

**Northeast (NE) Terraced Area  
Phase II Assessment Report**

Wilson Creek Unit  
Rio Blanco County, Colorado

Colorado Oil and Gas  
Conservation Commission -  
Remediation Project No. 70  
Spill No. 2213637



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October 31, 2014

## Sign-off Sheet


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# NORTHEAST (NE) TERRACED AREA PHASE II ASSESSMENT REPORT

Site Background  
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# NORTHEAST (NE) TERRACED AREA PHASE II ASSESSMENT REPORT

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## 1.0 Site Background

### 1.1 INTRODUCTION

This *Northeast (NE) Terraced Area Phase II Assessment Report* details the assessment activities including advancement of soil borings and soil sampling that occurred at the Wilson Creek Unit (Site) during August 8 through 11, 2013. Also included in this report, is a summary of historical soil sampling conducted in 2007 at the NE Terraced Area.

The Site consists of approximately 3,000 acres, of which 640 acres is owned and operated by Chevron North America Exploration and Production Company (Chevron), primarily encompassing the main processing area. The remainder of the Site is owned by the Bureau of Land Management (BLM) and various private owners. The Site is known within the Colorado Oil and Gas Conservation Commission (COGCC) as Remediation Project Number 70. The NE Terraced Area is known as Spill Number 2213637 under Remediation Project Number 70.

### 1.2 SITE LOCATION

The Site is located approximately 12 miles north of Meeker in Rio Blanco County, Colorado. The Site is located in and around Section 27, Township 3 North, Range 94 West. A Site location map is presented as **Figure 1** and shows the location of the NE Terraced Area, the Wilson Creek Unit Field Office (Field Office), as well as the locations of other Site features.

The NE Terraced Area is approximately one half-mile to the northeast of the Field Office and sits approximately 800 feet to the east of Rio Blanco County Road 9 (located immediately up-gradient from the Former Crude Shipping/Loadout Area) **Figure 2**. The NE Terraced Area is comprised of a series of seven terraces. Some of the terraces are located on land believed to be owned by a private owner (Ray Bonds).

### 1.3 REGIONAL SETTING

The Site is an active oil and gas field consisting of oil and gas exploration and production equipment, the Field Office, Rio Blanco County Road #9, and native vegetation. Properties adjacent to the Site include rural residences and private and public lands. These properties are utilized for agricultural, recreational, and mining purposes.

The topography of the Site consists of mountain tops, gulches, and valleys with elevations ranging from approximately 7,000 to 8,400 feet above mean sea level (AMSL). The terrain is rugged and forested. Scrub oak covers the dry, southern-facing slopes and aspen communities dominate the northerly slopes.

Snow melt and groundwater springs in the vicinity of the Site feed small creeks that join large tributary systems, ultimately leading to the Colorado River. The main processing area is located where several valleys converge. Surface runoff in this area flows along a natural drainage pathways in a primarily



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northerly direction towards four Spill Prevention, Control, and Countermeasures (SPCC) ponds maintained by Chevron. Surface water then flows into Wilson Creek, a tributary of the Yampa River.

### 1.4 NORTHEAST (NE) TERRACED AREA GEOLOGY/HYDROGEOLOGIC SETTING

The near surface geology of the NE Terraced Area consists primarily of sandy silts. Some silty clays are also present. The bedrock surface has not been encountered during subsurface investigations in this area but the bedrock surface can be observed in several areas on the side-slopes of the valley where the terraces are located. Only perched groundwater has been encountered during subsurface investigations in this area.

### 1.5 NORTHEAST (NE) TERRACED AREA HISTORY

In the summer of 2007, the NE Terraced Area was identified by Chevron as requiring investigation. A total of seven terraces were identified and ranged from approximately 2,300 square feet to 9,600 square feet in size. The historical use of the NE Terraced Area was, and is, currently unknown. An assessment was conducted on the seven terraces in October 2007, and documented in a report titled *Documentation of Soil Sampling at the NE Terraced Area near Rio Blanco County Road 9 at the Wilson Creek Unit*, dated December 7, 2007 (SECOR 2007) and presented as **Appendix A**. During the October 2007 assessment, one soil boring was advanced using a hand auger at each of the seven terraces. The hand auger borings were advanced to a depth of six feet below ground surface (bgs). The soils removed from each bore hole were screened with a photo-ionization detector (PID) to identify the appropriate interval to collect soil samples for quantitative analysis. The following findings were identified during the 2007 assessment:

- The soil samples collected in the upper four feet had low PID readings and no observed soil staining;
- The soil samples collected between four and six feet below grade contained elevated PID readings and observed soil staining;
- Soil samples were collected at depth intervals of 4.5 to 5.5 feet below the ground surface for total petroleum hydrocarbon (TPH) and metals analysis; and
- TPH concentrations in the seven samples ranged from 2,800 to 13,000 milligrams per kilogram (mg/kg), which is higher than the COGCC Allowable Concentrations and Levels (500 mg/kg).

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- The approximate area of each terrace are is as follows:
  - **Terrace T-1:** approximately 4,500 square feet in area
  - **Terrace T-2:** approximately 3,300 square feet in area
  - **Terrace T-3:** approximately 9,600 square feet in area
  - **Terrace T-4:** approximately 3,200 square feet in area
  - **Terrace T-5:** approximately 2,300 square feet in area
  - **Terrace T-6:** approximately 2,900 square feet in area
  - **Terrace T-7:** approximately 2,400 square feet in area

A second investigation was planned for the summer of 2008 but was put on hold by Chevron citing property ownership issues. It was concluded that about half of the terraces are located on private property. Moreover, it was unknown whether or not the area is from historic Texaco operations.

## NORTHEAST (NE) TERRACED AREA PHASE II ASSESSMENT REPORT

Phase II Assessment of the Northeast (NE) Terraced Area  
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### 2.0 Phase II Assessment of the Northeast (NE) Terraced Area

Stantec conducted the Phase II Assessment of the NE Terraced area during August 8 through 11, 2013. The purpose of the Phase II Assessment of the NE Terraced area was to evaluate the horizontal and vertical extent of TPH impacts to subsurface soil in each of the seven terraces which are above the COGCC screening levels. Additionally, a secondary objective was to develop alternatives that could be implemented to address subsurface soils impacts. In addition, one impacted soil sample (showing the most visually impacts and with the highest PID screening response) from each terrace was characterized as defined in the *COGCC Exploration & Production (E&P) Waste Management Table 910-1-Concentration Levels (Table 910-1)*, dated February 1, 2014. These additional analyses, along with data collected during the 2007 assessment, will satisfy Table 910-1 requirements and assist in narrowing constituents of concerns (COCs) for the NE Terraced Area.

The Phase II Assessment consisted of the following activities:

- Conducted a public and private utility locate within the former NE Terraced Area to identify the locations of underground pipelines and other underground structures or utilities;
- Identified and surveyed, using a hand held Global Positioning System (GPS) unit, four soil boring locations within each of the seven terraces;
- Used a Diedrich D-50 all-terrain vehicle (ATV) mounted drill rig with direct push drilling and split-spoon sampling methods to advanced soil borings to a depth of approximately 10 feet bgs;
- Collected continuous soil samples which were screened with a PID and classified soil stratigraphy using the Unified Soils Classification System (USCS) as a guide; and
- Collected and submitted soil samples for laboratory analysis based on PID screening responses and visual observations. Up to three soil samples from each soil boring were submitted for laboratory analysis.

## NORTHEAST (NE) TERRACED AREA PHASE II ASSESSMENT REPORT

Phase II Assessment Sampling and Analytical Results  
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### 3.0 Phase II Assessment Sampling and Analytical Results

#### 3.1 SOIL SAMPLING PROTOCOL

During the Phase II Assessment of the NE Terraced Area (August 8 through 11, 2013), a Stantec geologist supervised the advancement of soil borings (**Figure 2**) in each of the seven terraces. During drilling activities, a Stantec geologist collected soil samples from the sampler and placed them in a plastic bag to perform headspace screening for Volatile Organic Compounds (VOCs) using a MiniRae 3000 PID with an 10.6 electron volt (eV) lamp. Soil stratigraphy was also classified using the USCS as a guide. Boring logs are presented as **Appendix B**. Select soil samples were placed in laboratory-provided glassware, labeled, stored on ice, and transported under chain-of-custody protocol to Merit Laboratories (Merit) in East Lansing, Michigan. Soil sample intervals were selected as follows:

- Interval that showed the most visually impacted and with the highest PID screening response;
- Interval that showed little to no impacts just above the most impacted interval; and
- Interval that showed little to no impacts just below the most impacted interval.

#### 3.2 SOIL SAMPLE HANDLING AND ANALYSIS

Following collection, soil samples were labeled, logged on a laboratory chain-of-custody, and placed on ice in an insulated cooler to maintain a temperature of approximately 40 degrees Fahrenheit (° F) (or 4 degrees Celsius [° C]). Samples were shipped to Merit in East Lansing, Michigan. Standard chain-of-custody documentation and protocol were maintained throughout the sampling and analysis process. Soil samples were analyzed as follows:

- Analyzed all soil samples collected for laboratory analysis for:
  - TPH-Gas Range Organics (GRO) [Carbon Range (C)6 – C10] using method 8015B
  - TPH-Diesel Range Organics (DRO) (C10 – C32) using method 8015B
  - TPH-Oil Range Organics (ORO) (C32 – C36) using method 8015B
- Submitted one soil sample from each terrace that appeared most visually impacted and with the highest PID screening response for laboratory analysis for the Table 910-1 constituents:
  - Benzene, toluene, ethylbenzene, and total xylenes (BTEX) using method 5035/8260B
  - Semi-Volatile Organic Compounds (SVOC) using method 8270C
  - Electrical Conductivity (EC) using method 120.1
  - Sodium Absorption Ratio (SAR) using method 20B
  - pH using method 9045D
  - Arsenic using method 6020
  - Barium using method 6020
  - Boron (hot water soluble) using method 200.8
  - Cadmium using method 6020
  - Chromium III using method 6020
  - Chromium VI using method 3500-Cr B
  - Copper using method 6020



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Phase II Assessment Sampling and Analytical Results  
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- Lead using method 6020
- Mercury using method 7471A
- Nickel using method 6020
- Selenium using method 6020
- Silver using method 6020
- Zinc using method 6020
- Moisture using method 2540 B

### 3.3 SOIL ANALYTICAL RESULTS

During the Phase II Assessment of the NE Terraced Area (August 8 through 11, 2013), soil samples were collected from 28 soil borings (four soil boring per terrace). Soil analytical results for soil sampled during the September 2013 along with historical data gathered during the soil sampling conducted at the NE Terraced Area in 2007 are presented in **Table 1** and **Table 2** and on **Figure 3**. Laboratory analysis reports and chain-of-custody documents are presented as **Appendix C**. A summary of analytical results above the COGCC Allowable Concentrations and Levels is as follows<sup>1</sup>:

- **Total TPH (C6-C36)** was detected above the COGCC Allowable Concentrations and Levels (500 mg/kg) in 18 locations (in at least one sample collected from Terraces T-1 through T-7)
- **Arsenic** was detected above the COGCC Allowable Concentrations and Levels (0.39 mg/kg) in 7 locations (in at least one sample collected from Terraces T-1 through T-7)

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<sup>1</sup> Only detected concentrations above the COGCC Allowable Concentrations and Levels are listed. With the exception of Total TPH (C6-C36) and Total Xylene, concentrations below the method detection limit but above the COGCC Allowable Concentrations and Levels were considered below the COGCC Allowable Concentrations and Levels and non-detect.

## **NORTHEAST (NE) TERRACED AREA PHASE II ASSESSMENT REPORT**

Quality Assurance/Quality Control  
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### **4.0 Quality Assurance/Quality Control**

All non-disposable field equipment (i.e., split spoon) were decontaminated with a low-phosphate soap (Liquinox®) and distilled-water rinse prior to field activities and between each boring location. An isopropyl alcohol rinse was used to remove any phase-separated hydrocarbons (PSH) before using the Liquinox® and distilled-water rinse. Nitrile gloves were donned prior to sampling each soil sample. A PID, used to measure VOCs, was calibrated daily. Specific quality assurance/quality control (QA/QC) procedures implemented for this project are described below.

#### **4.1 HOLDING TIME LIMITS**

Holding times vary with the analyte, sample matrix, and analytical methodology. Holding times are specified in the USEPA Test Methods for Evaluating Solid Waste Physical/Chemical Methods, SW-846 (USEPA, 1993). All laboratory analysis were performed within specified holding times.

#### **4.2 LABORATORY QA/QC**

Laboratory QA/QC data are provided in the laboratory analytical reports presented in **Appendix C**.

