired or replaced line. Based on EPI's observations, no previously-repaired or replaced lines were found. EPI also stated that the area that showed staining during drilling activities was moist with water and had no



petroleum hydrocarbon odor. As indicated in EPI's report, a representative from Chevron's field office (formerly Pure Resources, LP) was on-site during the excavation of the pipeline.

In 2001, the 40-acre tract on which the Site is located was purchased by AST West from the City of Lovington. Shortly after AST West purchased the land, they installed a well near their business south of the Site. Additionally, Goff Dairy installed four water wells to the east and south of the Site as shown on **Figure 3**. The wells were designed to pump roughly 600 to 800 gallons per minute. This pumping eventually lowered the water table and changed the direction of groundwater flow from the northeast to the southeast.

In June 2003, Arcadis installed 12 monitoring wells, MW-A through MW-J and MW-L through MW-N to replace the dry monitoring wells MW-1 through MW-10. The monitoring wells went dry due to the dewatering of the aquifer by the AST West and Goff Dairy water wells. PSH was not encountered in monitoring wells MW-A through MW-N.

To remediate the petroleum hydrocarbon concentrations in groundwater and soil, a pilot low-flow biosparge well (BW-1) was installed in November 2003 by Arcadis. Additionally, three monitoring wells (MW-O, MW-P, and MW-Q) were installed to determine the extent of the petroleum hydrocarbon plume, and one monitoring well (MW-D2) was installed to investigate a potential chloride plume. Monitoring well MW-D2 was installed near monitoring well MW-D and was screened from the top of the aquifer to the bottom of the aquifer. Based on sample results, it appears that the dissolved solids release has not affected the aquifer.

A 90-day pilot test was conducted to measure the effectiveness of the biosparge well. The biosparge well was used to inject air into the saturated and vadose zones at a rate of approximately 5 cubic feet per minute. The purpose of the air injection was to stimulate aerobic biodegradation of petroleum hydrocarbons by indigenous microorganisms in the saturated and vadose zones. The biosparging process showed significant success during the 90-day pilot test.

Due to the success of the biosparge pilot test, Arcadis installed two additional biosparge wells (BW-2 and BW-3) at the Site in May 2005. After the installation of these wells, a 180-day study was conducted to monitor the effectiveness of the three biosparge wells. During the study, groundwater and soil vapor sampling was conducted, a radius of influence of approximately 85 feet was observed, and further down-gradient movement of the petroleum hydrocarbon plume was prevented. Results are summarized in a March 3, 2006 report titled *180 Day Expanded Biosparge Study*.

The biosparge study was continued by Stantec, formerly SECOR International Incorporated, for a total of 700 days after acquiring the Site from Arcadis. Activities conducted from July 2006 through May 2007 are summarized in the *Biosparging Assessment Report* dated June 22, 2007. Discussions regarding system effectiveness triggered a detailed review of the data. Stantec personnel evaluated the groundwater data presented in the Arcadis report and determined that, on the basis of the data presented, the assumptions made by Arcadis regarding the

quantification of oxygen consumption in biomass production were incorrect, and the system may or may not be having the desired effect on the aquifer.

As part of an effort to determine the effectiveness of the biosparge system, Stantec installed two additional groundwater monitoring wells (MW-S and MW-T) in July 2006. In April 2007, MW-T was converted to a biosparge well due to failure of well BW-2. Three additional groundwater monitoring wells (MW-U, MW-V, and MW-W) were installed to better evaluate the biosparge system.

Stantec continues to monitor groundwater at the Site. Annual summary reports are submitted to the NMOCD.

### **3.0 Field Activities**

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Soil investigations were conducted in 2006 and 2008 to assess the extent and source of petroleum hydrocarbons at the Site. Twelve soil borings (B-1 through B-10, MW-S, and MW-T) were advanced at the Site on July 24 to 27, 2006. Ten soil borings (SB-1 through SB-10) were advanced at the Site on April 10 to 11, 2008.

Note that monitoring wells MW-S and MW-T were installed after advancing the respective soil boring locations in 2006. In April 2007, well MW-T was converted to a biosparge well, and monitoring wells MW-U, MW-V, and MW-W were installed; however, there were no soil data collected during the installation of these wells. As the focus of this report is to evaluate soil results at the Site, groundwater results are not described herein, except for a brief discussion of general groundwater elevation trends in Section 4 – Results. Groundwater results are provided in annual groundwater monitoring reports submitted to the NMOCD.

The locations of borings and monitoring wells at the Site are shown on **Figure 3**. The following sections provide details on the field activities associated with the investigations.

#### **3.1 UNDERGROUND CLEARANCE**

Proper underground pipeline and utility clearance notifications and preparations were made prior to conducting intrusive activities. Underground pipeline location and clearance activities included, but were not necessarily limited to:

- Notifying New Mexico One-Call (ticket numbers 06868091 [July 5, 2006] and 2008141978 [April 4, 2008]);
- Notifying Lovington Unit personnel;
- Conducting a Site visit to walk over the proposed locations with a line locating device; and
- Clearing borehole locations (using a hydro-vac rig) to a depth of 8 feet bgs or to the interface of undisturbed, cemented, native soil (caliche). Caliche was generally located approximately 6 inches bgs.

#### **3.2 SOIL BORING ADVANCEMENT AND SAMPLING**

Following hydro-vac borehole clearance, borings were advanced using air rotary techniques to total depths of approximately 90 feet, with the exception of MW-S and MW-T (120 feet each) and SB-3 (95 feet).

During borehole advancement, soil characterization was continuously documented by observing cuttings brought to the surface through standard air rotary protocol. Stantec field staff recorded the soil lithology (using the Unified Soil Classification System as a guide), relative moisture content, composition, photoionization detector (PID) readings, depth to first-encountered

groundwater, well construction details, and other distinguishing characteristics such as color changes, debris, and odor. Boring logs are included in **Appendix A**.

Soil samples were collected at five-foot intervals from ground surface to the terminus of each boring. Each sample was divided and placed in two separate containers. One container was used for visual classification and headspace analysis to evaluate the presence of volatile organic compounds using a calibrated PID. Soil PID readings are provided in **Appendix B**. The second container was labeled with identifying information and stored in an ice-filled cooler for preservation prior to potential submittal for laboratory analysis. From each boring, two soil samples (one from the boring terminus and one exhibiting the highest headspace reading on the PID) were selected for laboratory analysis. Soil samples were recorded on a chain-of-custody that accompanied the samples to Lancaster Laboratories.

At the completion of drilling activities, the boreholes, with the exception of borings MW-S and MW-T, were plugged by adding bentonite pellets to approximately 10 feet bgs and filling the remaining hole with concrete to ground surface.

Monitoring wells MW-S and MW-T were constructed with a screen interval consisting of 4-inch diameter, flush-joint, schedule 40 polyvinyl chloride (PVC) casing factory-perforated with 0.010-mil slots from 20 to 120 feet bgs. The well screen casing was flush threaded to the necessary length of schedule 40 PVC blank casing to complete the well casing to a few feet above ground surface. The annular space adjacent to the well screen was filled with a sorted 20/40 sand to 5 feet above the well screen interval. A 3-foot bentonite seal was set above the sand filter pack. The remaining annular space was filled with concrete. The wells were completed above the ground surface with a stick-up completion set in a 4-foot by 4-foot concrete pad and secured with a locking lid. All wells were subsequently developed with a surge block. Well construction details for MW-S and MW-T are shown on the respective boring logs in **Appendix A**. The State of New Mexico Well Report for each well is included in **Appendix C**.

## 4.0 Results and Discussion

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Soil samples submitted to Lancaster Laboratories were analyzed for total petroleum hydrocarbons in the gasoline range organics (TPH-GRO) and total petroleum hydrocarbons in the diesel range organics (TPH-DRO) using United States Environmental Protection Agency (USEPA) Method 8015B modified (SW-846) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) using USEPA Method 8260B (SW-846). Soil sample analytical results are presented in **Table 1**. Certified laboratory analytical reports and chain-of-custody documents are included in **Appendix D**. Lithology encountered during the 2006 and 2008 soil investigations, soil PID readings, and soil sample analytical results are shown on cross-sections A-A' and B-B' in **Figure 4**. The plan-view locations of the cross-sections are shown on the Site details map in **Figure 3**.

Soil concentrations were compared to NMOCD remediation action levels (RALs), which are dependant on a site's ranking score (NMOCD, 1993). The most stringent RAL for benzene is 10 milligrams per kilogram (mg/kg), and none of the soil samples from the 2006 and 2008 soil investigations exceeded this level. Similarly, the most stringent RAL for BTEX is 50 mg/kg, and none of the soil samples exceeded this level. However, as shown in **Table 1**, a total of 16 soil samples from the two soil investigations exceeded the most stringent RAL for total petroleum hydrocarbons (TPH) (100 mg/kg). Of these, seven soil samples exceeded the next highest TPH RAL (1,000 mg/kg), and two soil samples exceeded the highest TPH RAL (5,000 mg/kg).

To fully assess the extent of TPH at the Site, linear correlations between soil PID readings and soil sample analytical results were utilized to estimate TPH concentrations at locations where only PID readings were available (i.e., where analytical results were not available). For the 2006 soil data set, the linear correlation coefficient ( $R^2$ ) was 0.71 when all soil sample analytical results (and corresponding soil PID readings) were included in the linear correlation. However, when the soil data from B-8 at 10 feet bgs (analytical result of 496 mg/kg TPH and PID reading of 1406 parts per million) were excluded,  $R^2$  was 0.98. Therefore, the linear correlation that excluded data from B-8 at 10 feet bgs was utilized to estimate TPH concentrations for the 2006 sample locations where analytical results were not available. For the 2008 soil data set,  $R^2$  was 0.97 when all soil sample analytical results (and corresponding soil PID readings) were included in the linear correlation. Therefore, no data were excluded, and this correlation was utilized to estimate TPH concentrations for the 2008 sample locations where analytical results were not available. As a general rule, if the value of  $R^2$  exceeds 0.85, the fit is good; otherwise, the fit is poor (Lindeburg, 2009). Soil sample analytical results, soil PID readings, linear correlation graphs, and PID-estimated TPH concentrations are provided in **Appendix B**.

TPH isoconcentration contours are shown on vertical cross-sections A-A' and B-B' in **Figure 4**, and lateral (plan-view) cross-sections for depths of 5 to 15 feet bgs, 40 feet bgs, 60 to 70 feet bgs, and 90 feet bgs in **Figures 5 through 8**, respectively. The TPH concentrations represent the sum of TPH-GRO and TPH-DRO analytical soil concentrations (where available) or

estimated concentrations based on soil PID readings. **Figures 4 through 8** illustrate that TPH concentrations have been adequately delineated both vertically and laterally in the area investigated in 2006 and 2008. Dashed isoconcentration contours are shown on **Figures 6 and 7** where the lateral extents of TPH concentrations were inferred. Specifically, inferences were made to define the extent of TPH concentrations west of B-2 and east of SB-10. However, the depth of TPH concentrations (i.e., the vertical extent), the northern and southern (lateral) extents of TPH concentrations, and the area of highest TPH concentrations were thoroughly delineated. The volume of soil with TPH concentrations equal to or above the TPH RAL of 1,000 mg/kg is estimated at 67,200 cubic yards (based on calculations provided in **Appendix E**).

Based on the vertical cross-sections (**Figure 4**) and the lateral cross-section at a depth of 10 feet bgs (**Figure 5**), a TPH release appears to have occurred near MW-T and B-8, within the vicinity of SB-1 and SB-2. As shown in **Figure 3**, two pipelines intersect within this area. The location of this presumed TPH source is consistent with the location of the dissolved-phase petroleum hydrocarbon plume as reported in the 2009 annual report for the Site; dissolved-phase petroleum hydrocarbon concentrations are generally highest in well MW-H, which is adjacent to the intersection of the two pipelines (Stantec, 2009).

As shown in the vertical cross-sections (**Figure 4**) and the remaining lateral cross-sections (**Figures 6 through 8**), the lateral extent of TPH concentrations generally increases with depth to a maximum lateral extent at approximately 60 to 70 feet bgs, where the highest TPH concentrations (greater than approximately 5,000 mg/kg) are located. TPH concentrations generally decrease in magnitude and extent with depth below 70 feet. The limited vertical extent of relatively high TPH concentrations from 60 to 70 feet bgs may be an artifact of a potential historical groundwater elevation of approximately 60 to 70 feet bgs. Elevations have generally decreased from 83 feet bgs in March 2005 (in well MW-D, the only well gauged in March 2005) to 99 feet bgs in July 2009 (an average of all wells gauged) as a result of pumping from AST West and Goff Dairy water wells east and south of the Site. These wells were installed shortly after AST West purchased the land in 2001 (as described in Section 2.3 – Previous Investigations and Remediation). Therefore, it is possible that groundwater elevations were as high as 60 to 70 feet bgs sometime prior to March 2005 and that the release occurred during this time.

There is currently an east-southeasterly groundwater flow direction with a gradient of 0.007 to 0.02 ft/ft (based on January and July 2009 groundwater gauging results) (Stantec, 2009). However, prior to the installation of the AST West and Goff Dairy water wells circa 2001, the groundwater flow direction was reportedly toward the north or northeast as indicated by Highlander's groundwater gauging results as early as 1998 (as described in Section 2.3). The presumed petroleum hydrocarbon source near the intersection of the two pipelines (i.e., south of the abandoned pit) was initially identified during Highlander's 1998 Site investigation. Therefore, the presumed release near the pipelines occurred sometime prior to 1998 when the groundwater flow direction was toward the northeast. As a result, TPH concentrations, particularly those from 60 to 70 feet bgs, appear to have migrated slightly toward the northeast

of the suspected source area (the intersection of the two pipelines) as shown in **Figure 4** (cross-section A-A') and **Figure 7**. Note that this observation supports the aforementioned hypothesis that historical groundwater flow elevation was approximately 60 to 70 feet bgs.

Due to the currently low groundwater elevation (99 feet bgs) at the Site, the majority of TPH concentrations in soil are apparently no longer in direct contact with groundwater.

## **5.0 Conclusions and Recommendations**

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A summary of the results is as follows:

- None of the soil samples from the 2006 and 2008 soil investigations exceeded the most stringent RALs for benzene (10 mg/kg) and BTEX (50 mg/kg);
- A total of 16 soil samples from the two soil investigations exceeded the most stringent RAL for TPH (100 mg/kg). Of these, seven soil samples exceeded the next highest TPH RAL (1,000 mg/kg), and two soil samples exceeded the highest TPH RAL (5,000 mg/kg).
- Linear correlations between soil PID readings and soil sample analytical results exhibited a very good fit and were therefore utilized to estimate TPH concentrations at locations where only PID readings were available (i.e., where analytical results were not available) TPH isoconcentration contours were subsequently developed for vertical and lateral cross-sections through the Site.
- TPH concentrations have been adequately delineated both vertically and laterally in the area investigated in 2006 and 2008. The volume of soil with TPH concentrations equal to or above the TPH RAL of 1,000 mg/kg is estimated at 67,200 cubic yards.
- A TPH release appears to have occurred near MW-T and B-8, within the vicinity of SB-1, SB-2, and the intersection of two pipelines. This presumption is supported by previously-reported dissolved-phase petroleum hydrocarbon concentrations that are generally highest in well MW-H, which is adjacent to the intersection of the two pipelines (Stantec, 2009).
- The lateral extent of TPH concentrations generally increases with depth to a maximum lateral extent at approximately 60 to 70 feet bgs, where the highest TPH concentrations are located. TPH concentrations generally decrease in magnitude and extent with depth below 70. The limited vertical extent of high TPH concentrations from 60 to 70 feet bgs may be an artifact of a potential historical groundwater elevation (sometime prior to March 2005) of approximately 60 to 70 feet bgs.
- The current groundwater flow direction is toward the east-southeast due to the pumping influence of the AST West and Goff Dairy water wells installed circa 2001; however, the historical groundwater flow direction (based on groundwater gauging results as early as 1998) was toward the north or northeast. The presumed petroleum hydrocarbon source near the intersection of the two pipelines was initially identified during a Site investigation conducted in 1998; therefore, the presumed release occurred sometime prior to 1998 when the groundwater flow direction was toward the northeast. As a result, TPH concentrations, particularly those from 60 to 70 feet bgs, appear to have migrated slightly toward the northeast of the suspected source area (the intersection of the two



pipelines). This observation supports the aforementioned hypothesis that historical groundwater flow elevation was approximately 60 to 70 feet bgs.

- Due to the currently low groundwater elevation (99 feet bgs) at the Site, the majority of TPH concentrations in soil are apparently no longer in direct contact with groundwater.

The results indicate that the TPH concentrations in soil in the area investigated in 2006 and 2008 do not appear to be associated with the former/abandoned pit to the north, which is surrounded by destroyed monitoring wells MW-1, MW-2, MW-3, and MW-5 as shown on **Figure 3**. Rather, the TPH concentrations may be associated with an undocumented, historic, release near two pipelines that intersect within the vicinity of MW-H. Therefore, Stantec recommends conducting a review of historical files to determine the condition, operational history, and current and prior ownership of the pipelines.

## **6.0 Statement of Limitations**

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This report was prepared in accordance with the scope of work outlined in Stantec's contract and with generally accepted professional engineering and environmental consulting practices existing at the time this report was prepared and applicable to the location of the Site. It was prepared for the exclusive use of Chevron for the express purpose stated above. Any re-use of this report for a different purpose or by others not identified above shall be at the user's sole risk without liability to Stantec. To the extent that this report is based on information provided to Stantec by third parties, Stantec may have made efforts to verify this third party information, but Stantec cannot guarantee the completeness or accuracy of this information. The opinions expressed and data collected are based on the conditions of the Site existing at the time of the field investigation. No other warranties, expressed or implied are made by Stantec.

## **7.0 References**

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## FIGURES







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PHONE: (617) 349-9499 FAX: (617) 349-6963

FOR:

LOVINGTON PADDOCK  
GROUNDWATER REMEDIATION SITE  
LEA COUNTY, NEW MEXICO

FIGURE:

2

SITE SATELLITE PHOTOGRAPH

JOB NUMBER:

212201131

DRAWN BY:

SRW

CHECKED BY:

HMS

APPROVED BY:

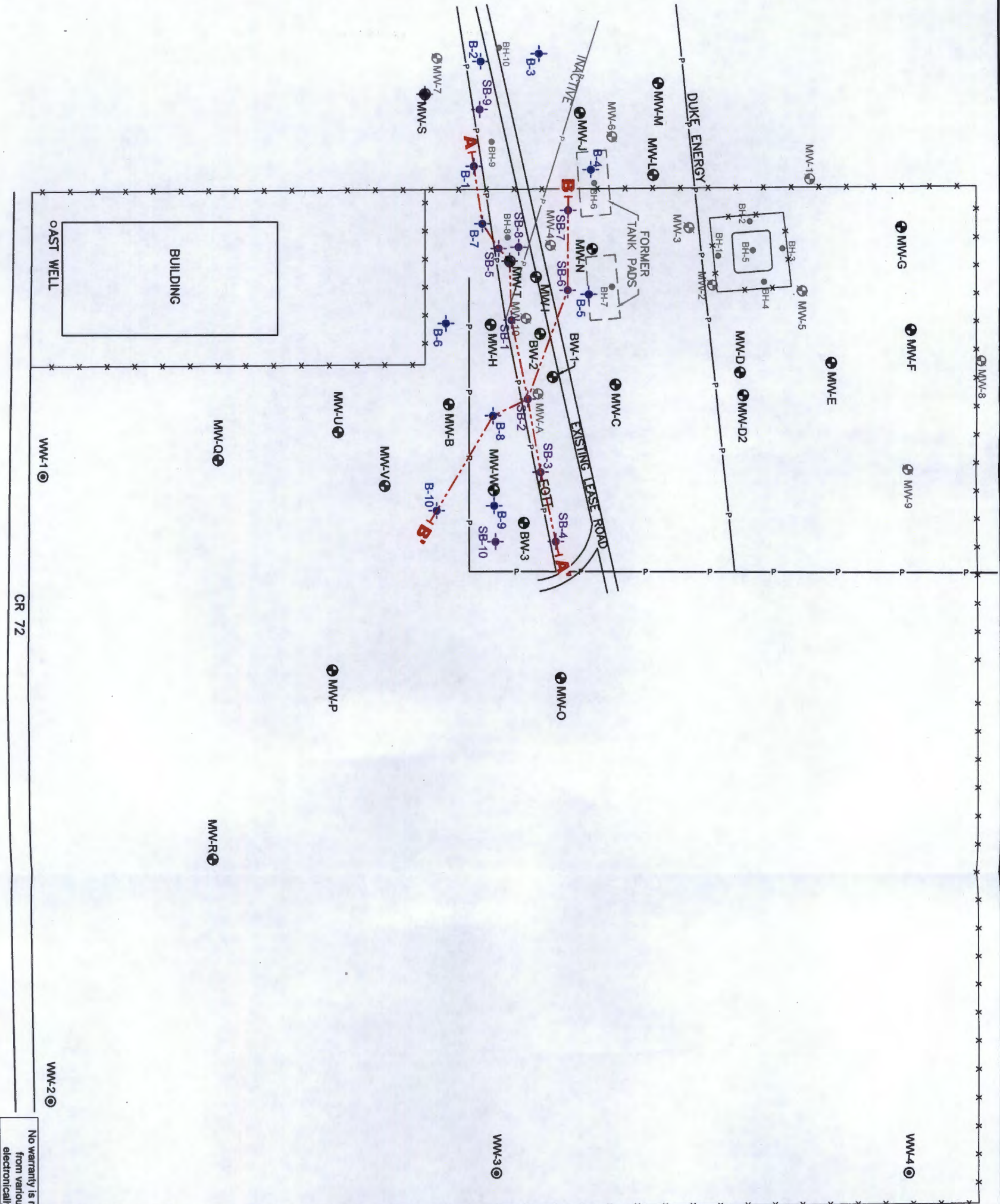
SAM

DATE:

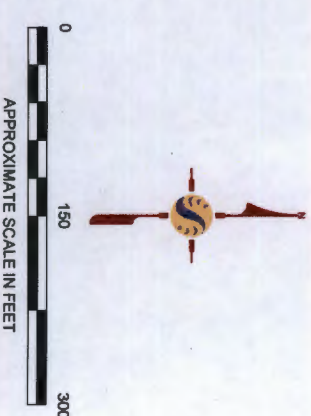
3/19/10




- LEGEND:**
- MONITORING WELL LOCATION
  - GOFF DAIRY WELL LOCATION
  - DESTROYED WELL LOCATION
  - FORMER SOIL BORING LOCATION
  - SOIL BORING LOCATION (JULY 25-27, 2006)
  - SOIL BORING LOCATION (APRIL 10-11, 2008)
  - FENCE
  - UNDERGROUND PETROLEUM PIPELINE
  - CROSS-SECTION LOCATION LINE

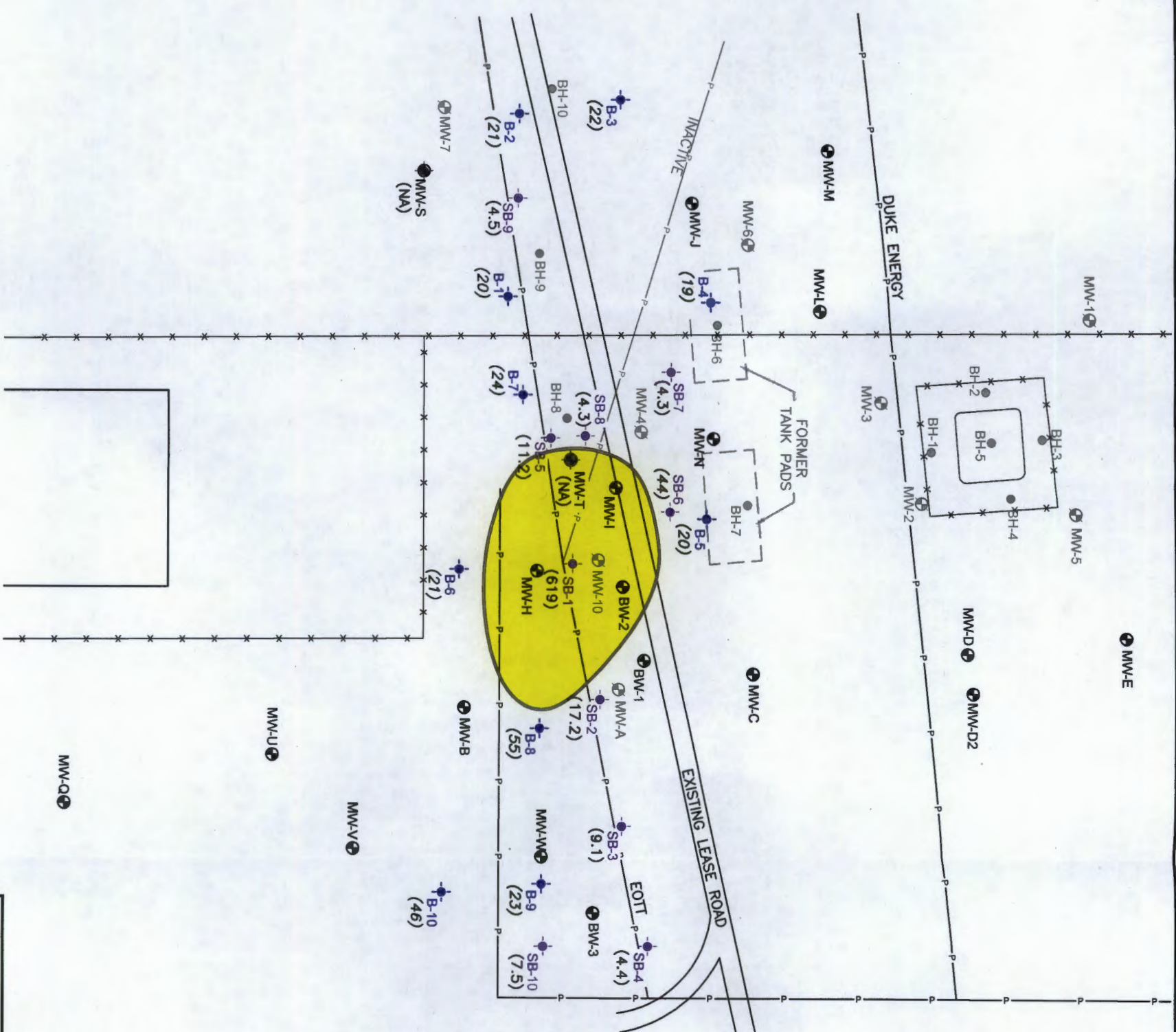


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|   |               |  |                  |                  |  |           |
|---|---------------|--|------------------|------------------|--|-----------|
| <br>2321 Club Meridian Drive, Suite E<br>Okemos, Michigan<br>PHONE: (517) 349-9469 FAX: (517) 349-6863 |               | FOR: LOVINGTON PADDOCK<br>GROUNDWATER REMEDIATION SITE<br>LEA COUNTY, NEW MEXICO |                  | SITE DETAILS MAP |  | FIGURE: 3 |
| JOB NUMBER: 212201131   | DRAWN BY: SRW | CHECKED BY: HMS  | APPROVED BY: SAM | DATE: 3/19/10    |  |           |





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|   |                  |  |                     |  |  |
|---|------------------|--|---------------------|--|--|
| <br>2321 Club Meridian Drive, Suite E<br>Okemos, Michigan<br>PHONE: (517) 349-9499 FAX: (517) 349-6963 |                  | FOR: LOVINGTON PADDOCK<br>GROUNDWATER REMEDIATION SITE<br>LEA COUNTY, NEW MEXICO |                     | FIGURE:<br>TOTAL PETROLEUM HYDROCARBONS IN<br>SOIL AT 90 FEET BELOW<br>GROUND SURFACE<br>8 |  |
| JOB NUMBER:<br>212201131  | DRAWN BY:<br>JRO | CHECKED BY:<br>HMS   | APPROVED BY:<br>SAM | DATE:<br>3/19/10   |  |



## TABLES

**Table 1**  
**Summary of Soil Analytical Results**  
 Lovington Paddock Site  
 Lea County, New Mexico

| Sample Identification    | Sample Depth (ft bgs) | Sample Date | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Total Xylenes (mg/kg) | BTEX <sup>1</sup> (mg/kg) | TPH-DRO (mg/kg) | TPH-GRO (mg/kg) | TPH <sup>2</sup> (mg/kg) | Soil PID Reading (ppm) |
|--------------------------|-----------------------|-------------|-----------------|-----------------|----------------------|-----------------------|---------------------------|-----------------|-----------------|--------------------------|------------------------|
| NMOCD RAL <sup>3</sup> : |                       |             | 10              | —               | —                    | —                     | 50                        | —               | —               | 100                      | —                      |
| B-1                      | 45                    | 7/24/2006   | <0.0005         | <0.001          | <0.001               | <0.001                | 0.0035                    | <4.1            | <0.2            | 4.3                      | 8.2                    |
| B-1                      | 80                    | 7/24/2006   | <0.0005         | <0.001          | <0.001               | <0.001                | 0.0035                    | <4.2            | <0.2            | 4.4                      | 1.1                    |
| B-2                      | 40                    | 7/25/2006   | <0.0005         | 0.001J          | <0.001               | 0.001J                | 0.0035                    | 170             | <0.2            | 170.2                    | 13.9                   |
| B-2                      | 85                    | 7/25/2006   | <0.0006         | <0.001          | <0.001               | <0.001                | 0.0036                    | <4.8            | <0.2            | 5                        | 7.2                    |
| B-3                      | 55                    | 7/25/2006   | <0.0007         | <0.001          | <0.001               | <0.001                | 0.0037                    | <5.5            | <0.3            | 5.8                      | 1.9                    |
| B-3                      | 85                    | 7/25/2006   | <0.0005         | <0.001          | <0.001               | <0.001                | 0.0035                    | <4.1            | <0.2            | 4.3                      | 0.8                    |
| B-4                      | 80                    | 7/25/2006   | <0.0006         | <0.001          | <0.001               | <0.001                | 0.0036                    | <4.8            | <0.2            | 5                        | 4.9                    |
| B-4                      | 85                    | 7/25/2006   | <0.0006         | <0.001          | <0.001               | <0.001                | 0.0036                    | <4.9            | <0.2            | 5.1                      | 1.6                    |
| B-5                      | 40                    | 7/25/2006   | <0.0007         | <0.001          | <0.001               | <0.001                | 0.0037                    | <5.3            | <0.3            | 5.6                      | 9.6                    |
| B-5                      | 80                    | 7/25/2006   | <0.0006         | <0.001          | <0.001               | <0.001                | 0.0036                    | <4.9            | <0.2            | 5.1                      | 1.6                    |
| B-6                      | 60                    | 7/25/2006   | <0.0006         | <0.001          | <0.001               | 0.002J                | 0.0046                    | 440             | 0.7J            | 440.7                    | 72.8                   |
| B-6                      | 80                    | 7/25/2006   | <0.0006         | <0.001          | <0.001               | <0.001                | 0.0036                    | <4.9            | <0.2            | 5.1                      | 4.2                    |
| B-7                      | 55                    | 7/25/2006   | <0.003          | 0.006           | 0.014                | 0.08                  | 0.103                     | 1400            | 25              | 1,425                    | 664                    |
| B-7                      | 85                    | 7/25/2006   | <0.0006         | <0.001          | <0.001               | <0.001                | 0.0036                    | <4.9            | <0.2            | 5.1                      | 11.1                   |
| B-8                      | 10                    | 7/26/2006   | <0.003          | 0.059           | 0.25                 | 1.9                   | 2.209                     | 450             | 46              | 496                      | 1406                   |
| B-8                      | 85                    | 7/26/2006   | <0.0006         | <0.001          | <0.001               | <0.001                | 0.0036                    | 6.4J            | <0.2            | 6.6                      | 24.9                   |
| B-9                      | 65                    | 7/26/2006   | <0.0005         | <0.001          | <0.001               | 0.002                 | 0.0045                    | 280             | 1J              | 281                      | 144                    |
| B-9                      | 85                    | 7/26/2006   | <0.0006         | <0.001          | <0.001               | <0.001                | 0.0036                    | <4.9            | <0.2            | 5.1                      | 5.8                    |
| B-10                     | 70                    | 7/26/2006   | <0.0005         | 0.002           | <0.001               | 0.002                 | 0.0055                    | <4.2            | <0.2            | 4.4                      | 70                     |
| B-10                     | 80                    | 7/26/2006   | <0.0005         | <0.001          | <0.001               | <0.001                | 0.0035                    | <4.1            | <0.2            | 4.3                      | 2.7                    |
| MW-S                     | 15                    | 7/26/2006   | <0.0006         | <0.001          | <0.001               | <0.001                | 0.0036                    | <4.7            | <0.2            | 4.9                      | 4.1                    |
| MW-S                     | 80                    | 7/26/2006   | <0.0005         | <0.001          | <0.001               | <0.001                | 0.0035                    | <4.1            | <0.2            | 4.3                      | 0.2                    |
| MW-T                     | 35                    | 7/27/2006   | 0.029J          | 0.68            | 0.58                 | 3.5                   | 4.789                     | 2800            | 120             | 2,920                    | 1653                   |
| MW-T                     | 80                    | 7/27/2006   | <0.003          | 0.017           | 0.029                | 0.15                  | 0.199                     | 570             | 12              | 582                      | 354                    |
| SB-1                     | 65                    | 04/10/08    | <0.026          | 1.8             | 2.9                  | 12                    | 16.726                    | 3,800           | 460             | 4,286                    | 1249                   |
| SB-1                     | 90                    | 04/10/08    | <0.0005         | 0.005J          | 0.021                | 0.12                  | 0.1465                    | 600             | 19              | 619                      | 61.5                   |
| SB-2                     | 70                    | 04/10/08    | <0.027          | 2.7             | 4                    | 17                    | 23.727                    | 4,700           | 410             | 5,110                    | 1147                   |
| SB-2                     | 90                    | 04/10/08    | <0.0005         | <0.001          | <0.001               | <0.001                | 0.0035                    | 17              | <0.2            | 17.2                     | 5.3                    |
| SB-3                     | 70                    | 04/10/08    | 0.15J           | 4.2             | 4                    | 16                    | 24.35                     | 4,700           | 510             | 5,210                    | 1317                   |
| SB-3                     | 95                    | 04/10/08    | <0.0005         | <0.001          | <0.001               | <0.001                | 0.0035                    | 8.9J            | <0.2            | 9.1                      | 6.5                    |
| SB-4                     | 65                    | 04/11/08    | <0.0005         | <0.001          | <0.001               | 0.001J                | 0.0035                    | 230             | 0.7J            | 230.7                    | 53.3                   |
| SB-4                     | 90                    | 04/11/08    | <0.0005         | <0.001          | <0.001               | <0.001                | 0.0035                    | <4.2            | <0.2            | 4.4                      | 0.4                    |
| SB-5                     | 65                    | 04/11/08    | 0.096J          | 3.7             | 4.1                  | 16                    | 23.896                    | 3,800           | 490             | 4,290                    | 771                    |
| SB-5                     | 90                    | 04/11/08    | <0.0006         | <0.001          | <0.001               | <0.001                | 0.0036                    | 11J             | <0.2            | 11.2                     | 6.7                    |
| SB-6                     | 65                    | 04/11/08    | 0.029J          | 2.1             | 3.1                  | 13                    | 18.229                    | 3,400           | 490             | 3,890                    | 950                    |
| SB-6                     | 90                    | 04/11/08    | <0.0006         | <0.001          | <0.001               | <0.001                | 0.0036                    | <4.3            | <0.2            | 43.5                     | —                      |
| SB-7                     | 70                    | 04/11/08    | <0.0005         | <0.001          | <0.001               | <0.001                | 0.0035                    | <4.3            | <0.2            | 4.5                      | 3.1                    |
| SB-7                     | 90                    | 04/11/08    | <0.0005         | <0.001          | <0.001               | <0.001                | 0.0035                    | <4.1            | <0.2            | 4.3                      | 0                      |
| SB-8                     | 60                    | 04/11/08    | 0.006J          | 0.072           | 0.22                 | 1.5                   | 1.7926                    | 1,900           | 94              | 1,994                    | 539                    |
| SB-8                     | 90                    | 04/11/08    | <0.0005         | <0.001          | <0.001               | <0.001                | 0.0035                    | <4.1            | <0.2            | 4.3                      | 3.2                    |
| SB-9                     | 50                    | 04/11/08    | <0.0005         | <0.001          | <0.001               | <0.001                | 0.0035                    | <4.2            | <0.2            | 4.4                      | 0.7                    |
| SB-9                     | 90                    | 04/11/08    | <0.0005         | <0.001          | <0.001               | <0.001                | 0.0035                    | <4.3            | <0.2            | 4.5                      | 0                      |
| SB-10                    | 60                    | 04/11/08    | <0.026          | 1.1             | 1.6                  | 6.6                   | 20.326                    | 2,900           | 250             | 3,150                    | 688                    |
| SB-10                    | 90                    | 04/11/08    | <0.0005         | <0.001          | <0.001               | <0.001                | 0.0035                    | 7.3J            | <0.2            | 7.5                      | 11.6                   |

**Notes and Abbreviations:**

1. BTEX is an approximate summation of individual BTEX compounds. For concentrations not detected above the MDL, the MDL was used for summation purposes.
2. TPH is an approximate summation of TPH-GRO and TPH-DRO. For concentrations not detected above the MDL, the MDL was used for summation purposes.
3. New Mexico Oil Conservation District Remediation Action Levels (NMOCD RALs) shown are the most stringent levels specified and are provided for preliminary comparison purposes only. Site conditions may allow for less stringent levels.

< = Concentration is less than the method detection limit (i.e., not detected).

BTEX = benzene, toluene, ethylbenzene, and total xylenes

ft bgs = feet below ground surface

J = Estimated value. Analyte detected at a concentration less than the RL and greater than or equal to the MDL.

MDL = method detection limit

mg/kg = milligrams per kilogram

PID = photoionization detector

ppm = parts per million

RL = reporting limit

TPH = total petroleum hydrocarbons

TPH-DRO = total petroleum hydrocarbons in the diesel range organics

TPH-GRO = total petroleum hydrocarbons in the gasoline range organics

|  |   |
|--|---|
|  | = 100 ≤ TPH concentration < 1,000 mg/kg   |
|  | = 1,000 ≤ TPH concentration < 5,000 mg/kg |
|  | = TPH concentration ≥ 5,000 mg/kg         |

**APPENDIX A**  
**Boring Logs**

**2006 Soil Investigation**



PROJECT: **Chevron**  
 LOCATION: **Lovington Paddock**  
 PROJECT NUMBER: **89CH.49480.10.0001**

WELL / PROBEHOLE / BOREHOLE NO:

**B-1** PAGE 1 OF 1



DRILLING: STARTED **7/24/06** COMPLETED: **7/25/06**  
 INSTALLATION: STARTED **7/24/06** COMPLETED: **7/25/06**  
 DRILLING COMPANY: **White Drilling**  
 DRILLING EQUIPMENT: **Ingersoll Rand T3W**  
 DRILLING METHOD: **Air Rotary**  
 SAMPLING EQUIPMENT: **Shovel**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **NE**  
 STATIC DTW (ft): **NE**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **J. Radloff**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **90.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **7.5**  
 CHECKED BY: **J. Radloff**

| Time & Depth (feet) | Graphic Log | USCS | Description   | Sample | Time Sample ID  | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|---|--------|-----------------|------------------------|------------|-----------------------|--------------|
| 5                   |             |      | <b>TOPSOIL</b> ; approximately 6 inches<br><b>CALICHE</b> ; 7.5 YR 8/1, white; sandy; moist |        | 1742            |                        |            | 4.0                   | 5            |
| 10                  |             |      |   |        | 1743            |                        |            | 2.8                   | 10           |
| 15                  |             |      | 7.5 YR 8/3 to 7.5 YR 8/4, pink  |        | 1746            |                        |            | 1.8                   | 15           |
| 20                  |             |      | <b>SANDSTONE</b> ; 7.5 YR 7/4 pink; fine to medium-grained; subangular                      |        | 1748            |                        |            | 2.1                   | 20           |
| 25                  |             |      | Fine grained  |        | 1750            |                        |            | 2.8                   | 25           |
| 30                  |             |      |   |        | 1753            |                        |            | 1.2                   | 30           |
| 35                  |             |      | 7.5 YR 7/4 pink   |        | 1755            |                        |            | 3.2                   | 35           |
| 40                  |             |      | Fine to medium-grained  |        | 1758            |                        |            | 1.8                   | 40           |
| 45                  |             |      |   |        | 1800<br>B-1-45' |                        |            | 8.2                   | 45           |
| 50                  |             |      |   |        | 1802            |                        |            | 1.4                   | 50           |
| 55                  |             |      |   | 1803   |                 |                        | 1.0        | 55                    |              |
| 60                  |             |      |   | 1805   |                 |                        | 3.2        | 60                    |              |
| 65                  |             |      |   | 1807   |                 |                        | 0.2        | 65                    |              |
| 70                  |             |      |   | 1808   |                 |                        | 5.8        | 70                    |              |
| 75                  |             |      |   | 1810   |                 |                        | 2.3        | 75                    |              |
| 80                  |             |      | 7.5 YR 6/3 light brown; wet   |        | 1813<br>B-1-80' |                        | 1.1        | 80                    |              |
| 85                  |             |      | 7.5 YR 5/4 brown  |        | 1815            |                        | 4.6        | 85                    |              |
| 90                  |             |      | Hole terminated at 90 feet.   |        | 1817            |                        | 0.3        | 90                    |              |
| 95                  |             |      |   |        |                 |                        |            |                       | 95           |



|   |                           |                                       |                                    |
|---|---------------------------|---------------------------------------|------------------------------------|
| PROJECT: <b>Chevron</b>                       |                           | WELL / PROBEHOLE / BOREHOLE NO:       |                                    |
| LOCATION: <b>Lovington Paddock</b>            |                           | <b>B-2</b> PAGE 1 OF 1                |                                    |
| PROJECT NUMBER: <b>89CH.49480.10.0001</b>     |                           |                                       |                                    |
| DRILLING: STARTED <b>7/25/06</b>              | COMPLETED: <b>7/25/06</b> | NORTHING (ft):                        | EASTING (ft):                      |
| INSTALLATION: STARTED <b>7/25/06</b>          | COMPLETED: <b>7/25/06</b> | LATITUDE:                             | LONGITUDE:                         |
| DRILLING COMPANY: <b>White Drilling</b>       |                           | GROUND ELEV (ft):                     | TOC ELEV (ft):                     |
| DRILLING EQUIPMENT: <b>Ingersoll Rand T3W</b> |                           | INITIAL DTW (ft): <b>85 7/25/06</b>   | BOREHOLE DEPTH (ft): <b>90.0</b>   |
| DRILLING METHOD: <b>Air Rotary</b>            |                           | STATIC DTW (ft): <b>NE</b>            | WELL DEPTH (ft): <b>---</b>        |
| SAMPLING EQUIPMENT: <b>Shovel</b>             |                           | WELL CASING DIAMETER (in): <b>---</b> | BOREHOLE DIAMETER (in): <b>7.5</b> |
|   |                           | LOGGED BY: <b>J. Radloff</b>          | CHECKED BY: <b>J. Radloff</b>      |

| Time & Depth (feet) | Graphic Log | USCS | Description  | Sample | Time Sample ID  | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|--|--------|-----------------|------------------------|------------|-----------------------|--------------|
| 0815                |             |      | <b>TOPSOIL</b>                                     |        |                 |                        |            |                       |              |
| 5                   |             |      | <b>CALICHE</b> ; 10 YR 8/4, very pale brown; sandy |        | 0815            |                        |            | 1.4                   | 5            |
| 0819                |             |      | 10 YR 8/3 very pale brown                          |        | 0817            |                        |            | 0.4                   | 10           |
| 0819                |             |      | <b>SAND</b> ; 7.5 YR 8/3 pink; fine grained; moist |        | 0819            |                        |            | 0.3                   | 15           |
| 0820                |             |      | 7.5 YR 7/6 reddish yellow; medium grained          |        | 0820            |                        |            | 0.9                   | 20           |
| 0823                |             |      |  |        | 0823            |                        |            | 1.0                   | 25           |
| 0824                |             |      | 7.5 YR 7/3 pink                                    |        | 0824            |                        |            | 0.1                   | 30           |
| 0826                |             |      |  |        | 0826            |                        |            | 0.3                   | 35           |
| 0827                |             |      | 7.5 YR 7/6 reddish yellow; medium grained          |        | 0827<br>B-2-40' |                        |            | 13.9                  | 40           |
| 0830                |             |      |  |        | 0830            |                        |            | 10.0                  | 45           |
| 0834                |             |      |  |        | 0834            |                        |            | 3.8                   | 50           |
| 0835                |             |      |  |        | 0835            |                        |            | 2.3                   | 55           |
| 0837                |             |      | 7.5 YR 7/3 pink                                    |        | 0837            |                        |            | 0.9                   | 60           |
| 0839                |             |      | 7.5 YR 7/6 reddish yellow                          |        | 0839            |                        |            | 1.4                   | 65           |
| 0840                |             |      |  |        | 0840            |                        |            | 0.8                   | 70           |
| 0842                |             |      |  |        | 0842            |                        |            | 0.8                   | 75           |
| 0845                |             |      |  |        | 0845            |                        |            | 3.6                   | 80           |
| 0846                |             |      |  |        | 0846<br>B-2-85' |                        |            | 7.2                   | 85           |
| 0847                |             |      | Hole terminated at 90 feet.                        |        | 0847            |                        |            | 0.7                   | 90           |
| 95                  |             |      |  |        |                 |                        |            |                       | 95           |



|   |                           |                                       |                                    |
|---|---------------------------|---------------------------------------|------------------------------------|
| PROJECT: <b>Chevron</b>                       |                           | WELL / PROBEHOLE / BOREHOLE NO:       |                                    |
| LOCATION: <b>Lovington Paddock</b>            |                           | <b>B-3</b> PAGE 1 OF 1                |                                    |
| PROJECT NUMBER: <b>89CH.49480.10.0001</b>     |                           | SECOR                                 |                                    |
| DRILLING: STARTED <b>7/25/06</b>              | COMPLETED: <b>7/25/06</b> | NORTHING (ft):                        | EASTING (ft):                      |
| INSTALLATION: STARTED <b>7/25/06</b>          | COMPLETED: <b>7/25/06</b> | LATITUDE:                             | LONGITUDE:                         |
| DRILLING COMPANY: <b>White Drilling</b>       |                           | GROUND ELEV (ft):                     | TOC ELEV (ft):                     |
| DRILLING EQUIPMENT: <b>Ingersoll Rand T3W</b> |                           | INITIAL DTW (ft): <b>87 7/25/06</b>   | BOREHOLE DEPTH (ft): <b>90.0</b>   |
| DRILLING METHOD: <b>Air Rotary</b>            |                           | STATIC DTW (ft): <b>NE</b>            | WELL DEPTH (ft): <b>---</b>        |
| SAMPLING EQUIPMENT: <b>Shovel</b>             |                           | WELL CASING DIAMETER (in): <b>---</b> | BOREHOLE DIAMETER (in): <b>7.5</b> |
|   |                           | LOGGED BY: <b>J. Radloff</b>          | CHECKED BY: <b>J. Radloff</b>      |

| Time & Depth (feet) | Graphic Log | USCS | Description  | Sample | Time Sample ID  | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|--|--------|-----------------|------------------------|------------|-----------------------|--------------|
| 0914 5              |             |      | <b>TOPSOIL</b>   |        | 0914            |                        |            | 1.4                   | 5            |
| 0915 10             |             |      | <b>CALICHE</b> ; 10 YR 8/4 very pale brown; sandy; friable |        | 0915            |                        |            | 0.8                   | 10           |
| 15                  |             |      |  |        | 0917            |                        |            | 0.9                   | 15           |
| 20                  |             |      | <b>CALICHE WITH SAND</b> ; 7.5 yr 8/4 pink                 |        | 0918            |                        |            | 0.7                   | 20           |
| 25                  |             |      | <b>SAND</b> ; 7.5 YR 7/4 pink; medium grained; dry         |        | 0920            |                        |            | 0.8                   | 25           |
| 30                  |             |      | Fine grained; subrounded                                   |        | 0921            |                        |            | 0.4                   | 30           |
| 35                  |             |      |  |        | 0922            |                        |            | 0.8                   | 35           |
| 40                  |             |      |  |        | 0924            |                        |            | 0.2                   | 40           |
| 45                  |             |      |  |        | 0925            |                        |            | 0.9                   | 45           |
| 50                  |             |      |  |        | 0927            |                        |            | 0.9                   | 50           |
| 55                  |             |      |  |        | 0928<br>B-3-55' |                        |            | 1.9                   | 55           |
| 60                  |             |      |  |        | 0930            |                        |            | 1.0                   | 60           |
| 65                  |             |      |  |        | 0931            |                        |            | 1.2                   | 65           |
| 70                  |             |      |  |        | 0933            |                        |            | 0.2                   | 70           |
| 75                  |             |      | Moist  |        | 0935            |                        |            | 1.3                   | 75           |
| 80                  |             |      | Moist to very moist  |        | 0937            |                        |            | 1.0                   | 80           |
| 85                  |             |      | Fine to medium-grained; wet                                |        | 0940<br>B-3-85' |                        |            | 0.8                   | 85           |
| 0939 90             |             |      | Hole terminated at 90 feet.                                |        | 0941            |                        |            | 1.4                   | 90           |
| 95                  |             |      |  |        |                 |                        |            |                       | 95           |



PROJECT: **Chevron**  
 LOCATION: **Lovington Paddock**  
 PROJECT NUMBER: **89CH.49480.10.0001**

WELL / PROBEHOLE / BOREHOLE NO:

**B-4** PAGE 1 OF 1



DRILLING: STARTED **7/25/06** COMPLETED: **7/25/06**  
 INSTALLATION: STARTED **7/25/06** COMPLETED: **7/25/06**  
 DRILLING COMPANY: **White Drilling**  
 DRILLING EQUIPMENT: **Ingersoll Rand T3W**  
 DRILLING METHOD: **Air Rotary**  
 SAMPLING EQUIPMENT: **Shovel**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **87 7/25/06**  
 STATIC DTW (ft): **NE**  
 WELL CASING DIAMETER (in):  
 LOGGED BY: **J. Radloff**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **90.0**  
 WELL DEPTH (ft):  
 BOREHOLE DIAMETER (in): **7.5**  
 CHECKED BY: **J. Radloff**

| Time & Depth (feet) | Graphic Log | USCS | Description   | Sample | Time Sample ID  | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|---|--------|-----------------|------------------------|------------|-----------------------|--------------|
| 1012 5              |             |      | <b>TOPSOIL</b><br><b>CALICHE</b> ; 7.5 YR 8/2 pinkish white; some coarse gravel |        | 1012            |                        |            | 0.1                   | 5            |
| 1013 10             |             |      | Hard; dry   |        | 1013            |                        |            | 0.0                   | 10           |
| 1014 15             |             |      | <b>SAND</b> ; 7.5 YR 8/4 pink; fine grained; subrounded                         |        | 1014            |                        |            | 1.2                   | 15           |
| 1014 20             |             |      |   |        | 1014            |                        |            | 1.8                   | 20           |
| 1016 25             |             |      | 7.5 YR 8/3 pink; medium grained; trace caliche fragments                        |        | 1016            |                        |            | 0.3                   | 25           |
| 1018 30             |             |      | 7.5 YR 7/6 reddish yellow; fine grained; subrounded                             |        | 1018            |                        |            | 2.3                   | 30           |
| 1020 35             |             |      |   |        | 1020            |                        |            | 0.8                   | 35           |
| 1021 40             |             |      |   |        | 1021            |                        |            | 0.3                   | 40           |
| 1023 45             |             |      |   |        | 1023            |                        |            | 1.1                   | 45           |
| 1024 50             |             |      |   |        | 1024            |                        |            | 4.6                   | 50           |
| 1032 55             |             |      |   |        | 1032            |                        |            | 0.2                   | 55           |
| 1033 60             |             |      |   |        | 1033            |                        |            | 1.4                   | 60           |
| 1033 65             |             |      |   |        | 1033            |                        |            | 0.7                   | 65           |
| 1035 70             |             |      |   |        | 1035            |                        |            | 1.6                   | 70           |
| 1036 75             |             |      | 7.5 YR 6/6 reddish yellow; medium grained; subrounded                           |        | 1036            |                        |            | 0.7                   | 75           |
| 1036 80             |             |      | Moist to very moist   |        | 1038<br>B-4-80' |                        |            | 4.9                   | 80           |
| 1040 85             |             |      |   |        | 1040<br>B-4-85' |                        |            | 1.6                   | 85           |
| 1040 90             |             |      | Hole terminated at 90 feet.   |        | 1042            |                        |            | 0.0                   | 90           |
| 95                  |             |      |   |        |                 |                        |            |                       | 95           |



|   |                           |                                       |                                    |
|---|---------------------------|---------------------------------------|------------------------------------|
| PROJECT: <b>Chevron</b>                       |                           | WELL / PROBEHOLE / BOREHOLE NO:       |                                    |
| LOCATION: <b>Lovington Paddock</b>            |                           | <b>B-5</b> PAGE 1 OF 1                |                                    |
| PROJECT NUMBER: <b>89CH.49480.10.0001</b>     |                           |                                       |                                    |
| DRILLING: STARTED <b>7/25/06</b>              | COMPLETED: <b>7/25/06</b> | NORTHING (ft):                        | EASTING (ft):                      |
| INSTALLATION: STARTED <b>7/25/06</b>          | COMPLETED: <b>7/25/06</b> | LATITUDE:                             | LONGITUDE:                         |
| DRILLING COMPANY: <b>White Drilling</b>       |                           | GROUND ELEV (ft):                     | TOC ELEV (ft):                     |
| DRILLING EQUIPMENT: <b>Ingersoll Rand T3W</b> |                           | INITIAL DTW (ft): <b>87 7/25/06</b>   | BOREHOLE DEPTH (ft): <b>90.0</b>   |
| DRILLING METHOD: <b>Air Rotary</b>            |                           | STATIC DTW (ft): <b>NE</b>            | WELL DEPTH (ft): <b>---</b>        |
| SAMPLING EQUIPMENT: <b>Shovel</b>             |                           | WELL CASING DIAMETER (in): <b>---</b> | BOREHOLE DIAMETER (in): <b>7.5</b> |
|   |                           | LOGGED BY: <b>J. Radloff</b>          | CHECKED BY: <b>J. Radloff</b>      |


| Time & Depth (feet) | Graphic Log | USCS | Description  | Sample | Time Sample ID  | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|--|--------|-----------------|------------------------|------------|-----------------------|--------------|
| 1400 5              |             |      | <b>TOPSOIL</b>   |        |                 |                        |            |                       |              |
|                     |             |      | <b>CALICHE</b> ; 7.5 YR 8/3 pink; dry; sandy; soft                         |        | 1400            |                        |            | 0.0                   | 5            |
| 1402 10             |             |      |  |        | 1400            |                        |            | 2.6                   | 10           |
| 1403 15             |             |      | Hard   |        | 1403            |                        |            | 0.2                   | 15           |
| 1405 20             |             |      | <b>CALICHE AND SAND</b> ; 7.5 YR 7/3 pink; medium grained; dry; subangular |        | 1405            |                        |            | 0.4                   | 20           |
| 1406 25             |             |      | <b>SAND</b> 7.5 YR 7/6 reddish yellow; fine grained; dry; subrounded       |        | 1406            |                        |            | 1.6                   | 25           |
| 1406 30             |             |      |  |        | 1406            |                        |            | 2.1                   | 30           |
| 1408 35             |             |      |  |        | 1408            |                        |            | 1.5                   | 35           |
| 1410 40             |             |      |  |        | 1410<br>B-5'40' |                        |            | 9.6                   | 40           |
| 1412 45             |             |      | Trace sandstone fragments  |        | 1412            |                        |            | 0.8                   | 45           |
| 1415 50             |             |      |  |        | 1415            |                        |            | 0.8                   | 50           |
| 1416 55             |             |      |  |        | 1416            |                        |            | 1.5                   | 55           |
| 1418 60             |             |      |  |        | 1418            |                        |            | 0.5                   | 60           |
| 1420 65             |             |      | 7.5 YR 8/6 reddish yellow  |        | 1420            |                        |            | 4.2                   | 65           |
| 1422 70             |             |      |  |        | 1422            |                        |            | 4.3                   | 70           |
| 1423 75             |             |      | Moist; trace Austin sandstone  |        | 1423            |                        |            | 1.5                   | 75           |
| 1425 80             |             |      |  |        | 1425<br>B-5-80' |                        |            | 1.6                   | 80           |
| 1426 90             |             |      | Hole terminated at 90 feet.  |        | 1426            |                        |            | 0.4                   | 90           |
| 95                  |             |      |  |        |                 |                        |            |                       | 95           |




|   |                           |                                       |                                    |
|---|---------------------------|---------------------------------------|------------------------------------|
| PROJECT: <b>Chevron</b>                       |                           | WELL / PROBEHOLE / BOREHOLE NO:       |                                    |
| LOCATION: <b>Lovington Paddock</b>            |                           | <b>B-6</b> PAGE 1 OF 1                |                                    |
| PROJECT NUMBER: <b>89CH.49480.10.0001</b>     |                           |                                       |                                    |
| DRILLING: STARTED <b>7/25/06</b>              | COMPLETED: <b>7/25/06</b> | NORTHING (ft):                        | EASTING (ft):                      |
| INSTALLATION: STARTED <b>7/25/06</b>          | COMPLETED: <b>7/25/06</b> | LATITUDE:                             | LONGITUDE:                         |
| DRILLING COMPANY: <b>White Drilling</b>       |                           | GROUND ELEV (ft):                     | TOC ELEV (ft):                     |
| DRILLING EQUIPMENT: <b>Ingersoll Rand T3W</b> |                           | INITIAL DTW (ft): <b>NE</b>           | BOREHOLE DEPTH (ft): <b>90.0</b>   |
| DRILLING METHOD: <b>Air Rotary</b>            |                           | STATIC DTW (ft): <b>NE</b>            | WELL DEPTH (ft): <b>---</b>        |
| SAMPLING EQUIPMENT: <b>Shovel</b>             |                           | WELL CASING DIAMETER (in): <b>---</b> | BOREHOLE DIAMETER (in): <b>7.5</b> |
|   |                           | LOGGED BY: <b>J. Radloff</b>          | CHECKED BY: <b>J. Radloff</b>      |


| Time & Depth (feet) | Graphic Log | USCS | Description  | Sample | Time Sample ID  | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|--|--------|-----------------|------------------------|------------|-----------------------|--------------|
| 5                   |             |      | <b>TOPSOIL</b>   |        |                 |                        |            |                       |              |
|                     |             |      | <b>CALICHE; 7.5 YR 8/3 pink; dry; sandy; soft</b>                      |        | 1525            |                        |            | 0.7                   | 5            |
| 10                  |             |      | <b>Hard</b>  |        | 1527            |                        |            | 1.1                   | 10           |
| 15                  |             |      |  |        | 1529            |                        |            | 2.4                   | 15           |
| 20                  |             |      | <b>SAND AND CALICHE; 7.5 YR 7/3 pink; fine grained; soft</b>           |        | 1530            |                        |            | 1.2                   | 20           |
| 25                  |             |      |  |        | 1531            |                        |            | 1.9                   | 25           |
| 30                  |             |      | <b>SAND; 7.5 YR 7/6 reddish yellow; fine grained; soft; subrounded</b> |        | 1532            |                        |            | 0.8                   | 30           |
| 35                  |             |      |  |        | 1533            |                        |            | 1.7                   | 35           |
| 40                  |             |      |  |        | 1535            |                        |            | 0.5                   | 40           |
| 45                  |             |      |  |        | 1536            |                        |            | 1.8                   | 45           |
| 50                  |             |      |  |        | 1537            |                        |            | 1.2                   | 50           |
| 55                  |             |      |  |        | 1539            |                        |            | 3.1                   | 55           |
| 60                  |             |      |  |        | 1541<br>B-6-60' |                        |            | 72.8                  | 60           |
| 65                  |             |      |  |        | 1544            |                        |            | 2.2                   | 65           |
| 70                  |             |      |  |        | 1545            |                        |            | 1.8                   | 70           |
| 75                  |             |      | <b>Moist, turning to wet at 90 feet below ground surface</b>           |        | 1546            |                        |            | 0.5                   | 75           |
| 80                  |             |      |  |        | 1547<br>B-6-80' |                        |            | 4.2                   | 80           |
| 85                  |             |      |  |        | 1550            |                        |            | 3.0                   | 85           |
| 90                  |             |      | <b>Hole terminated at 90 feet.</b>                                     |        | 1550            |                        |            | 0.8                   | 90           |
| 95                  |             |      |  |        |                 |                        |            |                       | 95           |




|   |                           |  |                                    |
|---|---------------------------|--|------------------------------------|
| PROJECT: <b>Chevron</b>                       |                           | WELL / PROBEHOLE / BOREHOLE NO:  |                                    |
| LOCATION: <b>Lovington Paddock</b>            |                           | <b>B-7</b> PAGE 1 OF 1  |                                    |
| PROJECT NUMBER: <b>89CH.49480.10.0001</b>     |                           |  |                                    |
| DRILLING: STARTED <b>7/25/06</b>              | COMPLETED: <b>7/25/06</b> | NORTHING (ft):   | EASTING (ft):                      |
| INSTALLATION: STARTED <b>7/25/06</b>          | COMPLETED: <b>7/25/06</b> | LATITUDE:  | LONGITUDE:                         |
| DRILLING COMPANY: <b>White Drilling</b>       |                           | GROUND ELEV (ft):  | TOC ELEV (ft):                     |
| DRILLING EQUIPMENT: <b>Ingersoll Rand T3W</b> |                           | INITIAL DTW (ft): <b>85 7/25/06</b>  | BOREHOLE DEPTH (ft): <b>90.0</b>   |
| DRILLING METHOD: <b>Air Rotary</b>            |                           | STATIC DTW (ft): <b>NE</b>   | WELL DEPTH (ft): <b>---</b>        |
| SAMPLING EQUIPMENT: <b>Shovel</b>             |                           | WELL CASING DIAMETER (in): <b>---</b>  | BOREHOLE DIAMETER (in): <b>7.5</b> |
|   |                           | LOGGED BY: <b>J. Radloff</b>   | CHECKED BY: <b>J. Radloff</b>      |

| Time & Depth (feet) | Graphic Log  | USCS | Description   | Sample | Time Sample ID | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|--|------|---|--------|----------------|------------------------|------------|-----------------------|--------------|
| 1623 5              |  |      | <b>TOPSOIL</b>  |        | 1623           |                        |            | 0.5                   | 5            |
| 1624 10             |  |      | <b>CALICHE; 7.5 YR 7/3 pink; soft; dry</b>            |        | 1624           |                        |            | 0.0                   | 10           |
| 1626 15             |  |      | Hard  |        | 1626           |                        |            | 1.7                   | 15           |
| 1629 20             |  |      | Sandy; soft   |        | 1629           |                        |            | 0.5                   | 20           |
| 1630 25             |  |      | <b>SAND; 7.5 YR 7/4 pink; fine grained; soft; dry</b> |        | 1630           |                        |            | 0.2                   | 25           |
| 1631 30             |  |      |   |        | 1631           |                        |            | 0.0                   | 30           |
| 1632 35             |  |      | 7.5 YR 7/6 reddish yellow; subrounded                 |        | 1632           |                        |            | 3.6                   | 35           |
| 1633 40             |  |      |   |        | 1633           |                        |            | 0.8                   | 40           |
| 1635 45             |  |      |   |        | 1635           |                        |            | 4.7                   | 45           |
| 1637 50             |  |      |   |        | 1637           |                        |            | 4.4                   | 50           |
| 1640 55             |  |      |   | 1640   | B-7-55'        |                        |            | 664                   | 55           |
| 1641 60             |  |      |   | 1641   |                |                        |            | 451                   | 60           |
| 1643 65             |  |      | Odor detected from 65 to 90 feet below ground surface | 1643   |                |                        |            | 604                   | 65           |
| 1644 70             |  |      |   | 1644   |                |                        |            | 59.7                  | 70           |
| 1645 75             |  |      |   | 1645   |                |                        |            | 19.6                  | 75           |
| 1646 80             |  |      |   | 1646   | B-7-80'        |                        |            | 11.1                  | 80           |
| 1647 85             |  |      | Moist, turning to wet at 90 feet below ground surface | 1647   |                |                        |            | 2.3                   | 85           |
| 1649 90             |  |      | Hole terminated at 90 feet.                           | 1649   |                |                        |            | 2.6                   | 90           |
| 95                  |  |      |   |        |                |                        |            |                       | 95           |



|   |                           |  |                                    |
|---|---------------------------|--|------------------------------------|
| PROJECT: <b>Chevron</b>                       |                           | WELL / PROBEHOLE / BOREHOLE NO:  |                                    |
| LOCATION: <b>Lovington Paddock</b>            |                           | <b>B-8</b> PAGE 1 OF 1  |                                    |
| PROJECT NUMBER: <b>89CH.49480.10.0001</b>     |                           |  |                                    |
| DRILLING: STARTED <b>7/26/06</b>              | COMPLETED: <b>7/26/06</b> | NORTHING (ft):   | EASTING (ft):                      |
| INSTALLATION: STARTED <b>7/26/06</b>          | COMPLETED: <b>7/26/06</b> | LATITUDE:  | LONGITUDE:                         |
| DRILLING COMPANY: <b>White Drilling</b>       |                           | GROUND ELEV (ft):  | TOC ELEV (ft):                     |
| DRILLING EQUIPMENT: <b>Ingersoll Rand T3W</b> |                           | INITIAL DTW (ft): <b>NE</b>  | BOREHOLE DEPTH (ft): <b>90.0</b>   |
| DRILLING METHOD: <b>Air Rotary</b>            |                           | STATIC DTW (ft): <b>NE</b>   | WELL DEPTH (ft): <b>---</b>        |
| SAMPLING EQUIPMENT: <b>Shovel</b>             |                           | WELL CASING DIAMETER (in): <b>---</b>  | BOREHOLE DIAMETER (in): <b>7.5</b> |
|   |                           | LOGGED BY: <b>J. Radloff</b>   | CHECKED BY: <b>J. Radloff</b>      |

| Time & Depth (feet) | Graphic Log  | USCS | Description   | Sample | Time Sample ID  | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|--|------|---|--------|-----------------|------------------------|------------|-----------------------|--------------|
| 0830 5              |  |      | <b>TOPSOIL</b><br><b>CALICHE</b> ; 7.5 YR 8/2 pinkish white; coarse grained; sandy; dry; friable, odor detected |        | 0830            |                        |            | 795                   | 5            |
| 0832 10             |  |      |   |        | 0832<br>B-8-10' |                        |            | 1406                  | 10           |
| 0834 15             |  |      | Sandy; soft; dry  |        | 0834            |                        |            | 622                   | 15           |
| 0835 20             |  |      | <b>SAND</b> ; 7.5 YR 7/4 pink; fine grained; soft; dry; odor detected   |        | 0835            |                        |            | 635                   | 20           |
| 0840 25             |  |      | Subrounded; trace caliche fragments   |        | 0840            |                        |            | 559                   | 25           |
| 0841 30             |  |      |   |        | 0841            |                        |            | 18.9                  | 30           |
| 0843 35             |  |      |   |        | 0843            |                        |            | 13.6                  | 35           |
| 0844 40             |  |      |   |        | 0844            |                        |            | 12.6                  | 40           |
| 0845 45             |  |      | 7.5 YR 7/3 pink   |        | 0845            |                        |            | 25.2                  | 45           |
| 0847 50             |  |      | 7.5 YR 7/4 pink   |        | 0847            |                        |            | 34.7                  | 50           |
| 0848 55             |  |      |   |        | 0848            |                        |            | 197                   | 55           |
| 0850 60             |  |      |   |        | 0850            |                        |            | 394                   | 60           |
| 0851 65             |  |      |   |        | 0851            |                        |            | 866                   | 65           |
| 0853 70             |  |      | Moist, turning to dry at 90 feet below ground surface   |        | 0853            |                        |            | 1020                  | 70           |
| 0855 75             |  |      |   |        | 0855            |                        |            | 825                   | 75           |
| 0855 80             |  |      |   |        | 0855            |                        |            | 84                    | 80           |
| 0855 85             |  |      |   |        | 0855<br>B-8-85' |                        |            | 24.9                  | 85           |
| 0855 90             |  |      | Hole terminated at 90 feet.   |        | 0855            |                        |            | 19.5                  | 90           |
| 95                  |  |      |   |        |                 |                        |            |                       | 95           |



PROJECT: **Chevron**  
 LOCATION: **Lovington Paddock**  
 PROJECT NUMBER: **89CH.49480.10.0001**

WELL / PROBEHOLE / BOREHOLE NO:



**B-9** PAGE 1 OF 1

**SECOR**

DRILLING: STARTED **7/26/06** COMPLETED: **7/26/06**  
 INSTALLATION: STARTED **7/26/06** COMPLETED: **7/26/06**  
 DRILLING COMPANY: **White Drilling**  
 DRILLING EQUIPMENT: **Ingersoll Rand T3W**  
 DRILLING METHOD: **Air Rotary**  
 SAMPLING EQUIPMENT: **Shovel**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **NE**  
 STATIC DTW (ft): **NE**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **J. Radloff**

EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **90.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **7.5**  
 CHECKED BY: **J. Radloff**

| Time & Depth (feet) | Graphic Log | USCS | Description  | Sample | Time Sample ID  | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|--|--------|-----------------|------------------------|------------|-----------------------|--------------|
| 0935 5              |             |      | <b>TOPSOIL</b>   |        | 0935            |                        |            | 1.8                   | 5            |
| 0936 10             |             |      | <b>CALICHE</b> ; 7.5 YR 8/4 pink; hard; dry                        |        | 0936            |                        |            | 2.8                   | 10           |
| 0939 15             |             |      |  |        | 0939            |                        |            | 1.9                   | 15           |
| 0941 20             |             |      | 7.5 YR 8/1 white; friable  |        | 0941            |                        |            | 3.3                   | 20           |
| 0944 25             |             |      | <b>SAND</b> ; 7.5 YR 8/4 pink; fine grained; soft; dry; subrounded |        | 0944            |                        |            | 8.9                   | 25           |
| 0945 30             |             |      |  |        | 0945            |                        |            | 15.2                  | 30           |
| 0946 35             |             |      |  |        | 0946            |                        |            | 3.3                   | 35           |
| 0947 40             |             |      |  |        | 0947            |                        |            | 3.7                   | 40           |
| 0950 45             |             |      |  |        | 0950            |                        |            | 4.2                   | 45           |
| 0951 50             |             |      |  |        | 0951            |                        |            | 5.4                   | 50           |
| 0953 55             |             |      |  |        | 0953            |                        |            | 0.1                   | 55           |
| 0954 60             |             |      |  |        | 0954            |                        |            | 2.6                   | 60           |
| 0956 65             |             |      |  |        | 0956<br>B-9-65' |                        |            | 144                   | 65           |
| 0958 70             |             |      |  |        | 0958            |                        |            | 5.2                   | 70           |
| 0959 75             |             |      | 7.5 YR 7/4 pink  |        | 0959            |                        |            | 1.2                   | 75           |
| 1000 80             |             |      |  |        | 1000            |                        |            | 6.6                   | 80           |
| 1001 85             |             |      |  |        | 1001<br>B-9-85' |                        |            | 5.8                   | 85           |
| 1001 90             |             |      | Hole terminated at 90 feet.  |        | 1001            |                        |            | 2.0                   | 90           |
| 95                  |             |      |  |        |                 |                        |            |                       | 95           |

PROJECT: **Chevron**  
 LOCATION: **Lovington Paddock**  
 PROJECT NUMBER: **89CH.49480.10.0001**

WELL / PROBEHOLE / BOREHOLE NO:

**B-10** PAGE 1 OF 1



DRILLING: STARTED **7/26/06** COMPLETED: **7/26/06**  
 INSTALLATION: STARTED **7/26/06** COMPLETED: **7/26/06**  
 DRILLING COMPANY: **White Drilling**  
 DRILLING EQUIPMENT: **Ingersoll Rand T3W**  
 DRILLING METHOD: **Air Rotary**  
 SAMPLING EQUIPMENT: **Shovel**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **NE**  
 STATIC DTW (ft): **NE**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **J. Radloff**

EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **90.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **7.5**  
 CHECKED BY: **J. Radloff**

| Time & Depth (feet) | Graphic Log | USCS | Description   | Sample | Time Sample ID   | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|---|--------|------------------|------------------------|------------|-----------------------|--------------|
|                     |             |      | <b>TOPSOIL</b>  |        |                  |                        |            |                       |              |
| 1042 5              |             |      | <b>CALICHE</b> ; 7.5 YR 8/4 pink; sandy; hard; dry; friable   |        | 1042             |                        |            | 1.2                   | 5            |
| 1045 10             |             |      | 7.5 YR 8/2 pinkish white                                      |        | 1045             |                        |            | 3.7                   | 10           |
| 1048 15             |             |      |   |        | 1048             |                        |            | 3.7                   | 15           |
| 1051 20             |             |      | 7.5 YR 8/4 pink; soft   |        | 1051             |                        |            | 3.7                   | 20           |
| 1054 25             |             |      | <b>SAND</b> ; 7.5 YR 8/4 pink; fine grained; soft; subrounded |        | 1054             |                        |            | 3.4                   | 25           |
| 1055 30             |             |      | 7.5 YR 7/4 pink   |        | 1055             |                        |            | 1.4                   | 30           |
| 1056 35             |             |      |   |        | 1056             |                        |            | 4.0                   | 35           |
| 1057 40             |             |      |   |        | 1057             |                        |            | 3.9                   | 40           |
| 1059 45             |             |      |   |        | 1059             |                        |            | 2.0                   | 45           |
| 1100 50             |             |      |   |        | 1100             |                        |            | 2.8                   | 50           |
| 1102 55             |             |      |   |        | 1102             |                        |            | 9.2                   | 55           |
| 1104 60             |             |      |   |        | 1104             |                        |            | 6.2                   | 60           |
| 1105 65             |             |      |   |        | 1105             |                        |            | 4.4                   | 65           |
| 1107 70             |             |      | Medium grained  |        | 1107<br>B-10-70' |                        |            | 70.0                  | 70           |
| 1108 75             |             |      | Dry to moist  |        | 1108             |                        |            | 9.4                   | 75           |
| 1109 80             |             |      |   |        | 1109<br>B-10-80' |                        |            | 2.7                   | 80           |
| 1110 85             |             |      |   |        | 1110             |                        |            | 5.6                   | 85           |
| 1111 90             |             |      | Hole terminated at 90 feet.                                   |        | 1111             |                        |            | 14.6                  | 90           |
| 95                  |             |      |   |        |                  |                        |            |                       | 95           |



PROJECT: **Chevron**  
 LOCATION: **Lovington Paddock**  
 PROJECT NUMBER: **89CH.49480.10.0001**

WELL / PROBEHOLE / BOREHOLE NO:

**MW-S** PAGE 1 OF 1



DRILLING: STARTED **7/26/06** COMPLETED: **7/26/06**  
 INSTALLATION: STARTED **7/26/06** COMPLETED: **7/26/06**  
 DRILLING COMPANY: **White Drilling**  
 DRILLING EQUIPMENT: **Ingersoll Rand T3W**  
 DRILLING METHOD: **Air Rotary / Mud Rotary**  
 SAMPLING EQUIPMENT: **Shovel**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **NE**  
 STATIC DTW (ft): **NE**  
 WELL CASING DIAMETER (in): **4**  
 LOGGED BY: **J. Radloff**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **120.0**  
 WELL DEPTH (ft): **120.0**  
 BOREHOLE DIAMETER (in): **7.5**  
 CHECKED BY: **J. Radloff**

| Time & Depth (feet) | Graphic Log | USCS | Description   | Sample  | Time Sample ID | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) | Well Construction |                                    |
|---------------------|-------------|------|---|---|----------------|------------------------|------------|-----------------------|--------------|-------------------|------------------------------------|
| 1349 5              |             |      | <b>TOPSOIL</b> ; brown silt and gravel; approximately 2 inches                  |   | 1349           |                        |            | 1.0                   | 5            |                   |                                    |
| 1351 10             |             |      | <b>CALICHE</b> ; 7.5 YR 8/2 pinkish white; hard; dry                            |   | 1351           |                        |            | 2.2                   | 10           |                   | Concrete                           |
| 1355 15             |             |      |   |   | 1355           |                        |            | 4.1                   | 15           |                   | Schedule 40 PVC casing             |
| 1356 20             |             |      |   | <b>SAND WITH CALICHE FRAGMENTS</b> ; 7.5 YR 7/4 pink; medium to fine-grained; soft; dry |                | MW-S-15'               |            |                       | 2.1          | 20                | Bentonite                          |
| 1357 25             |             |      |   | Trace caliche; sand is subrounded   |                | 1356                   |            |                       | 0.2          | 25                |                                    |
| 1357 30             |             |      |   | <b>SAND</b> ; 7.5 YR 6/4 light brown; medium grained; dry; subrounded                   |                | 1357                   |            |                       | 0.0          | 30                |                                    |
| 1358 35             |             |      |   | 7.5 YR 7/4 pink; fine grained   |                | 1357                   |            |                       | 0.0          | 35                |                                    |
| 1359 40             |             |      |   | 7.5 YR 7/3 pink   |                | 1358                   |            |                       | 0.6          | 40                |                                    |
| 1407 45             |             |      |   | 7.5 YR 7/4 pink; <b>SANDSTONE</b> ; 10 R 5/6 red; fine grained; subangular              |                | 1359                   |            |                       | 0.5          | 45                |                                    |
| 1407 50             |             |      |   | <b>SAND</b> ; 7.5 YR 7/4 pink; fine to medium-grained; dry; subrounded                  |                | 1407                   |            |                       | 2.6          | 50                |                                    |
| 1408 55             |             |      |   |   |                | 1407                   |            |                       | 2.6          | 55                |                                    |
| 1410 60             |             |      |   |   |                | 1408                   |            |                       | 2.0          | 60                |                                    |
| 1411 65             |             |      |   |   |                | 1410                   |            |                       | 0.8          | 65                |                                    |
| 1411 70             |             |      |   |   |                | 1411                   |            |                       | 0.7          | 70                | Filter pack; 20/40 silica sand     |
| 1412 75             |             |      |   |   |                | 1411                   |            |                       | 0.0          | 75                | Schedule 40 PVC screen; 0.010-inch |
| 1413 80             |             |      | Becoming moist; begin mud rotary drilling at 80 feet below ground surface       |   | 1412           |                        |            | 0.2                   | 80           |                   |                                    |
| 1534 85             |             |      | 7.5 YR 6/4 light brown; subrounded to subangular                                |   | 1413           |                        |            |                       | 85           |                   |                                    |
| 1536 90             |             |      |   |   | MW-S-80'       |                        |            |                       | 90           |                   |                                    |
| 1537 95             |             |      | Some Austin sandstone fragments   |   |                |                        |            |                       | 95           |                   |                                    |
| 1538 100            |             |      | <b>SANDSTONE WITH SAND</b> ; 7.5 YR 6/4 light brown; medium grained; subangular |   |                |                        |            |                       | 100          |                   |                                    |
| 1540 105            |             |      | Some Austin sandstone fragments   |   |                |                        |            |                       | 105          |                   |                                    |
| 1541 110            |             |      | <b>SAND WITH SANDSTONE</b> ; 7.5 YR 6/4 light brown; coarse to medium-grained;  |   |                |                        |            |                       | 110          |                   |                                    |
| 1542 115            |             |      |   |   |                |                        |            |                       | 115          |                   |                                    |
| 1545 120            |             |      | Hole terminated at 120 feet.  |   |                |                        |            |                       | 120          |                   |                                    |