## NORTHEAST (NE) TERRACED AREA PHASE II ASSESSMENT REPORT

Northeast (NE) Terraced Area Overview and Conclusions  
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### 5.0 Northeast (NE) Terraced Area Overview and Conclusions

#### 5.1 OVERVIEW

During the historical assessment conducted at the NE Terraced Area in 2007 along with the Phase II Assessment of the NE Terraced Area conducted in 2013, soil samples were collected from 35 soil boring locations (7 locations [one soil boring per terrace] in 2007 and 28 locations [four soil borings per terrace] in 2013). Soil analytical results for soil sampled during the 2007 and 2013 are presented in **Table 1** and **Table 2** and on **Figure 3**. Laboratory analysis reports and chain-of-custody documents are presented as **Appendix C**. A summary of the 2007 and 2013 analytical results above the COGCC Allowable Concentrations and Levels are as follows<sup>2</sup>:

- **Total TPH (C6-C35)** from 2007 was detected above the COGCC Allowable Concentrations and Levels (500 mg/kg) in 7 locations (Terraces T-1 through T-7 at depths of 4.5 through 5.5 feet bgs)
- **Total TPH (C6-C36)** from 2013 was detected above the COGCC Allowable Concentrations and Levels (500 mg/kg) in 18 locations (Terraces T-1 through T-7 at depths ranging from 4 to 10 feet bgs)
- **Arsenic** from 2007 and 2013 was detected above the COGCC Allowable Concentrations and Levels (0.39 mg/kg) in 14 locations (Terraces T-1 through T-7 at depths ranging from 4 to 10 feet bgs)

Based on historical data collected at the NE Terraced Area in 2007, along with data gathered during the Phase II Assessment conducted in 2013, the approximate area of TPH impacts above the COGCC Allowable Concentrations in each terraced area are as follows:

- **Terrace T-1:** approximately 2,200 square feet and at a depth of 4.5 through 5.5 feet bgs equaling approximately 2,200 cubic feet (82 cubic yards or 132 tons).
- **Terrace T-2:** approximately 2,500 square feet and at a depth of 4.5 through 6 feet bgs equaling approximately 3,750 cubic feet (139 cubic yards or 223 tons).
- **Terrace T-3:** approximately 7,700 square feet and at a depth of 4.5 through 10 feet bgs equaling approximately 42,350 cubic feet. (1,569 cubic yards or 2,510 tons).
- **Terrace T-4:** approximately 1,900 square feet and at a depth of 4 through 5.5 feet bgs equaling approximately 2,850 cubic feet. (106 cubic yards or 170 tons).
- **Terrace T-5:** approximately 2,300 square feet and at a depth of 4 through 10 feet bgs equaling approximately 13,800 cubic feet. (512 cubic yards or 820 tons).

<sup>2</sup> Only detected concentrations above the COGCC Allowable Concentrations and Levels are listed. With the exception of Total TPH (C6-C36) and Total Xylene, concentrations below the method detection limit but above the COGCC Allowable Concentrations and Levels were considered below the COGCC Allowable Concentrations and Levels and non-detect.



## NORTHEAST (NE) TERRACED AREA PHASE II ASSESSMENT REPORT

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- **Terrace T-6:** approximately 2,200 square feet and at a depth of 4 through 5.5 feet bgs equaling approximately 3,300 cubic feet. (123 cubic yards or 197 tons).
- **Terrace T-7:** approximately 1,000 square feet and at a depth of 4 through 5.5 feet bgs equaling approximately 1,500 cubic feet. (56 cubic yards or 90 tons).

### 5.2 CONCLUSIONS

The results of the additional Phase II Assessment conducted in 2013 at the Site have delineated the horizontal and vertical extent of TPH impacts at the NE Terraced Area. A review of the data suggests that the NE Terraced Area served as some type of pit or retention pond system that was in contact with crude oil. A review of historical aerial photographs indicate that the pits or retention pond systems were removed from service and reclaimed prior to July 1, 1995. Accordingly, since the NE Terraced Area was reclaimed prior to December 30, 1997, the reclamation requirements as defined in COGCC 1000 Series Rules (1000 Series Rules) apply.

## NORTHEAST (NE) TERRACED AREA PHASE II ASSESSMENT REPORT

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### 6.0 References

Table 910-1. Colorado Department of Natural Resources - Colorado Oil and Gas Conservation Commission (COGCC), 2014. Series 900 Rules. February 1, 2014.

SECOR, 2007. *Documentation of Soil Sampling at the NE Terraced Area near Rio Blanco County Road 9 at the Wilson Creek Unit*. December.

USEPA, 1993. *Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)*. Third Edition, August 31.

Series 1000 Rules. Colorado Department of Natural Resources - Colorado Oil and Gas Conservation Commission (COGCC), 2014. Series 1000 Rules. April 1, 2009.

## Tables

Table 1  
Soil Sample Results For Organic Compounds  
Northeast (NE) Terraced Area  
Wilson Creek Unit, Rio Blanco County, Colorado

Location	Sample ID and Date Collected	Sample Depth (feet bgs)	PID Reading	C6-C12 Hydrocarbons	C6-C10 Hydrocarbons	>C12-C28 Hydrocarbons	>C10-C32 Hydrocarbons	>C28-C35 Hydrocarbons	>C32-C36 Hydrocarbons	Total C6-C35 Hydrocarbons (TPH)	Total C6-C36 Hydrocarbons (TPH) <sup>2</sup>	Benzene	Toluene	Ethyl- benzene	Total Xylenes <sup>3</sup>	Acenaphthene	Anthracene	Benzo(A) anthracene	Benzo(B) fluoranthene	Benzo(K) fluoranthene	Benzo(A) pyrene	Chrysene	Dibenzo(A,H) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3,C,D) pyrene	Napthalene	Pyrene		
			(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)		
COGCC Allowable Concentrations and Levels <sup>1</sup>				--	--	--	--	--	--	500	500	0.17	85	100	175	1,000	1,000	0.22	0.22	2.2	0.022	22	0.022	1,000	1,000	0.22	23	1,000		
Analytical Method				TNRCC 1005 <sup>4</sup>	SW8015M	TNRCC 1005 <sup>4</sup>	SW8015M	TNRCC 1005 <sup>4</sup>	SW8015M	TNRCC 1005 <sup>4</sup>	SW8015M	5035/8260B	5035/8260B	5035/8260B	5035/8260B	SW8270C	SW8270C	SW8270C	SW8270C	SW8270C	SW8270C	SW8270C	SW8270C	SW8270C	SW8270C	SW8270C	SW8270C	SW8270C		
T-1	T1-1-101007	4.5-5.5	209	1,300	--	8,300	--	1,800	--	11,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-1	T-1-2-4'-080813	4	3.5	--	<6	--	17	--	6	--	26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-1	T-1-3-4'-080813	4	1.4	--	<6	--	11	--	<4	--	16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-1	T-1-4-2'-080813	2	0.1	--	<6	--	219	--	64	--	286	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-1	T-1-4-5'-080813	5	309.1	--	83	--	4,349	--	807	--	5,239	<0.07	<0.07	0.55	0.34	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.9	<0.300	1.4	<0.3		
T-1	T-1-4-10'-080813	10	3.2	--	<8	--	36	--	8	--	48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-1	T-1-5-5'-080813	5	0.9	--	<7	--	17	--	5	--	26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-2	T2-1-101007	4.5-5.5	194	1,100	--	3,600	--	<530	--	4,965	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-2	T-2-2-5'-080813	5	0.1	--	<7	--	14	--	6	--	24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-2	T-2-3-2'-080813	2	0	--	<6	--	206	--	84	--	293	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-2	T-2-3-6'-080813	6	469.8	--	188	--	13,947	--	1,713	--	15,848	<0.4	<0.4	1.5	4.4	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	3.9	<1.6		
T-2	T-2-3-12'-080813	12	2.4	--	<7	--	7	--	<4	--	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-2	T-2-4-2'-080813	2	0.1	--	<5	--	129	--	42	--	174	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-2	T-2-4-5-080813	5	84.6	--	41	--	13,244	--	2,098	--	15,383	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-2	T-2-4-7'-080813	7	0.2	--	<7	--	9	--	<4	--	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-2	T-2-5-5'-080813	5	0.2	--	<5	--	16	--	6	--	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-3	T3-1-101007	4.5-5.5	225	850	--	2,700	--	<520	--	3,860	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-3	T-3-2-6'-080813	6	1.4	--	<7	--	460	--	140	--	604	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-3	T-3-2-10'-080813	10	951.2	--	420	--	18,366	--	2,379	--	21,165	<0.5	<0.5	3.7	20.2	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	5.7	<1.8		
T-3	T-3-2-15'-080813	15	5.3	--	<7	--	38	--	10	--	52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-3	T-3-3-5'-080813	5	2.3	--	<7	--	9,053	--	1,577	--	10,634	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-3	T-3-3-7'-080813	7	296.7	--	119	--	19,341	--	3,053	--	22,513	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-3	T-3-3-10'-080813	10	2.2	--	<7	--	10	--	<4	--	16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-3	T-3-4-5'-080813	5	2.8	--	<7	--	12	--	<4	--	18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-3	T-3-5-4'-080813	4	15.8	--	<6	--	252	--	86	--	341	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-3	T-3-5-6'-080813	6	155.1	--	53	--	21,730	--	4,009	--	25,792	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-3	T-3-5-9'-080813	9	6.7	--	<8	--	75	--	11	--	90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-4	T4-1-101007	4.5-5.5	440	1,900	--	9,500	--	1,500	--	13,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-4	T-4-2-5'-080713	5	0.9	--	<6	--	54	--	28	--	85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-4	T-4-3-3'-080713	3	6.7	--	<6	--	249	--	77	--	329	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-4	T-4-3-4'-080713	4	312.3	--	97	--	6,514	--	870	--	7,481	<0.07	<0.07	0.66	3.7	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	1.6	<1.5		
T-4	T-4-3-6'-080713	6	4.7	--	<7	--	5	--	<4	--	11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-4	T-4-4-7'-080713	7	0	--	<7	--	5	--	<4	--	11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-4	T-4-5-5'-080713	5	0.4	--	<9	--	20	--	9	--	34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-5	T5-1-101007	4.5-5.5	239	1,500	--	8,100	--	2,200	--	12,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-5	T-5-2-6'-080713	6	2.2	--	<7	--	187	--	47	--	238	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-5	T-5-2-8'-080713	8	507.1	--	370	--	3,473	--	482	--	4,329	<0.1	<0.1	3.1	17.1	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	1.7	<0.8		
T-5	T-5-2-10'-080713	10	0.9	--	<7	--	10,000	--	<4	--	10,006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-5	T-5-3-4'-080713	4	12.6	--	<6	--	457	--	160	--	620	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-5	T-5-3-5'-080713	5	309.2	--	83	--	3,095	--	424	--	3,602	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-5	T-5-3-8'-080713	8	0.9	--	<7	--	15	--	5	--	24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-5	T-5-4-4'-080713	4	4.2	--	<7	--	19	--	9	--	32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-5	T-5-5-4'-080713	4	0.1	--	<6	--	247	--	97	--	347	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-5	T-5-5-8'-080713	8	362.2	--	240	--	7,180	--	821	--	8,241	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-5	T-5-5-9'-080713	9	2.6	--	<7	--	14	--	4	--	22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-6	T6-1-101007	4.5-5.5	NM	640	--	2,200	--	<480	--	3,040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-6	T-6-2-3'-080713	3	64.3	--	<6	--	134	--	55	--	192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-6	T-6-2-4'-080713	4	64.3	--	<6	--	1,658	--	298	--	1,959	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-6	T-6-2-5'-080713	5	0.1	--	<7	--	20	--	7	--	31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-6	T-6-3-4'-080713	4	4.7	--	<7	--	1,332	--	256	--	1,592	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-6	T-6-3-5'-080713	5	2.4	--	34	--	4,285	--	498	--	4,817	<0.07	<0.07	0.21	0.64	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8		
T-6	T-6-3-8'-080713	8	0.8	--	<7	--	10	--	4	--	18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-6	T-6-4-4'-080713	4	0	--	<6	--	147	--	59	--	209	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-6	T-6-5-4'-080713	4	0	--	<7	--	12	--	5	--	21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-7	T7-1-101007	4.5-5.5	9,999	590	--	3,600	--	<480	--	4,440	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-7	T-7-2-4'-080613	4	0	--	<6	--	29	--	8	--	40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-7	T-7-3-4'-080613	4	0	--	<6	--	66	--	20	--	89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-7	T-7-4-4'-080613	4	0	--	<6	--	14	--	5	--	22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
T-7	T-7-5-3'-080613	3	0	--	<6	--	359	--	97	--	459</																			

Table 1

Soil Sample Results For Organic Compounds

Northeast (NE) Terraced Area

Wilson Creek Unit, Rio Blanco County, Colorado

**Notes:**  
Concentrations are in milligram per kilogram (mg/kg) unless otherwise noted.  
Concentrations shaded gray and BOLD are above the Colorado Oil and Gas Conservation Commission (COGCC) Series 900 Allowable Concentrations.  
Concentrations in BOLD-only are Non-detect with a detection limit above the Allowable Concentrations.