PROJECT: **Chevron**  
 LOCATION: **Lovington Paddock**  
 PROJECT NUMBER: **89CH.49480.10.0001**

WELL / PROBEHOLE / BOREHOLE NO:

**MW-T** PAGE 1 OF 1



DRILLING: STARTED **7/27/06** COMPLETED: **7/27/06**  
 INSTALLATION: STARTED **7/27/06** COMPLETED: **7/27/06**  
 DRILLING COMPANY: **White Drilling**  
 DRILLING EQUIPMENT: **Ingersoll Rand T3W**  
 DRILLING METHOD: **Air Rotary / Mud Rotary**  
 SAMPLING EQUIPMENT: **Shovel**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **NE**  
 STATIC DTW (ft): **NE**  
 WELL CASING DIAMETER (in): **4**  
 LOGGED BY: **J. Radloff**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **120.0**  
 WELL DEPTH (ft): **120.0**  
 BOREHOLE DIAMETER (in): **7.5**  
 CHECKED BY: **J. Radloff**

| Time & Depth (feet) | Graphic Log | USCS | Description   | Sample | Time Sample ID | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) | Well Construction                  |
|---------------------|-------------|------|---|--------|----------------|------------------------|------------|-----------------------|--------------|------------------------------------|
| 0932 5              |             |      | <b>TOPSOIL</b><br><b>CALICHE</b> ; 7.5 YR 8/2 pinkish white; soft; dry; friable; odor detected  |        | 0932           |                        |            | 553                   | 5            | Concrete                           |
| 0934 10             |             |      |   |        | 0934           |                        |            | 500                   | 10           | Schedule 40 PVC casing             |
| 0934 15             |             |      | Sandy   |        | 0934           |                        |            | 1409                  | 15           | Bentonite                          |
| 0936 20             |             |      | <b>SAND</b> 7.5 YR 8/4 pink; fine grained; soft; dry; subrounded; strong odor                   |        | 0936           |                        |            | 901                   | 20           |                                    |
| 0937 25             |             |      | Trace caliche fragments   |        | 0937           |                        |            | 1041                  | 25           |                                    |
| 0938 30             |             |      | 7.5 YR 7/4 pink; fine to medium-grained   |        | 0938           |                        |            | 1088                  | 30           |                                    |
| 0939 35             |             |      |   |        | 0939           |                        |            | 1653                  | 35           |                                    |
| 0940 40             |             |      |   |        | MW-T-35'       |                        |            |                       |              |                                    |
| 0941 45             |             |      |   |        | 0940           |                        |            | 1386                  | 40           |                                    |
| 0942 50             |             |      |   |        | 0941           |                        |            | 916                   | 45           |                                    |
| 0943 55             |             |      |   |        | 0942           |                        |            | 1034                  | 50           |                                    |
| 0944 60             |             |      |   |        | 0943           |                        |            | 939                   | 55           |                                    |
| 0946 65             |             |      |   |        | 0944           |                        |            | 927                   | 60           |                                    |
| 0947 70             |             |      |   |        | 0946           |                        |            | 742                   | 65           |                                    |
| 0948 75             |             |      |   |        | 0947           |                        |            | 656                   | 70           | Filter pack; 20/40 silica sand     |
| 0949 80             |             |      | Turning slightly moist; begin mud rotary drilling at 80 feet below ground surface               |        | 0948           |                        |            | 952                   | 75           | Schedule 40 PVC screen; 0.010-inch |
| 1052 90             |             |      | <b>SANDSTONE</b> ; 10 R 5/6 red; hard; subangular; strong odor                                  |        | 0949           |                        |            | 354                   | 80           |                                    |
| 1054 95             |             |      | Potential presence of free product in auger cuttings  |        | MW-T-80'       |                        |            |                       |              |                                    |
| 1055 100            |             |      | 7.5 YR 6/4 light brown; coarse to medium-grained; slight odor; trace Austin sandstone fragments |        |                |                        |            |                       |              |                                    |
| 1102 115            |             |      |   |        |                |                        |            |                       |              |                                    |
| 1105 120            |             |      | Hole terminated at 120 feet.  |        |                |                        |            |                       |              |                                    |



## **2008 Soil Investigation**

PROJECT: **Chevron**  
 LOCATION: **Lovington Paddock Soil Assessment Site**  
 PROJECT NUMBER: **89CH.49521.08.3500**

WELL / PROBEHOLE / BOREHOLE NO:

**SB-1** PAGE 1 OF 1




DRILLING / INSTALLATION:  
 STARTED **4/10/08** COMPLETED: **4/10/08**  
 DRILLING COMPANY: **Harrison & Cooper, Inc.**  
 DRILLING EQUIPMENT: **Ingersoll-Rand**  
 DRILLING METHOD: **Air Rotary**  
 SAMPLING EQUIPMENT: **Shovel**

NORTHING (ft):  
 LAT: **32° 51' 31.8"**  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **Not Encountered**  
 STATIC DTW (ft): **Not Encountered**  
 WELL CASING DIA. (in): ---  
 LOGGED BY: **R. Baca**  
 EASTING (ft):  
 LONG: **103° 18' 10.8"**  
 TOC ELEV (ft):  
 WELL DEPTH (ft): ---  
 BOREHOLE DEPTH (ft): **90.0**  
 BOREHOLE DIA. (in): **6**  
 CHECKED BY: **M. Vizcaino**

| Time & Depth (feet) | Graphic Log | USCS | Description  | Sample | Time Sample ID          | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|--|--------|-------------------------|------------------------|------------|-----------------------|--------------|
| 0                   |             |      | <b>COBBLES</b> ; topsoil; caliche cobbles  |        |                         |                        |            |                       |              |
| 5                   |             |      | <b>SANDY CLAY</b> ; whitish pink; fine-grained; soft; dry; subrounded; caliche   |        |                         |                        |            |                       | 5            |
| 10                  |             |      | <b>SANDY CLAY</b> ; yellowish white; fine to medium-grained; soft; dry; slight HC odor; subrounded; poorly sorted; caliche |        |                         |                        |            |                       | 10           |
| 15                  |             |      | <b>SAND</b> ; whitish pink; fine-grained; soft; dry; slight HC odor; subrounded; moderately sorted                         |        |                         |                        |            |                       | 15           |
| 20                  |             |      | <b>SANDSTONE</b> ; quartz; bedded; whitish pink; fine-grained; hard; dry; bedded   |        |                         |                        |            |                       | 20           |
| 25                  |             |      | <b>SAND</b> ; whitish pink; fine-grained; soft; dry; slight HC odor; subrounded; moderately sorted                         |        |                         |                        |            |                       | 25           |
| 30                  |             |      | <b>SAND</b> ; brown; fine-grained; soft; dry; slight HC odor; subangular; well sorted                                      |        |                         |                        |            |                       | 30           |
| 35                  |             |      |  |        |                         |                        |            |                       | 35           |
| 40                  |             |      | <b>SAND</b> ; light brown; fine-grained; soft; dry; slight HC odor; subangular; well sorted                                |        |                         |                        |            |                       | 40           |
| 45                  |             |      |  |        |                         |                        |            |                       | 45           |
| 50                  |             |      |  |        |                         |                        |            |                       | 50           |
| 55                  |             |      |  |        |                         |                        |            |                       | 55           |
| 60                  |             |      | <b>SILTY SAND</b> ; light brown; fine-grained; soft; moist; moderate HC odor; subrounded; well sorted                      |        |                         |                        |            |                       | 60           |
| 65                  |             |      | <b>SILTY SAND</b> ; brown; fine to medium-grained; soft; moist; moderate HC odor; subrounded; well sorted                  |        | 0947<br>SB-1@<br>65-66' |                        |            | 1249                  | 65           |
| 70                  |             |      |  |        |                         |                        |            |                       | 70           |
| 75                  |             |      | <b>SAND</b> ; brown; fine to medium-grained; soft; moist; slight HC odor; subrounded; moderately sorted                    |        |                         |                        |            |                       | 75           |
| 80                  |             |      | <b>SAND</b> ; brown; fine to medium-grained; soft; moist; subrounded; moderately sorted                                    |        |                         |                        |            |                       | 80           |
| 85                  |             |      | <b>CLAYEY SAND</b> ; brown; fine to medium-grained; soft; moist; subrounded; well sorted                                   |        |                         |                        |            |                       | 85           |
| 90                  |             |      | Borehole terminated at 90 feet.  |        | 0957<br>SB-1@<br>89-89' |                        |            | 61.5                  | 90           |
| 95                  |             |      |  |        |                         |                        |            |                       | 95           |



|   |                           |                                 |                                  |   |
|---|---------------------------|---------------------------------|----------------------------------|---|
| PROJECT: <b>Chevron</b>                             |                           | WELL / PROBEHOLE / BOREHOLE NO: |                                  |  |
| LOCATION: <b>Lovington Paddock Remediation Site</b> |                           | <b>SB-2</b> PAGE 1 OF 2         |                                  |   |
| PROJECT NUMBER: <b>89CH.49521.08.3000</b>           |                           |                                 |                                  | <b>SECOR</b>  |
| DRILLING: STARTED <b>4/10/08</b>                    | COMPLETED: <b>4/10/08</b> | NORTHING (ft):                  | EASTING (ft):                    |   |
| INSTALLATION: STARTED <b>4/10/08</b>                | COMPLETED: <b>4/10/08</b> | LATITUDE: <b>32° 51' 52"</b>    | LONGITUDE: <b>103° 18' 9.7"</b>  |   |
| DRILLING COMPANY: <b>Harrison and Cooper, Inc.</b>  |                           | GROUND ELEV (ft):               | TOC ELEV (ft):                   |   |
| DRILLING EQUIPMENT: <b>Ingersoll-Rand</b>           |                           | INITIAL DTW (ft): <b>NE</b>     | BOREHOLE DEPTH (ft): <b>90.0</b> |   |
| DRILLING METHOD: <b>Air Rotary</b>                  |                           | STATIC DTW (ft): <b>NE</b>      | WELL DEPTH (ft): ---             |   |
| SAMPLING EQUIPMENT: <b>Shovel</b>                   |                           | WELL CASING DIAMETER (in): ---  | BOREHOLE DIAMETER (in): <b>6</b> |   |
|   |                           | LOGGED BY: <b>R. Baca</b>       | CHECKED BY: <b>M. Vizcaino</b>   |   |


| Time & Depth (feet) | Graphic Log | USCS | Description   | Sample | Time Sample ID          | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|---|--------|-------------------------|------------------------|------------|-----------------------|--------------|
| 11:10               |             |      | <b>COBBLES</b> ; topsoil; caliche cobbles   |        |                         |                        |            |                       |              |
| 5                   |             |      | <b>SANDSTONE</b> ; quartz; bedded; pinkish white; fine-grained; hard; dry; bedded; caliche matrix |        |                         |                        |            |                       | 5            |
| 10                  |             |      | <b>SANDSTONE</b> ; quartz; whiteish yellow; fine-grained; hard; dry                               |        |                         |                        |            |                       | 10           |
| 15                  |             |      | <b>SANDSTONE</b> ; quartz; white; medium-grained; hard; dry; caliche matrix                       |        |                         |                        |            |                       | 15           |
| 20                  |             |      | <b>SANDSTONE</b> ; quartz; bedded; pinkish white; fine-grained; hard; dry; bedded                 |        |                         |                        |            |                       | 20           |
| 25                  |             |      | <b>SILTY SAND</b> ; light brown; fine-grained; soft; dry; slight HC odor; subrounded; well sorted |        |                         |                        |            |                       | 25           |
| 30                  |             |      |   |        |                         |                        |            |                       | 30           |
| 35                  |             |      |   |        |                         |                        |            |                       | 35           |
| 40                  |             |      |   |        |                         |                        |            |                       | 40           |
| 45                  |             |      |   |        |                         |                        |            |                       | 45           |
| 50                  |             |      |   |        |                         |                        |            |                       | 50           |
| 55                  |             |      |   |        |                         |                        |            |                       | 55           |
| 60                  |             |      |   |        |                         |                        |            |                       | 60           |
| 65                  |             |      |   |        |                         |                        |            |                       | 65           |
| 70                  |             |      | <b>SILTY SAND</b> ; brown; fine-grained; soft; moist; slight HC odor; rounded; well sorted        |        | 1111<br>SB-2@<br>70-71' |                        |            | 1147                  | 70           |
| 75                  |             |      | <b>SAND</b> ; brown; fine to medium-grained; soft; moist; slight HC odor; subrounded; well sorted |        |                         |                        |            |                       | 75           |
| 80                  |             |      | <b>SAND</b> ; dark brown; fine to medium-grained; soft; moist; subrounded; well sorted            |        |                         |                        |            |                       | 80           |
| 85                  |             |      |   |        |                         |                        |            |                       | 85           |
| 90                  |             |      | Hole terminated at 90 feet.   |        | 1114<br>SB-2@<br>89-90' |                        |            | 5.3                   | 90           |
| 95                  |             |      |   |        |                         |                        |            |                       | 95           |



|  |  |   |  |
|--|--|---|--|
| <b>PROJECT: Chevron</b><br><b>LOCATION: Lovington Paddock Remediation Site</b><br><b>PROJECT NUMBER: 89CH.49521.08.3000</b>  |  | <b>WELL / PROBEHOLE / BOREHOLE NO:</b><br><div style="text-align: center; font-size: 1.2em; font-weight: bold;">SB-3</div> <div style="text-align: right;">PAGE 1 OF 1</div>  |  |
| <b>DRILLING: STARTED 4/10/08 COMPLETED: 4/10/08</b><br><b>INSTALLATION: STARTED 4/10/08 COMPLETED: 4/10/08</b><br><b>DRILLING COMPANY: Harrison and Cooper, Inc.</b><br><b>DRILLING EQUIPMENT: Ingersoll-Rand</b><br><b>DRILLING METHOD: Air Rotary</b><br><b>SAMPLING EQUIPMENT: Shovel</b> |  | <b>NORTHING (ft):</b><br><b>LATITUDE: 32° 51' 32.2"</b><br><b>GROUND ELEV (ft):</b><br><b>INITIAL DTW (ft): NE</b><br><b>STATIC DTW (ft): NE</b><br><b>WELL CASING DIAMETER (in): ---</b><br><b>LOGGED BY: R. Baca</b>    |  |
|  |  | <b>EASTING (ft):</b><br><b>LONGITUDE: 103° 18' 8.8"</b><br><b>TOC ELEV (ft):</b><br><b>BOREHOLE DEPTH (ft): 95.0</b><br><b>WELL DEPTH (ft): ---</b><br><b>BOREHOLE DIAMETER (in): 6</b><br><b>CHECKED BY: M. Vizcaino</b> |  |

| Time & Depth (feet) | Graphic Log | USCS | Description  | Sample | Time Sample ID          | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|--|--------|-------------------------|------------------------|------------|-----------------------|--------------|
|                     | COBBLES     |      | COBBLES ; topsoil; caliche cobbles   |        |                         |                        |            |                       |              |
| 5                   | CLAYEY SAND |      | CLAYEY SAND ; pinkish white; coarse-grained; dry; angular; poorly sorted; sand with caliche matrix |        |                         |                        |            |                       | 5            |
| 10                  | CLAYEY SAND |      | CLAYEY SAND ; white; medium-grained; dry; subrounded; poorly sorted                                |        |                         |                        |            |                       | 10           |
| 15                  | SILTY SAND  |      | SILTY SAND ; white; fine to coarse-grained; dry; subrounded; poorly sorted                         |        |                         |                        |            |                       | 15           |
| 20                  | SAND        |      | SAND ; white; medium-grained; dry; subrounded; moderately sorted                                   |        |                         |                        |            |                       | 20           |
| 25                  | SILTY SAND  |      | SILTY SAND ; light brown; fine-grained; dry; subrounded; well sorted                               |        |                         |                        |            |                       | 25           |
| 30                  | SILTY SAND  |      | SILTY SAND ; brown; fine-grained; dry; rounded; well sorted  |        |                         |                        |            |                       | 30           |
| 35                  | SILTY SAND  |      |  |        |                         |                        |            |                       | 35           |
| 40                  | SANDSTONE   |      | SANDSTONE; quartz; light whiteish brown; fine-grained; hard; dry                                   |        |                         |                        |            |                       | 40           |
| 45                  | SILTY SAND  |      | SILTY SAND ; light whiteish brown; fine-grained; dry; subrounded; moderately sorted                |        |                         |                        |            |                       | 45           |
| 50                  | SILTY SAND  |      | SILTY SAND ; light brown; fine-grained; dry; subrounded; well sorted                               |        |                         |                        |            |                       | 50           |
| 55                  | SILTY SAND  |      |  |        |                         |                        |            |                       | 55           |
| 60                  | SILTY SAND  |      | SILTY SAND ; brown; fine-grained; dry; slight HC odor; subrounded; well sorted                     |        |                         |                        |            |                       | 60           |
| 65                  | SILTY SAND  |      |  |        |                         |                        |            |                       | 65           |
| 70                  | SILTY SAND  |      |  |        | 1322<br>SB-3@<br>69-70' |                        |            | 1317                  | 70           |
| 75                  | SILTY SAND  |      | SILTY SAND ; dark brown; fine-grained; moist; subrounded; well sorted                              |        |                         |                        |            |                       | 75           |
| 80                  | SILTY SAND  |      |  |        |                         |                        |            |                       | 80           |
| 85                  | SILTY SAND  |      |  |        |                         |                        |            |                       | 85           |
| 90                  | SAND        |      | SAND ; dark brown; fine to medium-grained; moist; subrounded; quartz sandstone pebbles             |        |                         |                        |            |                       | 90           |
| 95                  |             |      | Hole terminated at 95 feet.  |        | 1333<br>SB-3@<br>94-95' |                        |            | 6.5                   | 95           |



|   |                           |                                 |                                  |   |  |
|---|---------------------------|---------------------------------|----------------------------------|---|--|
| PROJECT: <b>Chevron</b>                             |                           | WELL / PROBEHOLE / BOREHOLE NO: |                                  |  |  |
| LOCATION: <b>Lovington Paddock Remediation Site</b> |                           | <b>SB-4</b> PAGE 1 OF 1         |                                  | <b>SECOR</b>  |  |
| PROJECT NUMBER: <b>89CH.49521.08.3000</b>           |                           |                                 |                                  |   |  |
| DRILLING: STARTED <b>4/11/08</b>                    | COMPLETED: <b>4/11/08</b> | NORTHING (ft):                  | EASTING (ft):                    |   |  |
| INSTALLATION: STARTED <b>4/11/08</b>                | COMPLETED: <b>4/11/08</b> | LATITUDE: <b>32° 51' 32.3"</b>  | LONGITUDE: <b>103° 18' 7.9"</b>  |   |  |
| DRILLING COMPANY: <b>Harrison and Cooper, Inc.</b>  |                           | GROUND ELEV (ft):               | TOC ELEV (ft):                   |   |  |
| DRILLING EQUIPMENT: <b>Ingersoll-Rand</b>           |                           | INITIAL DTW (ft): <b>NE</b>     | BOREHOLE DEPTH (ft): <b>90.0</b> |   |  |
| DRILLING METHOD: <b>Air Rotary</b>                  |                           | STATIC DTW (ft): <b>NE</b>      | WELL DEPTH (ft): ---             |   |  |
| SAMPLING EQUIPMENT: <b>Shovel</b>                   |                           | WELL CASING DIAMETER (in): ---  | BOREHOLE DIAMETER (in): <b>6</b> |   |  |
|   |                           | LOGGED BY: <b>R. Baca</b>       | CHECKED BY: <b>M. Vizcaino</b>   |   |  |

| Time & Depth (feet) | Graphic Log | USCS | Description   | Sample | Time Sample ID          | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|---|--------|-------------------------|------------------------|------------|-----------------------|--------------|
| 5                   |             |      | <b>SAND ; caliche</b>   |        |                         |                        |            |                       | 5            |
| 10                  |             |      | <b>CLAYEY SAND ;</b> whiteish pink; fine to medium-grained; dry; subrounded; poorly sorted; caliche |        |                         |                        |            |                       | 10           |
| 15                  |             |      | <b>CLAYEY SAND ;</b> pink; medium-grained; dry; subangular; poorly sorted; caliche                  |        |                         |                        |            |                       | 15           |
| 20                  |             |      | <b>SILTY SAND ;</b> reddish pink; fine-grained; dry; rounded; well sorted; caliche                  |        |                         |                        |            |                       | 20           |
| 25                  |             |      | <b>SILTY SAND ;</b> light brown and tan; fine-grained; dry; slight HC odor; subrounded; well sorted |        |                         |                        |            |                       | 25           |
| 30                  |             |      |   |        |                         |                        |            |                       | 30           |
| 35                  |             |      |   |        |                         |                        |            |                       | 35           |
| 40                  |             |      | <b>SILTY SAND ;</b> tan; fine-grained; dry; slight HC odor; subrounded; well sorted                 |        |                         |                        |            |                       | 40           |
| 45                  |             |      | <b>SANDSTONE;</b> quartz; tan; fine-grained; hard; dry  |        |                         |                        |            |                       | 45           |
| 50                  |             |      | <b>SANDY SAND ;</b> light brown and tan; fine-grained; slight HC odor; subrounded; well sorted      |        |                         |                        |            |                       | 50           |
| 55                  |             |      |   |        |                         |                        |            |                       | 55           |
| 60                  |             |      |   |        |                         |                        |            |                       | 60           |
| 65                  |             |      |   |        | 0826<br>SB-4@<br>64-65' |                        |            | 53.3                  | 65           |
| 70                  |             |      |   |        |                         |                        |            |                       | 70           |
| 75                  |             |      | <b>SILTY SAND ;</b> brown; fine to medium-grained; moist; rounded; well sorted                      |        |                         |                        |            |                       | 75           |
| 80                  |             |      |   |        |                         |                        |            |                       | 80           |
| 85                  |             |      |   |        |                         |                        |            |                       | 85           |
| 90                  |             |      | Hole terminated at 90 feet.   |        | 0832<br>SB-4@<br>89-90' |                        |            | 0.4                   | 90           |
| 95                  |             |      |   |        |                         |                        |            |                       | 95           |



PROJECT: **Chevron**  
 LOCATION: **Lovington Paddock Remediation Site**  
 PROJECT NUMBER: **89CH.49521.08.3000**

WELL / PROBEHOLE / BOREHOLE NO:

**SB-5** PAGE 1 OF 1




DRILLING: STARTED **4/11/08** COMPLETED: **4/11/08**  
 INSTALLATION: STARTED **4/11/08** COMPLETED: **4/11/08**  
 DRILLING COMPANY: **Harrison and Cooper, Inc.**  
 DRILLING EQUIPMENT: **Ingersoll-Rand**  
 DRILLING METHOD: **Air Rotary**  
 SAMPLING EQUIPMENT: **Shovel**

NORTHING (ft):  
 LATITUDE: **32° 51' 31.6"**  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **NE**  
 STATIC DTW (ft): **NE**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **R. Baca**  
 EASTING (ft):  
 LONGITUDE: **103° 18' 11.9"**  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **90.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **6**  
 CHECKED BY: **M. Vizcaino**

| Time & Depth (feet) | Graphic Log | USCS | Description   | Sample | Time Sample ID          | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|---|--------|-------------------------|------------------------|------------|-----------------------|--------------|
| 5                   |             |      | Topsoil; caliche cobbles  |        |                         |                        |            |                       | 5            |
| 10                  |             |      | <b>SANDY CLAY</b> ; white; medium to coarse-grained; soft; dry; subangular; poorly sorted; caliche pebbles                    |        |                         |                        |            |                       | 10           |
| 15                  |             |      | <b>SAND</b> ; pinkish white; fine to coarse-grained; dry; subangular; some pebbles of caliche                                 |        |                         |                        |            |                       | 15           |
| 20                  |             |      | <b>SAND</b> ; light brown; fine to medium-grained; dry; rounded; well sorted  |        |                         |                        |            |                       | 20           |
| 25                  |             |      |   |        |                         |                        |            |                       | 25           |
| 30                  |             |      |   |        |                         |                        |            |                       | 30           |
| 35                  |             |      |   |        |                         |                        |            |                       | 35           |
| 40                  |             |      |   |        |                         |                        |            |                       | 40           |
| 45                  |             |      | <b>SANDSTONE</b> ; quartz; light brown; fine-grained; hard; dry   |        |                         |                        |            |                       | 45           |
| 50                  |             |      | <b>SAND</b> ; light whiteish pink; fine to medium-grained; soft; dry; slight HC odor; rounded; well sorted; HC odor at 50 ft. |        |                         |                        |            |                       | 50           |
| 55                  |             |      |   |        |                         |                        |            |                       | 55           |
| 60                  |             |      |   |        |                         |                        |            |                       | 60           |
| 65                  |             |      |   |        | 0934<br>SB-5@<br>64-65' |                        |            | 771                   | 65           |
| 70                  |             |      |   |        |                         |                        |            |                       | 70           |
| 75                  |             |      | <b>SILTY SAND</b> ; dark brown; fine-grained; moist; subrounded; well sorted  |        |                         |                        |            |                       | 75           |
| 80                  |             |      |   |        |                         |                        |            |                       | 80           |
| 85                  |             |      |   |        |                         |                        |            |                       | 85           |
| 90                  |             |      | Hole terminated at 90 feet.   |        | 0940<br>SB-5@<br>89-90' |                        |            | 6.7                   | 90           |
| 95                  |             |      |   |        |                         |                        |            |                       | 95           |



|   |                           |                                 |                                  |   |  |
|---|---------------------------|---------------------------------|----------------------------------|---|--|
| PROJECT: <b>Chevron</b>                             |                           | WELL / PROBEHOLE / BOREHOLE NO: |                                  |  |  |
| LOCATION: <b>Lovington Paddock Remediation Site</b> |                           | <b>SB-6</b> PAGE 1 OF 1         |                                  | <b>SECOR</b>  |  |
| PROJECT NUMBER: <b>89CH.49521.08.3000</b>           |                           |                                 |                                  |   |  |
| DRILLING: STARTED <b>4/11/08</b>                    | COMPLETED: <b>4/11/08</b> | NORTHING (ft):                  | EASTING (ft):                    |   |  |
| INSTALLATION: STARTED <b>4/11/08</b>                | COMPLETED: <b>4/11/08</b> | LATITUDE: <b>32° 51' 32.3"</b>  | LONGITUDE: <b>103° 18' 11.8"</b> |   |  |
| DRILLING COMPANY: <b>Harrison and Cooper, Inc.</b>  |                           | GROUND ELEV (ft):               | TOC ELEV (ft):                   |   |  |
| DRILLING EQUIPMENT: <b>Ingersoll-Rand</b>           |                           | INITIAL DTW (ft): <b>NE</b>     | BOREHOLE DEPTH (ft): <b>90.0</b> |   |  |
| DRILLING METHOD: <b>Air Rotary</b>                  |                           | STATIC DTW (ft): <b>NE</b>      | WELL DEPTH (ft): ---             |   |  |
| SAMPLING EQUIPMENT: <b>Shovel</b>                   |                           | WELL CASING DIAMETER (in): ---  | BOREHOLE DIAMETER (in): <b>6</b> |   |  |
|   |                           | LOGGED BY: <b>R. Baca</b>       | CHECKED BY: <b>M. Vizcaino</b>   |   |  |

| Time & Depth (feet) | Graphic Log | USCS | Description   | Sample | Time Sample ID          | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|---|--------|-------------------------|------------------------|------------|-----------------------|--------------|
| 5                   |             |      | Topsoil; caliche cobbles  |        |                         |                        |            |                       | 5            |
| 10                  |             |      | <b>CLAYEY SAND</b> ; yellowish white; medium-grained; soft; dry; subrounded; caliche pebbles                                  |        |                         |                        |            |                       | 10           |
| 15                  |             |      | <b>SANDY CLAY</b> ; yellowish white; fine-grained; soft; dry; slight HC odor; subrounded; poorly sorted; some caliche pebbles |        |                         |                        |            |                       | 15           |
| 20                  |             |      | <b>SAND</b> ; light white and tan; fine-grained; dry; subangular; well sorted   |        |                         |                        |            |                       | 20           |
| 25                  |             |      | <b>SAND</b> ; brown; fine-grained; soft; dry; subangular; well sorted; HC odor at 55 ft.                                      |        |                         |                        |            |                       | 25           |
| 30                  |             |      |   |        |                         |                        |            |                       | 30           |
| 35                  |             |      |   |        |                         |                        |            |                       | 35           |
| 40                  |             |      |   |        |                         |                        |            |                       | 40           |
| 45                  |             |      |   |        |                         |                        |            |                       | 45           |
| 50                  |             |      |   |        |                         |                        |            |                       | 50           |
| 55                  |             |      |   |        |                         |                        |            |                       | 55           |
| 60                  |             |      |   |        |                         |                        |            |                       | 60           |
| 65                  |             |      |   |        | 1030<br>SB-6@<br>64-65' |                        |            | 950                   | 65           |
| 70                  |             |      |   |        |                         |                        |            |                       | 70           |
| 75                  |             |      |   |        |                         |                        |            |                       | 75           |
| 80                  |             |      | <b>SAND</b> ; dark brown; fine to medium-grained; soft; moist; subrounded; well sorted  |        |                         |                        |            |                       | 80           |
| 85                  |             |      |   |        |                         |                        |            |                       | 85           |
| 90                  |             |      | Hole terminated at 90 feet.   |        | 1035<br>SB-6@<br>89-90' |                        |            | 0.0                   | 90           |
| 95                  |             |      |   |        |                         |                        |            |                       | 95           |



PROJECT: **Chevron**  
 LOCATION: **Lovington Paddock Remediation Site**  
 PROJECT NUMBER: **89CH.49521.08.3000**

WELL / PROBEHOLE / BOREHOLE NO:

**SB-7** PAGE 1 OF 1























DRILLING: STARTED **4/11/08** COMPLETED: **4/11/08**  
 INSTALLATION: STARTED **4/11/08** COMPLETED: **4/11/08**  
 DRILLING COMPANY: **Harrison and Cooper, Inc.**  
 DRILLING EQUIPMENT: **Ingersoll-Rand**  
 DRILLING METHOD: **Air Rotary**  
 SAMPLING EQUIPMENT: **Shovel**

NORTHING (ft):  
 LATITUDE: **32° 51' 32.3"**  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **NE**  
 STATIC DTW (ft): **NE**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **R. Baca**  
 EASTING (ft):  
 LONGITUDE: **103° 18' 12.6"**  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **90.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **6**  
 CHECKED BY: **M. Vizcaino**


| Time & Depth (feet) | Graphic Log | USCS | Description  | Sample | Time Sample ID          | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|--|--------|-------------------------|------------------------|------------|-----------------------|--------------|
| 5                   |             |      | Topsoil; caliche cobbles   |        |                         |                        |            |                       | 5            |
| 10                  |             |      | <b>CLAYEY SAND</b> ; white; medium-grained; soft; dry; subangular; poorly sorted; caliche pebbles  |        |                         |                        |            |                       | 10           |
| 15                  |             |      | <b>SAND</b> ; reddish brown; fine-grained; dry; subangular; well sorted  |        |                         |                        |            |                       | 15           |
| 20                  |             |      | <b>SILTY SAND</b> ; light tan and brown; fine-grained; dry; subrounded; moderately sorted  |        |                         |                        |            |                       | 20           |
| 25                  |             |      |  |        |                         |                        |            |                       | 25           |
| 30                  |             |      | <b>SILTY SAND</b> ; reddish brown; fine-grained; dry; subangular; well sorted  |        |                         |                        |            |                       | 30           |
| 35                  |             |      |  |        |                         |                        |            |                       | 35           |
| 40                  |             |      | <b>SILTY SAND</b> ; light tan and brown; fine-grained; dry; subrounded; well sorted; slight HC odor at 45 ft.; slight moisture at 75 ft. |        |                         |                        |            |                       | 40           |
| 45                  |             |      |  |        |                         |                        |            |                       | 45           |
| 50                  |             |      |  |        |                         |                        |            |                       | 50           |
| 55                  |             |      |  |        |                         |                        |            |                       | 55           |
| 60                  |             |      |  |        |                         |                        |            |                       | 60           |
| 65                  |             |      |  |        |                         |                        |            |                       | 65           |
| 70                  |             |      |  |        | 1128<br>SB-7@<br>69-70' |                        |            | 3.1                   | 70           |
| 75                  |             |      | <b>SAND</b> ; dark brown; fine to coarse-grained; moist; subrounded; well sorted   |        |                         |                        |            |                       | 75           |
| 80                  |             |      |  |        |                         |                        |            |                       | 80           |
| 85                  |             |      |  |        |                         |                        |            |                       | 85           |
| 90                  |             |      | Hole terminated at 90 feet.  |        | 1132<br>SB-7@<br>89-90' |                        |            | 0.0                   | 90           |
| 95                  |             |      |  |        |                         |                        |            |                       | 95           |




|   |                           |                                 |               |   |  |
|---|---------------------------|---------------------------------|---------------|---|--|
| PROJECT: <b>Chevron</b>                             |                           | WELL / PROBEHOLE / BOREHOLE NO: |               |  |  |
| LOCATION: <b>Lovington Paddock Remediation Site</b> |                           | <b>SB-8</b>                     |               | PAGE 1 OF 1   |  |
| PROJECT NUMBER: <b>89CH.49521.08.3000</b>           |                           |                                 |               |   |  |
| DRILLING: STARTED <b>4/11/08</b>                    | COMPLETED: <b>4/11/08</b> | NORTHING (ft):                  | EASTING (ft): |   |  |
| INSTALLATION: STARTED <b>4/11/08</b>                | COMPLETED: <b>4/11/08</b> | LATITUDE: <b>32° 51' 31.5"</b>  |               | LONGITUDE: <b>103° 18' 11.9"</b>  |  |
| DRILLING COMPANY: <b>Harrison and Cooper, Inc.</b>  |                           | GROUND ELEV (ft):               |               | TOC ELEV (ft):  |  |
| DRILLING EQUIPMENT: <b>Ingersoll-Rand</b>           |                           | INITIAL DTW (ft): <b>NE</b>     |               | BOREHOLE DEPTH (ft): <b>90.0</b>  |  |
| DRILLING METHOD: <b>Air Rotary</b>                  |                           | STATIC DTW (ft): <b>NE</b>      |               | WELL DEPTH (ft): ---  |  |
| SAMPLING EQUIPMENT: <b>Shovel</b>                   |                           | WELL CASING DIAMETER (in): ---  |               | BOREHOLE DIAMETER (in): <b>6</b>  |  |
|   |                           | LOGGED BY: <b>R. Baca</b>       |               | CHECKED BY: <b>M. Vizcaino</b>  |  |

| Time & Depth (feet) | Graphic Log   | USCS | Description  | Sample | Time Sample ID          | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|---|------|--|--------|-------------------------|------------------------|------------|-----------------------|--------------|
| 5                   |    |      | Black; topsoil; caliche pebbles  |        |                         |                        |            |                       | 5            |
| 5                   |    |      | CLAYEY SAND ; white; fine to medium-grained; dry; subrounded; poorly sorted                        |        |                         |                        |            |                       | 5            |
| 10                  |    |      | CLAYEY SAND ; white; fine to coarse-grained; dry; subangular; poorly sorted; caliche pebbles       |        |                         |                        |            |                       | 10           |
| 15                  |    |      | SAND ; brown; fine-grained; dry; slight HC odor; subrounded; well sorted                           |        |                         |                        |            |                       | 15           |
| 20                  |    |      |  |        |                         |                        |            |                       | 20           |
| 25                  |    |      | SILTY SAND ; light brown and tan; fine-grained; dry; subangular; well sorted                       |        |                         |                        |            |                       | 25           |
| 30                  |    |      |  |        |                         |                        |            |                       | 30           |
| 35                  |   |      | SAND ; brown; fine-grained; dry; slight HC odor; subrounded; well sorted; slight HC odor at 55 ft. |        |                         |                        |            |                       | 35           |
| 40                  |  |      |  |        |                         |                        |            |                       | 40           |
| 45                  |  |      |  |        |                         |                        |            |                       | 45           |
| 50                  |  |      |  |        |                         |                        |            |                       | 50           |
| 55                  |  |      |  |        |                         |                        |            |                       | 55           |
| 60                  |  |      |  |        | 1217<br>SB-8@<br>59-60' |                        |            | 539                   | 60           |
| 65                  |  |      |  |        |                         |                        |            |                       | 65           |
| 70                  |  |      |  |        |                         |                        |            |                       | 70           |
| 75                  |  |      | SAND ; dark blue; fine to medium-grained; moist; rounded; well sorted                              |        |                         |                        |            |                       | 75           |
| 80                  |  |      |  |        |                         |                        |            |                       | 80           |
| 85                  |  |      |  |        |                         |                        |            |                       | 85           |
| 90                  |  |      | Hole terminated at 90 feet.  |        | 1241<br>SB-8@<br>89-90' |                        |            | 3.2                   | 90           |
| 95                  |   |      |  |        |                         |                        |            |                       | 95           |



|   |                           |                                 |                                  |   |
|---|---------------------------|---------------------------------|----------------------------------|---|
| PROJECT: <b>Chevron</b>                             |                           | WELL / PROBEHOLE / BOREHOLE NO: |                                  |  |
| LOCATION: <b>Lovington Paddock Remediation Site</b> |                           | <b>SB-9</b> PAGE 1 OF 1         |                                  |   |
| PROJECT NUMBER: <b>89CH.49521.08.3000</b>           |                           |                                 |                                  |   |
| DRILLING: STARTED <b>4/11/08</b>                    | COMPLETED: <b>4/11/08</b> | NORTHING (ft):                  | EASTING (ft):                    |   |
| INSTALLATION: STARTED <b>4/11/08</b>                | COMPLETED: <b>4/11/08</b> | LATITUDE: <b>32° 51' 31.4"</b>  | LONGITUDE: <b>103° 18' 13.4"</b> |   |
| DRILLING COMPANY: <b>Harrison and Cooper, Inc.</b>  |                           | GROUND ELEV (ft):               | TOC ELEV (ft):                   |   |
| DRILLING EQUIPMENT: <b>Ingersoll-Rand</b>           |                           | INITIAL DTW (ft): <b>NE</b>     | BOREHOLE DEPTH (ft): <b>90.0</b> |   |
| DRILLING METHOD: <b>Air Rotary</b>                  |                           | STATIC DTW (ft): <b>NE</b>      | WELL DEPTH (ft): ---             |   |
| SAMPLING EQUIPMENT: <b>Shovel</b>                   |                           | WELL CASING DIAMETER (in): ---  | BOREHOLE DIAMETER (in): <b>6</b> |   |
|   |                           | LOGGED BY: <b>R. Baca</b>       | CHECKED BY: <b>M. Vizcaino</b>   |   |

| Time & Depth (feet) | Graphic Log | USCS | Description   | Sample            | Time Sample ID | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|---|-------------------|----------------|------------------------|------------|-----------------------|--------------|
| 5                   |             |      | Topsoil; caliche cobbles  |                   |                |                        |            |                       | 5            |
| 10                  |             |      | CLAYEY SAND ; yellowish white; fine to medium-grained; soft; subrounded; poorly sorted; caliche pebbles |                   |                |                        |            |                       | 10           |
| 15                  |             |      | SAND ; brown; fine to medium-grained; dry; rounded; well sorted   |                   |                |                        |            |                       | 15           |
| 20                  |             |      | SAND ; light brown and tan; fine to medium-grained; dry; subrounded; well sorted                        |                   |                |                        |            |                       | 20           |
| 25                  |             |      |   |                   |                |                        |            |                       | 25           |
| 30                  |             |      | SAND ; tan; fine to medium-grained; dry; rounded; well sorted   |                   |                |                        |            |                       | 30           |
| 35                  |             |      |   |                   |                |                        |            |                       | 35           |
| 40                  |             |      |   |                   |                |                        |            |                       | 40           |
| 45                  |             |      | SANDSTONE; quartz; brown; fine-grained; hard; dry; graded   |                   |                |                        |            |                       | 45           |
| 50                  |             |      | SAND ; light brown and tan; fine to medium-grained; dry; subrounded; well sorted                        | 1317 SB-9@ 49-50' |                |                        |            | 0.7                   | 50           |
| 55                  |             |      |   |                   |                |                        |            |                       | 55           |
| 60                  |             |      |   |                   |                |                        |            |                       | 60           |
| 65                  |             |      |   |                   |                |                        |            |                       | 65           |
| 70                  |             |      |   |                   |                |                        |            |                       | 70           |
| 75                  |             |      | SAND ; dark brown; fine to medium-grained; moist; subrounded; well sorted                               |                   |                |                        |            |                       | 75           |
| 80                  |             |      |   |                   |                |                        |            |                       | 80           |
| 85                  |             |      |   |                   |                |                        |            |                       | 85           |
| 90                  |             |      | Hole terminated at 90 feet.   | 1325 SB-9@ 89-90' |                |                        |            | 0.0                   | 90           |
| 95                  |             |      |   |                   |                |                        |            |                       | 95           |

|   |                           |                                 |                                  |   |  |
|---|---------------------------|---------------------------------|----------------------------------|---|--|
| PROJECT: <b>Chevron</b>                             |                           | WELL / PROBEHOLE / BOREHOLE NO: |                                  |  |  |
| LOCATION: <b>Lovington Paddock Remediation Site</b> |                           | <b>SB-10</b> PAGE 1 OF 1        |                                  | <b>SECOR</b>  |  |
| PROJECT NUMBER: <b>89CH.49521.08.3000</b>           |                           |                                 |                                  |   |  |
| DRILLING: STARTED <b>4/11/08</b>                    | COMPLETED: <b>4/11/08</b> | NORTHING (ft):                  | EASTING (ft):                    |   |  |
| INSTALLATION: STARTED <b>4/11/08</b>                | COMPLETED: <b>4/11/08</b> | LATITUDE: <b>32° 51' 31.9"</b>  | LONGITUDE: <b>103° 18' 8.3"</b>  |   |  |
| DRILLING COMPANY: <b>Harrison and Cooper, Inc.</b>  |                           | GROUND ELEV (ft):               | TOC ELEV (ft):                   |   |  |
| DRILLING EQUIPMENT: <b>Ingersoll-Rand</b>           |                           | INITIAL DTW (ft): <b>NE</b>     | BOREHOLE DEPTH (ft): <b>90.0</b> |   |  |
| DRILLING METHOD: <b>Air Rotary</b>                  |                           | STATIC DTW (ft): <b>NE</b>      | WELL DEPTH (ft): ---             |   |  |
| SAMPLING EQUIPMENT: <b>Shovel</b>                   |                           | WELL CASING DIAMETER (in): ---  | BOREHOLE DIAMETER (in): <b>6</b> |   |  |
|   |                           | LOGGED BY: <b>R. Baca</b>       | CHECKED BY: <b>M. Vizcaino</b>   |   |  |

| Time & Depth (feet) | Graphic Log | USCS | Description   | Sample | Time Sample ID           | Measured Recov. (feet) | Blow Count | Headspace PID (units) | Depth (feet) |
|---------------------|-------------|------|---|--------|--------------------------|------------------------|------------|-----------------------|--------------|
| 5                   |             |      | Black; topsoil; caliche cobbles   |        |                          |                        |            |                       | 5            |
| 10                  |             |      | <b>SANDSTONE</b> ; quartz; light tan and brown; fine-grained; hard; dry; caliche matrix                                     |        |                          |                        |            |                       | 10           |
| 15                  |             |      |   |        |                          |                        |            |                       | 15           |
| 20                  |             |      |   |        |                          |                        |            |                       | 20           |
| 25                  |             |      | <b>SILTY SAND</b> ; light tan and brown; fine-grained; dry; strong HC odor; subrounded; well sorted; high HC odor at 60 ft. |        |                          |                        |            |                       | 25           |
| 30                  |             |      |   |        |                          |                        |            |                       | 30           |
| 35                  |             |      |   |        |                          |                        |            |                       | 35           |
| 40                  |             |      |   |        |                          |                        |            |                       | 40           |
| 45                  |             |      |   |        |                          |                        |            |                       | 45           |
| 50                  |             |      |   |        |                          |                        |            |                       | 50           |
| 55                  |             |      |   |        |                          |                        |            |                       | 55           |
| 60                  |             |      |   |        | 1417<br>SB-10@<br>59-60' |                        |            | 688                   | 60           |
| 65                  |             |      |   |        |                          |                        |            |                       | 65           |
| 70                  |             |      | <b>SAND</b> ; dark brown; fine-grained; moist; rounded; well sorted   |        |                          |                        |            |                       | 70           |
| 75                  |             |      |   |        |                          |                        |            |                       | 75           |
| 80                  |             |      |   |        |                          |                        |            |                       | 80           |
| 85                  |             |      |   |        |                          |                        |            |                       | 85           |
| 90                  |             |      | Hole terminated at 90 feet.   |        | 1423<br>SB-10@<br>89-90' |                        |            | 11.6                  | 90           |
| 95                  |             |      |   |        |                          |                        |            |                       | 95           |