T: Terrace  
bgs: below ground surface  
ppm: parts per million  
TPH: Total petroleum hydrocarbons  
C: Carbon range  
-- : Not available  
< represent concentrations below the test method limit unless otherwise noted

1. Allowable Concentrations: COGCC Allowable Concentrations per Series 900 Rules (February 1, 2014) Table 910-1  
2. Total TPH C6-C36 Calculated as follows: Detected concentrations of TPH C6-C10, TPH >C10-C32, and TPH >C32-C36 were added together. If any of the TPH concentrations were below the test method limit, the test method limit was divided in half and added to the Total TPH concentration.  
3. Total Xylene Calculated as follows: Detected concentrations of p,m-Xylene and o-Xylene were added together. If any of the p,m-Xylene or o-Xylene concentrations were below the test method limit, the test method limit was divided in half and added to the Total Xylene concentration.  
4. Texas Natural Resource Conservation Commission (TNRCC) 1005 method used for TPH analysis during the 2007 assessment.

Table 2  
Soil Sample Results For Inorganic Compounds and Metals  
Northeast (NE) Terraced Area  
Wilson Creek Unit, Rio Blanco County, Colorado

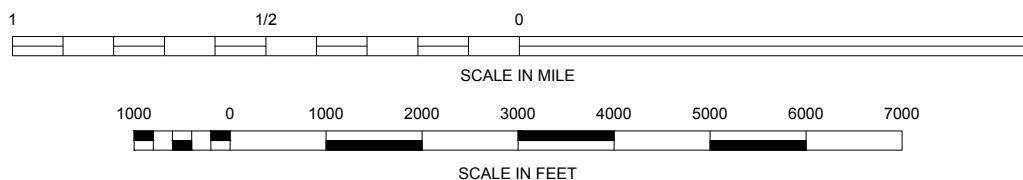
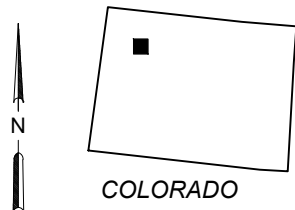
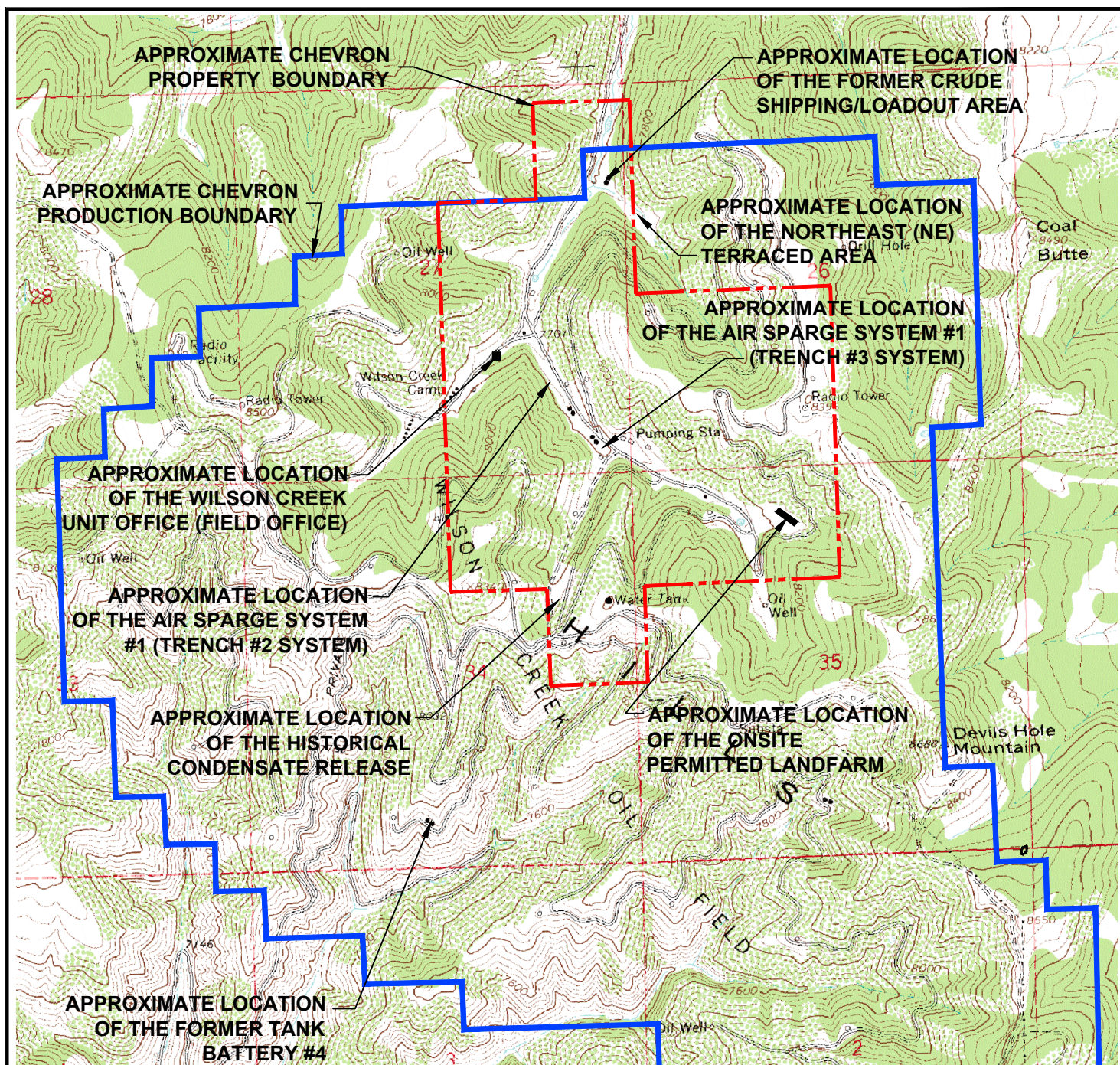
Location	Sample ID and Date Collected	Sample Depth (feet bgs)	Electrical Conductivity	Sodium Absorption Ratio	pH	Arsenic	Barium	Boron	Cadmium	Chromium (III)	Chromium (VI)	Total Chromium	Total Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc	Calcium	Magnesium	Sodium	Moisture
			mmhos/cm	--	--	(mg/kg)	(mg/kg)	(mg/L)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/L)	(mg/L)	(mg/L)
COGCC Allowable Concentrations and Levels <sup>1</sup>			<4	<12	6 - 9	0.39	15,000	2	70	120,000	23	--	--	3,100	400	23	1,600	390	390	23,000	--	--	--	NA
Analytical Method			120.1	20B	9045D	SW6020	SW6020	E200.8	SW6020	SW6020	3500-Cr B	SW-846 6010B	SW6020	SW6020	SW6020	SW7471A	SW6020	SW6020	SW6020	SW6020	E200.8	E200.8	E200.8	Std M 2450B
T-1	T1-1-101007	4.5-5.5	--	--	--	5.25	206	--	< 0.616	--	--	19.7	--	--	27.1	0.382	--	< 2.46	< 0.616	--	--	--	--	19.6
T-1	T-1-2-4'-080813	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11
T-1	T-1-3-4'-080813	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9
T-1	T-1-4-2'-080813	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7
T-1	T-1-4-5'-080813	5	1.590	5.06	8.30	1.82	106	1.25	0.34	6.28	<1	--	6.28	24.0	16.5	0.174	10.5	<0.40	<0.20	100	50.8	17.5	164	19
T-1	T-1-4-10'-080813	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21
T-1	T-1-5-5'-080813	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14
T-2	T2-1-101007	4.5-5.5	--	--	--	5.83	242	--	< 0.657	--	--	20.9	--	--	26.5	< 0.126	--	< 2.63	< 0.657	--	--	--	--	24.7
T-2	T-2-2-5'-080813	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18
T-2	T-2-3-2'-080813	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6
T-2	T-2-3-6'-080813	6	1.668	1.35	7.85	1.73	88.9	1.17	0.40	4.56	<1	--	4.56	16.7	18.6	0.264	10.6	<0.40	<0.20	59.0	209	60.1	86.3	21
T-2	T-2-3-12'-080813	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16
T-2	T-2-4-2'-080813	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5
T-2	T-2-4-5'-080813	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	24
T-2	T-2-4-7'-080813	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20
T-2	T-2-5-5'-080813	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14
T-3	T3-1-101007	4.5-5.5	--	--	--	4.48	267	--	< 0.640	--	--	19.6	--	--	28.0	< 0.123	--	< 2.56	< 0.640	--	--	--	--	22.6
T-3	T-3-2-6'-080813	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16
T-3	T-3-2-10'-080813	10	1.585	4.75	8.75	2.01	130	1.4	0.43	7.89	<1	--	7.89	17.7	18.1	0.31	10.6	<0.40	<0.20	60.7	209	59.2	302	32
T-3	T-3-2-15'-080813	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17
T-3	T-3-3-5'-080813	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15
T-3	T-3-3-7'-080813	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14
T-3	T-3-3-10'-080813	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18
T-3	T-3-4-5'-080813	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15
T-3	T-3-5-4'-080813	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12
T-3	T-3-5-6'-080813	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20
T-3	T-3-5-9'-080813	9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	23
T-4	T4-1-101007	4.5-5.5	--	--	--	3.82	178	--	< 0.588	--	--	18.1	--	--	33.5	0.547	--	< 2.35	< 0.588	--	--	--	--	16.7
T-4	T-4-2-5'-080713	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11
T-4	T-4-3-3'-080713	3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11
T-4	T-4-3-4'-080713	4	1.193	0.481	7.85	0.62	96.0	0.72	0.38	2.97	<1	--	2.97	14.2	15.0	0.378	5.36	<0.40	<0.20	29.1	114	32.1	22.6	16
T-4	T-4-3-6'-080713	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17
T-4	T-4-4-7'-080713	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20
T-4	T-4-5-5'-080713	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	26
T-5	T5-1-101007	4.5-5.5	--	--	--	4.18	189	--	< 0.607	--	--	16.3	--	--	21.5	0.176	--	< 2.43	< 0.607	--	--	--	--	18.5
T-5	T-5-2-6'-080713	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14
T-5	T-5-2-8'-080713	8	1.155	0.811	7.26	1.25	122	1.43	0.36	3.19	<2	--	3.19	13.7	15.4	<0.050	7.72	<0.40	<0.20	48.7	100	40.6	38.1	18
T-5	T-5-2-10'-080713	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18
T-5	T-5-3-4'-080713	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12
T-5	T-5-3-5'-080713	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15

Table 2 Soil Sample Results For Inorganic Compounds and Metals Northeast (NE) Terraced Area Wilson Creek Unit, Rio Blanco County, Colorado																								
Location	Sample ID and Date Collected	Sample Depth (feet bgs)	Electrical Conductivity	Sodium Absorption Ratio	pH	Arsenic	Barium	Boron	Cadmium	Chromium (III)	Chromium (VI)	Total Chromium	Total Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc	Calcium	Magnesium	Sodium	Moisture
			mmhos/cm	--	--	(mg/kg)	(mg/kg)	(mg/L)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/L)	(mg/L)	(mg/L)
COGCC Allowable Concentrations and Levels <sup>1</sup>			<4	<12	6 - 9	0.39	15,000	2	70	120,000	23	--	--	3,100	400	23	1,600	390	390	23,000	--	--	--	NA
Analytical Method			120.1	20B	9045D	SW6020	SW6020	E200.8	SW6020	SW6020	3500-Cr B	SW-846 6010B	SW6020	SW6020	SW6020	SW7471A	SW6020	SW6020	SW6020	SW6020	E200.8	E200.8	E200.8	Std M 2450B
T-5	T-5-3-8'-080713	8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17
T-5	T-5-4-4'-080713	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13
T-5	T-5-5-4'-080713	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7
T-5	T-5-5-8'-080713	8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17
T-5	T-5-5-9'-080713	9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17
T-6	T6-1-101007	4.5-5.5	--	--	--	4.66	209	--	< 0.591	--	--	14.3	--	--	19.6	0.167	--	< 2.37	< 0.591	--	--	--	--	17.1
T-6	T-6-2-3'-080713	3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6
T-6	T-6-2-4'-080713	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13
T-6	T-6-2-5'-080713	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17
T-6	T-6-3-4'-080713	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14
T-6	T-6-3-5'-080713	5	0.870	1.27	7.57	1.26	75.4	1.07	0.27	2.90	<1	--	2.90	12.6	12.2	<0.050	8.67	<0.40	<0.20	35.1	53.3	23.2	44.2	16
T-6	T-6-3-8'-080713	8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18
T-6	T-6-5-4'-080713	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8
T-6	T-6-5-4'-080713	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16
T-7	T7-1-101007	4.5-5.5	--	--	--	4.09	180		<0.593	--	--	15.2	--	--	16	<0.116	--	<2.37	<0.593	--	--	--	--	17.4
T-7	T-7-2-4'-080613	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12
T-7	T-7-3-4'-080613	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11
T-7	T-7-4-4'-080613	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6
T-7	T-7-5-3'-080613	3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10
T-7	T-7-5-4'-080613	4	2.904	0.162	7.58	1.13	111	0.49	0.35	3.04	<1	--	3.04	11.6	11.0	0.146	6.11	<0.40	<0.20	21.0	234	46.8	10.4	15
T-7	T-7-5-7'-080613	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16


**Notes:**  
 Concentrations are in milligrams per kilogram (mg/kg) unless otherwise noted.  
 Concentrations in **BOLD** are above the Colorado Oil and Gas Conservation Commission (COGCC) Series 900 Allowable Concentrations.  
 T: Terrace  
 bgs: below ground surface  
 -- : Not available  
 mmhos/cm: Millimhos per centimeter  
 mg/L: milligrams per liter  
 < represent concentrations below the test method limit unless otherwise noted  
 1. Allowable Concentrations: COGCC Allowable Concentrations per Series 900 Rules (February 1, 2014) Table 910-1

## Figures





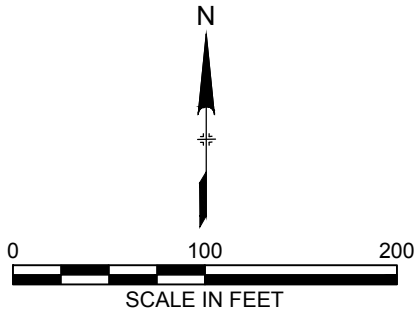
REFERENCE: USGS 7.5 MINUTE QUADRANGLE; DEVILS HOLE GULCH, COLORADO

<div> <b>Stantec</b></div> <div>2000 South Colorado Boulevard, Suite 2-300 Denver, Colorado 80222 PHONE: (303) 758-4058    FAX: (303) 758-4828</div>	FOR: CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  WILSON CREEK UNIT 7265 RIO BLANCO COUNTY ROAD #9 MEEKER, COLORADO		SITE LOCATION MAP		FIGURE:  1
	JOB NUMBER: 212201118	DRAWN BY:  ARA	CHECKED BY:  CB	APPROVED BY:  TM	DATE:  12/18/13





- LEGEND
- PIPING (ABOVE AND BELOW GROUND)
  - SURFACE DRAINAGE
  - SOIL SAMPLE LOCATION (2007)
  - SOIL SAMPLE LOCATION (2013)



2000 South Colorado Boulevard, Suite 2-300  
Denver, Colorado 80222  
PHONE: (303) 758-4058 FAX: (303) 758-4828

FOR:  
CHEVRON ENVIRONMENTAL  
MANAGEMENT COMPANY  
WILSON CREEK UNIT  
7265 RIO BLANCO COUNTY ROAD #9  
MEEKER, COLORADO

JOB NUMBER:  
212201118

DRAWN BY:  
ARA

NORTHEAST TERRACE (NE) AREA AND  
SOIL SAMPLE AND BORING LOCATION MAP

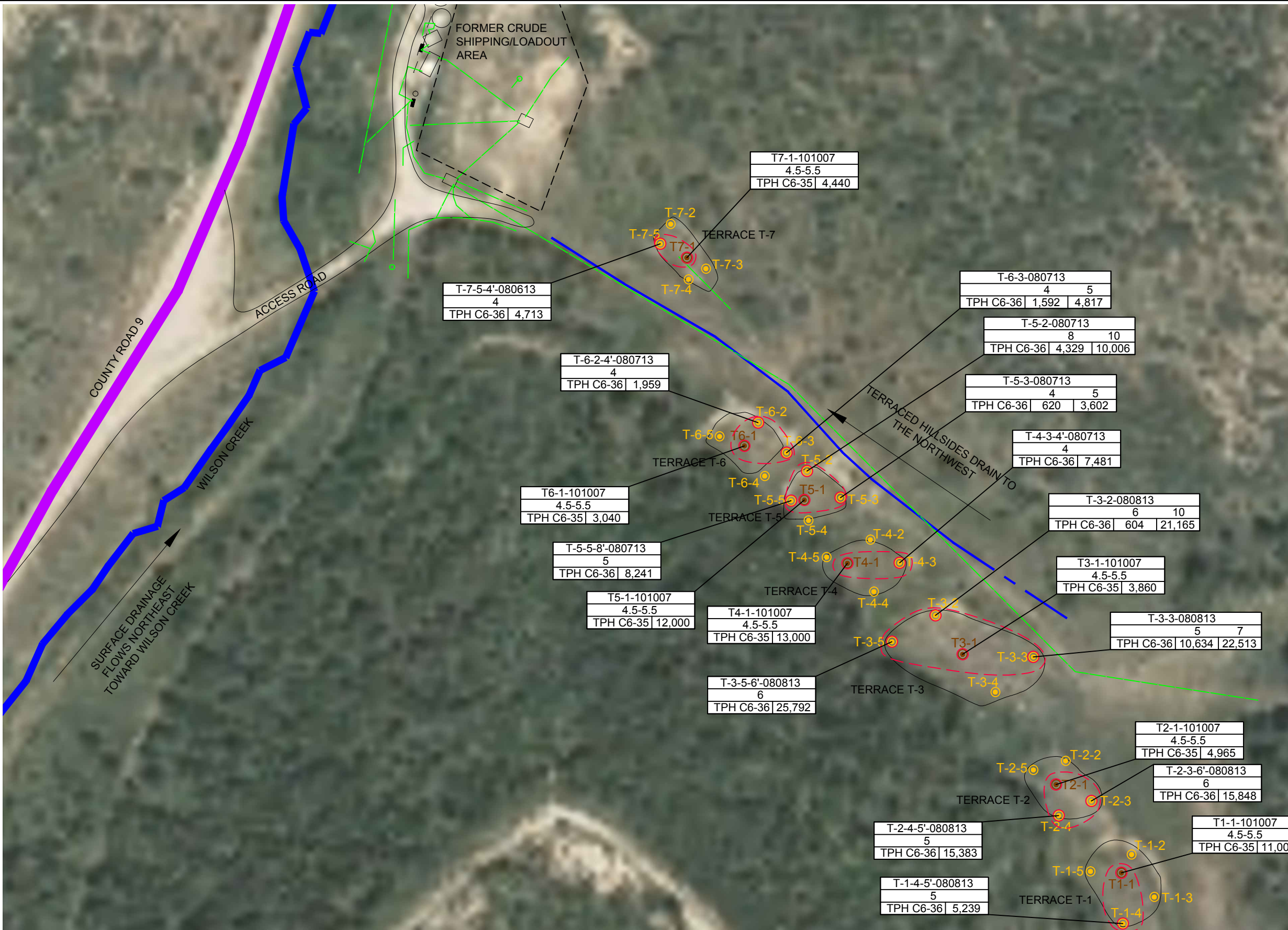
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FIGURE:  
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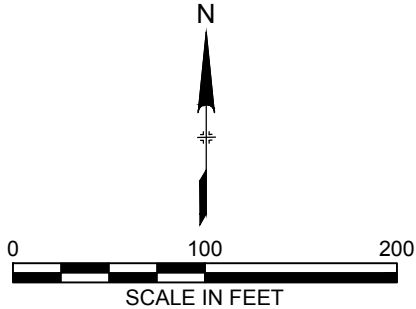




**LEGEND**

- PIPING (ABOVE AND BELOW GROUND)
- SURFACE DRAINAGE
- SOIL SAMPLE LOCATION (2007)
- SOIL SAMPLE LOCATION (2013)
- SOIL SAMPLE WITH EXCEEDANCE
- APPROXIMATE AREA OF TPH EXCEEDANCE
- TPH TOTAL PETROLEUM HYDROCARBON
- C CARBON RANGE
- BGS BELOW GROUND SURFACE
- mg/kg MILLIGRAMS PER KILOGRAM

T1-1-101007	SAMPLE ID
4.5-5.5	SAMPLE DEPTH IN FEET, BGS
TPH C6-35  11,000	TPH CONCENTRATION, mg/kg



## **Appendix A**

### Historical Report



SECOR  
INTERNATIONAL  
INCORPORATED

www.secor.com  
2321 Club Meridian Drive  
Suite E  
Okemos, MI 48864  
517-349-9499 TEL  
517-349-6863 FAX

December 7, 2007

Mr. Steve Huddleson  
Chevron Environmental Management Company  
1400 Smith St. Room 19001A  
Houston, Texas 77002

**RE: Documentation of Soil Sampling at the NE Terraced Area near Rio Blanco County Road 9 at the Wilson Creek Unit**

Dear Mr. Huddleson:

SECOR International Incorporated (SECOR) is pleased to provide Chevron Environmental Management Company (CEMC) with this letter report documenting results from soil sampling of the NE Terraced Area near Rio Blanco County Road 9 at the Wilson Creek Unit in Rio Blanco County, Colorado (Site) from October 10, 2007 through October 17, 2007.

Figure 1 provides a site vicinity map identifying the investigated terraced area (NE Terraced Area) relative to the Chevron Wilson Creek Unit. Specifically, the NE Terraced Area is approximately a half mile to the northeast of the Chevron field office and sits approximately 800 feet to the east of Rio Blanco County Road 9.

***Work Scope***

SECOR conducted soil sampling to assess potential impacts to the NE Terraced Area. Sampling of the locations began on October 10, 2007 and concluded October 17, 2007. A total of seven samples were collected (one from each terrace T-1 through T-7) using a hand auger. The terraces range from approximately 2,300 square feet to 9,600 square feet. Headspace screening was conducted using a photo-ionization detector (PID) to determine the interval for sampling at each location. Soil samples were collected from a depth of approximately 4.5 to 5.5 feet below ground surface (bgs). Figure 2 shows the relative location of the terraces to the county road and surface drainage.

Geologic characteristics of the samples were recorded in the field notes (attached). Soils were generally soft clays overlain by silts, with a strong petroleum odor and staining observed in the 4-foot to 5-foot range. .

Soil samples were sent to Lancaster Laboratories, Inc. for analysis. Samples were analyzed for total petroleum hydrocarbons (TPH) by TNRCC Method 1005 Revision 03, moisture by Method SM20 2540 G, and metals by Method SW-846. Laboratory analytical reports will be providing in the 2007 Annual Report.

## Results

Soil sampling results are shown in Table 1. Results were compared to the Allowable Concentrations and Levels in Table 910-1 of the Colorado Oil and Gas Conservation Commission (COGCC) Series 900 Rules. For the purposes of this report, TPH is considered to be represented by results for the C6-C35 hydrocarbon analytical range.

All seven locations had TPH concentrations above the 1,000 mg/kg allowable concentration for sensitive areas, ranging from 2,800 mg/kg to 13,000 mg/kg.

As shown on Table 1, traces of select metals were found in the samples, however, all of the concentrations were significantly less than the COGCC allowable levels. Moisture contents ranged from 16.7% to 24.7%.

Should you have any questions regarding this report, please contact me at (517) 349-9499 extension 276.

Respectfully,

**SECOR International Incorporated**



Seth Maher, PE  
Associate Engineer

Cc:

Luke Allred, Chevron  
Tammy Strain, Chevron  
Dale Harber, Chevron  
Ronnie Kallus, SECOR

**Attachments**

Table 1: Soil Sample Results From NE Terraced Area October 2007

Figure 1: NE Terraced Area Site Vicinity Map

Figure 2: NE Terraced Area Site Plan

Notes: T-1 through T-7 Soil Boring Notes

**Limitations**

This report was prepared in accordance with the scope of work outlined in SECOR'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 SECOR. To the extent that this report is based on information provided to SECOR by third parties, SECOR may have made efforts to verify this third party information, but SECOR 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 SECOR.