## **APPENDIX B**

### **Summary of Soil Photoionization Detector Readings**



**SUMMARY OF SOIL PHOTOIONIZATION DETECTOR READINGS**  
**Lovington Paddock**  
**Lovington, New Mexico**

| Sample Depth | July 2008  |           |  |            |           |  |            |           |  |            |           |  |            |           |  |            |           |  |
|--------------|------------|-----------|--|------------|-----------|--|------------|-----------|--|------------|-----------|--|------------|-----------|--|------------|-----------|--|
|              | B-1        |           |  | B-2        |           |  | B-3        |           |  | B-4        |           |  | B-5        |           |  | B-6        |           |  |
|              | PID (ppmv) | TPH (ppm) |  | PID (ppmv) | TPH (ppm) |  | PID (ppmv) | TPH (ppm) |  | PID (ppmv) | TPH (ppm) |  | PID (ppmv) | TPH (ppm) |  | PID (ppmv) | TPH (ppm) |  |
| 5            | 4.0        | 27        |  | 1.4        | 22        |  | 1.4        | 22        |  | 0.1        | 20        |  | 0.0        | 19        |  | 0.7        | 21        |  |
| 10           | 2.8        | 24        |  | 0.4        | 20        |  | 0.8        | 21        |  | 0.0        | 19        |  | 2.6        | 24        |  | 1.1        | 21        |  |
| 15           | 1.8        | 23        |  | 0.3        | 20        |  | 0.9        | 21        |  | 1.2        | 22        |  | 0.2        | 20        |  | 2.4        | 24        |  |
| 20           | 2.1        | 23        |  | 0.9        | 21        |  | 0.7        | 21        |  | 1.8        | 23        |  | 0.4        | 20        |  | 1.2        | 22        |  |
| 25           | 2.8        | 24        |  | 1.0        | 21        |  | 0.8        | 21        |  | 0.3        | 20        |  | 1.6        | 22        |  | 1.9        | 23        |  |
| 30           | 1.2        | 22        |  | 0.1        | 20        |  | 0.4        | 20        |  | 2.3        | 23        |  | 2.1        | 23        |  | 0.8        | 21        |  |
| 35           | 3.2        | 25        |  | 0.3        | 20        |  | 0.8        | 21        |  | 0.8        | 21        |  | 1.5        | 22        |  | 1.7        | 22        |  |
| 40           | 1.8        | 23        |  | 13.9       | 170.2     |  | 0.2        | 20        |  | 0.3        | 20        |  | 9.6        | 5.6       |  | 0.5        | 20        |  |
| 45           | 8.2        | 4.3       |  | 10.0       | 37        |  | 0.9        | 21        |  | 1.1        | 21        |  | 0.8        | 21        |  | 1.8        | 23        |  |
| 50           | 1.4        | 22        |  | 3.8        | 26        |  | 0.9        | 21        |  | 4.6        | 28        |  | 0.8        | 21        |  | 1.2        | 22        |  |
| 55           | 1.0        | 21        |  | 2.3        | 23        |  | 1.9        | 5.8       |  | 0.2        | 20        |  | 1.5        | 22        |  | 3.1        | 25        |  |
| 60           | 3.2        | 25        |  | 0.9        | 21        |  | 1.0        | 21        |  | 1.4        | 22        |  | 0.5        | 20        |  | 72.8       | 440.7     |  |
| 65           | 0.2        | 20        |  | 1.4        | 22        |  | 1.2        | 22        |  | 0.7        | 21        |  | 4.2        | 27        |  | 2.2        | 23        |  |
| 70           | 5.8        | 30        |  | 0.8        | 21        |  | 0.2        | 20        |  | 1.6        | 22        |  | 4.3        | 27        |  | 1.8        | 23        |  |
| 75           | 2.3        | 23        |  | 0.8        | 21        |  | 1.3        | 22        |  | 0.7        | 21        |  | 1.5        | 22        |  | 0.5        | 20        |  |
| 80           | 1.1        | 4.4       |  | 3.6        | 26        |  | 1.0        | 21        |  | 4.9        | 5.0       |  | 1.6        | 5.1       |  | 11.1       | 5.1       |  |
| 85           | 4.6        | 28        |  | 7.2        | 6.0       |  | 0.8        | 4.3       |  | 1.6        | 5.1       |  | NS         | NA        |  | 3.0        | 25        |  |
| 90           | 0.3        | 20        |  | 0.7        | 21        |  | 1.4        | 22        |  | 0.0        | 19        |  | 0.4        | 20        |  | 0.8        | 21        |  |

| B-7        |           |  | B-8        |           |  | B-9        |           |  | B-10       |           |  | MW-S       |           |  | MW-T       |           |  |
|------------|-----------|--|------------|-----------|--|------------|-----------|--|------------|-----------|--|------------|-----------|--|------------|-----------|--|
| PID (ppmv) | TPH (ppm) |  | PID (ppmv) | TPH (ppm) |  | PID (ppmv) | TPH (ppm) |  | PID (ppmv) | TPH (ppm) |  | PID (ppmv) | TPH (ppm) |  | PID (ppmv) | TPH (ppm) |  |
| 19.5       | 55        |  | 19.5       | 55        |  | 2.0        | 23        |  | 14.6       | 46        |  | NS         | NA        |  | NS         | NA        |  |
| 6.8        | 5.1       |  | 6.8        | 5.1       |  | 6.8        | 5.1       |  | 5.6        | 29        |  | NS         | NA        |  | NS         | NA        |  |
| 2.7        | 4.3       |  | 2.7        | 4.3       |  | 2.7        | 4.3       |  | 2.7        | 4.3       |  | 0.2        | 4.3       |  | 36.4       | 682       |  |
| 1.2        | 22        |  | 1.2        | 22        |  | 1.2        | 22        |  | 9.4        | 36        |  | 0.0        | 19        |  | 553        | 1741      |  |
| 5.2        | 29        |  | 5.2        | 29        |  | 5.2        | 29        |  | 70.0       | 4.4       |  | 0.7        | 21        |  | 743        | 1361      |  |
| 4.4        | 27        |  | 4.4        | 27        |  | 4.4        | 27        |  | 6.2        | 31        |  | 2.0        | 23        |  | 527        | 1686      |  |
| 9.2        | 36        |  | 9.2        | 36        |  | 9.2        | 36        |  | 2.6        | 24        |  | 2.6        | 24        |  | 808        | 1717      |  |
| 2.0        | 20        |  | 2.0        | 20        |  | 2.0        | 20        |  | 6.2        | 31        |  | 2.0        | 23        |  | 527        | 1686      |  |
| 0.1        | 20        |  | 0.1        | 20        |  | 0.1        | 20        |  | 9.2        | 36        |  | 2.6        | 24        |  | 808        | 1717      |  |
| 5.4        | 29        |  | 5.4        | 29        |  | 5.4        | 29        |  | 2.6        | 24        |  | 2.6        | 24        |  | 808        | 1717      |  |
| 4.2        | 27        |  | 4.2        | 27        |  | 4.2        | 27        |  | 2.0        | 23        |  | 0.5        | 20        |  | 815        | 1676      |  |
| 3.7        | 26        |  | 3.7        | 26        |  | 3.7        | 26        |  | 3.9        | 26        |  | 0.6        | 20        |  | 1339       | 2523      |  |
| 3.3        | 25        |  | 3.3        | 25        |  | 3.3        | 25        |  | 4.0        | 27        |  | 0.0        | 19        |  | 1453       | 2910      |  |
| 1.9        | 23        |  | 1.9        | 23        |  | 1.9        | 23        |  | 3.7        | 26        |  | 2.2        | 23        |  | 500        | 923       |  |
| 2.8        | 24        |  | 2.8        | 24        |  | 2.8        | 24        |  | 1.2        | 22        |  | 1.0        | 21        |  | 553        | 1019      |  |
| 1.8        | 23        |  | 1.8        | 23        |  | 1.8        | 23        |  | 1.2        | 22        |  | 1.0        | 21        |  | 553        | 1019      |  |
| 3.3        | 25        |  | 3.3        | 25        |  | 3.3        | 25        |  | 3.7        | 26        |  | 2.1        | 23        |  | 801        | 1649      |  |
| 8.9        | 35        |  | 8.9        | 35        |  | 8.9        | 35        |  | 3.4        | 25        |  | 0.2        | 20        |  | 1041       | 1902      |  |
| 15.2       | 47        |  | 15.2       | 47        |  | 15.2       | 47        |  | 1.4        | 22        |  | 0.0        | 19        |  | 1333       | 1927      |  |
| 44         | 33        |  | 44         | 33        |  | 44         | 33        |  | 4.0        | 27        |  | 0.0        | 19        |  | 1453       | 2910      |  |
| 42         | 26        |  | 42         | 26        |  | 42         | 26        |  | 3.9        | 26        |  | 0.6        | 20        |  | 1339       | 2523      |  |
| 25.2       | 28        |  | 25.2       | 28        |  | 25.2       | 28        |  | 2.0        | 23        |  | 0.5        | 20        |  | 815        | 1676      |  |
| 34.7       | 82        |  | 34.7       | 82        |  | 34.7       | 82        |  | 2.8        | 24        |  | 2.6        | 24        |  | 1034       | 1894      |  |
| 197        | 376       |  | 197        | 376       |  | 197        | 376       |  | 9.2        | 36        |  | 2.6        | 24        |  | 808        | 1717      |  |
| 394        | 732       |  | 394        | 732       |  | 394        | 732       |  | 6.2        | 31        |  | 2.0        | 23        |  | 527        | 1686      |  |
| 504        | 1111      |  | 504        | 1111      |  | 504        | 1111      |  | 4.4        | 27        |  | 0.8        | 21        |  | 743        | 1361      |  |
| 59.7       | 127       |  | 59.7       | 127       |  | 59.7       | 127       |  | 70.0       | 4.4       |  | 0.7        | 21        |  | 553        | 1741      |  |
| 19.6       | 55        |  | 19.6       | 55        |  | 19.6       | 55        |  | 9.4        | 36        |  | 0.0        | 19        |  | 553        | 1741      |  |
| 11.1       | 5.1       |  | 11.1       | 5.1       |  | 11.1       | 5.1       |  | 2.7        | 4.3       |  | 0.2        | 4.3       |  | 36.4       | 682       |  |
| 2.3        | 23        |  | 2.3        | 23        |  | 2.3        | 23        |  | 5.6        | 29        |  | NS         | NA        |  | NS         | NA        |  |

**SUMMARY OF SOIL PHOTOIONIZATION DETECTOR READINGS**  
 Lovington Paddock  
 Lovington, New Mexico

| Sample Depth | April 2008 |           |            |           |            |           |            |           |            |           |            |           |            |           |            |           |            |           |
|--------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
|              | SB-1       |           |            | SB-2      |            |           | SB-3       |           |            | SB-4      |            |           | SB-5       |           |            | SB-6      |            |           |
|              | PID (ppmv) | TPH (ppm) | PID (ppmv) | TPH (ppm) | PID (ppmv) | TPH (ppm) | PID (ppmv) | TPH (ppm) | PID (ppmv) | TPH (ppm) | PID (ppmv) | TPH (ppm) | PID (ppmv) | TPH (ppm) | PID (ppmv) | TPH (ppm) | PID (ppmv) | TPH (ppm) |
| 5            | NS         | NA        | 13.6       | 117       | 4          | 78        | 0.9        | 65        | 65         | 1.1       | 66         | 1.9       | 69         | 1.5       | 67         | 1.7       | 68         | NA        |
| 10           | NS         | NA        | 46         | 249       | 2.3        | 71        | 0.1        | 62        | 63         | 1.5       | 67         | 0.7       | 64         | 1.4       | 67         | 1.3       | 67         | 65        |
| 15           | NS         | NA        | NS         | NA        | 8.3        | 95        | 0.5        | 63        | 63         | 7         | 90         | 49.2      | 281        | 0.7       | 64         | 0.2       | 62         | NA        |
| 20           | 30.1       | 184       | 391        | 1543      | 1.1        | 66        | 0.3        | 63        | 63         | 0.9       | 65         | 39.2      | 220        | 0.9       | 65         | 1.8       | 69         | 1         |
| 25           | 30.3       | 1613      | 606        | 2163      | 0.8        | 65        | 1.3        | 67        | 67         | 1.9       | 69         | 5.4       | 83         | 0.7       | 64         | 5.1       | 82         | NA        |
| 30           | 808        | 2334      | 413        | 1758      | 1.7        | 68        | 0.5        | 63        | 63         | 1.1       | 66         | 3.6       | 76         | 0.7       | 64         | 3.8       | 77         | 68        |
| 35           | 441        | 1563      | 651        | 2348      | 1.9        | 69        | 1.2        | 66        | 66         | 2.7       | 72         | 1         | 65         | 0.8       | 65         | 5.5       | 84         | NA        |
| 40           | 841        | 3475      | 573        | 2163      | 1.1        | 66        | 1.6        | 68        | 68         | 4.2       | 78         | 1.4       | 67         | 0.2       | 62         | 3.5       | 76         | 67        |
| 45           | 663        | 3687      | 497        | 2073      | 4          | 78        | 0.2        | 62        | 62         | 4         | 78         | 1.9       | 69         | 0.4       | 63         | 1.9       | 69         | NA        |
| 50           | 750        | 3147      | 507        | 1508      | 5.4        | 83        | 1.9        | 69        | 69         | 10.7      | 105        | 18.6      | 129        | 0.5       | 63         | 3.5       | 76         | 84        |
| 55           | 734        | 3441      | 781        | 3232      | 807        | 2005      | 3.4        | 75        | 75         | 380       | 1094       | 488       | 1718       | 0.3       | 63         | 113       | 520        | NA        |
| 60           | 703        | 2943      | 813        | 2388      | 743        | 2065      | 1.8        | 69        | 69         | 384       | 1020       | 518       | 2164       | 0         | 61         | 83.9      | 1931       | 84        |
| 65           | 1348       | 4288      | 903        | 3727      | 1131       | 4653      | 53.3       | 278       | 278        | 771       | 4284       | 980       | 3358       | 0         | 61         | 53.4      | 278        | NA        |
| 70           | 837        | 2947      | 1147       | 5119      | 1317       | 5310      | 5.3        | 230.7     | 230.7      | 650       | 2703       | 64        | 321        | 3.1       | 4.5        | 6         | 86         | 841       |
| 75           | 1120       | 4868      | 442        | 1835      | 234        | 1017      | 3.4        | 75        | 75         | 154       | 687        | 20        | 143        | 1.1       | 66         | 10.8      | 105        | NA        |
| 80           | 763        | 3160      | 21.3       | 148       | 47.1       | 253       | 1.1        | 66        | 66         | 72        | 354        | 7.2       | 91         | 0         | 61         | 9.6       | 100        | 232       |
| 85           | 805        | 3329      | 20.3       | 144       | 15.7       | 125       | 0.7        | 64        | 64         | 16        | 126        | NS        | NA         | 0         | 61         | 2.7       | 72         | NA        |
| 90           | 61.6       | 619       | 5.3        | 17.2      | 5.7        | 9.1       | 0.4        | 4.4       | 4.4        | 6.7       | 11.2       | NS        | 44         | 0         | 4.3        | 3.2       | 4.3        | 7.5       |

PID = Photoionization Detector (collected using MiniRAE)

TPH = Total Petroleum Hydrocarbons

ppmv = parts per million by volume

ppm = parts per million

**Bold** indicates soil sample collected for laboratory analysis

*Italics* indicates a PID-estimated TPH value

NS = no sample reading

NA = not applicable

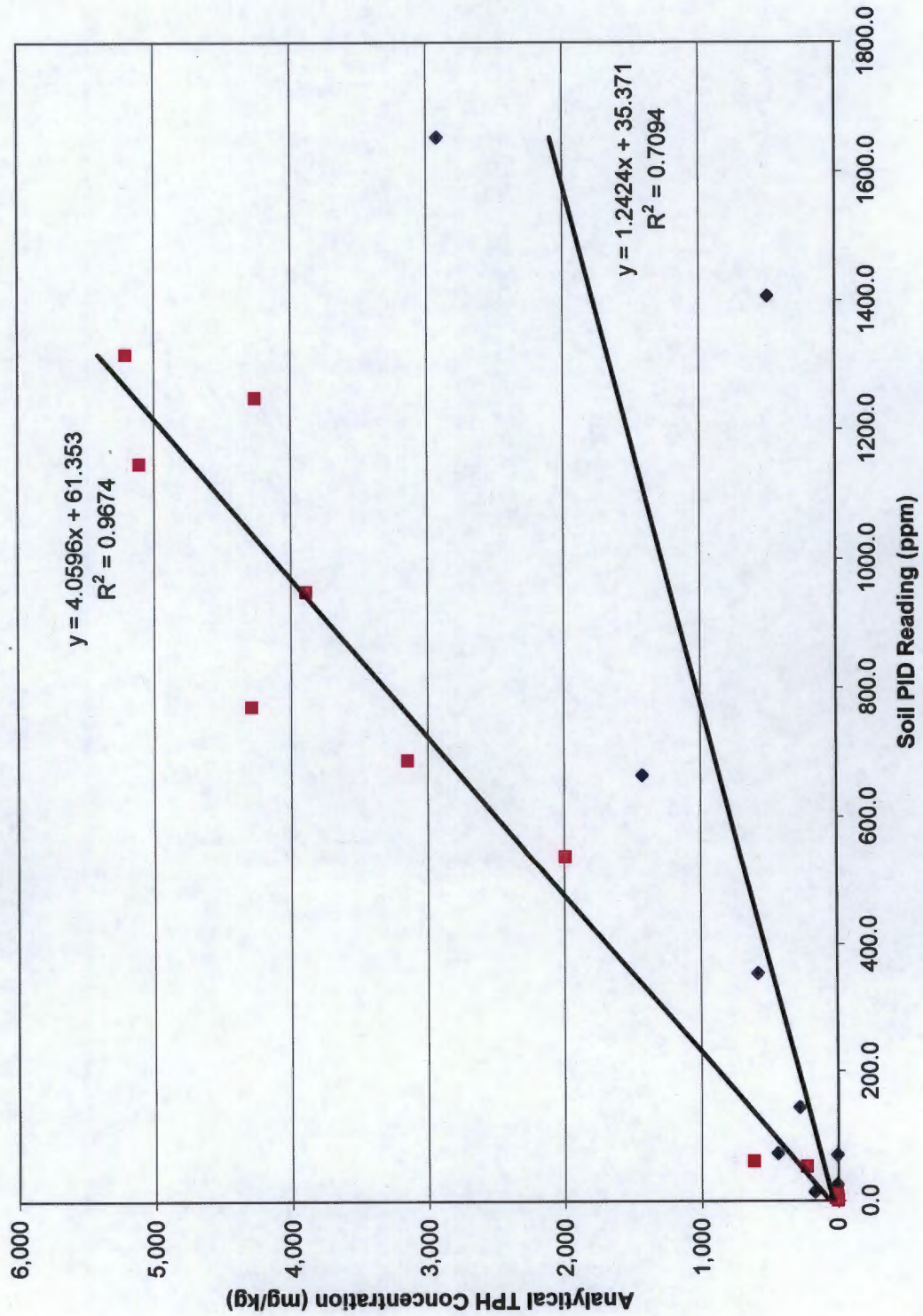
TPH values (and corresponding PID readings) within the range of 100-1000 ppm TPH

TPH values (and corresponding PID readings) within the range of 1000-5000 ppm TPH

TPH values (and corresponding PID readings) greater than 5000 ppm TPH

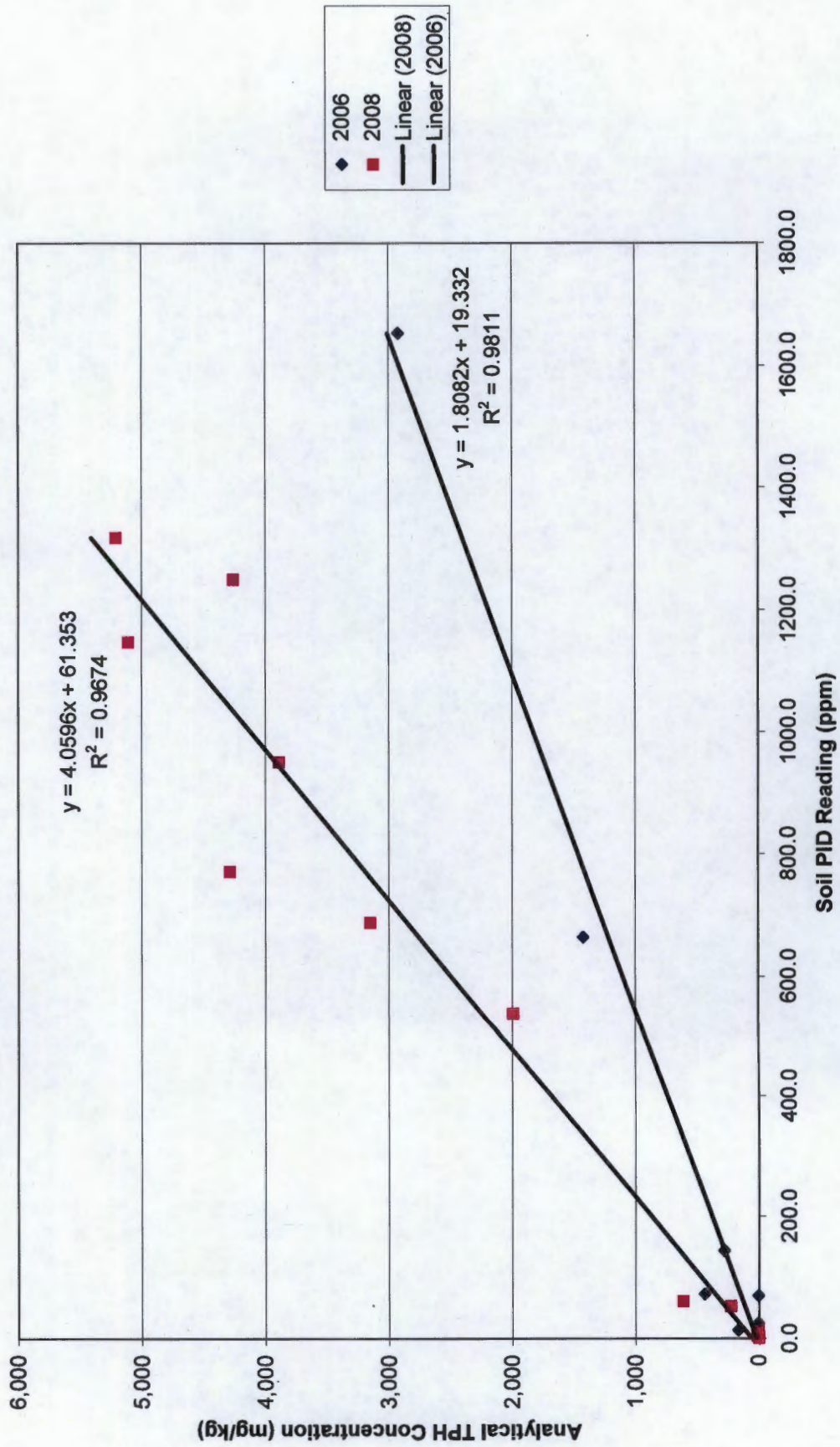


Correlation between Soil Sample Analytical Results and Soil PID Readings - All Data



◆ 2006  
 ■ 2008  
 — Linear (2008)  
 — Linear (2006)

# Correlation between Soil Sample Analytical Results and Soil PID Readings - One Data Point Excluded





## **APPENDIX C**

### **State of New Mexico Well Reports**

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

NEW MEXICO OFFICE OF THE STATE ENGINEER  
WELL RECORD

1. OWNER OF WELL

Name: Chevron Environmental Management Co. Work Phone: \_\_\_\_\_  
Contact: \_\_\_\_\_ Home Phone: \_\_\_\_\_  
Address: 11111 S. Wilcrest  
City: Houston State: TX Zip: 77099

2. LOCATION OF WELL (A,B,C, or D required, E or F if known)

A. SW 1/4 NW 1/4 SE 1/4 Section: 1 Township: 17S Range: 36E N.M.P.M.  
in Lea County.

B. X = \_\_\_\_\_ feet, Y = \_\_\_\_\_ feet, N.M. Coordinate System  
Zone in the \_\_\_\_\_ Grant.  
U.S.G.S. Quad Map: \_\_\_\_\_

C. Latitude: 32 d 51 m 32.3 s Longitude: 103 d 18 m 11.5 s

D. East \_\_\_\_\_ (m), North \_\_\_\_\_ (m), UTM Zone 13, NAD \_\_\_\_\_ (27 or 83)

E. Tract No. \_\_\_\_\_, Map No. \_\_\_\_\_ of the \_\_\_\_\_ Hydrographic Survey

F. Lot No. \_\_\_\_\_, Block No. \_\_\_\_\_ of Unit/Tract \_\_\_\_\_ of the  
Subdivision recorded in \_\_\_\_\_ County.

G. Other: \_\_\_\_\_

H. Give State Engineer File Number if existing well: \_\_\_\_\_

I. On land owned by (required): City of Lovington (Lovington Paddock)

3. DRILLING CONTRACTOR

License Number: WD-1456  
Name: White Drilling Company, Inc. Work Phone: 325-893-2950  
Agent: John W. White Home Phone: 325-893-2950  
Mailing Address: P.O. Box 906  
City: Clyde State: TX Zip: 79510

4. DRILLING RECORD: MW-S

Drilling began: 7/26/06; Completed: 7/26/06; Type tools: Air Rotary;  
Size of hole: 7 7/8 in.; Total depth of well: 120.0 ft.;  
Completed well is: shallow (shallow, artesian);  
Depth to water upon completion of well: 85.66 ft.

File Number: \_\_\_\_\_  
Form: wr-20 page 1 of 4

Trn Number: \_\_\_\_\_

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

NEW MEXICO OFFICE OF THE STATE ENGINEER  
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA: MW-S

| Depth in Feet |       | Thickness | Description of                | Estimated Yield |
|---------------|-------|-----------|-------------------------------|-----------------|
| From          | To    | in feet   | water-bearing formation       | (GPM)           |
| 85.66         | 120.0 | 34.34     | Lt brown sand w/tan sandstone |                 |
|               |       |           |                               |                 |
|               |       |           |                               |                 |
|               |       |           |                               |                 |

6. RECORD OF CASING

| Diameter<br>(inches) | Pounds<br>per ft. | Threads<br>per in. | Depth in Feet |        | Length<br>(feet) | Type of Shoe | Perforations |       |
|----------------------|-------------------|--------------------|---------------|--------|------------------|--------------|--------------|-------|
|                      |                   |                    | Top           | Bottom |                  |              | From         | To    |
| 4.0                  | Sch. 40           | 4.0                | 0.0           | 20.0   | 20.0             |              |              |       |
| 4.0                  | Sch. 40           | 4.0                | 20.0          | 120.0  | 100.0            |              | 20.0         | 120.0 |
|                      |                   |                    |               |        |                  |              |              |       |
|                      |                   |                    |               |        |                  |              |              |       |

7. RECORD OF MUDDING AND CEMENTING

| Depth in Feet |      | Hole     | Sacks  | Cubic Feet | Method of Placement |
|---------------|------|----------|--------|------------|---------------------|
| From          | To   | Diameter | of mud | of Cement  |                     |
| 120.0         | 15.0 | 7 7/8    | 49.0   |            | 20/40 sand.         |
| 15.0          | 12.0 | 7 7/8    | 1.0    |            | Bentonite Pellets   |
| 12.0          | 0.0  | 7 7/8    | 4.0    | 2.7336     | Cement              |
|               |      |          |        |            |                     |
|               |      |          |        |            |                     |

8. PLUGGING RECORD

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

| No. | Depth in Feet |        | Cubic Feet of Cement |
|-----|---------------|--------|----------------------|
|     | Top           | Bottom |                      |
| 1   |               |        |                      |
| 2   |               |        |                      |
| 3   |               |        |                      |
| 4   |               |        |                      |
| 5   |               |        |                      |

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

Form: wr-20

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**WELL RECORD**

## 9. LOG OF HOLE: MW-S

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

NEW MEXICO OFFICE OF THE STATE ENGINEER  
WELL RECORD

1. OWNER OF WELL

Name: Chevron Environmental Management Co. Work Phone: \_\_\_\_\_  
Contact: \_\_\_\_\_ Home Phone: \_\_\_\_\_  
Address: 11111 S. Wilcrest  
City: Houston State: TX Zip: 77099

2. LOCATION OF WELL (A, B, C, or D required, E or F if known)

- A. SW 1/4 NW 1/4 SE 1/4 Section: 1 Township: 17S Range: 36E N.M.P.M.  
in Lea County.
- B. X = \_\_\_\_\_ feet, Y = \_\_\_\_\_ feet, N.M. Coordinate System  
Zone in the \_\_\_\_\_ Grant.  
U.S.G.S. Quad Map \_\_\_\_\_
- C. Latitude: 32 d 51 m 32.3 s Longitude: 103 d 18 m 11.5 s
- D. East \_\_\_\_\_ (m), North \_\_\_\_\_ (m), UTM Zone 13, NAD \_\_\_\_\_ (27 or 83)
- E. Tract No. \_\_\_\_\_, Map No. \_\_\_\_\_ of the \_\_\_\_\_ Hydrographic Survey
- F. Lot No. \_\_\_\_\_, Block No. \_\_\_\_\_ of Unit/Tract \_\_\_\_\_ of the  
\_\_\_\_\_ Subdivision recorded in \_\_\_\_\_ County.
- G. Other: \_\_\_\_\_
- H. Give State Engineer File Number if existing well: \_\_\_\_\_
- I. On land owned by (required): City of Lovington (Lovington Paddock)

3. DRILLING CONTRACTOR

License Number: WD-1456  
Name: White Drilling Company, Inc. Work Phone: 325-893-2950  
Agent: John W. White Home Phone: 325-893-2950  
Mailing Address: P.O. Box 906  
City: Clyde State: TX Zip: 79510

4. DRILLING RECORD: MW-T

Drilling began: 7/27/06; Completed: 7/27/06; Type tools: Air Rotary;  
Size of hole: 7 7/8 in.; Total depth of well: 120.0 ft.;  
Completed well is: shallow (shallow, artesian);  
Depth to water upon completion of well: 92.5 ft.

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

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NEW MEXICO OFFICE OF THE STATE ENGINEER  
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA: MW-T

| Depth in Feet |       | Thickness | Description of                | Estimated Yield |
|---------------|-------|-----------|-------------------------------|-----------------|
| From          | To    | in feet   | water-bearing formation       | (GPM)           |
| 92.5          | 120.0 | 27.5      | Lt brown sand w/tan sandstone |                 |
| _____         | _____ | _____     | _____                         | _____           |
| _____         | _____ | _____     | _____                         | _____           |
| _____         | _____ | _____     | _____                         | _____           |

6. RECORD OF CASING

| Diameter<br>(inches) | Pounds<br>per ft. | Threads<br>per in. | Depth in Feet |        | Length<br>(feet) | Type of Shoe | Perforations |       |
|----------------------|-------------------|--------------------|---------------|--------|------------------|--------------|--------------|-------|
|                      |                   |                    | Top           | Bottom |                  |              | From         | To    |
| 4.0                  | Sch. 40           | 4.0                | 0.0           | 20.0   | 20.0             |              |              |       |
| 4.0                  | Sch. 40           | 4.0                | 20.0          | 120.0  | 100.0            |              | 20.0         | 120.0 |
| _____                | _____             | _____              | _____         | _____  | _____            | _____        | _____        | _____ |
| _____                | _____             | _____              | _____         | _____  | _____            | _____        | _____        | _____ |

7. RECORD OF MUDDING AND CEMENTING

| Depth in Feet |       | Hole     | Sacks  | Cubic Feet | Method of Placement |
|---------------|-------|----------|--------|------------|---------------------|
| From          | To    | Diameter | of mud | of Cement  |                     |
| 120.0         | 16.0  | 7 7/8    | 48.0   |            | 20/40 sand.         |
| 16.0          | 13.0  | 7 7/8    | 1.0    |            | Bentonite Pellets   |
| 13.0          | 0.0   | 7 7/8    | 4.0    | 2.9614     | Cement              |
| _____         | _____ | _____    | _____  | _____      | _____               |
| _____         | _____ | _____    | _____  | _____      | _____               |

8. PLUGGING RECORD

Plugging Contractor: \_\_\_\_\_  
Address: \_\_\_\_\_  
Plugging Method: \_\_\_\_\_  
Date Well Plugged: \_\_\_\_\_

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

| No. | Depth in Feet | Cubic Feet of Cement |
|-----|---------------|----------------------|
|     | Top           | Bottom               |
| 1   | _____         | _____                |
| 2   | _____         | _____                |
| 3   | _____         | _____                |
| 4   | _____         | _____                |
| 5   | _____         | _____                |

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NEW MEXICO OFFICE OF THE STATE ENGINEER  
WELL RECORD

## 9. LOG OF HOLE:MW-T

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File Number:

Form: wr-20

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Trn Number:





**APPENDIX D**  
**Laboratory Analytical Reports**

## **2006 Soil Investigation**

# ANALYTICAL RESULTS

Prepared for:

SECOR International, Inc.  
10235 West Little York Road  
Suite 400  
Houston TX 77040  
713-937-7973

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425

## SAMPLE GROUP

The sample group for this submittal is 999268. Samples arrived at the laboratory on Friday, Jul 28 2006.

The project for this group is Lovington Paddock.

The PO# for this sample group is 89CH49480.10.0001.

The release number for this sample group is .

| <u>Sample No.</u> | <u>Collected</u> | <u>Client Description</u>                     |
|-------------------|------------------|---|
| 4826364           | 7/24/2006 18:00  | B-1_45' Grab Soil Sample<br>Lovington Paddock |
| 4826365           | 7/24/2006 18:13  | B-1_80' Grab Soil Sample<br>Lovington Paddock |
| 4826366           | 7/25/2006 8:27   | B-2_40' Grab Soil Sample<br>Lovington Paddock |
| 4826367           | 7/25/2006 8:46   | B-2_85' Grab Soil Sample<br>Lovington Paddock |
| 4826368           | 7/25/2006 9:28   | B-3_55' Grab Soil Sample<br>Lovington Paddock |
| 4826369           | 7/25/2006 9:40   | B-3_85' Grab Soil Sample<br>Lovington Paddock |
| 4826370           | 7/25/2006 10:38  | B-4_80' Grab Soil Sample<br>Lovington Paddock |
| 4826371           | 7/25/2006 10:40  | B-4_85' Grab Soil Sample<br>Lovington Paddock |
| 4826372           | 7/25/2006 14:10  | B-5_40' Grab Soil Sample<br>Lovington Paddock |
| 4826373           | 7/25/2006 14:25  | B-5_80' Grab Soil Sample<br>Lovington Paddock |
| 4826374           | 7/25/2006 15:41  | B-6_60' Grab Soil Sample<br>Lovington Paddock |
| 4826375           | 7/25/2006 15:47  | B-6_80' Grab Soil Sample<br>Lovington Paddock |
| 4826376           | 7/25/2006 16:44  | B-7_55' Grab Soil Sample<br>Lovington Paddock |



ANALYTICAL RESULTS

Prepared for:

SECOR International, Inc.  
10235 West Little York Road  
Suite 400  
Houston TX 77040  
713-937-7973

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425

|         |                 |  |
|---------|-----------------|--|
| 4826377 | 7/25/2006 16:47 | B-7_85' Grab Soil Sample<br>Lovington Paddock  |
| 4826378 | 7/26/2006 8:55  | B-8_85' Grab Soil Sample<br>Lovington Paddock  |
| 4826379 | 7/26/2006 8:32  | B-8_10' Grab Soil Sample<br>Lovington Paddock  |
| 4826380 | 7/26/2006 9:56  | B-9_65' Grab Soil Sample<br>Lovington Paddock  |
| 4826381 | 7/26/2006 10:01 | B-9_85' Grab Soil Sample<br>Lovington Paddock  |
| 4826382 | 7/26/2006 11:07 | B-10_70' Grab Soil Sample<br>Lovington Paddock |
| 4826383 | 7/26/2006 11:09 | B-10_80' Grab Soil Sample<br>Lovington Paddock |
| 4826384 | 7/26/2006 14:13 | MW-S_80' Grab Soil Sample<br>Lovington Paddock |
| 4826385 | 7/26/2006 13:55 | MW-S_15' Grab Soil Sample<br>Lovington Paddock |
| 4826386 | 7/27/2006 9:39  | MW-T_35' Grab Soil Sample<br>Lovington Paddock |
| 4826387 | 7/27/2006 9:49  | MW-T_80' Grab Soil Sample<br>Lovington Paddock |

ELECTRONIC COPY TO      SECOR International, Inc.      Attn: Rob Pierson

Questions? Contact your Client Services Representative  
Gwen A Birchall at (717)656-2300

Respectfully Submitted,

ANALYTICAL RESULTS

Prepared for:

SECOR International, Inc.  
10235 West Little York Road  
Suite 400  
Houston TX 77040  
713-937-7973

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425

A handwritten signature in black ink, appearing to read "Maria S. Lord". The signature is fluid and cursive, with the first name "Maria" being the most prominent part.

**Maria S. Lord**  
**Senior Specialist**

SECOR International, Inc.  
Project: Lovington Paddock  
SDG:

Report Date: 8/10/2006 18:59  
Submit Date: 7/28/2006 9:40

| Analysis Name        | Units | 4826364 | MDL  | 4826365 | MDL  | 4826366 | MDL  |
|----------------------|-------|---------|------|---------|------|---------|------|
|                      |       | B-1 45' |      | B-1 80' |      | B-2 40' |      |
|                      |       | Result  |      | Result  |      | Result  |      |
| TPH-DRO by 8015B     | mg/kg | N.D.    | 4.1  | N.D.    | 4.2  | 170.    | 4.2  |
| Moisture             | %     | 1.8     | 0.50 | 4.3     | 0.50 | 4.7     | 0.50 |
| TPH-GRO 8015B - soil | mg/kg | N.D.    | 0.2  | N.D.    | 0.2  | N.D.    | 0.2  |
| Benzene              | ug/kg | N.D.    | 0.5  | N.D.    | 0.5  | N.D.    | 0.5  |
| Toluene              | ug/kg | N.D.    | 1.   | N.D.    | 1.   | 1. J    | 1.   |
| Ethylbenzene         | ug/kg | N.D.    | 1.   | N.D.    | 1.   | N.D.    | 1.   |
| Xylene (Total)       | ug/kg | N.D.    | 1.   | N.D.    | 1.   | 1. J    | 1.   |

| Analysis Name        | Units | 4826367 | MDL  | 4826368 | MDL  | 4826369 | MDL  |
|----------------------|-------|---------|------|---------|------|---------|------|
|                      |       | B-2 85' |      | B-3 55' |      | B-3 85' |      |
|                      |       | Result  |      | Result  |      | Result  |      |
| TPH-DRO by 8015B     | mg/kg | N.D.    | 4.8  | N.D.    | 5.5  | N.D.    | 4.1  |
| Moisture             | %     | 17.5    | 0.50 | 26.7    | 0.50 | 2.8     | 0.50 |
| TPH-GRO 8015B - soil | mg/kg | N.D.    | 0.2  | N.D.    | 0.3  | N.D.    | 0.2  |
| Benzene              | ug/kg | N.D.    | 0.6  | N.D.    | 0.7  | N.D.    | 0.5  |
| Toluene              | ug/kg | N.D.    | 1.   | N.D.    | 1.   | N.D.    | 1.   |
| Ethylbenzene         | ug/kg | N.D.    | 1.   | N.D.    | 1.   | N.D.    | 1.   |
| Xylene (Total)       | ug/kg | N.D.    | 1.   | N.D.    | 1.   | N.D.    | 1.   |

| Analysis Name        | Units | 4826370 | MDL  | 4826371 | MDL  | 4826372 | MDL  |
|----------------------|-------|---------|------|---------|------|---------|------|
|                      |       | B-4 80' |      | B-4 85' |      | B-5 40' |      |
|                      |       | Result  |      | Result  |      | Result  |      |
| TPH-DRO by 8015B     | mg/kg | N.D.    | 4.8  | N.D.    | 4.9  | N.D.    | 5.3  |
| Moisture             | %     | 17.4    | 0.50 | 17.6    | 0.50 | 25.2    | 0.50 |
| TPH-GRO 8015B - soil | mg/kg | N.D.    | 0.2  | N.D.    | 0.2  | N.D.    | 0.3  |
| Benzene              | ug/kg | N.D.    | 0.6  | N.D.    | 0.6  | N.D.    | 0.7  |
| Toluene              | ug/kg | N.D.    | 1.   | N.D.    | 1.   | N.D.    | 1.   |
| Ethylbenzene         | ug/kg | N.D.    | 1.   | N.D.    | 1.   | N.D.    | 1.   |
| Xylene (Total)       | ug/kg | N.D.    | 1.   | N.D.    | 1.   | N.D.    | 1.   |

| Analysis Name        | Units | 4826373 | MDL  | 4826374 | MDL  | 4826375 | MDL  |
|----------------------|-------|---------|------|---------|------|---------|------|
|                      |       | B-5 80' |      | B-6 60' |      | B-6 80' |      |
|                      |       | Result  |      | Result  |      | Result  |      |
| TPH-DRO by 8015B     | mg/kg | N.D.    | 4.9  | 440.    | 8.8  | N.D.    | 4.9  |
| Moisture             | %     | 18.4    | 0.50 | 9.4     | 0.50 | 17.9    | 0.50 |
| TPH-GRO 8015B - soil | mg/kg | N.D.    | 0.2  | 0.7 J   | 0.2  | N.D.    | 0.2  |
| Benzene              | ug/kg | N.D.    | 0.6  | N.D.    | 0.6  | N.D.    | 0.6  |
| Toluene              | ug/kg | N.D.    | 1.   | N.D.    | 1.   | N.D.    | 1.   |
| Ethylbenzene         | ug/kg | N.D.    | 1.   | N.D.    | 1.   | N.D.    | 1.   |
| Xylene (Total)       | ug/kg | N.D.    | 1.   | 2. J    | 1.   | N.D.    | 1.   |

4826376

4826377

4826378



SECOR International, Inc.  
 Project: Lovington Paddock  
 SDG:

Report Date: 8/10/2006 18:59  
 Submit Date: 7/28/2006 9:40

| Analysis Name        | Units | B-7 55'  | MDL  | B-7 85'  | MDL  | B-8 85'  | MDL  |
|----------------------|-------|----------|------|----------|------|----------|------|
|                      |       | Result   |      | Result   |      | Result   |      |
| TPH-DRO by 8015B     | mg/kg | 1,400.   | 42.  | N.D.     | 4.9  | 6.4 J    | 4.8  |
| Moisture             | %     | 5.5      | 0.50 | 17.6     | 0.50 | 17.3     | 0.50 |
| TPH-GRO 8015B - soil | mg/kg | 25.      | 0.8  | N.D.     | 0.2  | N.D.     | 0.2  |
| Benzene              | ug/kg | N.D.     | 3.   | N.D.     | 0.6  | N.D.     | 0.6  |
| Toluene              | ug/kg | 6. J     | 5.   | N.D.     | 1.   | N.D.     | 1.   |
| Ethylbenzene         | ug/kg | 14. J    | 5.   | N.D.     | 1.   | N.D.     | 1.   |
| Xylene (Total)       | ug/kg | 80.      | 5.   | N.D.     | 1.   | N.D.     | 1.   |
|                      |       | 4826379  |      | 4826380  |      | 4826381  |      |
| Analysis Name        | Units | B-8 10'  | MDL  | B-9 65'  | MDL  | B-9 85'  | MDL  |
|                      |       | Result   |      | Result   |      | Result   |      |
| TPH-DRO by 8015B     | mg/kg | 450.     | 9.3  | 280.     | 4.2  | N.D.     | 4.9  |
| Moisture             | %     | 13.8     | 0.50 | 5.0      | 0.50 | 18.0     | 0.50 |
| TPH-GRO 8015B - soil | mg/kg | 46.      | 2.3  | 1.0 J    | 0.2  | N.D.     | 0.2  |
| Benzene              | ug/kg | N.D.     | 3.   | N.D.     | 0.5  | N.D.     | 0.6  |
| Toluene              | ug/kg | 59.      | 6.   | N.D.     | 1.   | N.D.     | 1.   |
| Ethylbenzene         | ug/kg | 250.     | 6.   | N.D.     | 1.   | N.D.     | 1.   |
| Xylene (Total)       | ug/kg | 1,900.   | 6.   | 2. J     | 1.   | N.D.     | 1.   |
|                      |       | 4826382  |      | 4826383  |      | 4826384  |      |
| Analysis Name        | Units | B-10 70' | MDL  | B-10 80' | MDL  | MW-S 80' | MDL  |
|                      |       | Result   |      | Result   |      | Result   |      |
| TPH-DRO by 8015B     | mg/kg | N.D.     | 4.2  | N.D.     | 4.1  | N.D.     | 4.1  |
| Moisture             | %     | 5.0      | 0.50 | 3.4      | 0.50 | 3.3      | 0.50 |
| TPH-GRO 8015B - soil | mg/kg | N.D.     | 0.2  | N.D.     | 0.2  | N.D.     | 0.2  |
| Benzene              | ug/kg | N.D.     | 0.5  | N.D.     | 0.5  | N.D.     | 0.5  |
| Toluene              | ug/kg | 2. J     | 1.   | N.D.     | 1.   | N.D.     | 1.   |
| Ethylbenzene         | ug/kg | N.D.     | 1.   | N.D.     | 1.   | N.D.     | 1.   |
| Xylene (Total)       | ug/kg | 2. J     | 1.   | N.D.     | 1.   | N.D.     | 1.   |
|                      |       | 4826385  |      | 4826386  |      | 4826387  |      |
| Analysis Name        | Units | MW-S 15' | MDL  | MW-T 35' | MDL  | MW-T 80' | MDL  |
|                      |       | Result   |      | Result   |      | Result   |      |
| TPH-DRO by 8015B     | mg/kg | N.D.     | 4.7  | 2,800.   | 52.  | 570.     | 9.5  |
| Moisture             | %     | 15.5     | 0.50 | 23.4     | 0.50 | 16.1     | 0.50 |
| TPH-GRO 8015B - soil | mg/kg | N.D.     | 0.2  | 120.     | 2.6  | 12.      | 1.   |
| Benzene              | ug/kg | N.D.     | 0.6  | 29. J    | 3.   | N.D.     | 3.   |
| Toluene              | ug/kg | N.D.     | 1.   | 680.     | 6.   | 17. J    | 6.   |
| Ethylbenzene         | ug/kg | N.D.     | 1.   | 580.     | 6.   | 29. J    | 6.   |
| Xylene (Total)       | ug/kg | N.D.     | 1.   | 3,500.   | 6.   | 150.     | 6.   |

| CAT No.        | Analysis Name                   | Method                | Trial ID | Analysis Date/Time | Analyst           | Dilution |
|----------------|---------------------------------|-----------------------|----------|--------------------|-------------------|----------|
| <b>4826364</b> | <b>B-1_45' Grab Soil Sample</b> |                       |          |                    |                   |          |
| 08270          | TPH-DRO by 8015B                | SW-846 8015B          | 1        | 8/1/06 1833        | Tracy A Cole      | 1        |
| 00111          | Moisture                        | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637          | TPH-GRO 8015B - soil            | SW-846 8015B modified | 1        | 7/31/06 1035       | Linda C Pape      | 25       |
| 02304          | UST-Unleaded Soils by 8260B     | SW-846 8260B          | 1        | 8/4/06 2318        | Lauren C Marzario | 0.99     |
| 00374          | GC/MS - Bulk Sample Prep        | SW-846 5030A          | 1        | 8/4/06 1704        | Dawn M Harle      | n.a.     |
| 01150          | GC - Bulk Soil Prep             | SW-846 5035           | 1        | 7/31/06 0024       | Jesse L Mertz     | n.a.     |
| 07004          | Extraction - DRO (Soils)        | SW-846 3550B          | 1        | 7/31/06 0730       | Ineabelle Poveda  | 1        |
| <b>4826365</b> | <b>B-1_80' Grab Soil Sample</b> |                       |          |                    |                   |          |
| 08270          | TPH-DRO by 8015B                | SW-846 8015B          | 1        | 8/1/06 1844        | Tracy A Cole      | 1        |
| 00111          | Moisture                        | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637          | TPH-GRO 8015B - soil            | SW-846 8015B modified | 1        | 7/31/06 1115       | Linda C Pape      | 25       |
| 02304          | UST-Unleaded Soils by 8260B     | SW-846 8260B          | 1        | 8/4/06 2341        | Lauren C Marzario | 1        |
| 00374          | GC/MS - Bulk Sample Prep        | SW-846 5030A          | 1        | 8/4/06 1705        | Dawn M Harle      | n.a.     |
| 01150          | GC - Bulk Soil Prep             | SW-846 5035           | 1        | 7/31/06 0025       | Jesse L Mertz     | n.a.     |
| 07004          | Extraction - DRO (Soils)        | SW-846 3550B          | 1        | 7/31/06 0730       | Ineabelle Poveda  | 1        |
| <b>4826366</b> | <b>B-2_40' Grab Soil Sample</b> |                       |          |                    |                   |          |
| 08270          | TPH-DRO by 8015B                | SW-846 8015B          | 1        | 8/1/06 2105        | Tracy A Cole      | 1        |
| 00111          | Moisture                        | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637          | TPH-GRO 8015B - soil            | SW-846 8015B modified | 1        | 7/31/06 1156       | Linda C Pape      | 25       |
| 02304          | UST-Unleaded Soils by 8260B     | SW-846 8260B          | 1        | 8/5/06 0049        | Lauren C Marzario | 1        |
| 00374          | GC/MS - Bulk Sample Prep        | SW-846 5030A          | 1        | 8/4/06 1707        | Dawn M Harle      | n.a.     |
| 01150          | GC - Bulk Soil Prep             | SW-846 5035           | 1        | 7/31/06 0027       | Jesse L Mertz     | n.a.     |
| 07004          | Extraction - DRO (Soils)        | SW-846 3550B          | 1        | 7/31/06 0730       | Ineabelle Poveda  | 1        |
| <b>4826367</b> | <b>B-2_85' Grab Soil Sample</b> |                       |          |                    |                   |          |
| 08270          | TPH-DRO by 8015B                | SW-846 8015B          | 1        | 8/1/06 1855        | Tracy A Cole      | 1        |
| 00111          | Moisture                        | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637          | TPH-GRO 8015B - soil            | SW-846 8015B modified | 1        | 7/31/06 1237       | Linda C Pape      | 25       |
| 02304          | UST-Unleaded Soils by 8260B     | SW-846 8260B          | 1        | 8/5/06 0112        | Lauren C Marzario | 1        |
| 00374          | GC/MS - Bulk Sample Prep        | SW-846 5030A          | 1        | 8/4/06 1708        | Dawn M Harle      | n.a.     |
| 01150          | GC - Bulk Soil Prep             | SW-846 5035           | 1        | 7/31/06 0029       | Jesse L Mertz     | n.a.     |
| 07004          | Extraction - DRO (Soils)        | SW-846 3550B          | 1        | 7/31/06 0730       | Ineabelle Poveda  | 1        |
| <b>4826368</b> | <b>B-3_55' Grab Soil Sample</b> |                       |          |                    |                   |          |
| 08270          | TPH-DRO by 8015B                | SW-846 8015B          | 2        | 8/1/06 1905        | Tracy A Cole      | 1        |
| 00111          | Moisture                        | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637          | TPH-GRO 8015B - soil            | SW-846 8015B modified | 1        | 7/31/06 1318       | Linda C Pape      | 25       |
| 02304          | UST-Unleaded Soils by 8260B     | SW-846 8260B          | 1        | 8/5/06 0135        | Lauren C Marzario | 1        |
| 00374          | GC/MS - Bulk Sample Prep        | SW-846 5030A          | 1        | 8/4/06 1709        | Dawn M Harle      | n.a.     |
| 01150          | GC - Bulk Soil Prep             | SW-846 5035           | 1        | 7/31/06 0030       | Jesse L Mertz     | n.a.     |
| 07004          | Extraction - DRO (Soils)        | SW-846 3550B          | 1        | 7/31/06 0730       | Ineabelle Poveda  | 1        |
| <b>4826369</b> | <b>B-3_85' Grab Soil Sample</b> |                       |          |                    |                   |          |
| 08270          | TPH-DRO by 8015B                | SW-846 8015B          | 1        | 8/1/06 1916        | Tracy A Cole      | 1        |
| 00111          | Moisture                        | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |

| CAT No.                                 | Analysis Name               | Method                | Trial ID | Analysis Date/Time | Analyst           | Dilution |
|---|-----------------------------|-----------------------|----------|--------------------|-------------------|----------|
| 01637                                   | TPH-GRO 8015B - soil        | SW-846 8015B modified | 1        | 7/31/06 1358       | Linda C Pape      | 25       |
| 02304                                   | UST-Unleaded Soils by 8260B | SW-846 8260B          | 1        | 8/5/06 0158        | Lauren C Marzario | 1        |
| 00374                                   | GC/MS - Bulk Sample Prep    | SW-846 5030A          | 1        | 8/4/06 1710        | Dawn M Harle      | n.a.     |
| 01150                                   | GC - Bulk Soil Prep         | SW-846 5035           | 1        | 7/31/06 0031       | Jesse L Mertz     | n.a.     |
| 07004                                   | Extraction - DRO (Soils)    | SW-846 3550B          | 1        | 7/31/06 0730       | Ineabelle Poveda  | 1        |
| <b>4826370 B-4_80' Grab Soil Sample</b> |                             |                       |          |                    |                   |          |
| 08270                                   | TPH-DRO by 8015B            | SW-846 8015B          | 1        | 8/1/06 2116        | Tracy A Cole      | 1        |
| 00111                                   | Moisture                    | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637                                   | TPH-GRO 8015B - soil        | SW-846 8015B modified | 1        | 7/31/06 1439       | Linda C Pape      | 25       |
| 02304                                   | UST-Unleaded Soils by 8260B | SW-846 8260B          | 1        | 8/5/06 0220        | Lauren C Marzario | 1.01     |
| 00374                                   | GC/MS - Bulk Sample Prep    | SW-846 5030A          | 1        | 8/4/06 1711        | Dawn M Harle      | n.a.     |
| 01150                                   | GC - Bulk Soil Prep         | SW-846 5035           | 1        | 7/31/06 0032       | Jesse L Mertz     | n.a.     |
| 07004                                   | Extraction - DRO (Soils)    | SW-846 3550B          | 1        | 7/31/06 0730       | Ineabelle Poveda  | 1        |
| <b>4826371 B-4_85' Grab Soil Sample</b> |                             |                       |          |                    |                   |          |
| 08270                                   | TPH-DRO by 8015B            | SW-846 8015B          | 1        | 8/1/06 1927        | Tracy A Cole      | 1        |
| 00111                                   | Moisture                    | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637                                   | TPH-GRO 8015B - soil        | SW-846 8015B modified | 1        | 7/31/06 1520       | Linda C Pape      | 25       |
| 02304                                   | UST-Unleaded Soils by 8260B | SW-846 8260B          | 1        | 8/5/06 0243        | Lauren C Marzario | 1        |
| 00374                                   | GC/MS - Bulk Sample Prep    | SW-846 5030A          | 1        | 8/4/06 1712        | Dawn M Harle      | n.a.     |
| 01150                                   | GC - Bulk Soil Prep         | SW-846 5035           | 1        | 7/31/06 0033       | Jesse L Mertz     | n.a.     |
| 07004                                   | Extraction - DRO (Soils)    | SW-846 3550B          | 1        | 7/31/06 0730       | Ineabelle Poveda  | 1        |
| <b>4826372 B-5_40' Grab Soil Sample</b> |                             |                       |          |                    |                   |          |
| 08270                                   | TPH-DRO by 8015B            | SW-846 8015B          | 1        | 8/1/06 1938        | Tracy A Cole      | 1        |
| 00111                                   | Moisture                    | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637                                   | TPH-GRO 8015B - soil        | SW-846 8015B modified | 1        | 8/5/06 1524        | Linda C Pape      | 25       |
| 02304                                   | UST-Unleaded Soils by 8260B | SW-846 8260B          | 1        | 8/5/06 0306        | Lauren C Marzario | 1.01     |
| 00374                                   | GC/MS - Bulk Sample Prep    | SW-846 5030A          | 1        | 8/4/06 1713        | Dawn M Harle      | n.a.     |
| 01150                                   | GC - Bulk Soil Prep         | SW-846 5035           | 1        | 7/31/06 0034       | Jesse L Mertz     | n.a.     |
| 07004                                   | Extraction - DRO (Soils)    | SW-846 3550B          | 1        | 7/31/06 0730       | Ineabelle Poveda  | 1        |
| <b>4826373 B-5_80' Grab Soil Sample</b> |                             |                       |          |                    |                   |          |
| 08270                                   | TPH-DRO by 8015B            | SW-846 8015B          | 1        | 8/1/06 1949        | Tracy A Cole      | 1        |
| 00111                                   | Moisture                    | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637                                   | TPH-GRO 8015B - soil        | SW-846 8015B modified | 1        | 8/5/06 1601        | Linda C Pape      | 25       |
| 02304                                   | UST-Unleaded Soils by 8260B | SW-846 8260B          | 1        | 8/5/06 0329        | Lauren C Marzario | 1        |
| 00374                                   | GC/MS - Bulk Sample Prep    | SW-846 5030A          | 1        | 8/4/06 1714        | Dawn M Harle      | n.a.     |
| 01150                                   | GC - Bulk Soil Prep         | SW-846 5035           | 1        | 7/31/06 0035       | Jesse L Mertz     | n.a.     |
| 07004                                   | Extraction - DRO (Soils)    | SW-846 3550B          | 1        | 7/31/06 0730       | Ineabelle Poveda  | 1        |
| <b>4826374 B-6_60' Grab Soil Sample</b> |                             |                       |          |                    |                   |          |
| 08270                                   | TPH-DRO by 8015B            | SW-846 8015B          | 1        | 8/2/06 1238        | Tracy A Cole      | 2        |
| 00111                                   | Moisture                    | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637                                   | TPH-GRO 8015B - soil        | SW-846 8015B modified | 1        | 8/8/06 1308        | Linda C Pape      | 25       |
| 02304                                   | UST-Unleaded Soils by 8260B | SW-846 8260B          | 1        | 8/5/06 0352        | Lauren C Marzario | 1.01     |
| 00374                                   | GC/MS - Bulk Sample Prep    | SW-846 5030A          | 1        | 8/4/06 1715        | Dawn M Harle      | n.a.     |



| CAT No.                                 | Analysis Name               | Method                | Trial ID | Analysis Date/Time | Analyst           | Dilution |
|---|-----------------------------|-----------------------|----------|--------------------|-------------------|----------|
| 01150                                   | GC - Bulk Soil Prep         | SW-846 5035           | 1        | 7/31/06 0036       | Jesse L Mertz     | n.a.     |
| 07004                                   | Extraction - DRO (Soils)    | SW-846 3550B          | 1        | 7/31/06 0730       | Ineabelle Poveda  | 1        |
| <b>4826375 B-6_80' Grab Soil Sample</b> |                             |                       |          |                    |                   |          |
| 08270                                   | TPH-DRO by 8015B            | SW-846 8015B          | 1        | 8/1/06 2232        | Tracy A Cole      | 1        |
| 00111                                   | Moisture                    | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637                                   | TPH-GRO 8015B - soil        | SW-846 8015B modified | 1        | 8/5/06 1637        | Linda C Pape      | 25       |
| 02304                                   | UST-Unleaded Soils by 8260B | SW-846 8260B          | 1        | 8/5/06 0414        | Lauren C Marzario | 1.01     |
| 00374                                   | GC/MS - Bulk Sample Prep    | SW-846 5030A          | 1        | 8/4/06 1716        | Dawn M Harle      | n.a.     |
| 01150                                   | GC - Bulk Soil Prep         | SW-846 5035           | 1        | 7/31/06 0038       | Jesse L Mertz     | n.a.     |
| 07004                                   | Extraction - DRO (Soils)    | SW-846 3550B          | 1        | 8/1/06 0800        | Ineabelle Poveda  | 1        |
| <b>4826376 B-7_55' Grab Soil Sample</b> |                             |                       |          |                    |                   |          |
| 08270                                   | TPH-DRO by 8015B            | SW-846 8015B          | 2        | 8/2/06 2001        | Tracy A Cole      | 10       |
| 00111                                   | Moisture                    | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637                                   | TPH-GRO 8015B - soil        | SW-846 8015B modified | 1        | 8/5/06 1714        | Linda C Pape      | 100      |
| 02304                                   | UST-Unleaded Soils by 8260B | SW-846 8260B          | 1        | 8/5/06 0545        | Lauren C Marzario | 4.95     |
| 00374                                   | GC/MS - Bulk Sample Prep    | SW-846 5030A          | 1        | 8/4/06 1720        | Dawn M Harle      | n.a.     |
| 01150                                   | GC - Bulk Soil Prep         | SW-846 5035           | 1        | 7/31/06 0040       | Jesse L Mertz     | n.a.     |
| 07004                                   | Extraction - DRO (Soils)    | SW-846 3550B          | 1        | 8/1/06 0800        | Ineabelle Poveda  | 1        |
| <b>4826377 B-7_85' Grab Soil Sample</b> |                             |                       |          |                    |                   |          |
| 08270                                   | TPH-DRO by 8015B            | SW-846 8015B          | 1        | 8/1/06 2243        | Tracy A Cole      | 1        |
| 00111                                   | Moisture                    | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637                                   | TPH-GRO 8015B - soil        | SW-846 8015B modified | 1        | 8/5/06 1145        | Linda C Pape      | 25       |
| 02304                                   | UST-Unleaded Soils by 8260B | SW-846 8260B          | 1        | 8/5/06 0437        | Lauren C Marzario | 0.99     |
| 00374                                   | GC/MS - Bulk Sample Prep    | SW-846 5030A          | 1        | 8/4/06 1717        | Dawn M Harle      | n.a.     |
| 01150                                   | GC - Bulk Soil Prep         | SW-846 5035           | 1        | 7/31/06 0041       | Jesse L Mertz     | n.a.     |
| 07004                                   | Extraction - DRO (Soils)    | SW-846 3550B          | 1        | 8/1/06 0800        | Ineabelle Poveda  | 1        |
| <b>4826378 B-8_85' Grab Soil Sample</b> |                             |                       |          |                    |                   |          |
| 08270                                   | TPH-DRO by 8015B            | SW-846 8015B          | 1        | 8/1/06 2253        | Tracy A Cole      | 1        |
| 00111                                   | Moisture                    | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637                                   | TPH-GRO 8015B - soil        | SW-846 8015B modified | 1        | 8/5/06 1221        | Linda C Pape      | 25       |
| 02304                                   | UST-Unleaded Soils by 8260B | SW-846 8260B          | 1        | 8/5/06 0500        | Lauren C Marzario | 0.99     |
| 00374                                   | GC/MS - Bulk Sample Prep    | SW-846 5030A          | 1        | 8/4/06 1718        | Dawn M Harle      | n.a.     |
| 01150                                   | GC - Bulk Soil Prep         | SW-846 5035           | 1        | 7/31/06 0042       | Jesse L Mertz     | n.a.     |
| 07004                                   | Extraction - DRO (Soils)    | SW-846 3550B          | 1        | 8/1/06 0800        | Ineabelle Poveda  | 1        |
| <b>4826379 B-8_10' Grab Soil Sample</b> |                             |                       |          |                    |                   |          |
| 08270                                   | TPH-DRO by 8015B            | SW-846 8015B          | 2        | 8/2/06 1332        | Tracy A Cole      | 2        |
| 00111                                   | Moisture                    | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637                                   | TPH-GRO 8015B - soil        | SW-846 8015B modified | 1        | 8/7/06 2243        | Linda C Pape      | 250      |
| 02304                                   | UST-Unleaded Soils by 8260B | SW-846 8260B          | 1        | 8/5/06 0608        | Lauren C Marzario | 4.95     |
| 00374                                   | GC/MS - Bulk Sample Prep    | SW-846 5030A          | 1        | 8/4/06 1721        | Dawn M Harle      | n.a.     |
| 01150                                   | GC - Bulk Soil Prep         | SW-846 5035           | 1        | 7/31/06 0043       | Jesse L Mertz     | n.a.     |
| 07004                                   | Extraction - DRO (Soils)    | SW-846 3550B          | 1        | 8/1/06 0800        | Ineabelle Poveda  | 1        |

| CAT No.        | Analysis Name                    | Method                | Trial ID | Analysis Date/Time | Analyst           | Dilution |
|----------------|----------------------------------|-----------------------|----------|--------------------|-------------------|----------|
| <b>4826380</b> | <b>B-9_65' Grab Soil Sample</b>  |                       |          |                    |                   |          |
| 08270          | TPH-DRO by 8015B                 | SW-846 8015B          | 1        | 8/2/06 0020        | Tracy A Cole      | 1        |
| 00111          | Moisture                         | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637          | TPH-GRO 8015B - soil             | SW-846 8015B modified | 1        | 8/8/06 1458        | Linda C Pape      | 25       |
| 02304          | UST-Unleaded Soils by 8260B      | SW-846 8260B          | 1        | 8/5/06 0523        | Lauren C Marzario | 1        |
| 00374          | GC/MS - Bulk Sample Prep         | SW-846 5030A          | 1        | 8/4/06 1719        | Dawn M Harle      | n.a.     |
| 01150          | GC - Bulk Soil Prep              | SW-846 5035           | 1        | 7/31/06 0044       | Jesse L Mertz     | n.a.     |
| 07004          | Extraction - DRO (Soils)         | SW-846 3550B          | 1        | 8/1/06 0800        | Ineabelle Poveda  | 1        |
| <b>4826381</b> | <b>B-9_85' Grab Soil Sample</b>  |                       |          |                    |                   |          |
| 08270          | TPH-DRO by 8015B                 | SW-846 8015B          | 1        | 8/1/06 2304        | Tracy A Cole      | 1        |
| 00111          | Moisture                         | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637          | TPH-GRO 8015B - soil             | SW-846 8015B modified | 1        | 8/7/06 2357        | Linda C Pape      | 25       |
| 02304          | UST-Unleaded Soils by 8260B      | SW-846 8260B          | 1        | 8/7/06 0438        | Stephanie A Selis | 1.01     |
| 00374          | GC/MS - Bulk Sample Prep         | SW-846 5030A          | 1        | 8/6/06 0414        | Stephanie A Selis | n.a.     |
| 01150          | GC - Bulk Soil Prep              | SW-846 5035           | 1        | 7/31/06 0044       | Jesse L Mertz     | n.a.     |
| 07004          | Extraction - DRO (Soils)         | SW-846 3550B          | 1        | 8/1/06 0800        | Ineabelle Poveda  | 1        |
| <b>4826382</b> | <b>B-10_70' Grab Soil Sample</b> |                       |          |                    |                   |          |
| 08270          | TPH-DRO by 8015B                 | SW-846 8015B          | 1        | 8/1/06 2315        | Tracy A Cole      | 1        |
| 00111          | Moisture                         | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637          | TPH-GRO 8015B - soil             | SW-846 8015B modified | 1        | 8/5/06 1258        | Linda C Pape      | 25       |
| 02304          | UST-Unleaded Soils by 8260B      | SW-846 8260B          | 1        | 8/7/06 0222        | Stephanie A Selis | 1        |
| 00374          | GC/MS - Bulk Sample Prep         | SW-846 5030A          | 1        | 8/6/06 2313        | Stephanie A Selis | n.a.     |
| 01150          | GC - Bulk Soil Prep              | SW-846 5035           | 1        | 7/31/06 0047       | Jesse L Mertz     | n.a.     |
| 07004          | Extraction - DRO (Soils)         | SW-846 3550B          | 1        | 8/1/06 0800        | Ineabelle Poveda  | 1        |
| <b>4826383</b> | <b>B-10_80' Grab Soil Sample</b> |                       |          |                    |                   |          |
| 08270          | TPH-DRO by 8015B                 | SW-846 8015B          | 1        | 8/1/06 2326        | Tracy A Cole      | 1        |
| 00111          | Moisture                         | EPA 160.3 modified    | 1        | 8/1/06 1738        | Scott W Freisher  | 1        |
| 01637          | TPH-GRO 8015B - soil             | SW-846 8015B modified | 1        | 8/5/06 1335        | Linda C Pape      | 25       |
| 02304          | UST-Unleaded Soils by 8260B      | SW-846 8260B          | 1        | 8/7/06 0330        | Stephanie A Selis | 1        |
| 00374          | GC/MS - Bulk Sample Prep         | SW-846 5030A          | 1        | 8/6/06 2315        | Stephanie A Selis | n.a.     |
| 01150          | GC - Bulk Soil Prep              | SW-846 5035           | 1        | 7/31/06 0048       | Jesse L Mertz     | n.a.     |
| 07004          | Extraction - DRO (Soils)         | SW-846 3550B          | 1        | 8/1/06 0800        | Ineabelle Poveda  | 1        |
| <b>4826384</b> | <b>MW-S_80' Grab Soil Sample</b> |                       |          |                    |                   |          |
| 08270          | TPH-DRO by 8015B                 | SW-846 8015B          | 1        | 8/1/06 2337        | Tracy A Cole      | 1        |
| 00111          | Moisture                         | EPA 160.3 modified    | 1        | 8/1/06 1837        | Scott W Freisher  | 1        |
| 01637          | TPH-GRO 8015B - soil             | SW-846 8015B modified | 1        | 8/5/06 1411        | Linda C Pape      | 25       |
| 02304          | UST-Unleaded Soils by 8260B      | SW-846 8260B          | 1        | 8/7/06 0353        | Stephanie A Selis | 1        |
| 00374          | GC/MS - Bulk Sample Prep         | SW-846 5030A          | 1        | 8/6/06 0411        | Stephanie A Selis | n.a.     |
| 01150          | GC - Bulk Soil Prep              | SW-846 5035           | 1        | 7/31/06 0049       | Jesse L Mertz     | n.a.     |
| 07004          | Extraction - DRO (Soils)         | SW-846 3550B          | 1        | 8/1/06 0800        | Ineabelle Poveda  | 1        |
| <b>4826385</b> | <b>MW-S_15' Grab Soil Sample</b> |                       |          |                    |                   |          |
| 08270          | TPH-DRO by 8015B                 | SW-846 8015B          | 1        | 8/1/06 2348        | Tracy A Cole      | 1        |
| 00111          | Moisture                         | EPA 160.3 modified    | 1        | 8/1/06 1837        | Scott W Freisher  | 1        |

| CAT No.                                  | Analysis Name               | Method                | Trial ID | Analysis Date/Time | Analyst           | Dilution |
|--|-----------------------------|-----------------------|----------|--------------------|-------------------|----------|
| 01637                                    | TPH-GRO 8015B - soil        | SW-846 8015B modified | 1        | 8/5/06 1448        | Linda C Pape      | 25       |
| 02304                                    | UST-Unleaded Soils by 8260B | SW-846 8260B          | 1        | 8/7/06 0416        | Stephanie A Selis | 0.99     |
| 00374                                    | GC/MS - Bulk Sample Prep    | SW-846 5030A          | 1        | 8/6/06 0412        | Stephanie A Selis | n.a.     |
| 01150                                    | GC - Bulk Soil Prep         | SW-846 5035           | 1        | 7/31/06 0051       | Jesse L Mertz     | n.a.     |
| 07004                                    | Extraction - DRO (Soils)    | SW-846 3550B          | 1        | 8/1/06 0800        | Ineabelle Poveda  | 1        |
| <b>4826386 MW-T_35' Grab Soil Sample</b> |                             |                       |          |                    |                   |          |
| 08270                                    | TPH-DRO by 8015B            | SW-846 8015B          | 2        | 8/2/06 1354        | Tracy A Cole      | 10       |
| 00111                                    | Moisture                    | EPA 160.3 modified    | 1        | 8/1/06 1837        | Scott W Freisher  | 1        |
| 01637                                    | TPH-GRO 8015B - soil        | SW-846 8015B modified | 1        | 8/8/06 0110        | Linda C Pape      | 250      |
| 02304                                    | UST-Unleaded Soils by 8260B | SW-846 8260B          | 1        | 8/7/06 0848        | Stephanie A Selis | 4.95     |
| 00374                                    | GC/MS - Bulk Sample Prep    | SW-846 5030A          | 1        | 8/6/06 0429        | Stephanie A Selis | n.a.     |
| 01150                                    | GC - Bulk Soil Prep         | SW-846 5035           | 1        | 7/31/06 0052       | Jesse L Mertz     | n.a.     |
| 07004                                    | Extraction - DRO (Soils)    | SW-846 3550B          | 1        | 8/1/06 0800        | Ineabelle Poveda  | 1        |
| <b>4826387 MW-T_80' Grab Soil Sample</b> |                             |                       |          |                    |                   |          |
| 08270                                    | TPH-DRO by 8015B            | SW-846 8015B          | 2        | 8/2/06 1343        | Tracy A Cole      | 2        |
| 00111                                    | Moisture                    | EPA 160.3 modified    | 1        | 8/1/06 1837        | Scott W Freisher  | 1        |
| 01637                                    | TPH-GRO 8015B - soil        | SW-846 8015B modified | 1        | 8/8/06 0146        | Linda C Pape      | 100      |
| 02304                                    | UST-Unleaded Soils by 8260B | SW-846 8260B          | 1        | 8/9/06 0051        | Nicholas R Rossi  | 4.95     |
| 00374                                    | GC/MS - Bulk Sample Prep    | SW-846 5030A          | 1        | 8/8/06 1347        | Tyler J Zook      | n.a.     |
| 01150                                    | GC - Bulk Soil Prep         | SW-846 5035           | 1        | 7/31/06 0053       | Jesse L Mertz     | n.a.     |
| 07004                                    | Extraction - DRO (Soils)    | SW-846 3550B          | 1        | 8/1/06 0800        | Ineabelle Poveda  | 1        |



Client Name: SECOR International, Inc.