Table 1  
Soil Sample Results From NE Terraced Area October 2007  
Wilson Creek Unit, Rio Blanco County, Colorado

Location	Sample ID	C6-C12 Hydrocarbons	>C12-C28 Hydrocarbons	>C28-C35 Hydrocarbons	Total C6-C28 Hydrocarbons	Total C6-C35 Hydrocarbons (TPH)	Moisture	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(%)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
COGCC Allowable Concentrations and Levels		-	-	-	-	1,000	-	41	180,000	26	1,500	300	17	-	100
T-1	T-1-101007	1,300	8,300	1,800	9,600	11,000	19.6	5.25	206	< 0.616	19.7	27.1	0.382	< 2.46	< 0.616
T-2	T-2-101007	1,100	3,600	<530	4,700	4,700	24.7	5.83	242	< 0.657	20.9	26.5	< 0.126	< 2.63	< 0.657
T-3	T-3-101007	850	2,700	<520	3,600	3,600	22.6	4.48	267	< 0.640	19.6	28.0	< 0.123	< 2.56	< 0.640
T-4	T-4-101007	1,900	9,500	1,500	11,000	13,000	16.7	3.82	178	< 0.588	18.1	33.5	0.547	< 2.35	< 0.588
T-5	T-5-101007	1,500	8,100	2,200	9,700	12,000	18.5	4.18	189	< 0.607	16.3	21.5	0.176	< 2.43	< 0.607
T-6	T-6-101007	640	2,200	<480	2,800	2,800	17.1	4.66	209	< 0.591	14.3	19.6	0.167	< 2.37	< 0.591
T-7	T-7-107007	590	3,600	<480	4,200	4,200	17.4	4.09	180	<0.593	15.2	16.0	<0.116	<2.37	<0.593

**Notes:**

ppm = parts per million

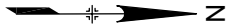
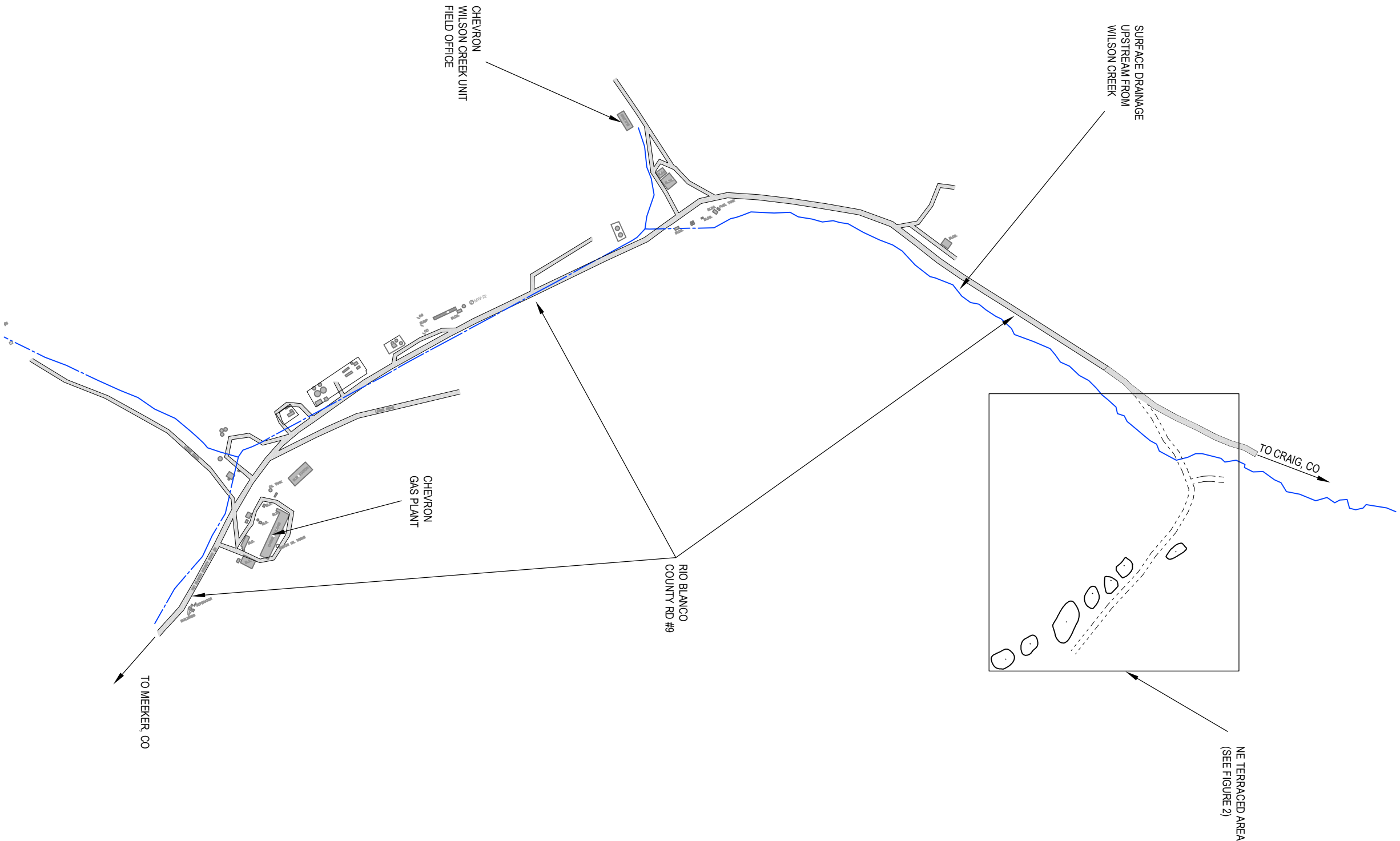
mg/kg = milligrams per kilogram

COGCC Allowable Concentrations and Levels = Colorado Oil and Gas Conservation Commission Allowable Concentrations and Levels from Table 910-1 of the Series 900 Rules.

- = Not established.

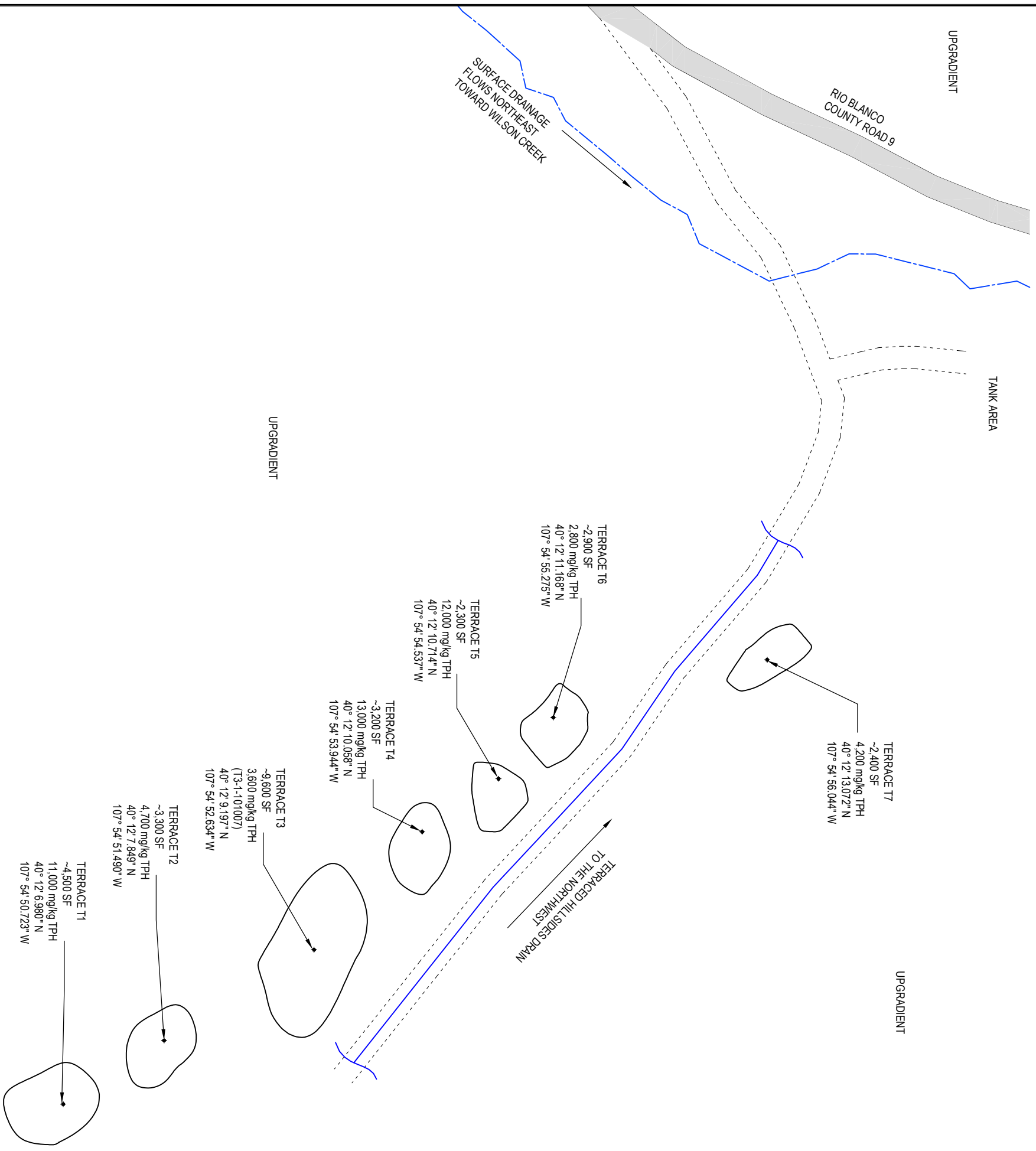
Total TPH concentrations exceeding the allowable concentration in sensitive areas are shown in **bold**.





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<div></div> <div>2321 CLUB MERIDIAN DR, SUITE E OKEMOS, MI 48864 PHONE: (517)349-9499 FAX: (517)349-6863</div>		FOR: CHEVRON WILSON CREEK UNIT MEEKER, COLORADO		NE TERRACED AREA SITE VICINITY MAP		FIGURE 1
JOB NUMBER: 89CH-49557-07-4000	DRAWN BY: EDK	CHECKED BY: SAM	APPROVED BY: JMR	DATE: 11/7/07		



NOTES:  
LOCATION OF ROAD, HILLS, FLOW LINES, AND  
TANK AREA ARE APPROXIMATE.




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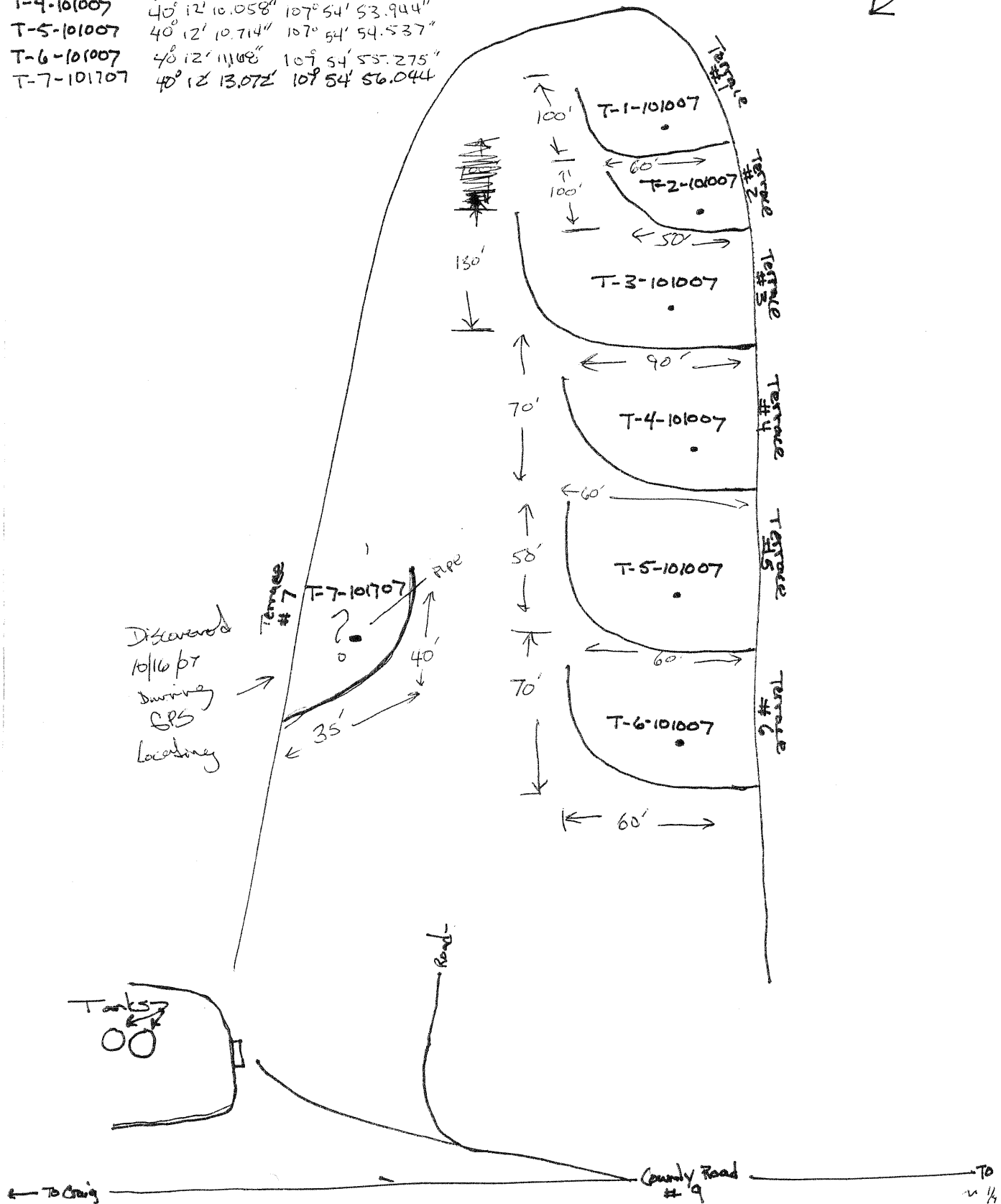
RUSTIC ACCESS ROUTE

FLOW LINES (SURFICIAL)

A vertical scale bar labeled "SCALE IN FEET" with markings at 0, 100, and 200 feet. The bar is divided into alternating black and white segments.

 <p>2321 CLUB MERIDIAN DR. SUITE E          OKEMOS, MI 48864          PHONE: (517)349-3499 FAX: (517)349-6863</p>	FOR:		FIGURE
	<p>CHEVRON          WILSON CREEK UNIT          MEEKER, COLORADO</p>	<p>NE TERRACED AREA SITE PLAN</p>	

Location	Lat.	Long.
T-1-101007	40° 12' 6.980"	107° 54' 50.723"
T-2-101007	40° 12' 7.849"	107° 54' 51.490"
T-3-101007	40° 12' 9.197"	107° 54' 52.634"
T-4-101007	40° 12' 10.058"	107° 54' 53.944"
T-5-101007	40° 12' 10.714"	107° 54' 54.537"
T-6-101007	40° 12' 11.468"	107° 54' 55.275"
T-7-101707	40° 12' 13.072"	107° 54' 56.044"



PROJECT: Wilson Creek - Chevron  
LOCATION: Meeker, CO  
PROJECT NUMBER: 89 CH.49557.07/1000

WELL / PROBEHOLE / BOREHOLE NO:

11-T-101007

PAGE 1 OF 1

SECOR

DRILLING: STARTED 10/07 COMPLETED: 10/07  
INSTALLATION: STARTED COMPLETED:  
DRILLING COMPANY: SECOR  
DRILLING EQUIPMENT: Hand Auger  
DRILLING METHOD: Hand Auger  
SAMPLING EQUIPMENT: Hand Auger

NORTHING (ft):  
LATITUDE:  
GROUND ELEV (ft):  
INITIAL DTW (ft): NA  
STATIC DTW (ft): NA  
WELL CASING DIAMETER (in): NA  
LOGGED BY: C. Beall  
EASTING (ft):  
LONGITUDE:  
TOC ELEV (ft):  
BOREHOLE DEPTH (ft): 5'  
WELL DEPTH (ft): NA  
BOREHOLE DIAMETER (in): 2"  
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
1		ML	Silt, strong brown, 7.5YR 4/6 Non plastic, very soft Moist, organic odor, No Staining			100% ↓	NA ↓	0.5	1	
2								0.6	2	
3								0.5	3	
4		CL	Clay, black, 7.5YR 2.5/1, Medium Plastic, very soft moist, strong odor, staining, Crude	Sample				209	4	
5			5' FOB						5	
6			6' FOB CB						6	
7									7	
8									8	
9									9	
10									10	
11									11	
12									12	
13									13	
14									14	
15									15	
16									16	
17									17	
18									18	
19									19	

PROJECT: Wilson Creek - Chevron  
LOCATION: Meeker, CO  
PROJECT NUMBER: 89 CH. 49557.07/1000

WELL / PROBEHOLE / BOREHOLE NO:  
TZ-H01007

PAGE 1 OF 1

SECOR

DRILLING: STARTED 10/10/07 COMPLETED: 10/10/07  
INSTALLATION: STARTED COMPLETED:  
DRILLING COMPANY: SECOR  
DRILLING EQUIPMENT: Hand Auger  
DRILLING METHOD: Hand Auger  
SAMPLING EQUIPMENT: Hand Auger

NORTHING (ft):  
LATITUDE:  
GROUND ELEV (ft):  
INITIAL DTW (ft): NA  
STATIC DTW (ft): NA  
WELL CASING DIAMETER (in): NA  
LOGGED BY: C. Beall  
EASTING (ft):  
LONGITUDE:  
TOC ELEV (ft):  
BOREHOLE DEPTH (ft): 5'  
WELL DEPTH (ft): NA  
BOREHOLE DIAMETER (in): 2"  
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
1			Silt, strong brown 7.5R			100% ↓	NA ↓	1.0	1	
2			ML 4/6, non plastic, very soft organic odor, dry, no staining					0.5	2	
3								0.8	3	
4			CL Clay, black 7.5R 2.5/1					194 ppm	4	
5			High plasticity very soft moist, strong odor, staining crude	sample					5	
6			S'EOB						6	
7			EOB						7	
8									8	
9									9	
10									10	
11									11	
12									12	
13									13	
14									14	
15									15	
16									16	
17									17	
18									18	
19									19	

PROJECT: Wilson Creek - Chevron  
LOCATION: Meeker, CO  
PROJECT NUMBER: 89 CH.49557.07/1000

WELL / PROBEHOLE / BOREHOLE NO:

T3-1-101007 PAGE 1 OF 1

SECOR

DRILLING: STARTED COMPLETED:  
INSTALLATION: STARTED COMPLETED:  
DRILLING COMPANY: SECOR  
DRILLING EQUIPMENT: Hand Auger  
DRILLING METHOD: Hand Auger  
SAMPLING EQUIPMENT: Hand Auger

NORTHING (ft):  
LATITUDE:  
GROUND ELEV (ft):  
INITIAL DTW (ft): NA  
STATIC DTW (ft): NA  
WELL CASING DIAMETER (in): NA  
LOGGED BY: C. Beall  
EASTING (ft):  
LONGITUDE:  
TOC ELEV (ft):  
BOREHOLE DEPTH (ft): 25'  
WELL DEPTH (ft): NA  
BOREHOLE DIAMETER (in): 2"  
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
1		ML	Silt, strong brown 7.5YR 4/6, non plastic, very soft organic odor, dry, no staining			100% ↓	NA ↓	0.7	1	
2								0.3	2	
3								0.4	3	
4		CL	Clay, black 7.5YR 2.5/1, medium plastic, very soft, moist, odor, staining	Sample				225	4	
5			EOB at 5'					96	5	
6									6	
7									7	
8									8	
9									9	
10									10	
11									11	
12									12	
13									13	
14									14	
15									15	
16									16	
17									17	
18									18	
19									19	

PROJECT: Wilson Creek - Chevron  
LOCATION: Meeker, CO  
PROJECT NUMBER: 89 CH.49557.07/1000

WELL / PROBEHOLE / BOREHOLE NO:

T4-1-101007

PAGE 1 OF 1

SECOR

DRILLING: STARTED 10/10/07 COMPLETED: 10/10/07  
INSTALLATION: STARTED COMPLETED:  
DRILLING COMPANY: SECOR  
DRILLING EQUIPMENT: Hand Auger  
DRILLING METHOD: Hand Auger  
SAMPLING EQUIPMENT: Hand Auger

NORTHING (ft):  
LATITUDE:  
GROUND ELEV (ft):  
INITIAL DTW (ft): NA  
STATIC DTW (ft): NA  
WELL CASING DIAMETER (in): NA  
LOGGED BY: C. Beall  
EASTING (ft):  
LONGITUDE:  
TOC ELEV (ft):  
BOREHOLE DEPTH (ft): 45'  
WELL DEPTH (ft): NA  
BOREHOLE DIAMETER (in): 2"  
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
1		ML	Silt, strong brown 7.5' R 4/6, non plastic, very soft organic odor, dry, no staining.			100% ↓	NA ↓	0.2	1	
2								0.1	2	
3								0.3	3	
4		CL	Clay, black 7.5' R 2.5' L medium plastic, very soft & moist strong odor, staining crude	Sample				440	4	
5			4.5' EOB						5	
6									6	
7									7	
8									8	
9									9	
10									10	
11									11	
12									12	
13									13	
14									14	
15									15	
16									16	
17									17	
18									18	
19									19	

PROJECT: Wilson Creek - Chevron  
LOCATION: Meeker, CO  
PROJECT NUMBER: 89 CH.49557.07/1000

WELL / PROBEHOLE / BOREHOLE NO:  
T5-1-101007

PAGE 1 OF 1

SECOR

DRILLING: STARTED 10/10/07 COMPLETED: 10/10/07  
INSTALLATION: STARTED COMPLETED:  
DRILLING COMPANY: SECOR  
DRILLING EQUIPMENT: Hand Auger  
DRILLING METHOD: Hand Auger  
SAMPLING EQUIPMENT: Hand Auger

NORTHING (ft):  
LATITUDE:  
GROUND ELEV (ft):  
INITIAL DTW (ft): NA  
STATIC DTW (ft): NA  
WELL CASING DIAMETER (in): NA  
LOGGED BY: C. Beall  
EASTING (ft):  
LONGITUDE:  
TOC ELEV (ft):  
BOREHOLE DEPTH (ft): 45  
WELL DEPTH (ft): NA  
BOREHOLE DIAMETER (in): 2"  
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
1		ML	S.H. Strong brown, 7.5% 4/6, Non-plastic very Soft, <del>moist</del> organic odor, No staining			100% ↓	NA ↓	0.0 0.1	1 2	
2								0.3	3	
3								22.1	4	
4		CL	Clay, black, 7.5% medium plasticity, soft moist, strong odor, staining	Sample				239	5	
5			4.5' EOR						6	
6									7	
7									8	
8									9	
9									10	
10									11	
11									12	
12									13	
13									14	
14									15	
15									16	
16									17	
17									18	
18									19	
19										



PROJECT: Wilson Creek - Chevron  
LOCATION: Meeker, CO  
PROJECT NUMBER: 89 CH. 49557.07/1000

WELL / PROBEHOLE / BOREHOLE NO:

T6-1-101007

PAGE 1 OF 1

SECOR

DRILLING: STARTED 10/10/07 COMPLETED: 10/10/07  
INSTALLATION: STARTED COMPLETED:  
DRILLING COMPANY: SECOR  
DRILLING EQUIPMENT: Hand Auger  
DRILLING METHOD: Hand Auger  
SAMPLING EQUIPMENT: Hand Auger

NORTHING (ft):  
LATITUDE:  
GROUND ELEV (ft):  
INITIAL DTW (ft): NA  
STATIC DTW (ft): NA  
WELL CASING DIAMETER (in): NA  
LOGGED BY: C. Beall  
EASTING (ft):  
LONGITUDE:  
TOC ELEV (ft):  
BOREHOLE DEPTH (ft): 4.5  
WELL DEPTH (ft): NA  
BOREHOLE DIAMETER (in): 2"  
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace P/D (units)	Depth (feet)	Borehole Backfill
1		ML	Silt, Strong brown, 7.5YR 4/6 Non plastic, very soft moist, organic odor, no staining			100% ↓	NA ↓	0	1	
2								0	2	
3								NM	3	
4		CI	Clay, black, 7.5YR 2.5/1 Medium plasticity, very soft moist, strong odor, staining, crude	Sample				NM	4	
5								NM	5	
6			4.5' EOB						6	
7									7	
8									8	
9									9	
10									10	
11									11	
12									12	
13									13	
14									14	
15									15	
16									16	
17									17	
18									18	
19									19	

PROJECT: Wilson Creek - Chevron  
 LOCATION: Meeker, CO  
 PROJECT NUMBER: 89 CH.49557.07/1000

WELL / PROBEHOLE / BOREHOLE NO:  
 T7-1-B101707 PAGE 1 OF 1



DRILLING: STARTED 101707 COMPLETED: 101707  
 INSTALLATION: STARTED COMPLETED:  
 DRILLING COMPANY: SECOR  
 DRILLING EQUIPMENT: Hand Auger  
 DRILLING METHOD: Hand Auger  
 SAMPLING EQUIPMENT: Hand Auger