Group Number: 999268

**Laboratory Compliance Quality Control**

| Analysis Name              | Blank Result | Blank MDL | Report Units | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | Max RPD |
|----------------------------|--------------|-----------|--------------|----------|-----------|-----------------|-----|---------|
| Batch number: 062100013A   |              |           |              |          |           |                 |     |         |
|                            |              |           |              |          |           |                 |     |         |
| TPH-DRO by 8015B           | N.D.         | 4.0       | mg/kg        | 89       | 92        | 74-118          | 3   | 20      |
| Batch number: 06211A02B    |              |           |              |          |           |                 |     |         |
|                            |              |           |              |          |           |                 |     |         |
| TPH-GRO 8015B - soil       | N.D.         | 0.2       | mg/kg        | 93       |           | 67-119          |     |         |
| Batch number: 062120020A   |              |           |              |          |           |                 |     |         |
|                            |              |           |              |          |           |                 |     |         |
| TPH-DRO by 8015B           | N.D.         | 4.0       | mg/kg        | 83       |           | 74-118          |     |         |
| Batch number: 06213820007A |              |           |              |          |           |                 |     |         |
|                            |              |           |              |          |           |                 |     |         |
| Moisture                   |              |           |              | 100      |           | 99-101          |     |         |
| Batch number: 06213820007B |              |           |              |          |           |                 |     |         |
|                            |              |           |              |          |           |                 |     |         |
| Moisture                   |              |           |              | 100      |           | 99-101          |     |         |
| Batch number: 06213820008A |              |           |              |          |           |                 |     |         |
|                            |              |           |              |          |           |                 |     |         |
| Moisture                   |              |           |              | 100      |           | 99-101          |     |         |
| Batch number: 06213820008B |              |           |              |          |           |                 |     |         |
|                            |              |           |              |          |           |                 |     |         |
| Moisture                   |              |           |              | 100      |           | 99-101          |     |         |
| Batch number: 06216A31B    |              |           |              |          |           |                 |     |         |
|                            |              |           |              |          |           |                 |     |         |
| TPH-GRO 8015B - soil       | N.D.         | 0.2       | mg/kg        | 88       | 88        | 67-119          | 0   | 30      |

\* - Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The background result was more than four times the spike added.

Batch number: 06219A31A

Sample number(s): 4826379,4826381,4826386-4826387

|                      |      |     |       |    |        |
|----------------------|------|-----|-------|----|--------|
| TPH-GRO 8015B - soil | N.D. | 0.2 | mg/kg | 77 | 67-119 |
|----------------------|------|-----|-------|----|--------|

Batch number: 06219A31B

Sample number(s): 4826374,4826380

|                      |      |     |       |    |        |
|----------------------|------|-----|-------|----|--------|
| TPH-GRO 8015B - soil | N.D. | 0.2 | mg/kg | 77 | 67-119 |
|----------------------|------|-----|-------|----|--------|

Batch number: A062162AA

Sample number(s): 4826364-4826380

|                |      |     |       |     |        |
|----------------|------|-----|-------|-----|--------|
| Benzene        | N.D. | 0.5 | ug/kg | 101 | 77-119 |
| Toluene        | N.D. | 1.  | ug/kg | 98  | 81-116 |
| Ethylbenzene   | N.D. | 1.  | ug/kg | 98  | 82-115 |
| Xylene (Total) | N.D. | 1.  | ug/kg | 99  | 82-117 |

Batch number: A062181AA

Sample number(s): 4826381-4826386

|                |      |     |       |    |        |
|----------------|------|-----|-------|----|--------|
| Benzene        | N.D. | 0.5 | ug/kg | 99 | 77-119 |
| Toluene        | N.D. | 1.  | ug/kg | 96 | 81-116 |
| Ethylbenzene   | N.D. | 1.  | ug/kg | 97 | 82-115 |
| Xylene (Total) | N.D. | 1.  | ug/kg | 98 | 82-117 |

Batch number: A062191AC

Sample number(s): 4826387

|                |      |     |       |     |        |
|----------------|------|-----|-------|-----|--------|
| Benzene        | N.D. | 0.5 | ug/kg | 101 | 77-119 |
| Toluene        | N.D. | 1.  | ug/kg | 97  | 81-116 |
| Ethylbenzene   | N.D. | 1.  | ug/kg | 98  | 82-115 |
| Xylene (Total) | N.D. | 1.  | ug/kg | 99  | 82-117 |

### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name   | MS<br>%REC | MSD<br>%REC | MS/MSD<br>Limits | RPD | RPD<br>MAX | BKG<br>Conc | DUP<br>Conc | DUP<br>RPD | DUP RPD<br>Max |
|---|------------|-------------|------------------|-----|------------|-------------|-------------|------------|----------------|
| Batch number: 06211A02B      Sample number(s): 4826364-4826371 UNSPK: P811485               |            |             |                  |     |            |             |             |            |                |
| TPH-GRO 8015B - soil  | 70         | 59          | 39-118           | 15  | 30         |             |             |            |                |
| Batch number: 062120020A      Sample number(s): 4826375-4826387 UNSPK: 4826386 BKG: 4826386 |            |             |                  |     |            |             |             |            |                |

\* - Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The background result was more than four times the spike added.

|                            |  |        |        |        |    |    |
|----------------------------|--|--------|--------|--------|----|----|
| TPH-DRO by 8015B           | (2)  | 52-130 | 2,200. | 2,400. | 11 | 20 |
| Batch number: 06213820007A | Sample number(s): 4826364-4826368,4826379-4826383 BKG: 4826365   |        |        |        |    |    |
| Moisture                   |  |        | 4.3    | 4.5    | 5  | 15 |
| Batch number: 06213820007B | Sample number(s): 4826369-4826378 BKG: 4826369                   |        |        |        |    |    |
| Moisture                   |  |        | 2.8    | 2.9    | 4  | 15 |
| Batch number: 06213820008A | Sample number(s): 4826384-4826386 BKG: 4826384                   |        |        |        |    |    |
| Moisture                   |  |        | 3.3    | 3.2    | 1  | 15 |
| Batch number: 06213820008B | Sample number(s): 4826387 BKG: 4826387                           |        |        |        |    |    |
| Moisture                   |  |        | 16.1   | 17.6   | 9  | 15 |
| Batch number: 06219A31A    | Sample number(s): 4826379,4826381,4826386-4826387 UNSPK: P826374 |        |        |        |    |    |
| TPH-GRO 8015B - soil       | 107  | 98     | 39-118 | 8      | 30 |    |
| Batch number: 06219A31B    | Sample number(s): 4826374,4826380 UNSPK: 4826374                 |        |        |        |    |    |
| TPH-GRO 8015B - soil       | 107  | 98     | 39-118 | 8      | 30 |    |
| Batch number: A062162AA    | Sample number(s): 4826364-4826380 UNSPK: 4826365                 |        |        |        |    |    |
| Benzene                    | 86   | 71     | 59-120 | 18     | 30 |    |
| Toluene                    | 83   | 68     | 49-132 | 19     | 30 |    |
| Ethylbenzene               | 83   | 68     | 50-127 | 19     | 30 |    |
| Xylene (Total)             | 84   | 69     | 44-127 | 19     | 30 |    |
| Batch number: A062181AA    | Sample number(s): 4826381-4826386 UNSPK: 4826382                 |        |        |        |    |    |
| Benzene                    | 84   | 83     | 59-120 | 1      | 30 |    |
| Toluene                    | 73   | 72     | 52-121 | 1      | 30 |    |
| Ethylbenzene               | 81   | 80     | 54-116 | 1      | 30 |    |
| Xylene (Total)             | 79   | 79     | 44-127 | 0      | 30 |    |

\* - Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The background result was more than four times the spike added.



Batch number: A062191AC

Sample number(s): 4826387 UNSPK: P824650

|                |    |    |        |   |    |
|----------------|----|----|--------|---|----|
| Benzene        | 73 | 65 | 59-120 | 6 | 30 |
| Toluene        | 92 | 91 | 52-121 | 0 | 30 |
| Ethylbenzene   | 92 | 90 | 54-116 | 0 | 30 |
| Xylene (Total) | 92 | 91 | 44-127 | 0 | 30 |

### Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH-DRO by 8015B

Batch number: 062100013A

| Orthoterphenyl |        |
|----------------|--------|
| 4826364        | 99     |
| 4826365        | 96     |
| 4826366        | 287*   |
| 4826367        | 100    |
| 4826368        | 98     |
| 4826369        | 99     |
| 4826370        | 99     |
| 4826371        | 97     |
| 4826372        | 98     |
| 4826373        | 95     |
| 4826374        | 478*   |
| Blank          | 101    |
| LCS            | 181*   |
| LCSD           | 181*   |
| Limits:        | 45-129 |

Analysis Name: TPH-GRO 8015B - soil

Batch number: 06211A02B

| Trifluorotoluene-F |    |
|--------------------|----|
| 4826364            | 80 |
| 4826365            | 81 |
| 4826366            | 84 |
| 4826367            | 72 |
| 4826368            | 77 |
| 4826369            | 80 |

\* - Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The background result was more than four times the spike added.

|         |        |
|---------|--------|
| 4826370 | 74     |
| 4826371 | 73     |
| Blank   | 78     |
| LCS     | 74     |
| MS      | 79     |
| MSD     | 73     |
| Limits: | 61-122 |

Analysis Name: TPH-DRO by 8015B  
Batch number: 062120020A

| Orthoterphenyl |        |
|----------------|--------|
| 4826375        | 96     |
| 4826376        | 1296*  |
| 4826377        | 100    |
| 4826378        | 102    |
| 4826379        | 523*   |
| 4826380        | 361*   |
| 4826381        | 92     |
| 4826382        | 97     |
| 4826383        | 97     |
| 4826384        | 97     |
| 4826385        | 100    |
| 4826386        | 1723*  |
| 4826387        | 489*   |
| Blank          | 98     |
| DUP            | 1899*  |
| LCS            | 174*   |
| MS             | 1987*  |
| Limits:        | 45-129 |

Analysis Name: TPH-GRO 8015B - soil  
Batch number: 06216A31B

| Trifluorotoluene-F |     |
|--------------------|-----|
| 4826372            | 73  |
| 4826373            | 78  |
| 4826375            | 73  |
| 4826376            | 27* |
| 4826377            | 70  |
| 4826378            | 68  |

\* - Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.  
(2) The background result was more than four times the spike added.

|         |        |
|---------|--------|
| 4826382 | 75     |
| 4826383 | 78     |
| 4826384 | 74     |
| 4826385 | 73     |
| Blank   | 70     |
| LCS     | 144*   |
| LCSD    | 79     |
| Limits: | 61-122 |

Analysis Name: TPH-GRO 8015B - soil  
Batch number: 06219A31A

|         | Trifluorotoluene-F |
|---------|--------------------|
| 4826379 | 10*                |
| 4826381 | 67                 |
| 4826386 | 12*                |
| 4826387 | 20*                |
| Blank   | 75                 |
| LCS     | 74                 |
| MS      | 82                 |
| MSD     | 85                 |
| Limits: | 61-122             |

Analysis Name: TPH-GRO 8015B - soil  
Batch number: 06219A31B

|         | Trifluorotoluene-F |
|---------|--------------------|
| 4826374 | 74                 |
| 4826380 | 93                 |
| Blank   | 70                 |
| LCS     | 74                 |
| MS      | 82                 |
| MSD     | 85                 |
| Limits: | 61-122             |

Analysis Name: UST-Unleaded Soils by 8260B

\* - Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



Batch number: A062162AA

|         | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---------|----------------------|-----------------------|------------|----------------------|
| 4826364 | 99                   | 102                   | 95         | 94                   |
| 4826365 | 99                   | 103                   | 96         | 93                   |
| 4826366 | 97                   | 100                   | 97         | 92                   |
| 4826367 | 98                   | 98                    | 96         | 92                   |
| 4826368 | 96                   | 97                    | 96         | 92                   |
| 4826369 | 98                   | 99                    | 95         | 93                   |
| 4826370 | 97                   | 96                    | 96         | 93                   |
| 4826371 | 98                   | 99                    | 95         | 92                   |
| 4826372 | 100                  | 105                   | 94         | 94                   |
| 4826373 | 97                   | 96                    | 96         | 92                   |
| 4826374 | 99                   | 101                   | 96         | 94                   |
| 4826375 | 96                   | 92                    | 97         | 91                   |
| 4826376 | 96                   | 93                    | 99         | 94                   |
| 4826377 | 96                   | 94                    | 96         | 93                   |
| 4826378 | 95                   | 91                    | 97         | 93                   |
| 4826379 | 96                   | 95                    | 110        | 101                  |
| 4826380 | 97                   | 98                    | 96         | 94                   |
| Blank   | 96                   | 94                    | 97         | 91                   |
| LCS     | 99                   | 100                   | 98         | 94                   |
| MS      | 99                   | 103                   | 97         | 95                   |
| MSD     | 100                  | 105                   | 96         | 96                   |
| Limits: | 71-114               | 70-109                | 70-123     | 70-111               |

Analysis Name: UST-Unleaded Soils by 8260B

Batch number: A062181AA

|         | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---------|----------------------|-----------------------|------------|----------------------|
| 4826381 | 98                   | 98                    | 95         | 92                   |
| 4826382 | 97                   | 96                    | 96         | 92                   |
| 4826383 | 97                   | 95                    | 96         | 92                   |
| 4826384 | 97                   | 95                    | 95         | 91                   |
| 4826385 | 96                   | 91                    | 97         | 91                   |
| 4826386 | 94                   | 90                    | 99         | 93                   |
| Blank   | 97                   | 95                    | 96         | 91                   |
| LCS     | 98                   | 97                    | 98         | 94                   |
| MS      | 99                   | 97                    | 98         | 95                   |
| MSD     | 98                   | 96                    | 98         | 94                   |
| Limits: | 71-114               | 70-109                | 70-123     | 70-111               |

\* - Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The background result was more than four times the spike added.

Analysis Name: UST-Unleaded Soils by 8260B

Batch number: A062191AC

|         | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---------|----------------------|-----------------------|------------|----------------------|
| 4826387 | 96                   | 92                    | 101        | 93                   |
| Blank   | 97                   | 95                    | 97         | 91                   |
| LCS     | 99                   | 98                    | 97         | 94                   |
| MS      | 100                  | 98                    | 98         | 94                   |
| MSD     | 99                   | 96                    | 98         | 93                   |
| Limits: | 71-114               | 70-109                | 70-123     | 70-111               |

\* - Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The background result was more than four times the spike added.

**QC Comment**

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

**4826364 B-1\_45' Grab Soil Sample**

- 08270 TPH-DRO by 8015B  
The LCS and LCSD surrogate recoveries are above QC limits. Since the spike recoveries are within limits, the data is accepted.
- 00111 Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826365 B-1\_80' Grab Soil Sample**

- 08270 TPH-DRO by 8015B  
The LCS and LCSD surrogate recoveries are above QC limits. Since the spike recoveries are within limits, the data is accepted.
- 00111 Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826366 B-2\_40' Grab Soil Sample**

- 08270 TPH-DRO by 8015B  
The LCS and LCSD surrogate recoveries are above QC limits. Since the spike recoveries are within limits, the data is accepted.  
The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.
- 00111 Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.



**4826367 B-2\_85' Grab Soil Sample**

- 08270      TPH-DRO by 8015B  
The LCS and LCSD surrogate recoveries are above QC limits. Since the spike recoveries are within limits, the data is accepted.
- 00111      Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826368 B-3\_55' Grab Soil Sample**

- 08270      TPH-DRO by 8015B  
The LCS and LCSD surrogate recoveries are above QC limits. Since the spike recoveries are within limits, the data is accepted.
- 00111      Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826369 B-3\_85' Grab Soil Sample**

- 08270      TPH-DRO by 8015B  
The LCS and LCSD surrogate recoveries are above QC limits. Since the spike recoveries are within limits, the data is accepted.
- 00111      Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826370 B-4\_80' Grab Soil Sample**

- 08270      TPH-DRO by 8015B  
The LCS and LCSD surrogate recoveries are above QC limits. Since the spike recoveries are within limits, the data is accepted.
- 00111      Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826371 B-4\_85' Grab Soil Sample**

08270      TPH-DRO by 8015B  
The LCS and LCSD surrogate recoveries are above QC limits. Since the spike recoveries are within limits, the data is accepted.

00111      Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826372 B-5\_40' Grab Soil Sample**

08270      TPH-DRO by 8015B  
The LCS and LCSD surrogate recoveries are above QC limits. Since the spike recoveries are within limits, the data is accepted.

00111      Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826373 B-5\_80' Grab Soil Sample**

08270      TPH-DRO by 8015B  
The LCS and LCSD surrogate recoveries are above QC limits. Since the spike recoveries are within limits, the data is accepted.

00111      Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826374 B-6\_60' Grab Soil Sample**

08270      TPH-DRO by 8015B  
The LCS and LCSD surrogate recoveries are above QC limits. Since the spike recoveries are within limits, the data is accepted.  
The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

00111      Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826375 B-6\_80' Grab Soil Sample**

08270      TPH-DRO by 8015B

The LCS surrogate recovery is above QC limits. Since the spike recovery is within limits, the data is accepted.

00111 Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826376 B-7\_55' Grab Soil Sample**

08270 TPH-DRO by 8015B  
The LCS surrogate recovery is above QC limits. Since the spike recovery is within limits, the data is accepted.

00111 Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

02304 UST-Unleaded Soils by 8260B  
The reporting limits for the GC/MS volatile compounds were raised due to the level of non-target compounds.

**4826377 B-7\_85' Grab Soil Sample**

08270 TPH-DRO by 8015B  
The LCS surrogate recovery is above QC limits. Since the spike recovery is within limits, the data is accepted.

00111 Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826378 B-8\_85' Grab Soil Sample**

08270 TPH-DRO by 8015B  
The LCS surrogate recovery is above QC limits. Since the spike recovery is within limits, the data is accepted.

00111 Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826379 B-8\_10' Grab Soil Sample**

08270 TPH-DRO by 8015B  
The LCS surrogate recovery is above QC limits. Since the spike recovery is within limits, the data is accepted.  
The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

00111 Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

02304 UST-Unleaded Soils by 8260B  
The reporting limits for the GC/MS volatile compounds were raised due to the level of non-target compounds.

**4826380 B-9\_65' Grab Soil Sample**

08270 TPH-DRO by 8015B  
The LCS surrogate recovery is above QC limits. Since the spike recovery is within limits, the data is accepted.  
The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

00111 Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826381 B-9\_85' Grab Soil Sample**

08270 TPH-DRO by 8015B  
The LCS surrogate recovery is above QC limits. Since the spike recovery is within limits, the data is accepted.

00111 Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826382 B-10\_70' Grab Soil Sample**

08270 TPH-DRO by 8015B  
The LCS surrogate recovery is above QC limits. Since the spike recovery is within limits, the data is accepted.

00111 Moisture



"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826383 B-10\_80' Grab Soil Sample**

- 08270      TPH-DRO by 8015B  
The LCS surrogate recovery is above QC limits. Since the spike recovery is within limits, the data is accepted.
- 00111      Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826384 MW-S\_80' Grab Soil Sample**

- 08270      TPH-DRO by 8015B  
The LCS surrogate recovery is above QC limits. Since the spike recovery is within limits, the data is accepted.
- 00111      Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826385 MW-S\_15' Grab Soil Sample**

- 08270      TPH-DRO by 8015B  
The LCS surrogate recovery is above QC limits. Since the spike recovery is within limits, the data is accepted.
- 00111      Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

**4826386 MW-T\_35' Grab Soil Sample**

- 08270      TPH-DRO by 8015B  
The LCS surrogate recovery is above QC limits. Since the spike recovery is within limits, the data is accepted.
- 00111      Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

02304      UST-Unleaded Soils by 8260B  
The reporting limits for the GC/MS volatile compounds were raised due to the level of non-target compounds.

**4826387 MW-T\_80' Grab Soil Sample**

08270      TPH-DRO by 8015B  
The LCS surrogate recovery is above QC limits. Since the spike recovery is within limits, the data is accepted.  
The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

00111      Moisture  
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

02304      UST-Unleaded Soils by 8260B  
The reporting limits for the GC/MS volatile compounds were raised due to the level of non-target compounds.

## **2008 Soil Investigation**



## Analysis Report

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### ANALYTICAL RESULTS

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### SAMPLE GROUP

The sample group for this submittal is 1086536. Samples arrived at the laboratory on Tuesday, April 15, 2008. The PO# for this group is 89CH.49521.08.4000 and the release number is .

#### Client Description

SB-1-65 Grab Soil Sample  
SB-1-90 Grab Soil Sample  
SB-2-70 Grab Soil Sample  
SB-2-90 Grab Soil Sample  
SB-3-70 Grab Soil Sample  
SB-3-95 Grab Soil Sample  
SB-4-65 Grab Soil Sample  
SB-4-90 Grab Soil Sample  
SB-5-65 Grab Soil Sample  
SB-5-90 Grab Soil Sample  
SB-6-65 Grab Soil Sample  
SB-6-90 Grab Soil Sample  
SB-7-70 Grab Soil Sample  
SB-7-90 Grab Soil Sample  
SB-8-60 Grab Soil Sample  
SB-8-90 Grab Soil Sample  
SB-9-50 Grab Soil Sample  
SB-9-90 Grab Soil Sample  
SB-10-60 Grab Soil Sample  
SB-10-90 Grab Soil Sample

#### Lancaster Labs Number

5332756  
5332757  
5332758  
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5332773  
5332774  
5332775

ELECTRONIC SECOR International, Inc.

Attn: Bo Vizcaino





## ***Analysis Report***

2425 New Holland Pike, PO Box 12425, Lancaster PA 17605-2425 • 717-656-2300 Fax 717-656-2681 • [www.lancasterlabs.com](http://www.lancasterlabs.com)

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Questions? Contact your Client Services Representative  
Wendy A Kozma at (717) 656-2300

Respectfully Submitted,

*Michele M. Turner*

**Michele M. Turner**  
**Director**

Lancaster Laboratories Sample No. SW5332756

Group No. 1086536

SB-1-65 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/10/2008 09:47

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP165

| CAT No. | Analysis Name   | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---|------------|------------|----------------------------|-------|-----------------|
| 08270   | TPH-DRO by 8015B  | n.a.       | 3,800.     | 430.                       | mg/kg | 100             |
| 00111   | Moisture  | n.a.       | 7.3        | 0.50                       | %     | 1               |
|         | "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil  |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil  | n.a.       | 460.       | 8.6                        | mg/kg | 1000            |
| 07584   | PPL + Xylene (total) by 8260  |            |            |                            |       |                 |
| 05444   | Chloromethane   | 74-87-3    | N.D.       | 110.                       | ug/kg | 48.73           |
| 05445   | Vinyl Chloride  | 75-01-4    | N.D.       | 53.                        | ug/kg | 48.73           |
| 05446   | Bromomethane  | 74-83-9    | N.D.       | 110.                       | ug/kg | 48.73           |
| 05447   | Chloroethane  | 75-00-3    | N.D.       | 110.                       | ug/kg | 48.73           |
| 05448   | Trichlorofluoromethane  | 75-69-4    | N.D.       | 110.                       | ug/kg | 48.73           |
| 05449   | 1,1-Dichloroethene  | 75-35-4    | N.D.       | 53.                        | ug/kg | 48.73           |
| 05450   | Methylene Chloride  | 75-09-2    | N.D.       | 110.                       | ug/kg | 48.73           |
| 05451   | trans-1,2-Dichloroethene  | 156-60-5   | N.D.       | 53.                        | ug/kg | 48.73           |
| 05452   | 1,1-Dichloroethane  | 75-34-3    | N.D.       | 53.                        | ug/kg | 48.73           |
| 05454   | cis-1,2-Dichloroethene  | 156-59-2   | N.D.       | 53.                        | ug/kg | 48.73           |
| 05455   | Chloroform  | 67-66-3    | N.D.       | 53.                        | ug/kg | 48.73           |
| 05457   | 1,1,1-Trichloroethane   | 71-55-6    | N.D.       | 53.                        | ug/kg | 48.73           |
| 05458   | Carbon Tetrachloride  | 56-23-5    | N.D.       | 53.                        | ug/kg | 48.73           |
| 05460   | Benzene   | 71-43-2    | N.D.       | 26.                        | ug/kg | 48.73           |
| 05461   | 1,2-Dichloroethane  | 107-06-2   | N.D.       | 53.                        | ug/kg | 48.73           |
| 05462   | Trichloroethene   | 79-01-6    | N.D.       | 53.                        | ug/kg | 48.73           |
| 05463   | 1,2-Dichloropropane   | 78-87-5    | N.D.       | 53.                        | ug/kg | 48.73           |
| 05465   | Bromodichloromethane  | 75-27-4    | N.D.       | 53.                        | ug/kg | 48.73           |
| 05466   | Toluene   | 108-88-3   | 1,800.     | 53.                        | ug/kg | 48.73           |
| 05467   | 1,1,2-Trichloroethane   | 79-00-5    | N.D.       | 53.                        | ug/kg | 48.73           |
| 05468   | Tetrachloroethene   | 127-18-4   | N.D.       | 53.                        | ug/kg | 48.73           |
| 05470   | Dibromochloromethane  | 124-48-1   | N.D.       | 53.                        | ug/kg | 48.73           |
| 05472   | Chlorobenzene   | 108-90-7   | N.D.       | 53.                        | ug/kg | 48.73           |
| 05474   | Ethylbenzene  | 100-41-4   | 2,900.     | 53.                        | ug/kg | 48.73           |
| 05478   | Bromoform   | 75-25-2    | N.D.       | 53.                        | ug/kg | 48.73           |
| 05480   | 1,1,2,2-Tetrachloroethane   | 79-34-5    | N.D.       | 53.                        | ug/kg | 48.73           |
| 06297   | trans-1,3-Dichloropropene   | 10061-02-6 | N.D.       | 53.                        | ug/kg | 48.73           |
| 06298   | cis-1,3-Dichloropropene   | 10061-01-5 | N.D.       | 53.                        | ug/kg | 48.73           |
| 06301   | Xylene (Total)  | 1330-20-7  | 12,000.    | 53.                        | ug/kg | 48.73           |
| 07585   | 2-Chloroethyl Vinyl Ether   | 110-75-8   | N.D.       | 110.                       | ug/kg | 48.73           |

Lancaster Laboratories Sample No. SW5332756

Group No. 1086536

SB-1-65 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/10/2008 09:47 by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP165

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---------------|------------|------------|----------------------------|-------|-----------------|
| 07586   | Acrolein      | 107-02-8   | N.D.       | 1,100.                     | ug/kg | 48.73           |
| 07587   | Acrylonitrile | 107-13-1   | N.D.       | 210.                       | ug/kg | 48.73           |

The percent recoveries for 1,1-dichloroethene were outside QC limits low in the LCS/LCSD associated with this sample. This compound was not detected in the sample.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis Date and Time | Analyst           | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------------|-------------------|-----------------|
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/23/2008 16:07       | Diane V Do        | 100             |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26       | Scott W Freisher  | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/16/2008 20:00       | Linda C Pape      | 1000            |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/23/2008 23:43       | Lauren C Marzario | 48.73           |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 10:21       | Larry E Bevins    | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 10:20       | Larry E Bevins    | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 10:22       | Larry E Bevins    | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 10:21       | Larry E Bevins    | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/21/2008 14:50       | Doreen K Robles   | 1               |

Lancaster Laboratories Sample No. SW5332757

Group No. 1086536

SB-1-90 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/10/2008 09:57

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP190

| CAT No. | Analysis Name   | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---|------------|------------|----------------------------|-------|-----------------|
| 08270   | TPH-DRO by 8015B  | n.a.       | 600.       | 4.2                        | mg/kg | 1               |
| 00111   | Moisture  | n.a.       | 4.9        | 0.50                       | %     | 1               |
|         | "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil  |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil  | n.a.       | 19.        | 0.8                        | mg/kg | 100             |
| 07584   | PPL + Xylene (total) by 8260  |            |            |                            |       |                 |
| 05444   | Chloromethane   | 74-87-3    | N.D.       | 2.                         | ug/kg | 1.04            |
| 05445   | Vinyl Chloride  | 75-01-4    | N.D.       | 1.                         | ug/kg | 1.04            |
| 05446   | Bromomethane  | 74-83-9    | N.D.       | 2.                         | ug/kg | 1.04            |
| 05447   | Chloroethane  | 75-00-3    | N.D.       | 2.                         | ug/kg | 1.04            |
| 05448   | Trichlorofluoromethane  | 75-69-4    | N.D.       | 2.                         | ug/kg | 1.04            |
| 05449   | 1,1-Dichloroethene  | 75-35-4    | N.D.       | 1.                         | ug/kg | 1.04            |
| 05450   | Methylene Chloride  | 75-09-2    | N.D.       | 2.                         | ug/kg | 1.04            |
| 05451   | trans-1,2-Dichloroethene  | 156-60-5   | N.D.       | 1.                         | ug/kg | 1.04            |
| 05452   | 1,1-Dichloroethane  | 75-34-3    | N.D.       | 1.                         | ug/kg | 1.04            |
| 05454   | cis-1,2-Dichloroethene  | 156-59-2   | N.D.       | 1.                         | ug/kg | 1.04            |
| 05455   | Chloroform  | 67-66-3    | N.D.       | 1.                         | ug/kg | 1.04            |
| 05457   | 1,1,1-Trichloroethane   | 71-55-6    | N.D.       | 1.                         | ug/kg | 1.04            |
| 05458   | Carbon Tetrachloride  | 56-23-5    | N.D.       | 1.                         | ug/kg | 1.04            |
| 05460   | Benzene   | 71-43-2    | N.D.       | 0.5                        | ug/kg | 1.04            |
| 05461   | 1,2-Dichloroethane  | 107-06-2   | N.D.       | 1.                         | ug/kg | 1.04            |
| 05462   | Trichloroethene   | 79-01-6    | N.D.       | 1.                         | ug/kg | 1.04            |
| 05463   | 1,2-Dichloropropane   | 78-87-5    | N.D.       | 1.                         | ug/kg | 1.04            |
| 05465   | Bromodichloromethane  | 75-27-4    | N.D.       | 1.                         | ug/kg | 1.04            |
| 05466   | Toluene   | 108-88-3   | 5.         | 1.                         | ug/kg | 1.04            |
| 05467   | 1,1,2-Trichloroethane   | 79-00-5    | N.D.       | 1.                         | ug/kg | 1.04            |
| 05468   | Tetrachloroethene   | 127-18-4   | N.D.       | 1.                         | ug/kg | 1.04            |
| 05470   | Dibromochloromethane  | 124-48-1   | N.D.       | 1.                         | ug/kg | 1.04            |
| 05472   | Chlorobenzene   | 108-90-7   | N.D.       | 1.                         | ug/kg | 1.04            |
| 05474   | Ethylbenzene  | 100-41-4   | 21.        | 1.                         | ug/kg | 1.04            |
| 05478   | Bromoform   | 75-25-2    | N.D.       | 1.                         | ug/kg | 1.04            |
| 05480   | 1,1,2,2-Tetrachloroethane   | 79-34-5    | N.D.       | 1.                         | ug/kg | 1.04            |
| 06297   | trans-1,3-Dichloropropene   | 10061-02-6 | N.D.       | 1.                         | ug/kg | 1.04            |
| 06298   | cis-1,3-Dichloropropene   | 10061-01-5 | N.D.       | 1.                         | ug/kg | 1.04            |
| 06301   | Xylene (Total)  | 1330-20-7  | 120.       | 1.                         | ug/kg | 1.04            |
| 07585   | 2-Chloroethyl Vinyl Ether   | 110-75-8   | N.D.       | 2.                         | ug/kg | 1.04            |



Lancaster Laboratories Sample No. SW5332757

Group No. 1086536

SB-1-90 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/10/2008 09:57

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP190

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---------------|------------|------------|----------------------------|-------|-----------------|
| 07586   | Acrolein      | 107-02-8   | N.D.       | 22.                        | ug/kg | 1.04            |
| 07587   | Acrylonitrile | 107-13-1   | N.D.       | 4.                         | ug/kg | 1.04            |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis Date and Time | Analyst          | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------------|------------------|-----------------|
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/22/2008 18:51       | Diane V Do       | 1               |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26       | Scott W Freisher | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/16/2008 20:36       | Linda C Pape     | 100             |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/24/2008 04:06       | Jason M Long     | 1.04            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 10:23       | Larry E Bevins   | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 10:23       | Larry E Bevins   | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 10:25       | Larry E Bevins   | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 10:24       | Larry E Bevins   | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/21/2008 14:50       | Doreen K Robles  | 1               |

Lancaster Laboratories Sample No. SW5332758

Group No. 1086536

SB-2-70 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/10/2008 11:11

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP270

| CAT No. | Analysis Name   | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---|------------|------------|----------------------------|-------|-----------------|
| 08270   | TPH-DRO by 8015B  | n.a.       | 4,700.     | 420.                       | mg/kg | 100             |
| 00111   | Moisture  | n.a.       | 5.2        | 0.50                       | %     | 1               |
|         | "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil  |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil  | n.a.       | 410.       | 42.                        | mg/kg | 5000            |
| 07584   | PPL + Xylene (total) by 8260  |            |            |                            |       |                 |
| 05444   | Chloromethane   | 74-87-3    | N.D.       | 110.                       | ug/kg | 50.4            |
| 05445   | Vinyl Chloride  | 75-01-4    | N.D.       | 53.                        | ug/kg | 50.4            |
| 05446   | Bromomethane  | 74-83-9    | N.D.       | 110.                       | ug/kg | 50.4            |
| 05447   | Chloroethane  | 75-00-3    | N.D.       | 110.                       | ug/kg | 50.4            |
| 05448   | Trichlorofluoromethane  | 75-69-4    | N.D.       | 110.                       | ug/kg | 50.4            |
| 05449   | 1,1-Dichloroethene  | 75-35-4    | N.D.       | 53.                        | ug/kg | 50.4            |
| 05450   | Methylene Chloride  | 75-09-2    | N.D.       | 110.                       | ug/kg | 50.4            |
| 05451   | trans-1,2-Dichloroethene  | 156-60-5   | N.D.       | 53.                        | ug/kg | 50.4            |
| 05452   | 1,1-Dichloroethane  | 75-34-3    | N.D.       | 53.                        | ug/kg | 50.4            |
| 05454   | cis-1,2-Dichloroethene  | 156-59-2   | N.D.       | 53.                        | ug/kg | 50.4            |
| 05455   | Chloroform  | 67-66-3    | N.D.       | 53.                        | ug/kg | 50.4            |
| 05457   | 1,1,1-Trichloroethane   | 71-55-6    | N.D.       | 53.                        | ug/kg | 50.4            |
| 05458   | Carbon Tetrachloride  | 56-23-5    | N.D.       | 53.                        | ug/kg | 50.4            |
| 05460   | Benzene   | 71-43-2    | N.D.       | 27.                        | ug/kg | 50.4            |
| 05461   | 1,2-Dichloroethane  | 107-06-2   | N.D.       | 53.                        | ug/kg | 50.4            |
| 05462   | Trichloroethene   | 79-01-6    | N.D.       | 53.                        | ug/kg | 50.4            |
| 05463   | 1,2-Dichloropropane   | 78-87-5    | N.D.       | 53.                        | ug/kg | 50.4            |
| 05465   | Bromodichloromethane  | 75-27-4    | N.D.       | 53.                        | ug/kg | 50.4            |
| 05466   | Toluene   | 108-88-3   | 2,700.     | 53.                        | ug/kg | 50.4            |
| 05467   | 1,1,2-Trichloroethane   | 79-00-5    | N.D.       | 53.                        | ug/kg | 50.4            |
| 05468   | Tetrachloroethene   | 127-18-4   | N.D.       | 53.                        | ug/kg | 50.4            |
| 05470   | Dibromochloromethane  | 124-48-1   | N.D.       | 53.                        | ug/kg | 50.4            |
| 05472   | Chlorobenzene   | 108-90-7   | N.D.       | 53.                        | ug/kg | 50.4            |
| 05474   | Ethylbenzene  | 100-41-4   | 4,000.     | 53.                        | ug/kg | 50.4            |
| 05478   | Bromoform   | 75-25-2    | N.D.       | 53.                        | ug/kg | 50.4            |
| 05480   | 1,1,2,2-Tetrachloroethane   | 79-34-5    | N.D.       | 53.                        | ug/kg | 50.4            |
| 06297   | trans-1,3-Dichloropropene   | 10061-02-6 | N.D.       | 53.                        | ug/kg | 50.4            |
| 06298   | cis-1,3-Dichloropropene   | 10061-01-5 | N.D.       | 53.                        | ug/kg | 50.4            |
| 06301   | Xylene (Total)  | 1330-20-7  | 17,000.    | 53.                        | ug/kg | 50.4            |
| 07585   | 2-Chloroethyl Vinyl Ether   | 110-75-8   | N.D.       | 110.                       | ug/kg | 50.4            |



# Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 2 of 2

Lancaster Laboratories Sample No. SW5332758

Group No. 1086536

SB-2-70 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/10/2008 11:11

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP270

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---------------|------------|------------|----------------------------|-------|-----------------|
| 07586   | Acrolein      | 107-02-8   | N.D.       | 1,100.                     | ug/kg | 50.4            |
| 07587   | Acrylonitrile | 107-13-1   | N.D.       | 210.                       | ug/kg | 50.4            |

The percent recoveries for 1,1-dichloroethene were outside QC limits low in the LCS/LCSD associated with this sample. This compound was not detected in the sample.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis Date and Time | Analyst           | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------------|-------------------|-----------------|
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/23/2008 17:11       | Diane V Do        | 100             |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26       | Scott W Freisher  | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/16/2008 21:12       | Linda C Pape      | 5000            |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/24/2008 00:06       | Lauren C Marzario | 50.4            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 10:26       | Larry E Bevins    | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 10:26       | Larry E Bevins    | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 10:28       | Larry E Bevins    | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 10:27       | Larry E Bevins    | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/21/2008 14:50       | Doreen K Robles   | 1               |

Lancaster Laboratories Sample No. SW5332759

Group No. 1086536

SB-2-90 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/10/2008 11:14

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP290

| CAT No. | Analysis Name   | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---|------------|------------|----------------------------|-------|-----------------|
| 08270   | TPH-DRO by 8015B  | n.a.       | 17.        | 4.4                        | mg/kg | 1               |
| 00111   | Moisture  | n.a.       | 10.0       | 0.50                       | %     | 1               |
|         | "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil  |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil  | n.a.       | N.D.       | 0.2                        | mg/kg | 25              |
| 07584   | PPL + Xylene (total) by 8260  |            |            |                            |       |                 |
| 05460   | Benzene   | 71-43-2    | N.D.       | 0.5                        | ug/kg | 0.96            |
| 05466   | Toluene   | 108-88-3   | N.D.       | 1.                         | ug/kg | 0.96            |
| 05474   | Ethylbenzene  | 100-41-4   | N.D.       | 1.                         | ug/kg | 0.96            |
| 06301   | Xylene (Total)  | 1330-20-7  | N.D.       | 1.                         | ug/kg | 0.96            |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis Date and Time | Analyst          | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------------|------------------|-----------------|
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/22/2008 16:37       | Diane V Do       | 1               |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26       | Scott W Freisher | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/16/2008 21:48       | Linda C Pape     | 25              |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/17/2008 00:47       | Kelly E Brickley | 0.96            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 10:29       | Larry E Bevins   | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 10:28       | Larry E Bevins   | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 10:30       | Larry E Bevins   | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 10:30       | Larry E Bevins   | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/21/2008 14:50       | Doreen K Robles  | 1               |



Lancaster Laboratories Sample No. SW5332760

Group No. 1086536

SB-3-70 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/10/2008 13:22

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP370

| CAT No. | Analysis Name   | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---|------------|------------|----------------------------|-------|-----------------|
| 08270   | TPH-DRO by 8015B  | n.a.       | 4,700.     | 420.                       | mg/kg | 100             |
| 00111   | Moisture  | n.a.       | 5.6        | 0.50                       | %     | 1               |
|         | "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil  |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil  | n.a.       | 510.       | 17.                        | mg/kg | 2000            |
| 07584   | PPL + Xylene (total) by 8260  |            |            |                            |       |                 |
| 05444   | Chloromethane   | 74-87-3    | N.D.       | 100.                       | ug/kg | 48.73           |
| 05445   | Vinyl Chloride  | 75-01-4    | N.D.       | 52.                        | ug/kg | 48.73           |
| 05446   | Bromomethane  | 74-83-9    | N.D.       | 100.                       | ug/kg | 48.73           |
| 05447   | Chloroethane  | 75-00-3    | N.D.       | 100.                       | ug/kg | 48.73           |
| 05448   | Trichlorofluoromethane  | 75-69-4    | N.D.       | 100.                       | ug/kg | 48.73           |
| 05449   | 1,1-Dichloroethene  | 75-35-4    | N.D.       | 52.                        | ug/kg | 48.73           |
| 05450   | Methylene Chloride  | 75-09-2    | N.D.       | 100.                       | ug/kg | 48.73           |
| 05451   | trans-1,2-Dichloroethene  | 156-60-5   | N.D.       | 52.                        | ug/kg | 48.73           |
| 05452   | 1,1-Dichloroethane  | 75-34-3    | N.D.       | 52.                        | ug/kg | 48.73           |
| 05454   | cis-1,2-Dichloroethene  | 156-59-2   | N.D.       | 52.                        | ug/kg | 48.73           |
| 05455   | Chloroform  | 67-66-3    | N.D.       | 52.                        | ug/kg | 48.73           |
| 05457   | 1,1,1-Trichloroethane   | 71-55-6    | N.D.       | 52.                        | ug/kg | 48.73           |
| 05458   | Carbon Tetrachloride  | 56-23-5    | N.D.       | 52.                        | ug/kg | 48.73           |
| 05460   | Benzene   | 71-43-2    | 150. J     | 26.                        | ug/kg | 48.73           |
| 05461   | 1,2-Dichloroethane  | 107-06-2   | N.D.       | 52.                        | ug/kg | 48.73           |
| 05462   | Trichloroethene   | 79-01-6    | N.D.       | 52.                        | ug/kg | 48.73           |
| 05463   | 1,2-Dichloropropane   | 78-87-5    | N.D.       | 52.                        | ug/kg | 48.73           |
| 05465   | Bromodichloromethane  | 75-27-4    | N.D.       | 52.                        | ug/kg | 48.73           |
| 05466   | Toluene   | 108-88-3   | 4,200.     | 52.                        | ug/kg | 48.73           |
| 05467   | 1,1,2-Trichloroethane   | 79-00-5    | N.D.       | 52.                        | ug/kg | 48.73           |
| 05468   | Tetrachloroethene   | 127-18-4   | N.D.       | 52.                        | ug/kg | 48.73           |
| 05470   | Dibromochloromethane  | 124-48-1   | N.D.       | 52.                        | ug/kg | 48.73           |
| 05472   | Chlorobenzene   | 108-90-7   | N.D.       | 52.                        | ug/kg | 48.73           |
| 05474   | Ethylbenzene  | 100-41-4   | 4,000.     | 52.                        | ug/kg | 48.73           |
| 05478   | Bromoform   | 75-25-2    | N.D.       | 52.                        | ug/kg | 48.73           |
| 05480   | 1,1,2,2-Tetrachloroethane   | 79-34-5    | N.D.       | 52.                        | ug/kg | 48.73           |
| 06297   | trans-1,3-Dichloropropene   | 10061-02-6 | N.D.       | 52.                        | ug/kg | 48.73           |
| 06298   | cis-1,3-Dichloropropene   | 10061-01-5 | N.D.       | 52.                        | ug/kg | 48.73           |
| 06301   | Xylene (Total)  | 1330-20-7  | 16,000.    | 52.                        | ug/kg | 48.73           |
| 07585   | 2-Chloroethyl Vinyl Ether   | 110-75-8   | N.D.       | 100.                       | ug/kg | 48.73           |

Lancaster Laboratories Sample No. SW5332760

Group No. 1086536

SB-3-70 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/10/2008 13:22 by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP370

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---------------|------------|------------|----------------------------|-------|-----------------|
| 07586   | Acrolein      | 107-02-8   | N.D.       | 1,000.                     | ug/kg | 48.73           |
| 07587   | Acrylonitrile | 107-13-1   | N.D.       | 210.                       | ug/kg | 48.73           |

The percent recoveries for 1,1-dichloroethene were outside QC limits low in the LCS/LCSD associated with this sample. This compound was not detected in the sample.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis Date and Time | Analyst           | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------------|-------------------|-----------------|
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/23/2008 17:30       | Diane V Do        | 100             |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26       | Scott W Freisher  | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/16/2008 23:43       | Linda C Pape      | 2000            |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/24/2008 00:28       | Lauren C Marzario | 48.73           |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 10:31       | Larry E Bevins    | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 10:32       | Larry E Bevins    | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 10:33       | Larry E Bevins    | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 10:33       | Larry E Bevins    | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/21/2008 14:50       | Doreen K Robles   | 1               |



# Analysis Report

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Lancaster Laboratories Sample No. SW5332761

Group No. 1086536

SB-3-95 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/10/2008 13:33 by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP395

| CAT No.   | Analysis Name                | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|------------------------------|------------|------------|----------------------------|-------|-----------------|
|   |                              |            |            |                            |       |                 |
| 08270   | TPH-DRO by 8015B             | n.a.       | 8.9 J      | 4.3                        | mg/kg | 1               |
| 00111   | Moisture                     | n.a.       | 6.8        | 0.50                       | %     | 1               |
| "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |                              |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil         |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil         | n.a.       | N.D.       | 0.2                        | mg/kg | 25              |
| 07584   | PPL + Xylene (total) by 8260 |            |            |                            |       |                 |
| 05460   | Benzene                      | 71-43-2    | N.D.       | 0.5                        | ug/kg | 1               |
| 05466   | Toluene                      | 108-88-3   | N.D.       | 1.                         | ug/kg | 1               |
| 05474   | Ethylbenzene                 | 100-41-4   | N.D.       | 1.                         | ug/kg | 1               |
| 06301   | Xylene (Total)               | 1330-20-7  | N.D.       | 1.                         | ug/kg | 1               |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis   |       | Analyst          | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------|-------|------------------|-----------------|
|         |                              |                       |        | Date       | Time  |                  |                 |
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/22/2008 | 16:56 | Diane V Do       | 1               |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 | 17:26 | Scott W Freisher | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/17/2008 | 16:21 | Linda C Pape     | 25              |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/17/2008 | 01:10 | Kelly E Brickley | 1               |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 | 10:35 | Larry E Bevins   | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 | 10:35 | Larry E Bevins   | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 | 10:36 | Larry E Bevins   | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 2      | 04/16/2008 | 10:37 | Larry E Bevins   | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 3      | 04/16/2008 | 10:39 | Larry E Bevins   | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 4      | 04/16/2008 | 10:38 | Larry E Bevins   | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 5      | 04/16/2008 | 10:38 | Larry E Bevins   | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 | 10:36 | Larry E Bevins   | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/21/2008 | 14:50 | Doreen K Robles  | 1               |



# Analysis Report

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Lancaster Laboratories Sample No. SW5332762

Group No. 1086536

SB-4-65 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 08:26

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP465

| CAT No.   | Analysis Name                | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|------------------------------|------------|------------|----------------------------|-------|-----------------|
|   |                              |            |            |                            |       |                 |
| 08270   | TPH-DRO by 8015B             | n.a.       | 230.       | 4.2                        | mg/kg | 1               |
| 00111   | Moisture                     | n.a.       | 5.3        | 0.50                       | %     | 1               |
| "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |                              |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil         |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil         | n.a.       | 0.7 J      | 0.2                        | mg/kg | 25              |
| 07584   | PPL + Xylene (total) by 8260 |            |            |                            |       |                 |
| 05460   | Benzene                      | 71-43-2    | N.D.       | 0.5                        | ug/kg | 0.97            |
| 05466   | Toluene                      | 108-88-3   | N.D.       | 1.                         | ug/kg | 0.97            |
| 05474   | Ethylbenzene                 | 100-41-4   | N.D.       | 1.                         | ug/kg | 0.97            |
| 06301   | Xylene (Total)               | 1330-20-7  | 1. J       | 1.                         | ug/kg | 0.97            |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis   |       | Analyst          | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------|-------|------------------|-----------------|
|         |                              |                       |        | Date       | Time  |                  |                 |
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/22/2008 | 19:11 | Diane V Do       | 1               |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 | 17:26 | Scott W Freisher | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/17/2008 | 00:19 | Linda C Pape     | 25              |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/17/2008 | 01:32 | Kelly E Brickley | 0.97            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 | 10:40 | Larry E Bevins   | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 | 10:41 | Larry E Bevins   | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 | 10:42 | Larry E Bevins   | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 | 10:41 | Larry E Bevins   | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/21/2008 | 14:50 | Doreen K Robles  | 1               |





# Analysis Report

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Lancaster Laboratories Sample No. SW5332763

Group No. 1086536

SB-4-90 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 08:32

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP490

| CAT No.   | Analysis Name                | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|------------------------------|------------|------------|----------------------------|-------|-----------------|
| 08270   | TPH-DRO by 8015B             | n.a.       | N.D.       | 4.2                        | mg/kg | 1               |
| 00111   | Moisture                     | n.a.       | 4.8        | 0.50                       | %     | 1               |
| "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |                              |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil         |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil         | n.a.       | N.D.       | 0.2                        | mg/kg | 25              |
| 07584   | PPL + Xylene (total) by 8260 |            |            |                            |       |                 |
| 05460   | Benzene                      | 71-43-2    | N.D.       | 0.5                        | ug/kg | 0.97            |
| 05466   | Toluene                      | 108-88-3   | N.D.       | 1.                         | ug/kg | 0.97            |
| 05474   | Ethylbenzene                 | 100-41-4   | N.D.       | 1.                         | ug/kg | 0.97            |
| 06301   | Xylene (Total)               | 1330-20-7  | N.D.       | 1.                         | ug/kg | 0.97            |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis Date and Time | Analyst          | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------------|------------------|-----------------|
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/22/2008 17:15       | Diane V Do       | 1               |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26       | Scott W Freisher | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/17/2008 00:55       | Linda C Pape     | 25              |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/17/2008 01:55       | Kelly E Brickley | 0.97            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 10:44       | Larry E Bevins   | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 10:43       | Larry E Bevins   | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 10:46       | Larry E Bevins   | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 10:45       | Larry E Bevins   | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/21/2008 14:50       | Doreen K Robles  | 1               |

Lancaster Laboratories Sample No. SW5332764

Group No. 1086536

SB-5-65 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 09:34

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP565

| CAT No. | Analysis Name   | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---|------------|------------|----------------------------|-------|-----------------|
| 08270   | TPH-DRO by 8015B  | n.a.       | 3,800.     | 430.                       | mg/kg | 100             |
| 00111   | Moisture  | n.a.       | 5.9        | 0.50                       | %     | 1               |
|         | "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil  |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil  | n.a.       | 490.       | 17.                        | mg/kg | 2000            |
| 07584   | PPL + Xylene (total) by 8260  |            |            |                            |       |                 |
| 05444   | Chloromethane   | 74-87-3    | N.D.       | 100.                       | ug/kg | 47.17           |
| 05445   | Vinyl Chloride  | 75-01-4    | N.D.       | 50.                        | ug/kg | 47.17           |
| 05446   | Bromomethane  | 74-83-9    | N.D.       | 100.                       | ug/kg | 47.17           |
| 05447   | Chloroethane  | 75-00-3    | N.D.       | 100.                       | ug/kg | 47.17           |
| 05448   | Trichlorofluoromethane  | 75-69-4    | N.D.       | 100.                       | ug/kg | 47.17           |
| 05449   | 1,1-Dichloroethene  | 75-35-4    | N.D.       | 50.                        | ug/kg | 47.17           |
| 05450   | Methylene Chloride  | 75-09-2    | N.D.       | 100.                       | ug/kg | 47.17           |
| 05451   | trans-1,2-Dichloroethene  | 156-60-5   | N.D.       | 50.                        | ug/kg | 47.17           |
| 05452   | 1,1-Dichloroethane  | 75-34-3    | N.D.       | 50.                        | ug/kg | 47.17           |
| 05454   | cis-1,2-Dichloroethene  | 156-59-2   | N.D.       | 50.                        | ug/kg | 47.17           |
| 05455   | Chloroform  | 67-66-3    | N.D.       | 50.                        | ug/kg | 47.17           |
| 05457   | 1,1,1-Trichloroethane   | 71-55-6    | N.D.       | 50.                        | ug/kg | 47.17           |
| 05458   | Carbon Tetrachloride  | 56-23-5    | N.D.       | 50.                        | ug/kg | 47.17           |
| 05460   | Benzene   | 71-43-2    | 96. J      | 25.                        | ug/kg | 47.17           |
| 05461   | 1,2-Dichloroethane  | 107-06-2   | N.D.       | 50.                        | ug/kg | 47.17           |
| 05462   | Trichloroethene   | 79-01-6    | N.D.       | 50.                        | ug/kg | 47.17           |
| 05463   | 1,2-Dichloropropane   | 78-87-5    | N.D.       | 50.                        | ug/kg | 47.17           |
| 05465   | Bromodichloromethane  | 75-27-4    | N.D.       | 50.                        | ug/kg | 47.17           |
| 05466   | Toluene   | 108-88-3   | 3,700.     | 50.                        | ug/kg | 47.17           |
| 05467   | 1,1,2-Trichloroethane   | 79-00-5    | N.D.       | 50.                        | ug/kg | 47.17           |
| 05468   | Tetrachloroethene   | 127-18-4   | N.D.       | 50.                        | ug/kg | 47.17           |
| 05470   | Dibromochloromethane  | 124-48-1   | N.D.       | 50.                        | ug/kg | 47.17           |
| 05472   | Chlorobenzene   | 108-90-7   | N.D.       | 50.                        | ug/kg | 47.17           |
| 05474   | Ethylbenzene  | 100-41-4   | 4,100.     | 50.                        | ug/kg | 47.17           |
| 05478   | Bromoform   | 75-25-2    | N.D.       | 50.                        | ug/kg | 47.17           |
| 05480   | 1,1,2,2-Tetrachloroethane   | 79-34-5    | N.D.       | 50.                        | ug/kg | 47.17           |
| 06297   | trans-1,3-Dichloropropene   | 10061-02-6 | N.D.       | 50.                        | ug/kg | 47.17           |
| 06298   | cis-1,3-Dichloropropene   | 10061-01-5 | N.D.       | 50.                        | ug/kg | 47.17           |
| 06301   | Xylene (Total)  | 1330-20-7  | 16,000.    | 50.                        | ug/kg | 47.17           |
| 07585   | 2-Chloroethyl Vinyl Ether   | 110-75-8   | N.D.       | 100.                       | ug/kg | 47.17           |

Lancaster Laboratories Sample No. SW5332764

Group No. 1086536

SB-5-65 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 09:34 by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP565

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---------------|------------|------------|----------------------------|-------|-----------------|
| 07586   | Acrolein      | 107-02-8   | N.D.       | 1,000.                     | ug/kg | 47.17           |
| 07587   | Acrylonitrile | 107-13-1   | N.D.       | 200.                       | ug/kg | 47.17           |

The GC/MS volatile analysis was performed according to the high level soil method due to the level of non-target compounds. Therefore, the reporting limits were raised.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis Date and Time | Analyst           | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------------|-------------------|-----------------|
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/23/2008 15:30       | Diane V Do        | 100             |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26       | Scott W Freisher  | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/17/2008 01:31       | Linda C Pape      | 2000            |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/25/2008 05:30       | Stephanie A Selis | 47.17           |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 10:47       | Larry E Bevins    | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 10:47       | Larry E Bevins    | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 10:49       | Larry E Bevins    | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 10:48       | Larry E Bevins    | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/21/2008 14:50       | Doreen K Robles   | 1               |

Lancaster Laboratories Sample No. SW5332765

Group No. 1086536

SB-5-90 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 09:40

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP590

| CAT No. | Analysis Name   | CAS Number | Dry Result | J | Dry Method      | Units | Dilution Factor |
|---------|---|------------|------------|---|-----------------|-------|-----------------|
|         |   |            |            |   | Detection Limit |       |                 |
| 08270   | TPH-DRO by 8015B  | n.a.       | 11.        | J | 4.3             | mg/kg | 1               |
| 00111   | Moisture  | n.a.       | 6.1        |   | 0.50            | %     | 1               |
|         | "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |            |            |   |                 |       |                 |
| 01637   | TPH-GRO 8015B - soil  |            |            |   |                 |       |                 |
| 01641   | TPH-GRO 8015B - soil  | n.a.       | N.D.       |   | 0.2             | mg/kg | 25              |
| 07584   | PPL + Xylene (total) by 8260  |            |            |   |                 |       |                 |
| 05460   | Benzene   | 71-43-2    | N.D.       |   | 0.6             | ug/kg | 1.06            |
| 05466   | Toluene   | 108-88-3   | N.D.       |   | 1.              | ug/kg | 1.06            |
| 05474   | Ethylbenzene  | 100-41-4   | N.D.       |   | 1.              | ug/kg | 1.06            |
| 06301   | Xylene (Total)  | 1330-20-7  | N.D.       |   | 1.              | ug/kg | 1.06            |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis   |       | Analyst          | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------|-------|------------------|-----------------|
|         |                              |                       |        | Date       | Time  |                  |                 |
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/22/2008 | 17:35 | Diane V Do       | 1               |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 | 17:26 | Scott W Freisher | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/17/2008 | 02:06 | Linda C Pape     | 25              |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/17/2008 | 02:18 | Kelly E Brickley | 1.06            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 | 10:50 | Larry E Bevins   | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 | 10:50 | Larry E Bevins   | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 | 10:52 | Larry E Bevins   | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 | 10:51 | Larry E Bevins   | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/21/2008 | 14:50 | Doreen K Robles  | 1               |



Lancaster Laboratories Sample No. SW5332766

Group No. 1086536

SB-6-65 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 10:30

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP665

| CAT No. | Analysis Name   | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---|------------|------------|----------------------------|-------|-----------------|
| 08270   | TPH-DRO by 8015B  | n.a.       | 3,400.     | 420.                       | mg/kg | 100             |
| 00111   | Moisture  | n.a.       | 5.8        | 0.50                       | %     | 1               |
|         | "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil  |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil  | n.a.       | 490.       | 21.                        | mg/kg | 2500            |
| 07584   | PPL + Xylene (total) by 8260  |            |            |                            |       |                 |
| 05444   | Chloromethane   | 74-87-3    | N.D.       | 110.                       | ug/kg | 51.87           |
| 05445   | Vinyl Chloride  | 75-01-4    | N.D.       | 55.                        | ug/kg | 51.87           |
| 05446   | Bromomethane  | 74-83-9    | N.D.       | 110.                       | ug/kg | 51.87           |
| 05447   | Chloroethane  | 75-00-3    | N.D.       | 110.                       | ug/kg | 51.87           |
| 05448   | Trichlorofluoromethane  | 75-69-4    | N.D.       | 110.                       | ug/kg | 51.87           |
| 05449   | 1,1-Dichloroethene  | 75-35-4    | N.D.       | 55.                        | ug/kg | 51.87           |
| 05450   | Methylene Chloride  | 75-09-2    | N.D.       | 110.                       | ug/kg | 51.87           |
| 05451   | trans-1,2-Dichloroethene  | 156-60-5   | N.D.       | 55.                        | ug/kg | 51.87           |
| 05452   | 1,1-Dichloroethane  | 75-34-3    | N.D.       | 55.                        | ug/kg | 51.87           |
| 05454   | cis-1,2-Dichloroethene  | 156-59-2   | N.D.       | 55.                        | ug/kg | 51.87           |
| 05455   | Chloroform  | 67-66-3    | N.D.       | 55.                        | ug/kg | 51.87           |
| 05457   | 1,1,1-Trichloroethane   | 71-55-6    | N.D.       | 55.                        | ug/kg | 51.87           |
| 05458   | Carbon Tetrachloride  | 56-23-5    | N.D.       | 55.                        | ug/kg | 51.87           |
| 05460   | Benzene   | 71-43-2    | 29. J      | 28.                        | ug/kg | 51.87           |
| 05461   | 1,2-Dichloroethane  | 107-06-2   | N.D.       | 55.                        | ug/kg | 51.87           |
| 05462   | Trichloroethene   | 79-01-6    | N.D.       | 55.                        | ug/kg | 51.87           |
| 05463   | 1,2-Dichloropropane   | 78-87-5    | N.D.       | 55.                        | ug/kg | 51.87           |
| 05465   | Bromodichloromethane  | 75-27-4    | N.D.       | 55.                        | ug/kg | 51.87           |
| 05466   | Toluene   | 108-88-3   | 2,100.     | 55.                        | ug/kg | 51.87           |
| 05467   | 1,1,2-Trichloroethane   | 79-00-5    | N.D.       | 55.                        | ug/kg | 51.87           |
| 05468   | Tetrachloroethene   | 127-18-4   | N.D.       | 55.                        | ug/kg | 51.87           |
| 05470   | Dibromochloromethane  | 124-48-1   | N.D.       | 55.                        | ug/kg | 51.87           |
| 05472   | Chlorobenzene   | 108-90-7   | N.D.       | 55.                        | ug/kg | 51.87           |
| 05474   | Ethylbenzene  | 100-41-4   | 3,100.     | 55.                        | ug/kg | 51.87           |
| 05478   | Bromoform   | 75-25-2    | N.D.       | 55.                        | ug/kg | 51.87           |
| 05480   | 1,1,2,2-Tetrachloroethane   | 79-34-5    | N.D.       | 55.                        | ug/kg | 51.87           |
| 06297   | trans-1,3-Dichloropropene   | 10061-02-6 | N.D.       | 55.                        | ug/kg | 51.87           |
| 06298   | cis-1,3-Dichloropropene   | 10061-01-5 | N.D.       | 55.                        | ug/kg | 51.87           |
| 06301   | Xylene (Total)  | 1330-20-7  | 13,000.    | 55.                        | ug/kg | 51.87           |
| 07585   | 2-Chloroethyl Vinyl Ether   | 110-75-8   | N.D.       | 110.                       | ug/kg | 51.87           |

Lancaster Laboratories Sample No. SW5332766

Group No. 1086536

SB-6-65 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 10:30

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP665

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---------------|------------|------------|----------------------------|-------|-----------------|
| 07586   | Acrolein      | 107-02-8   | N.D.       | 1,100.                     | ug/kg | 51.87           |
| 07587   | Acrylonitrile | 107-13-1   | N.D.       | 220.                       | ug/kg | 51.87           |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis Date and Time | Analyst           | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------------|-------------------|-----------------|
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/23/2008 15:48       | Diane V Do        | 100             |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26       | Scott W Freisher  | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/17/2008 02:49       | Linda C Pape      | 2500            |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/25/2008 05:53       | Stephanie A Selis | 51.87           |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 10:53       | Larry E Bevins    | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 10:53       | Larry E Bevins    | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 10:55       | Larry E Bevins    | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 10:54       | Larry E Bevins    | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/21/2008 14:50       | Doreen K Robles   | 1               |

Lancaster Laboratories Sample No. SW5332767

Group No. 1086536

SB-6-90 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 10:35

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP690

| CAT No. | Analysis Name   | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---|------------|------------|----------------------------|-------|-----------------|
| 08270   | TPH-DRO by 8015B  | n.a.       | N.D.       | 4.3                        | mg/kg | 1               |
| 00111   | Moisture  | n.a.       | 7.2        | 0.50                       | %     | 1               |
|         | "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil  |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil  | n.a.       | N.D.       | 0.2                        | mg/kg | 25              |
| 07584   | PPL + Xylene (total) by 8260  |            |            |                            |       |                 |
| 05460   | Benzene   | 71-43-2    | N.D.       | 0.6                        | ug/kg | 1.05            |
| 05466   | Toluene   | 108-88-3   | N.D.       | 1.                         | ug/kg | 1.05            |
| 05474   | Ethylbenzene  | 100-41-4   | N.D.       | 1.                         | ug/kg | 1.05            |
| 06301   | Xylene (Total)  | 1330-20-7  | N.D.       | 1.                         | ug/kg | 1.05            |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis Date and Time | Analyst          | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------------|------------------|-----------------|
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/22/2008 17:54       | Diane V Do       | 1               |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26       | Scott W Freisher | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/17/2008 03:25       | Linda C Pape     | 25              |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/17/2008 02:41       | Kelly E Brickley | 1.05            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 10:56       | Larry E Bevins   | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 10:56       | Larry E Bevins   | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 10:58       | Larry E Bevins   | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 10:57       | Larry E Bevins   | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/21/2008 14:50       | Doreen K Robles  | 1               |

Lancaster Laboratories Sample No. SW5332768

Group No. 1086536

SB-7-70 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 11:28

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP770

| CAT No. | Analysis Name   | CAS Number | Dry Result | Dry                    | Units | Dilution Factor |
|---------|---|------------|------------|------------------------|-------|-----------------|
|         |   |            |            | Method Detection Limit |       |                 |
| 08270   | TPH-DRO by 8015B  | n.a.       | N.D.       | 4.3                    | mg/kg | 1               |
| 00111   | Moisture  | n.a.       | 7.2        | 0.50                   | %     | 1               |
|         | "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |            |            |                        |       |                 |
| 01637   | TPH-GRO 8015B - soil  |            |            |                        |       |                 |
| 01641   | TPH-GRO 8015B - soil  | n.a.       | N.D.       | 0.2                    | mg/kg | 25              |
| 07584   | PPL + Xylene (total) by 8260  |            |            |                        |       |                 |
| 05460   | Benzene   | 71-43-2    | N.D.       | 0.5                    | ug/kg | 1.01            |
| 05466   | Toluene   | 108-88-3   | N.D.       | 1.                     | ug/kg | 1.01            |
| 05474   | Ethylbenzene  | 100-41-4   | N.D.       | 1.                     | ug/kg | 1.01            |
| 06301   | Xylene (Total)  | 1330-20-7  | N.D.       | 1.                     | ug/kg | 1.01            |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis         | Analyst           | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------|-------------------|-----------------|
|         |                              |                       |        | Date and Time    |                   |                 |
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/24/2008 01:22 | Diane V Do        | 1               |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26 | Scott W Freisher  | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/17/2008 04:01 | Linda C Pape      | 25              |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/17/2008 03:03 | Kelly E Brickley  | 1.01            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 10:58 | Larry E Bevins    | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 10:59 | Larry E Bevins    | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 11:00 | Larry E Bevins    | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 10:59 | Larry E Bevins    | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/22/2008 09:15 | Kerrie A Freeburn | 1               |

Lancaster Laboratories Sample No. SW5332769

Group No. 1086536

SB-7-90 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 11:32 by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP790

| CAT No.   | Analysis Name                | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|------------------------------|------------|------------|----------------------------|-------|-----------------|
| 08270   | TPH-DRO by 8015B             | n.a.       | N.D.       | 4.1                        | mg/kg | 1               |
| 00111   | Moisture                     | n.a.       | 2.9        | 0.50                       | %     | 1               |
| "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |                              |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil         |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil         | n.a.       | N.D.       | 0.2                        | mg/kg | 25              |
| 07584   | PPL + Xylene (total) by 8260 |            |            |                            |       |                 |
| 05460   | Benzene                      | 71-43-2    | N.D.       | 0.5                        | ug/kg | 1.03            |
| 05466   | Toluene                      | 108-88-3   | N.D.       | 1.                         | ug/kg | 1.03            |
| 05474   | Ethylbenzene                 | 100-41-4   | N.D.       | 1.                         | ug/kg | 1.03            |
| 06301   | Xylene (Total)               | 1330-20-7  | N.D.       | 1.                         | ug/kg | 1.03            |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis Date and Time | Analyst           | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------------|-------------------|-----------------|
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/24/2008 02:19       | Diane V Do        | 1               |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26       | Scott W Freisher  | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/17/2008 04:36       | Linda C Pape      | 25              |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/17/2008 03:26       | Kelly E Brickley  | 1.03            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 11:15       | Larry E Bevins    | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 11:15       | Larry E Bevins    | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 11:16       | Larry E Bevins    | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 11:16       | Larry E Bevins    | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/22/2008 09:15       | Kerrie A Freeburn | 1               |



Lancaster Laboratories Sample No. SW5332770

Group No. 1086536

SB-8-60 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 12:17

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP860

| CAT No. | Analysis Name   | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---|------------|------------|----------------------------|-------|-----------------|
| 08270   | TPH-DRO by 8015B  | n.a.       | 1,900.     | 85.                        | mg/kg | 20              |
| 00111   | Moisture  | n.a.       | 5.7        | 0.50                       | %     | 1               |
|         | "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil  |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil  | n.a.       | 94.        | 8.5                        | mg/kg | 1000            |
| 07584   | PPL + Xylene (total) by 8260  |            |            |                            |       |                 |
| 05444   | Chloromethane   | 74-87-3    | N.D.       | 2.                         | ug/kg | 1               |
| 05445   | Vinyl Chloride  | 75-01-4    | N.D.       | 1.                         | ug/kg | 1               |
| 05446   | Bromomethane  | 74-83-9    | N.D.       | 2.                         | ug/kg | 1               |
| 05447   | Chloroethane  | 75-00-3    | N.D.       | 2.                         | ug/kg | 1               |
| 05448   | Trichlorofluoromethane  | 75-69-4    | N.D.       | 2.                         | ug/kg | 1               |
| 05449   | 1,1-Dichloroethene  | 75-35-4    | N.D.       | 1.                         | ug/kg | 1               |
| 05450   | Methylene Chloride  | 75-09-2    | N.D.       | 2.                         | ug/kg | 1               |
| 05451   | trans-1,2-Dichloroethene  | 156-60-5   | N.D.       | 1.                         | ug/kg | 1               |
| 05452   | 1,1-Dichloroethane  | 75-34-3    | N.D.       | 1.                         | ug/kg | 1               |
| 05454   | cis-1,2-Dichloroethene  | 156-59-2   | N.D.       | 1.                         | ug/kg | 1               |
| 05455   | Chloroform  | 67-66-3    | N.D.       | 1.                         | ug/kg | 1               |
| 05457   | 1,1,1-Trichloroethane   | 71-55-6    | N.D.       | 1.                         | ug/kg | 1               |
| 05458   | Carbon Tetrachloride  | 56-23-5    | N.D.       | 1.                         | ug/kg | 1               |
| 05460   | Benzene   | 71-43-2    | 0.6        | J 0.5                      | ug/kg | 1               |
| 05461   | 1,2-Dichloroethane  | 107-06-2   | N.D.       | 1.                         | ug/kg | 1               |
| 05462   | Trichloroethene   | 79-01-6    | N.D.       | 1.                         | ug/kg | 1               |
| 05463   | 1,2-Dichloropropane   | 78-87-5    | N.D.       | 1.                         | ug/kg | 1               |
| 05465   | Bromodichloromethane  | 75-27-4    | N.D.       | 1.                         | ug/kg | 1               |
| 05466   | Toluene   | 108-88-3   | 72.        | 1.                         | ug/kg | 1               |
| 05467   | 1,1,2-Trichloroethane   | 79-00-5    | N.D.       | 1.                         | ug/kg | 1               |
| 05468   | Tetrachloroethene   | 127-18-4   | N.D.       | 1.                         | ug/kg | 1               |
| 05470   | Dibromochloromethane  | 124-48-1   | N.D.       | 1.                         | ug/kg | 1               |
| 05472   | Chlorobenzene   | 108-90-7   | N.D.       | 1.                         | ug/kg | 1               |
| 05474   | Ethylbenzene  | 100-41-4   | 220.       | 1.                         | ug/kg | 1               |
| 05478   | Bromoform   | 75-25-2    | N.D.       | 1.                         | ug/kg | 1               |
| 05480   | 1,1,2,2-Tetrachloroethane   | 79-34-5    | N.D.       | 1.                         | ug/kg | 1               |
| 06297   | trans-1,3-Dichloropropene   | 10061-02-6 | N.D.       | 1.                         | ug/kg | 1               |
| 06298   | cis-1,3-Dichloropropene   | 10061-01-5 | N.D.       | 1.                         | ug/kg | 1               |
| 06301   | Xylene (Total)  | 1330-20-7  | 1,500.     | 49.                        | ug/kg | 46.55           |
| 07585   | 2-Chloroethyl Vinyl Ether   | 110-75-8   | N.D.       | 2.                         | ug/kg | 1               |

Lancaster Laboratories Sample No. SW5332770

Group No. 1086536

SB-8-60 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 12:17 by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP860

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---------------|------------|------------|----------------------------|-------|-----------------|
| 07586   | Acrolein      | 107-02-8   | N.D.       | 21.                        | ug/kg | 1               |
| 07587   | Acrylonitrile | 107-13-1   | N.D.       | 4.                         | ug/kg | 1               |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis Date and Time | Analyst           | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------------|-------------------|-----------------|
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/24/2008 14:16       | Diane V Do        | 20              |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26       | Scott W Freisher  | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/17/2008 05:12       | Linda C Pape      | 1000            |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/24/2008 01:58       | Lauren C Marzario | 46.55           |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/24/2008 04:29       | Jason M Long      | 1               |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 11:18       | Larry E Bevins    | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 11:17       | Larry E Bevins    | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 11:19       | Larry E Bevins    | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 11:18       | Larry E Bevins    | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/22/2008 09:15       | Kerrie A Freeburn | 1               |



# Analysis Report

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Page 1 of 1

Lancaster Laboratories Sample No. SW5332771

Group No. 1086536

SB-8-90 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 12:41 by RB

Account Number: 11842

Submitted: 04/15/2008 09:40  
Reported: 05/05/2008 at 14:18  
Discard: 06/05/2008

SECOR International, Inc.  
3300 N. A St.  
Bldg. 8, Suite 220  
Midland TX 79705

LP890

| CAT No. | Analysis Name   | CAS Number | Dry Result | Dry                    | Units | Dilution Factor |
|---------|---|------------|------------|------------------------|-------|-----------------|
|         |   |            |            | Method Detection Limit |       |                 |
| 08270   | TPH-DRO by 8015B  | n.a.       | N.D.       | 4.1                    | mg/kg | 1               |
| 00111   | Moisture  | n.a.       | 3.6        | 0.50                   | %     | 1               |
|         | "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |            |            |                        |       |                 |
| 01637   | TPH-GRO 8015B - soil  |            |            |                        |       |                 |
| 01641   | TPH-GRO 8015B - soil  | n.a.       | N.D.       | 0.2                    | mg/kg | 25              |
| 07584   | PPL + Xylene (total) by 8260  |            |            |                        |       |                 |
| 05460   | Benzene   | 71-43-2    | N.D.       | 0.5                    | ug/kg | 0.96            |
| 05466   | Toluene   | 108-88-3   | N.D.       | 1.                     | ug/kg | 0.96            |
| 05474   | Ethylbenzene  | 100-41-4   | N.D.       | 1.                     | ug/kg | 0.96            |
| 06301   | Xylene (Total)  | 1330-20-7  | N.D.       | 1.                     | ug/kg | 0.96            |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis         | Analyst           | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------|-------------------|-----------------|
|         |                              |                       |        | Date and Time    |                   |                 |
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/24/2008 02:38 | Diane V Do        | 1               |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26 | Scott W Freisher  | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/17/2008 15:02 | Linda C Pape      | 25              |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/17/2008 03:48 | Kelly E Brickley  | 0.96            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 11:20 | Larry E Bevins    | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 11:20 | Larry E Bevins    | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 11:21 | Larry E Bevins    | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 11:21 | Larry E Bevins    | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/22/2008 09:15 | Kerrie A Freeburn | 1               |

Lancaster Laboratories Sample No. SW5332772

Group No. 1086536

SB-9-50 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 13:17 by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP950

| CAT No. | Analysis Name   | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---|------------|------------|----------------------------|-------|-----------------|
| 08270   | TPH-DRO by 8015B  | n.a.       | N.D.       | 4.2                        | mg/kg | 1               |
| 00111   | Moisture  | n.a.       | 4.9        | 0.50                       | %     | 1               |
|         | "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil  |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil  | n.a.       | N.D.       | 0.2                        | mg/kg | 25              |
| 07584   | PPL + Xylene (total) by 8260  |            |            |                            |       |                 |
| 05460   | Benzene   | 71-43-2    | N.D.       | 0.5                        | ug/kg | 0.94            |
| 05466   | Toluene   | 108-88-3   | N.D.       | 1.                         | ug/kg | 0.94            |
| 05474   | Ethylbenzene  | 100-41-4   | N.D.       | 1.                         | ug/kg | 0.94            |
| 06301   | Xylene (Total)  | 1330-20-7  | N.D.       | 1.                         | ug/kg | 0.94            |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis Date and Time | Analyst           | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------------|-------------------|-----------------|
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/24/2008 02:57       | Diane V Do        | 1               |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26       | Scott W Freisher  | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/17/2008 15:45       | Linda C Pape      | 25              |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/17/2008 04:11       | Kelly E Brickley  | 0.94            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 11:23       | Larry E Bevins    | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 11:23       | Larry E Bevins    | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 11:24       | Larry E Bevins    | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 11:24       | Larry E Bevins    | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/22/2008 09:15       | Kerrie A Freeburn | 1               |

Lancaster Laboratories Sample No. SW5332773

Group No. 1086536

SB-9-90 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 13:25

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

LP990

| CAT No.   | Analysis Name                | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|------------------------------|------------|------------|----------------------------|-------|-----------------|
| 08270   | TPH-DRO by 8015B             | n.a.       | N.D.       | 4.3                        | mg/kg | 1               |
| 00111   | Moisture                     | n.a.       | 6.1        | 0.50                       | %     | 1               |
| "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |                              |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil         |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil         | n.a.       | N.D.       | 0.2                        | mg/kg | 25              |
| 07584   | PPL + Xylene (total) by 8260 |            |            |                            |       |                 |
| 05460   | Benzene                      | 71-43-2    | N.D.       | 0.5                        | ug/kg | 1               |
| 05466   | Toluene                      | 108-88-3   | N.D.       | 1.                         | ug/kg | 1               |
| 05474   | Ethylbenzene                 | 100-41-4   | N.D.       | 1.                         | ug/kg | 1               |
| 06301   | Xylene (Total)               | 1330-20-7  | N.D.       | 1.                         | ug/kg | 1               |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis Date and Time | Analyst           | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------------|-------------------|-----------------|
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/24/2008 03:15       | Diane V Do        | 1               |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26       | Scott W Freisher  | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/17/2008 19:28       | Linda C Pape      | 25              |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/17/2008 04:33       | Kelly E Brickley  | 1               |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 11:25       | Larry E Bevins    | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 11:26       | Larry E Bevins    | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 11:28       | Larry E Bevins    | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 11:27       | Larry E Bevins    | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/22/2008 09:15       | Kerrie A Freeburn | 1               |



Lancaster Laboratories Sample No. SW5332774

Group No. 1086536

SB-10-60 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 14:17

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

L1060

| CAT No. | Analysis Name   | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---|------------|------------|----------------------------|-------|-----------------|
| 08270   | TPH-DRO by 8015B  | n.a.       | 2,900.     | 42.                        | mg/kg | 10              |
| 00111   | Moisture  | n.a.       | 5.3        | 0.50                       | %     | 1               |
|         | "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil  |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil  | n.a.       | 250.       | 17.                        | mg/kg | 2000            |
| 07584   | PPL + Xylene (total) by 8260  |            |            |                            |       |                 |
| 05444   | Chloromethane   | 74-87-3    | N.D.       | 100.                       | ug/kg | 49.21           |
| 05445   | Vinyl Chloride  | 75-01-4    | N.D.       | 52.                        | ug/kg | 49.21           |
| 05446   | Bromomethane  | 74-83-9    | N.D.       | 100.                       | ug/kg | 49.21           |
| 05447   | Chloroethane  | 75-00-3    | N.D.       | 100.                       | ug/kg | 49.21           |
| 05448   | Trichlorofluoromethane  | 75-69-4    | N.D.       | 100.                       | ug/kg | 49.21           |
| 05449   | 1,1-Dichloroethene  | 75-35-4    | N.D.       | 52.                        | ug/kg | 49.21           |
| 05450   | Methylene Chloride  | 75-09-2    | N.D.       | 100.                       | ug/kg | 49.21           |
| 05451   | trans-1,2-Dichloroethene  | 156-60-5   | N.D.       | 52.                        | ug/kg | 49.21           |
| 05452   | 1,1-Dichloroethane  | 75-34-3    | N.D.       | 52.                        | ug/kg | 49.21           |
| 05454   | cis-1,2-Dichloroethene  | 156-59-2   | N.D.       | 52.                        | ug/kg | 49.21           |
| 05455   | Chloroform  | 67-66-3    | N.D.       | 52.                        | ug/kg | 49.21           |
| 05457   | 1,1,1-Trichloroethane   | 71-55-6    | N.D.       | 52.                        | ug/kg | 49.21           |
| 05458   | Carbon Tetrachloride  | 56-23-5    | N.D.       | 52.                        | ug/kg | 49.21           |
| 05460   | Benzene   | 71-43-2    | N.D.       | 26.                        | ug/kg | 49.21           |
| 05461   | 1,2-Dichloroethane  | 107-06-2   | N.D.       | 52.                        | ug/kg | 49.21           |
| 05462   | Trichloroethene   | 79-01-6    | N.D.       | 52.                        | ug/kg | 49.21           |
| 05463   | 1,2-Dichloropropane   | 78-87-5    | N.D.       | 52.                        | ug/kg | 49.21           |
| 05465   | Bromodichloromethane  | 75-27-4    | N.D.       | 52.                        | ug/kg | 49.21           |
| 05466   | Toluene   | 108-88-3   | 1,100.     | 52.                        | ug/kg | 49.21           |
| 05467   | 1,1,2-Trichloroethane   | 79-00-5    | N.D.       | 52.                        | ug/kg | 49.21           |
| 05468   | Tetrachloroethene   | 127-18-4   | N.D.       | 52.                        | ug/kg | 49.21           |
| 05470   | Dibromochloromethane  | 124-48-1   | N.D.       | 52.                        | ug/kg | 49.21           |
| 05472   | Chlorobenzene   | 108-90-7   | N.D.       | 52.                        | ug/kg | 49.21           |
| 05474   | Ethylbenzene  | 100-41-4   | 1,600.     | 52.                        | ug/kg | 49.21           |
| 05478   | Bromoform   | 75-25-2    | N.D.       | 52.                        | ug/kg | 49.21           |
| 05480   | 1,1,2,2-Tetrachloroethane   | 79-34-5    | N.D.       | 52.                        | ug/kg | 49.21           |
| 06297   | trans-1,3-Dichloropropene   | 10061-02-6 | N.D.       | 52.                        | ug/kg | 49.21           |
| 06298   | cis-1,3-Dichloropropene   | 10061-01-5 | N.D.       | 52.                        | ug/kg | 49.21           |
| 06301   | Xylene (Total)  | 1330-20-7  | 6,600.     | 52.                        | ug/kg | 49.21           |
| 07585   | 2-Chloroethyl Vinyl Ether   | 110-75-8   | N.D.       | 100.                       | ug/kg | 49.21           |

Lancaster Laboratories Sample No. SW5332774

Group No. 1086536

SB-10-60 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 14:17 by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

L1060

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---------------|------------|------------|----------------------------|-------|-----------------|
| 07586   | Acrolein      | 107-02-8   | N.D.       | 1,000.                     | ug/kg | 49.21           |
| 07587   | Acrylonitrile | 107-13-1   | N.D.       | 210.                       | ug/kg | 49.21           |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis Date and Time | Analyst           | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------------|-------------------|-----------------|
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/24/2008 14:35       | Diane V Do        | 10              |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26       | Scott W Freisher  | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/17/2008 20:04       | Linda C Pape      | 2000            |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/25/2008 06:22       | Stephanie A Selis | 49.21           |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 11:29       | Larry E Bevins    | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 11:29       | Larry E Bevins    | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 11:30       | Larry E Bevins    | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 11:30       | Larry E Bevins    | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/22/2008 09:15       | Kerrie A Freeburn | 1               |

Lancaster Laboratories Sample No. SW5332775

Group No. 1086536

SB-10-90 Grab Soil Sample

Lovington Paddock, NM

Collected: 04/11/2008 14:23

by RB

Account Number: 11842

Submitted: 04/15/2008 09:40

Reported: 05/05/2008 at 14:18

Discard: 06/05/2008

SECOR International, Inc.