NORTHING (ft): EASTING (ft):  
 LATITUDE: LONGITUDE:  
 GROUND ELEV (ft): TOC ELEV (ft):  
 INITIAL DTW (ft): NA BOREHOLE DEPTH (ft): 5.5  
 STATIC DTW (ft): NA WELL DEPTH (ft): NA  
 WELL CASING DIAMETER (in): NA BOREHOLE DIAMETER (in): 2"  
 LOGGED BY: C. Beall CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
1		ML	silt, Strong brown 7.5 YR 4/6 non plastic, very soft, Dry organic odor, no staining			100% ↓	NA ↓	26.5	1	
2								26.9	2	
3								35.1	3	
4		CL	clay black 7.5 YR 2.5/1 medium plastic, very soft, moist, Strong odor, staining, Crude					36.99	4	
5								99.99	5	
6			EOB 5.5'						6	
7									7	
8									8	
9									9	
10									10	
11									11	
12									12	
13									13	
14									14	
15									15	
16									16	
17									17	
18									18	
19									19	

## **Appendix B**

### Boring Logs

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T1-1** PAGE 1 OF 1

DRILLING: STARTED **10/10/07** COMPLETED: **10/10/07**  
 INSTALLATION: STARTED **10/10/07** COMPLETED: **10/10/07**  
 DRILLING COMPANY: **SECOR**  
 DRILLING EQUIPMENT: **Hand auger**  
 DRILLING METHOD: **Hand auger**  
 SAMPLING EQUIPMENT: **Hand auger**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **5.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT</b> ; ML; 7.5YR 4/6 strong brown; non plastic; very soft; moist; no staining; organic odor					0.5		
						5/5		0.6		
								0.5		Native fill
5		CL	<b>CLAY</b> ; CL; 7.5YR 2.5/1 black; medium plasticity; very soft; moist; strong petroleum odor; staining, crude		10/10/07 9:30 T1-1			209	5	
			Hole terminated at 5 feet.							
10									10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T2-1** PAGE 1 OF 1

DRILLING: STARTED **10/10/07** COMPLETED: **10/10/07**  
 INSTALLATION: STARTED **10/10/07** COMPLETED: **10/10/07**  
 DRILLING COMPANY: **SECOR**  
 DRILLING EQUIPMENT: **Hand auger**  
 DRILLING METHOD: **Hand auger**  
 SAMPLING EQUIPMENT: **Hand auger**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **5.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT</b> ; ML; 7.5YR 4/6 strong brown; non plastic; very soft; dry; no staining; organic odor					1.0		
						5/5		0.5		
								0.8		Native fill
5		CL	<b>CLAY</b> ; CL; 7.5YR 2.5/1 black; high plasticity; very soft; moist; strong petroleum odor; staining, crude		10/10/07 9:45 T2-1			194	5	
			Hole terminated at 5 feet.							
10									10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:

**T3-1** PAGE 1 OF 1



DRILLING: STARTED **10/10/07** COMPLETED: **10/10/07**  
 INSTALLATION: STARTED **10/10/07** COMPLETED: **10/10/07**  
 DRILLING COMPANY: **SECOR**  
 DRILLING EQUIPMENT: **Hand auger**  
 DRILLING METHOD: **Hand auger**  
 SAMPLING EQUIPMENT: **Hand auger**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **5.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT</b> ; ML; 7.5YR 4/6 strong brown; non plastic; very soft; dry; no staining; organic odor					0.7		
						5/5		0.3		
								0.4		Native fill
								225		
5		CL	<b>CLAY</b> ; CL; 7.5YR 2.5/1 black; medium plasticity; very soft; moist; slight petroleum odor; staining		10/10/07 10:00 T3-1			96	5	
			Hole terminated at 5 feet.							
10									10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**





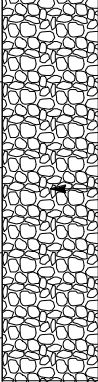
WELL / PROBEHOLE / BOREHOLE NO:



**T4-1** PAGE 1 OF 1

DRILLING: STARTED **10/10/07** COMPLETED: **10/10/07**  
 INSTALLATION: STARTED **10/10/07** COMPLETED: **10/10/07**  
 DRILLING COMPANY: **SECOR**  
 DRILLING EQUIPMENT: **Hand auger**  
 DRILLING METHOD: **Hand auger**  
 SAMPLING EQUIPMENT: **Hand auger**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **4.5**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT</b> ; ML; 7.5YR 4/6 strong brown; non plastic; very soft; dry; no staining; organic odor					0.2		
						4.5/4.5		0.1		
								0.3		
								80.3		
		CL	<b>CLAY</b> ; CL; 7.5YR 2.5/1 black; medium plasticity; very soft; moist; strong petroleum odor; staining, crude Hole terminated at 4.5 feet.		10/10/07 10:15 T4-1			440		
5									5	 Native fill
10									10	
15									15	





GEO FORM 304 WC\_NE\_TERRACE.GPJ SCR 20050620(TOEDITS).GDT 4/8/14

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**


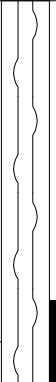


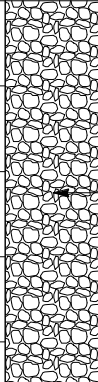
WELL / PROBEHOLE / BOREHOLE NO:



**T6-1** PAGE 1 OF 1

DRILLING: STARTED **10/10/07** COMPLETED: **10/10/07**  
 INSTALLATION: STARTED **10/10/07** COMPLETED: **10/10/07**  
 DRILLING COMPANY: **SECOR**  
 DRILLING EQUIPMENT: **Hand auger**  
 DRILLING METHOD: **Hand auger**  
 SAMPLING EQUIPMENT: **Hand auger**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **4.5**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT</b> ; ML; 7.5YR 4/6 strong brown; non plastic; very soft; dry; no staining; organic odor					0		
						4.5/4.5		0		
								0		
		CL	<b>CLAY</b> ; CL; 7.5YR 2.5/1 black; medium plasticity; very soft; moist; strong petroleum odor; staining, crude Hole terminated at 4.5 feet.		10/10/07 10:45 T6-1					
5									5	 Native fill
10									10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:

**T7-1** PAGE 1 OF 1



DRILLING: STARTED **10/17/07** COMPLETED: **10/17/07**  
 INSTALLATION: STARTED **10/17/07** COMPLETED: **10/17/07**  
 DRILLING COMPANY: **SECOR**  
 DRILLING EQUIPMENT: **Hand auger**  
 DRILLING METHOD: **Hand auger**  
 SAMPLING EQUIPMENT: **Hand auger**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **5.5**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT</b> ; ML; 7.5YR 4/6 strong brown; non plastic; very soft; dry; no staining; organic odor					26.5		
								20.9		
						5.5/5.5		35.1		Native fill
5		CL	<b>CLAY</b> ; CL; 7.5YR 2.5/1 black; medium plasticity; very soft; moist; strong petroleum odor; staining, crude					3,699	5	
			Hole terminated at 5.5 feet.					9,999		
10									10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-1-2** PAGE 1 OF 1

DRILLING: STARTED **8/8/13** COMPLETED: **8/8/13**  
 INSTALLATION: STARTED **8/8/13** COMPLETED: **8/8/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **10.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 5/6 strong brown; dry; no odor; no staining			1/2	2 4 5 5	0.3		
			7.5YR 3/4 dark brown			1/2	6 11 11 11	3.5		
5			Moist		8/8/13 13:00 T-1-2-4'	1/2	5 5 4 4	1.0	5	Natural collapse/ native fill
			Wet			2/2	27 2 7 6	0.7		
10			Hole terminated at 10 feet.				2 2 2 2		10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-1-3** PAGE 1 OF 1

DRILLING: STARTED **8/8/13** COMPLETED: **8/8/13**  
 INSTALLATION: STARTED **8/8/13** COMPLETED: **8/8/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **10.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/3 brown; dry; no odor; no staining			1.25/2	4 5 7 8	0.1		
			7.5YR 3/3 dark brown			1.75/2	5 5 6 6	1.4		
5			Moist		8/8/13 14:10 T-1-3-4'	1.75/2	4 5 4 5	0.3	5	Natural collapse/ native fill
			<b>SOME CLAY</b>				4 4 5 5			
			Wet				3 3 4 4			
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-1-4** PAGE 1 OF 1

DRILLING: STARTED **8/8/13** COMPLETED: **8/8/13**  
 INSTALLATION: STARTED **8/8/13** COMPLETED: **8/8/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft): EASTING (ft):  
 LATITUDE: LONGITUDE:  
 GROUND ELEV (ft): TOC ELEV (ft):  
 INITIAL DTW (ft): **N/A** BOREHOLE DEPTH (ft): **10.0**  
 STATIC DTW (ft): **N/A** WELL DEPTH (ft): **---**  
 WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2**  
 LOGGED BY: **C.Beall** CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/4 brown; dry; no odor; no staining		8/8/13 13:30 T-1-4-2'	1.5/2	4 6 9 10	0.1		
							5 5 5 6	148.9		
5			Strong petroleum odor; black staining, some very sandy lenses, fine sand some gray stringers		8/8/13 13:40 T-1-4-5'	2/2	3 2 2 3	309.1	5	Natural collapse/ native fill
						1.5/2	2 3 4 4	60.1		
		ML	<b>SILT WITH CLAY</b> ; ML; 7.5YR 3/4 dark brown; moist; slight petroleum odor; no staining							
			No odor		8/8/13 13:50 T-1-4-10'	2/2	4 4 6 9	3.2		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-1-5** PAGE 1 OF 1

DRILLING: STARTED **8/8/13** COMPLETED: **8/8/13**  
 INSTALLATION: STARTED **8/8/13** COMPLETED: **8/8/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **10.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 3/4 brown; dry; no odor; no staining			1.75/2	4 4 5 6	1.2		
			7.5YR 3/4 dark brown			1.75/2	5 6 7 10	2.5		
			Trace iron staining							
5					8/8/13 12:55 T-1-5-3'	1.5/2	7 9 10 6	0.9	5	Natural collapse/ native fill
			<b>SOME CLAY</b> ; 7.5YR 2-5/3 very dark brown			1/2	8 13 8 6	0.1		
						1.5/2	5 6 7 9	0.0		
10			Hole terminated at 10 feet.						10	
15									15	



PROJECT: **Chevron-Wilson Creek**LOCATION: **Meeker, CO**PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:

**T-2-2** PAGE 1 OF 1DRILLING: STARTED **8/8/13** COMPLETED: **8/8/13**INSTALLATION: STARTED **8/8/13** COMPLETED: **8/8/13**DRILLING COMPANY: **Dakota Drilling**DRILLING EQUIPMENT: **ATV-Diedrich D-50**DRILLING METHOD: **Direct push**SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):

LATITUDE:

GROUND ELEV (ft):

INITIAL DTW (ft): **N/A**STATIC DTW (ft): **N/A**

WELL CASING DIAMETER (in): ---

LOGGED BY: **C.Beall**

EASTING (ft):

LONGITUDE:

TOC ELEV (ft):

BOREHOLE DEPTH (ft): **10.0**

WELL DEPTH (ft): ---

BOREHOLE DIAMETER (in): **2**CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/3 brown; dry; no odor; no staining			2/2	6 5 3 3	0.0		
			7.5YR 3/3 dark brown			1/2	4 3 3 4	0.0		
5					8/8/13 10:55 T-2-2-5'	1/2	5 5 6 5	0.1	5	Natural collapse/ native fill
						1.5/2	6 7 7 6	0.0		
			Wet			1.5/2	5 5 5 5	0.1		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**LOCATION: **Meeker, CO**PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:

**T-2-3** PAGE 1 OF 1DRILLING: STARTED **8/8/13** COMPLETED: **8/8/13**INSTALLATION: STARTED **8/8/13** COMPLETED: **8/8/13**DRILLING COMPANY: **Dakota Drilling**DRILLING EQUIPMENT: **ATV-Diedrich D-50**DRILLING METHOD: **Direct push**SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):

LATITUDE:

GROUND ELEV (ft):

INITIAL DTW (ft): **N/A**STATIC DTW (ft): **N/A**

WELL CASING DIAMETER (in): ---

LOGGED BY: **C.Beall**

EASTING (ft):

LONGITUDE:

TOC ELEV (ft):

BOREHOLE DEPTH (ft): **12.0**

WELL DEPTH (ft): ---

BOREHOLE DIAMETER (in): **2**CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/4 brown; dry; no odor; no staining		8/8/13 11:30 T-2-3-2'	1.5/2	3 5 6 7	0.01		
						1.5/2	11 10 6 6	30.6		
5			Slight odor Black staining, oily feel		8/8/13 11:45 T-2-3-6'	1/2	3 4 3 4	469.8	5	
						1/2	3 4 4 5	26.1		Natural collapse/ native fill
10						1.75/2	3 3 4 4	3.4		
		ML	<b>SILT WITH CLAY AND SAND</b> ; ML; 7.5YR 3/4 dark brown; wet; no odor; no staining		8/8/13 12:00 T-2-3-12'	2/2	3 2 3 4	2.4	10	
			Hole terminated at 12 feet.							
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-2-4** PAGE 1 OF 1