3300 N. A St.

Bldg. 8, Suite 220

Midland TX 79705

L1090

| CAT No. | Analysis Name   | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---------|---|------------|------------|----------------------------|-------|-----------------|
| 08270   | TPH-DRO by 8015B  | n.a.       | 7.3 J      | 4.1                        | mg/kg | 1               |
| 00111   | Moisture  | n.a.       | 2.9        | 0.50                       | %     | 1               |
|         | "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis. |            |            |                            |       |                 |
| 01637   | TPH-GRO 8015B - soil  |            |            |                            |       |                 |
| 01641   | TPH-GRO 8015B - soil  | n.a.       | N.D.       | 0.2                        | mg/kg | 25              |
| 07584   | PPL + Xylene (total) by 8260  |            |            |                            |       |                 |
| 05460   | Benzene   | 71-43-2    | N.D.       | 0.5                        | ug/kg | 0.96            |
| 05466   | Toluene   | 108-88-3   | N.D.       | 1.                         | ug/kg | 0.96            |
| 05474   | Ethylbenzene  | 100-41-4   | N.D.       | 1.                         | ug/kg | 0.96            |
| 06301   | Xylene (Total)  | 1330-20-7  | N.D.       | 1.                         | ug/kg | 0.96            |

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name                | Method                | Trial# | Analysis Date and Time | Analyst           | Dilution Factor |
|---------|------------------------------|-----------------------|--------|------------------------|-------------------|-----------------|
| 08270   | TPH-DRO by 8015B             | SW-846 8015B          | 1      | 04/24/2008 03:34       | Diane V Do        | 1               |
| 00111   | Moisture                     | SM20 2540 G           | 1      | 04/16/2008 17:26       | Scott W Freisher  | 1               |
| 01637   | TPH-GRO 8015B - soil         | SW-846 8015B modified | 1      | 04/17/2008 20:40       | Linda C Pape      | 25              |
| 07584   | PPL + Xylene (total) by 8260 | SW-846 8260B          | 1      | 04/17/2008 04:56       | Kelly E Brickley  | 0.96            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 1      | 04/16/2008 11:31       | Larry E Bevins    | n.a.            |
| 00374   | GC/MS - Bulk Sample Prep     | SW-846 5030A          | 2      | 04/16/2008 11:32       | Larry E Bevins    | n.a.            |
| 01150   | GC - Bulk Soil Prep          | SW-846 5030A          | 1      | 04/16/2008 11:33       | Larry E Bevins    | n.a.            |
| 06646   | GC/MS HL Bulk Sample Prep    | SW-846 5030A          | 1      | 04/16/2008 11:32       | Larry E Bevins    | n.a.            |
| 07004   | Extraction - DRO (Soils)     | SW-846 3550B          | 1      | 04/22/2008 09:15       | Kerrie A Freeburn | 1               |

## Quality Control Summary

Client Name: SECOR International, Inc.  
Reported: 05/05/08 at 02:18 PM

Group Number: 1086536

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

### Laboratory Compliance Quality Control

| <u>Analysis Name</u>                            | <u>Blank Result</u>   | <u>Blank MDL</u> | <u>Report Units</u> | <u>LCS %REC</u> | <u>LCSD %REC</u> | <u>LCS/LCSD Limits</u> | <u>RPD</u> | <u>RPD Max</u> |
|---|---|------------------|---------------------|-----------------|------------------|------------------------|------------|----------------|
| Batch number: 08107820008A<br>Moisture          | Sample number(s): 5332756-5332764   |                  |                     | 100             |                  | 99-101                 |            |                |
| Batch number: 08107820008B<br>Moisture          | Sample number(s): 5332765-5332775   |                  |                     | 100             |                  | 99-101                 |            |                |
| Batch number: 08107A34A<br>TPH-GRO 8015B - soil | N.D.  | 0.2              | mg/kg               | 82              | 85               | 67-119                 | 4          | 30             |
| Batch number: 08108A34A<br>TPH-GRO 8015B - soil | N.D.  | 0.2              | mg/kg               | 83              |                  | 67-119                 |            |                |
| Batch number: 081120014A<br>TPH-DRO by 8015B    | N.D.  | 4.0              | mg/kg               | 85              |                  | 71-109                 |            |                |
| Batch number: 081120033A<br>TPH-DRO by 8015B    | N.D.  | 4.0              | mg/kg               | 92              |                  | 71-109                 |            |                |
| Batch number: A081072AA                         | Sample number(s): 5332759,5332761-5332763,5332765,5332767-5332769,5332771-5332773,5332775 |                  |                     |                 |                  |                        |            |                |
| Benzene   | N.D.  | 0.5              | ug/kg               | 102             | 109              | 84-115                 | 7          | 30             |
| Toluene   | N.D.  | 1.               | ug/kg               | 95              | 102              | 81-116                 | 8          | 30             |
| Ethylbenzene                                    | N.D.  | 1.               | ug/kg               | 91              | 97               | 82-115                 | 7          | 30             |
| Xylene (Total)                                  | N.D.  | 1.               | ug/kg               | 86              | 93               | 82-117                 | 7          | 30             |
| Batch number: A081142AA                         | Sample number(s): 5332757,5332770   |                  |                     |                 |                  |                        |            |                |
| Chloromethane                                   | N.D.  | 2.               | ug/kg               | 119             | 116              | 43-131                 | 3          | 30             |
| Vinyl Chloride                                  | N.D.  | 1.               | ug/kg               | 116             | 114              | 53-123                 | 1          | 30             |
| Bromomethane                                    | N.D.  | 2.               | ug/kg               | 114             | 110              | 47-136                 | 3          | 30             |
| Chloroethane                                    | N.D.  | 2.               | ug/kg               | 116             | 113              | 56-124                 | 3          | 30             |
| Trichlorofluoromethane                          | N.D.  | 2.               | ug/kg               | 120             | 117              | 58-137                 | 3          | 30             |
| 1,1-Dichloroethene                              | N.D.  | 1.               | ug/kg               | 108             | 108              | 83-121                 | 0          | 30             |
| Methylene Chloride                              | N.D.  | 2.               | ug/kg               | 110             | 110              | 75-120                 | 0          | 30             |
| trans-1,2-Dichloroethene                        | N.D.  | 1.               | ug/kg               | 107             | 108              | 84-116                 | 0          | 30             |
| 1,1-Dichloroethane                              | N.D.  | 1.               | ug/kg               | 112             | 111              | 82-116                 | 1          | 30             |
| cis-1,2-Dichloroethene                          | N.D.  | 1.               | ug/kg               | 107             | 107              | 84-113                 | 1          | 30             |
| Chloroform                                      | N.D.  | 1.               | ug/kg               | 111             | 110              | 81-117                 | 1          | 30             |
| 1,1,1-Trichloroethane                           | N.D.  | 1.               | ug/kg               | 109             | 109              | 74-127                 | 0          | 30             |
| Carbon Tetrachloride                            | N.D.  | 1.               | ug/kg               | 106             | 106              | 75-129                 | 0          | 30             |
| Benzene   | N.D.  | 0.5              | ug/kg               | 108             | 109              | 84-115                 | 0          | 30             |
| 1,2-Dichloroethane                              | N.D.  | 1.               | ug/kg               | 117             | 117              | 76-135                 | 1          | 30             |
| Trichloroethene                                 | N.D.  | 1.               | ug/kg               | 105             | 106              | 81-114                 | 1          | 30             |
| 1,2-Dichloropropane                             | N.D.  | 1.               | ug/kg               | 110             | 109              | 78-119                 | 1          | 30             |
| Bromodichloromethane                            | N.D.  | 1.               | ug/kg               | 110             | 109              | 77-116                 | 1          | 30             |
| Toluene   | N.D.  | 1.               | ug/kg               | 97              | 98               | 81-116                 | 1          | 30             |
| 1,1,2-Trichloroethane                           | N.D.  | 1.               | ug/kg               | 111             | 111              | 81-112                 | 0          | 30             |
| Tetrachloroethene                               | N.D.  | 1.               | ug/kg               | 99              | 98               | 77-120                 | 1          | 30             |

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

## Quality Control Summary

Client Name: SECOR International, Inc.  
Reported: 05/05/08 at 02:18 PM

Group Number: 1086536

### Laboratory Compliance Quality Control

| Analysis Name             | Blank Result | Blank MDL | Report Units | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---------------------------|--------------|-----------|--------------|----------|-----------|-----------------|-----|---------|
| Dibromochloromethane      | N.D.         | 1.        | ug/kg        | 108      | 107       | 82-121          | 0   | 30      |
| Chlorobenzene             | N.D.         | 1.        | ug/kg        | 103      | 103       | 81-112          | 0   | 30      |
| Ethylbenzene              | N.D.         | 1.        | ug/kg        | 105      | 105       | 82-115          | 0   | 30      |
| Bromoform                 | N.D.         | 1.        | ug/kg        | 107      | 106       | 71-118          | 1   | 30      |
| 1,1,2,2-Tetrachloroethane | N.D.         | 1.        | ug/kg        | 128      | 126       | 67-131          | 2   | 30      |
| trans-1,3-Dichloropropene | N.D.         | 1.        | ug/kg        | 107      | 107       | 79-112          | 0   | 30      |
| cis-1,3-Dichloropropene   | N.D.         | 1.        | ug/kg        | 104      | 104       | 80-111          | 0   | 30      |
| Xylene (Total)            | N.D.         | 1.        | ug/kg        | 100      | 101       | 82-117          | 1   | 30      |
| 2-Chloroethyl Vinyl Ether | N.D.         | 2.        | ug/kg        | 98       | 102       | 22-172          | 4   | 30      |
| Acrolein                  | N.D.         | 20.       | ug/kg        | 80       | 73        | 44-134          | 8   | 30      |
| Acrylonitrile             | N.D.         | 4.        | ug/kg        | 96       | 95        | 58-122          | 1   | 30      |

Batch number: Q081142AA

Sample number(s): 5332756, 5332758, 5332760, 5332770

|                           |      |        |       |      |     |        |     |    |
|---------------------------|------|--------|-------|------|-----|--------|-----|----|
| Chloromethane             | N.D. | 100.   | ug/kg | 72   | 70  | 43-131 | 3   | 30 |
| Vinyl Chloride            | N.D. | 50.    | ug/kg | 67   | 64  | 53-123 | 5   | 30 |
| Bromomethane              | N.D. | 100.   | ug/kg | 158* | 105 | 47-136 | 40* | 30 |
| Chloroethane              | N.D. | 100.   | ug/kg | 107  | 88  | 56-124 | 20  | 30 |
| Trichlorofluoromethane    | N.D. | 100.   | ug/kg | 73   | 71  | 58-137 | 3   | 30 |
| 1,1-Dichloroethene        | N.D. | 50.    | ug/kg | 82*  | 79* | 83-121 | 3   | 30 |
| Methylene Chloride        | N.D. | 100.   | ug/kg | 87   | 85  | 75-120 | 2   | 30 |
| trans-1,2-Dichloroethene  | N.D. | 50.    | ug/kg | 87   | 84  | 84-116 | 3   | 30 |
| 1,1-Dichloroethane        | N.D. | 50.    | ug/kg | 88   | 85  | 82-116 | 4   | 30 |
| cis-1,2-Dichloroethene    | N.D. | 50.    | ug/kg | 88   | 87  | 84-113 | 2   | 30 |
| Chloroform                | N.D. | 50.    | ug/kg | 92   | 89  | 81-117 | 3   | 30 |
| 1,1,1-Trichloroethane     | N.D. | 50.    | ug/kg | 89   | 88  | 74-127 | 1   | 30 |
| Carbon Tetrachloride      | N.D. | 50.    | ug/kg | 87   | 86  | 75-129 | 2   | 30 |
| Benzene                   | N.D. | 25.    | ug/kg | 86   | 84  | 84-115 | 2   | 30 |
| 1,2-Dichloroethane        | N.D. | 50.    | ug/kg | 97   | 94  | 76-135 | 3   | 30 |
| Trichloroethene           | N.D. | 50.    | ug/kg | 86   | 85  | 81-114 | 1   | 30 |
| 1,2-Dichloropropene       | N.D. | 50.    | ug/kg | 86   | 82  | 78-119 | 4   | 30 |
| Bromodichloromethane      | N.D. | 50.    | ug/kg | 91   | 88  | 77-116 | 3   | 30 |
| Toluene                   | N.D. | 50.    | ug/kg | 87   | 84  | 81-116 | 4   | 30 |
| 1,1,2-Trichloroethane     | N.D. | 50.    | ug/kg | 94   | 88  | 81-112 | 7   | 30 |
| Tetrachloroethene         | N.D. | 50.    | ug/kg | 87   | 85  | 77-120 | 3   | 30 |
| Dibromochloromethane      | N.D. | 50.    | ug/kg | 93   | 89  | 82-121 | 5   | 30 |
| Chlorobenzene             | N.D. | 50.    | ug/kg | 89   | 86  | 81-112 | 3   | 30 |
| Ethylbenzene              | N.D. | 50.    | ug/kg | 87   | 84  | 82-115 | 4   | 30 |
| Bromoform                 | N.D. | 50.    | ug/kg | 91   | 90  | 71-118 | 2   | 30 |
| 1,1,2,2-Tetrachloroethane | N.D. | 50.    | ug/kg | 86   | 84  | 67-131 | 2   | 30 |
| trans-1,3-Dichloropropene | N.D. | 50.    | ug/kg | 90   | 88  | 79-112 | 3   | 30 |
| cis-1,3-Dichloropropene   | N.D. | 50.    | ug/kg | 87   | 83  | 80-111 | 5   | 30 |
| Xylene (Total)            | N.D. | 50.    | ug/kg | 87   | 85  | 82-117 | 3   | 30 |
| 2-Chloroethyl Vinyl Ether | N.D. | 100.   | ug/kg | 80   | 78  | 22-172 | 2   | 30 |
| Acrolein                  | N.D. | 1,000. | ug/kg | 99   | 88  | 44-134 | 12  | 30 |
| Acrylonitrile             | N.D. | 200.   | ug/kg | 95   | 84  | 58-122 | 13  | 30 |

Batch number: Q081161AA

Sample number(s): 5332764, 5332766, 5332774

|                          |      |      |       |     |     |        |   |    |
|--------------------------|------|------|-------|-----|-----|--------|---|----|
| Chloromethane            | N.D. | 100. | ug/kg | 84  | 81  | 43-131 | 3 | 30 |
| Vinyl Chloride           | N.D. | 50.  | ug/kg | 83  | 79  | 53-123 | 5 | 30 |
| Bromomethane             | N.D. | 100. | ug/kg | 110 | 117 | 47-136 | 5 | 30 |
| Chloroethane             | N.D. | 100. | ug/kg | 97  | 98  | 56-124 | 1 | 30 |
| Trichlorofluoromethane   | N.D. | 100. | ug/kg | 81  | 79  | 58-137 | 2 | 30 |
| 1,1-Dichloroethene       | N.D. | 50.  | ug/kg | 92  | 92  | 83-121 | 1 | 30 |
| Methylene Chloride       | N.D. | 100. | ug/kg | 93  | 94  | 75-120 | 1 | 30 |
| trans-1,2-Dichloroethene | N.D. | 50.  | ug/kg | 94  | 95  | 84-116 | 0 | 30 |

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.



## Quality Control Summary

Client Name: SECOR International, Inc.  
Reported: 05/05/08 at 02:18 PM

Group Number: 1086536

### Laboratory Compliance Quality Control

| <u>Analysis Name</u>      | <u>Blank Result</u> | <u>Blank MDL</u> | <u>Report Units</u> | <u>LCS %REC</u> | <u>LCSD %REC</u> | <u>LCS/LCSD Limits</u> | <u>RPD</u> | <u>RPD Max</u> |
|---------------------------|---------------------|------------------|---------------------|-----------------|------------------|------------------------|------------|----------------|
| 1,1-Dichloroethane        | N.D.                | 50.              | ug/kg               | 92              | 97               | 82-116                 | 5          | 30             |
| cis-1,2-Dichloroethene    | N.D.                | 50.              | ug/kg               | 97              | 98               | 84-113                 | 1          | 30             |
| Chloroform                | N.D.                | 50.              | ug/kg               | 97              | 98               | 81-117                 | 1          | 30             |
| 1,1,1-Trichloroethane     | N.D.                | 50.              | ug/kg               | 98              | 99               | 74-127                 | 1          | 30             |
| Carbon Tetrachloride      | N.D.                | 50.              | ug/kg               | 94              | 95               | 75-129                 | 1          | 30             |
| Benzene                   | N.D.                | 25.              | ug/kg               | 94              | 95               | 84-115                 | 1          | 30             |
| 1,2-Dichloroethane        | N.D.                | 50.              | ug/kg               | 98              | 99               | 76-135                 | 1          | 30             |
| Trichloroethene           | N.D.                | 50.              | ug/kg               | 95              | 96               | 81-114                 | 1          | 30             |
| 1,2-Dichloropropane       | N.D.                | 50.              | ug/kg               | 92              | 93               | 78-119                 | 1          | 30             |
| Bromodichloromethane      | N.D.                | 50.              | ug/kg               | 95              | 97               | 77-116                 | 1          | 30             |
| Toluene                   | N.D.                | 50.              | ug/kg               | 92              | 92               | 81-116                 | 1          | 30             |
| 1,1,2-Trichloroethane     | N.D.                | 50.              | ug/kg               | 96              | 96               | 81-112                 | 0          | 30             |
| Tetrachloroethene         | N.D.                | 50.              | ug/kg               | 92              | 94               | 77-120                 | 2          | 30             |
| Dibromochloromethane      | N.D.                | 50.              | ug/kg               | 96              | 95               | 82-121                 | 1          | 30             |
| Chlorobenzene             | N.D.                | 50.              | ug/kg               | 93              | 94               | 81-112                 | 2          | 30             |
| Ethylbenzene              | N.D.                | 50.              | ug/kg               | 90              | 92               | 82-115                 | 2          | 30             |
| Bromoform                 | N.D.                | 50.              | ug/kg               | 95              | 96               | 71-118                 | 1          | 30             |
| 1,1,2,2-Tetrachloroethane | N.D.                | 50.              | ug/kg               | 92              | 93               | 67-131                 | 0          | 30             |
| trans-1,3-Dichloropropene | N.D.                | 50.              | ug/kg               | 93              | 94               | 79-112                 | 1          | 30             |
| cis-1,3-Dichloropropene   | N.D.                | 50.              | ug/kg               | 93              | 97               | 80-111                 | 4          | 30             |
| Xylene (Total)            | N.D.                | 50.              | ug/kg               | 90              | 92               | 82-117                 | 2          | 30             |
| 2-Chloroethyl Vinyl Ether | N.D.                | 100.             | ug/kg               | 91              | 91               | 22-172                 | 0          | 30             |
| Acrolein                  | N.D.                | 1,000.           | ug/kg               | 88              | 89               | 44-134                 | 2          | 30             |
| Acrylonitrile             | N.D.                | 200.             | ug/kg               | 85              | 89               | 58-122                 | 4          | 30             |

### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
Background (BKG) = the sample used in conjunction with the duplicate

| <u>Analysis Name</u>                            | <u>MS %REC</u>   | <u>MSD %REC</u> | <u>MS/MSD Limits</u> | <u>RPD</u> | <u>RPD MAX</u> | <u>BKG Conc</u> | <u>DUP Conc</u> | <u>DUP RPD</u> | <u>Dup RPD Max</u> |
|---|--|-----------------|----------------------|------------|----------------|-----------------|-----------------|----------------|--------------------|
| Batch number: 08107820008A<br>Moisture          | Sample number(s): 5332756-5332764 BKG: 5332761<br>6.8 7.0 3 15   |                 |                      |            |                |                 |                 |                |                    |
| Batch number: 08107820008B<br>Moisture          | Sample number(s): 5332765-5332775 BKG: 5332765<br>6.1 6.2 2 15   |                 |                      |            |                |                 |                 |                |                    |
| Batch number: 08108A34A<br>TPH-GRO 8015B - soil | Sample number(s): 5332761,5332771-5332775 UNSPK: 5332761<br>91 86 39-118 5 30                            |                 |                      |            |                |                 |                 |                |                    |
| Batch number: 081120014A<br>TPH-DRO by 8015B    | Sample number(s): 5332756-5332767 UNSPK: 5332756 BKG: 5332756<br>340 (2) 52-117 3,500. 3,700. 6 (1) 20   |                 |                      |            |                |                 |                 |                |                    |
| Batch number: 081120033A<br>TPH-DRO by 8015B    | Sample number(s): 5332768-5332775 UNSPK: 5332768 BKG: 5332768<br>91 52-117 N.D. N.D. 0 (1) 20            |                 |                      |            |                |                 |                 |                |                    |
| Batch number: A081072AA                         | Sample number(s): 5332759,5332761-5332763,5332765,5332767-5332769,5332771-5332773,5332775 UNSPK: 5332759 |                 |                      |            |                |                 |                 |                |                    |
| Benzene   | 111  |                 | 66-112               |            |                |                 |                 |                |                    |
| Toluene   | 87   |                 | 58-116               |            |                |                 |                 |                |                    |
| Ethylbenzene                                    | 74   |                 | 54-116               |            |                |                 |                 |                |                    |
| Xylene (Total)                                  | 72   |                 | 52-117               |            |                |                 |                 |                |                    |

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

## Quality Control Summary

Client Name: SECOR International, Inc.  
Reported: 05/05/08 at 02:18 PM

Group Number: 1086536

### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name   | MS<br>%REC | MSD<br>%REC | MS/MSD<br>Limits | RPD | RPD<br>MAX | BKG<br>Conc | DUP<br>Conc | DUP<br>RPD | Dup RPD<br>Max |
|---|------------|-------------|------------------|-----|------------|-------------|-------------|------------|----------------|
| Batch number: A081142AA Sample number(s): 5332757, 5332770 UNSPK: P335895 |            |             |                  |     |            |             |             |            |                |
| Chloromethane   | 105        |             | 31-127           |     |            |             |             |            |                |
| Vinyl Chloride  | 106        |             | 38-118           |     |            |             |             |            |                |
| Bromomethane  | 93         |             | 42-117           |     |            |             |             |            |                |
| Chloroethane  | 97         |             | 43-115           |     |            |             |             |            |                |
| Trichlorofluoromethane  | 111        |             | 45-130           |     |            |             |             |            |                |
| 1,1-Dichloroethene  | 107        |             | 64-118           |     |            |             |             |            |                |
| Methylene Chloride  | 102        |             | 50-127           |     |            |             |             |            |                |
| trans-1,2-Dichloroethene  | 101        |             | 60-110           |     |            |             |             |            |                |
| 1,1-Dichloroethane  | 102        |             | 65-115           |     |            |             |             |            |                |
| cis-1,2-Dichloroethene  | 101        |             | 67-110           |     |            |             |             |            |                |
| Chloroform  | 101        |             | 69-117           |     |            |             |             |            |                |
| 1,1,1-Trichloroethane   | 101        |             | 64-118           |     |            |             |             |            |                |
| Carbon Tetrachloride  | 99         |             | 56-120           |     |            |             |             |            |                |
| Benzene   | 100        |             | 66-112           |     |            |             |             |            |                |
| 1,2-Dichloroethane  | 99         |             | 62-130           |     |            |             |             |            |                |
| Trichloroethene   | 127        |             | 48-131           |     |            |             |             |            |                |
| 1,2-Dichloropropane   | 99         |             | 64-112           |     |            |             |             |            |                |
| Bromodichloromethane  | 97         |             | 66-119           |     |            |             |             |            |                |
| Toluene   | 85         |             | 58-116           |     |            |             |             |            |                |
| 1,1,2-Trichloroethane   | 93         |             | 71-112           |     |            |             |             |            |                |
| Tetrachloroethene   | 157*       |             | 40-140           |     |            |             |             |            |                |
| Dibromochloromethane  | 91         |             | 67-113           |     |            |             |             |            |                |
| Chlorobenzene   | 88         |             | 58-109           |     |            |             |             |            |                |
| Ethylbenzene  | 91         |             | 54-116           |     |            |             |             |            |                |
| Bromoform   | 85         |             | 54-114           |     |            |             |             |            |                |
| 1,1,2,2-Tetrachloroethane   | 62         |             | 50-132           |     |            |             |             |            |                |
| trans-1,3-Dichloropropene   | 90         |             | 60-110           |     |            |             |             |            |                |
| cis-1,3-Dichloropropene   | 93         |             | 56-112           |     |            |             |             |            |                |
| Xylene (Total)  | 85         |             | 52-117           |     |            |             |             |            |                |
| 2-Chloroethyl Vinyl Ether   | 131        |             | 15-148           |     |            |             |             |            |                |
| Acrolein  | 37         |             | 10-144           |     |            |             |             |            |                |
| Acrylonitrile   | 78         |             | 41-124           |     |            |             |             |            |                |

### Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH-GRO 8015B - soil  
Batch number: 08107A34A  
Trifluorotoluene-F

|         |     |
|---------|-----|
| 5332756 | 3*  |
| 5332757 | 24* |
| 5332758 | 0*  |
| 5332759 | 81  |
| 5332760 | 1*  |
| 5332762 | 87  |

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

## Quality Control Summary

Client Name: SECOR International, Inc.  
Reported: 05/05/08 at 02:18 PM

Group Number: 1086536

### Surrogate Quality Control

|         |    |
|---------|----|
| 5332763 | 85 |
| 5332764 | 1* |
| 5332765 | 85 |
| 5332766 | 1* |
| 5332767 | 89 |
| 5332768 | 84 |
| 5332769 | 94 |
| 5332770 | 3* |
| Blank   | 84 |
| LCS     | 92 |
| LCSD    | 92 |

Limits: 61-122

Analysis Name: TPH-GRO 8015B - soil  
Batch number: 08108A34A  
Trifluorotoluene-F

|         |    |
|---------|----|
| 5332761 | 92 |
| 5332771 | 86 |
| 5332772 | 82 |
| 5332773 | 83 |
| 5332774 | 2* |
| 5332775 | 92 |
| Blank   | 90 |
| LCS     | 89 |
| MS      | 86 |
| MSD     | 81 |

Limits: 61-122

Analysis Name: TPH-DRO by 8015B  
Batch number: 081120014A  
Orthoterphenyl

|         |      |
|---------|------|
| 5332756 | 138* |
| 5332757 | 117  |
| 5332758 | 160* |
| 5332759 | 92   |
| 5332760 | 165* |
| 5332761 | 91   |
| 5332762 | 104  |
| 5332763 | 95   |
| 5332764 | 139* |
| 5332765 | 87   |
| 5332766 | 126  |
| 5332767 | 89   |
| Blank   | 95   |
| DUP     | 142* |
| LCS     | 103  |
| MS      | 152* |

Limits: 59-129

Analysis Name: TPH-DRO by 8015B  
Batch number: 081120033A  
Orthoterphenyl

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

## Quality Control Summary

Client Name: SECOR International, Inc.  
Reported: 05/05/08 at 02:18 PM

Group Number: 1086536

### Surrogate Quality Control

5332768 95  
5332769 94  
5332770 126  
5332771 94  
5332772 95  
5332773 95  
5332774 156\*  
5332775 94  
Blank 97  
DUP 98  
LCS 110  
MS 110

Limits: 59-129

Analysis Name: PPL + Xylene (total) by 8260  
Batch number: A081072AA

|         | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---------|----------------------|-----------------------|------------|----------------------|
| 5332759 | 93                   | 90                    | 90         | 89                   |
| 5332761 | 94                   | 91                    | 90         | 87                   |
| 5332762 | 96                   | 95                    | 87         | 91                   |
| 5332763 | 94                   | 92                    | 90         | 86                   |
| 5332765 | 94                   | 92                    | 89         | 88                   |
| 5332767 | 90                   | 89                    | 94         | 92                   |
| 5332768 | 95                   | 94                    | 89         | 87                   |
| 5332769 | 95                   | 91                    | 89         | 86                   |
| 5332771 | 96                   | 92                    | 88         | 86                   |
| 5332772 | 96                   | 94                    | 87         | 87                   |
| 5332773 | 95                   | 92                    | 89         | 85                   |
| 5332775 | 96                   | 94                    | 87         | 89                   |
| Blank   | 93                   | 93                    | 91         | 86                   |
| LCS     | 94                   | 92                    | 93         | 91                   |
| LCSD    | 94                   | 96                    | 92         | 92                   |
| MS      | 96                   | 91                    | 89         | 90                   |

Limits: 71-114 70-109 70-123 70-111

Analysis Name: PPL + Xylene (total) by 8260  
Batch number: A081142AA

|         | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---------|----------------------|-----------------------|------------|----------------------|
| 5332757 | 80                   | 78                    | 83         | 78                   |
| 5332770 | 79                   | 80                    | 84         | 78                   |
| Blank   | 82                   | 80                    | 82         | 75                   |
| LCS     | 82                   | 79                    | 85         | 82                   |
| LCSD    | 82                   | 78                    | 85         | 81                   |
| MS      | 80                   | 77                    | 82         | 78                   |

Limits: 71-114 70-109 70-123 70-111

Analysis Name: PPL + Xylene (total) by 8260  
Batch number: Q081142AA

|         | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---------|----------------------|-----------------------|------------|----------------------|
| 5332756 | 85                   | 92                    | 97         | 103                  |
| 5332758 | 88                   | 95                    | 100        | 105                  |
| 5332760 | 85                   | 93                    | 99         | 102                  |

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

## Quality Control Summary

Client Name: SECOR International, Inc.  
Reported: 05/05/08 at 02:18 PM

Group Number: 1086536

### Surrogate Quality Control

|   |                      |                       |            |                      |
|---|----------------------|-----------------------|------------|----------------------|
| Blank                                       | 98                   | 96                    | 92         | 91                   |
| LCS   | 97                   | 97                    | 94         | 96                   |
| LCSD  | 97                   | 95                    | 93         | 95                   |
| Limits:                                     | 71-114               | 70-109                | 70-123     | 70-111               |
| Analysis Name: PPL + Xylene (total) by 8260 |                      |                       |            |                      |
| Batch number: Q081161AA                     |                      |                       |            |                      |
|   | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
| 5332764                                     | 87                   | 93                    | 94         | 97                   |
| 5332766                                     | 85                   | 97                    | 96         | 98                   |
| 5332774                                     | 88                   | 89                    | 90         | 90                   |
| Blank                                       | 97                   | 96                    | 89         | 89                   |
| LCS   | 103                  | 101                   | 99         | 96                   |
| LCSD  | 109                  | 104                   | 102        | 100                  |
| Limits:                                     | 71-114               | 70-109                | 70-123     | 70-111               |

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.



009678

11842  
 Act. #: \_\_\_\_\_  
 Sample #: 5332756-15  
 For Lancaster Laboratories use only

**SCR#:**

27 years as a student

C#1086536

[illegible]



## Lancaster Laboratories Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

|                         |  |                        |  |
|-------------------------|--|------------------------|--|
| <b>N.D.</b>             | none detected  | <b>BMQL</b>            | Below Minimum Quantitation Level               |
| <b>TNTC</b>             | Too Numerous To Count  | <b>MPN</b>             | Most Probable Number                           |
| <b>IU</b>               | International Units  | <b>CP Units</b>        | cobalt-chloroplatinate units                   |
| <b>umhos/cm</b>         | micromhos/cm   | <b>NTU</b>             | nephelometric turbidity units                  |
| <b>C</b>                | degrees Celsius  | <b>F</b>               | degrees Fahrenheit                             |
| <b>Cal</b>              | (diet) calories  | <b>lb.</b>             | pound(s)                                       |
| <b>meq</b>              | milliequivalents   | <b>kg</b>              | kilogram(s)                                    |
| <b>g</b>                | gram(s)  | <b>mg</b>              | milligram(s)                                   |
| <b>ug</b>               | microgram(s)   | <b>l</b>               | liter(s)                                       |
| <b>ml</b>               | milliliter(s)  | <b>ul</b>              | microliter(s)                                  |
| <b>m3</b>               | cubic meter(s)   | <b>fib &gt;5 um/ml</b> | fibers greater than 5 microns in length per ml |
| <b>&lt;</b>             | less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.  |                        |  |
| <b>&gt;</b>             | greater than   |                        |  |
| <b>ppm</b>              | parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas. |                        |  |
| <b>ppb</b>              | parts per billion  |                        |  |
| <b>Dry weight basis</b> | Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.   |                        |  |

U.S. EPA data qualifiers:

| Organic Qualifiers |  | Inorganic Qualifiers |   |
|--------------------|--|----------------------|---|
| <b>A</b>           | TIC is a possible aldol-condensation product                           | <b>B</b>             | Value is <CRDL, but ≥IDL                                |
| <b>B</b>           | Analyte was also detected in the blank                                 | <b>E</b>             | Estimated due to interference                           |
| <b>C</b>           | Pesticide result confirmed by GC/MS                                    | <b>M</b>             | Duplicate injection precision not met                   |
| <b>D</b>           | Compound quantitated on a diluted sample                               | <b>N</b>             | Spike amount not within control limits                  |
| <b>E</b>           | Concentration exceeds the calibration range of the instrument          | <b>S</b>             | Method of standard additions (MSA) used for calculation |
| <b>J</b>           | Estimated value  | <b>U</b>             | Compound was not detected                               |
| <b>N</b>           | Presumptive evidence of a compound (TICs only)                         | <b>W</b>             | Post digestion spike out of control limits              |
| <b>P</b>           | Concentration difference between primary and confirmation columns >25% | <b>*</b>             | Duplicate analysis not within control limits            |
| <b>U</b>           | Compound was not detected  | <b>+</b>             | Correlation coefficient for MSA <0.995                  |
| <b>X,Y,Z</b>       | Defined in case narrative  |                      |   |

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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**APPENDIX E**  
**Soil Volume Calculations**



Stantec

LOVINGTON FANDELL  
2006 & 2008 SOIL INVESTIGATIONS

4-8-10  
JL STEVENS

VOLUME OF SOIL WITH PH CONCENTRATIONS  $\geq 1,000$  mg/kg

FROM FIG 5, AREA OF TPH CONC  $\geq 1,000$  mg/kg = 2129 ft<sup>2</sup>

" " 6, " " " = 14,447 ft<sup>2</sup>

" " 7, " " " = 63,301 ft<sup>2</sup>

" " 8, " " " = 0 ft<sup>2</sup>

$$\begin{aligned} \text{Volume}_{\text{TPH} \geq 1000 \text{ mg/kg}} &= (2129 \text{ ft}^2)(20 \text{ ft} - 0 \text{ ft}) + (14,447 \text{ ft}^2)(55 \text{ ft} - 20 \text{ ft}) \\ &\quad + (63,301 \text{ ft}^2)(75 \text{ ft} - 55 \text{ ft}) + (0 \text{ ft}^2)(90 \text{ ft} - 75 \text{ ft}) \\ &= 1,815,000 \text{ ft}^3 \\ &= 67,200 \text{ yd}^3 \end{aligned}$$