DRILLING: STARTED **8/8/13** COMPLETED: **8/8/13**  
 INSTALLATION: STARTED **8/8/13** COMPLETED: **8/8/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft): EASTING (ft):  
 LATITUDE: LONGITUDE:  
 GROUND ELEV (ft): TOC ELEV (ft):  
 INITIAL DTW (ft): **N/A** BOREHOLE DEPTH (ft): **10.0**  
 STATIC DTW (ft): **N/A** WELL DEPTH (ft): **---**  
 WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2**  
 LOGGED BY: **C.Beall** CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/4 brown; dry; no odor; no staining		8/8/13 11:00 T-2-4-2'	1.5/2	6 6 7 8	0.1		
					8/8/13 11:05 T-2-4-5'	1.5/2	8 8 8 6	47.0		
5			7.5YR 3/3 dark brown; moist; slight odor Black staining, strong odor			1.5/2	4 6 6 5	84.6	5	Natural collapse/ native fill
					8/8/13 11:15 T-2-4-7'	2/2	6 5 5 5	0.2		
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 3/3 dark brown; wet; no odor; no staining			1.5/2	4 6 6 7	0.0		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-2-5** PAGE 1 OF 1

DRILLING: STARTED **8/8/13** COMPLETED: **8/8/13**  
 INSTALLATION: STARTED **8/8/13** COMPLETED: **8/8/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **10.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/4 brown; dry; no odor; no staining							
						1.5/2	5 5 6 6	0.2		
			7.5YR 3/4 dark brown			1/2	7 9 12 13	0.1		
5			7.5YR 3/2 dark brown; moist; no odor; no staining		8/8/13 10:40 T-2-5-5'	1/2	9 10 10 8	0.2	5	Natural collapse/ native fill
						1.5/2	6 7 8 8	0.2		
						1/2	14 16 14 20	0.0		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**LOCATION: **Meeker, CO**PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:

**T-3-2** PAGE 1 OF 1DRILLING: STARTED **8/8/13** COMPLETED: **8/8/13**INSTALLATION: STARTED **8/8/13** COMPLETED: **8/8/13**DRILLING COMPANY: **Dakota Drilling**DRILLING EQUIPMENT: **ATV-Diedrich D-50**DRILLING METHOD: **Direct push**SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):

LATITUDE:

GROUND ELEV (ft):

INITIAL DTW (ft): **N/A**STATIC DTW (ft): **N/A**

WELL CASING DIAMETER (in): ---

LOGGED BY: **C.Beall**

EASTING (ft):

LONGITUDE:

TOC ELEV (ft):

BOREHOLE DEPTH (ft): **16.0**

WELL DEPTH (ft): ---

BOREHOLE DIAMETER (in): **2**CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/3 brown; dry; no odor; no staining				6 5 4 7	0.1		
						2/2				
							10 10 10 12	0.1		
			7.5YR 3/3 dark brown; moist			1/2				
5					8/8/13 8:15 T-3-2-6'	2/2	5 5 6 7	1.4	5	
							5 6 7 6	349.6		
		CL	<b>CLAY</b> ; CL; 7.5YR 4/1 dark gray; dry; no staining; some weathered sandstone, slight odor			1/2				
			Black oily clay/silt		8/8/13 8:20 T-3-2-10'	1/2	3 4 3 4	951.2		Natural collapse/ native fill
10							2 3 4 5	279.4	10	
						2/2				
							3 6 7 8	224.2		
						1/2				
15					8/8/13 8:25 T-3-2-15'	1/2	6 4 14 16	5.3	15	
			Hole terminated at 16 feet.							

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-3-3** PAGE 1 OF 1

DRILLING: STARTED **8/8/13** COMPLETED: **8/8/13**  
 INSTALLATION: STARTED **8/8/13** COMPLETED: **8/8/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft): EASTING (ft):  
 LATITUDE: LONGITUDE:  
 GROUND ELEV (ft): TOC ELEV (ft):  
 INITIAL DTW (ft): **N/A** BOREHOLE DEPTH (ft): **10.0**  
 STATIC DTW (ft): **N/A** WELL DEPTH (ft): **---**  
 WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2**  
 LOGGED BY: **C.Beall** CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/3 brown; dry; no odor; no staining							
						2/2	7 6 5 6	0.2		
						1.5/2	7 8 8 10	0.2		
5					8/8/13 10:05 T-3-3-5'	1/2	5 5 6 5	2.3	5	Natural collapse/ native fill
		SP	<b>SAND</b> ; SP; 7.5YR 4/1 dark gray; strong odor, staining		8/8/13 10:10 T-3-3-7'	2/2	5 6 6 7	296.7		
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/3 brown; dry; no odor; no staining							
					8/8/13 10:15 T-3-3-10'		4 6 5 6	2.2		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**LOCATION: **Meeker, CO**PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:

**T-3-4** PAGE 1 OF 1DRILLING: STARTED **8/8/13** COMPLETED: **8/8/13**INSTALLATION: STARTED **8/8/13** COMPLETED: **8/8/13**DRILLING COMPANY: **Dakota Drilling**DRILLING EQUIPMENT: **ATV-Diedrich D-50**DRILLING METHOD: **Direct push**SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):

LATITUDE:

GROUND ELEV (ft):

INITIAL DTW (ft): **N/A**STATIC DTW (ft): **N/A**

WELL CASING DIAMETER (in): ---

LOGGED BY: **C.Beall**

EASTING (ft):

LONGITUDE:

TOC ELEV (ft):

BOREHOLE DEPTH (ft): **10.0**

WELL DEPTH (ft): ---

BOREHOLE DIAMETER (in): **2**CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/4 brown; dry; no odor; no staining				6 6 7 8	0.3		
			7.5YR 3/3 dark brown				9 11 12 14	0.1		
5					8/8/13 9:35 T-3-4-5'	1.5/2	9 9 9 9	2.8	5	Natural collapse/ native fill
						1.5/2	3 2 4 4	0.1		
		SP	<b>SAND</b> ; SP; 7.5YR 3/1 gray; very fine-grained sand; moist; no odor; no staining							
		ML	<b>SILT</b> ; ML; 7.5YR 3/3 dark brown				3 3 6 6	0.2		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-3-5** PAGE 1 OF 1

DRILLING: STARTED **8/8/13** COMPLETED: **8/8/13**  
 INSTALLATION: STARTED **8/8/13** COMPLETED: **8/8/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **10.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/2 brown; dry; no odor; no staining							
						1.75/2	7 11 7 6	0.1		
					8/8/13 9:00 T-3-5-4'	2/2	7 8 9 6	15.8		
5			Black oily silt/clay, staining, strong odor		8/8/13 9:10 T-3-5-6'	1/2	3 3 3 3	155.1	5	Natural collapse/ native fill
						2/2	3 3 4 4	138.2		
		CL	<b>CLAY</b> ; CL; 7.5YR 3/2 dark brown; moist; no staining; some sandstone gravel, slight odor		8/8/13 9:15 T-3-5-9'	2/2	5 6 8 10	6.7		
10			Hole terminated at 10 feet.						10	
15									15	



PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-4-2** PAGE 1 OF 1

DRILLING: STARTED **8/7/13** COMPLETED: **8/7/13**  
 INSTALLATION: STARTED **8/7/13** COMPLETED: **8/7/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **10.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/2 brown; dry; no odor; no staining			1/2	9 11 9 11	0.7		
						1/2	11 10 9 8	0.5		
5			7.5YR 3/3 dark brown; moist; trace iron staining		8/7/13 14:00 T-4-2-5'	2/2	3 4 8 6	0.9	5	Natural collapse/ native fill
			Some organic material			1/2	6 7 8 7	0.4		
			Some clay			2/2	6 7 6 6	0.1		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-4-3** PAGE 1 OF 1

DRILLING: STARTED **8/7/13** COMPLETED: **8/7/13**  
 INSTALLATION: STARTED **8/7/13** COMPLETED: **8/7/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **10.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/2 brown; dry; no odor; no staining			1/2	9 18 16 18	6.4		
					8/7/13 13:35 T-4-3-2'	2/2	9 12 6 7			
			Black staining, slight odor							
5					8/7/13 13:40 T-4-3-4'	2/2	7 6 6 5	312.3	5	
		ML	<b>SILT TRACE FINE SAND</b> ; ML; 7.5YR 2.5/3 very dark brown; no odor; no staining							
					8/7/13 13:45 T-4-3-6'	2/2	4 4 6 5	4.7		
						2/2	4 5 7 9	0.6		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-4-4** PAGE 1 OF 1

DRILLING: STARTED **8/7/13** COMPLETED: **8/7/13**  
 INSTALLATION: STARTED **8/7/13** COMPLETED: **8/7/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **10.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7YR 3/4 dark brown; dry; no odor; some iron staining			2/2	6 7 8 11	0.0		
						2/2	8 9 11 20	0.1		
5			<b>SANDSTONE</b> ; 7.5YR 6/8 reddish yellow; no odor; very fine to fine grained, weathered cobble bedrock, iron staining			1.5/2	6 8 10 11	0.1	5	Natural collapse/ native fill
		ML	<b>SILT TRACE FINE SAND</b> ; ML; 7.5YR 3/3 dark brown; moist; no odor; trace iron staining		8/7/13 15:10 T-4-4-7'	2/2	4 3 4 6	0.0		
						2/2	4 5 5 8	0.0		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-4-5** PAGE 1 OF 1

DRILLING: STARTED **8/7/13** COMPLETED: **8/7/13**  
 INSTALLATION: STARTED **8/7/13** COMPLETED: **8/7/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **10.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/2 brown; dry; no odor; no staining			1/2	7 11 14 21	0.1		
						1.5/2	9 8 15 10	0.4		
5			7.5YR 3/2 dark brown; moist; some organics		8/7/13 15:00 T-4-5-5'	1.5/2	12 10 11 9	0.4	5	Natural collapse/ native fill
						1.75/2	5 4 4 5	0.1		
			Wet			2/2	5 5 6 6	0.1		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-5-2** PAGE 1 OF 1

DRILLING: STARTED **8/7/13** COMPLETED: **8/7/13**  
 INSTALLATION: STARTED **8/7/13** COMPLETED: **8/7/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **10.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/3 brown; no odor; iron staining			1/2	5 8 9 13	0.1		
						1/2	13 13 13 13	0.1		
5			7.5YR 3/3 dark brown; moist; no odor; no staining			1/2	15 16 13 9	2.2	5	Natural collapse/ native fill
					8/7/13 11:20 T-5-2-6'	2/2	11 12 7 7	507.1		
		ML	<b>SILT WITH SAND</b> ; ML; 7.5YR 2.5/1 black; wet; strong odor, black staining							
		ML	<b>SILT</b> ; ML; 7.5YR 3/3 dark brown; moist; no odor; no staining		8/7/13 11:25 T-5-2-8'	0.5/2	4 4 6 7	0.9		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-5-3** PAGE 1 OF 1

DRILLING: STARTED **8/7/13** COMPLETED: **8/7/13**  
 INSTALLATION: STARTED **8/7/13** COMPLETED: **8/7/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft): EASTING (ft):  
 LATITUDE: LONGITUDE:  
 GROUND ELEV (ft): TOC ELEV (ft):  
 INITIAL DTW (ft): **N/A** BOREHOLE DEPTH (ft): **10.0**  
 STATIC DTW (ft): **N/A** WELL DEPTH (ft): **---**  
 WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2**  
 LOGGED BY: **C.Beall** CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/3 brown; dry; no odor; no staining							
						0.75/2	5 7 11 11	0.3		
			7.5YR 3/3 dark brown		8/7/13 12:10 T-5-3-4'	1.5/2	7 12 8 11	12.6		
5			7.5YR 2.5/1 black; moist; strong odor, stained black		8/7/13 12:15 T-5-3-5'	2/2	7 8 10 11	309.2	5	Natural collapse/ native fill
			No odor; no staining		8/7/13 12:25 T-5-3-6'	2/2	4 5 7 6	0.9		
						2/2	7 8 8 8	0.6		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-5-4** PAGE 1 OF 1

DRILLING: STARTED **8/7/13** COMPLETED: **8/7/13**  
 INSTALLATION: STARTED **8/7/13** COMPLETED: **8/7/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **10.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/3 brown; dry; no odor; no staining			2/2	8 9 10 10	0.5		
			7.5YR 3/3 dark brown; iron staining			1/2	11 11 12 12	4.2		
5					8/7/13 10:55 T-5-4-4'	1.5/2	6 6 8 9	0.2	5	Natural collapse/ native fill
			Wet			1.75/2	8 11 10 9	0.1		
						2/2	7 7 7 7	0.0		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-5-5** PAGE 1 OF 1

DRILLING: STARTED **8/7/13** COMPLETED: **8/7/13**  
 INSTALLATION: STARTED **8/7/13** COMPLETED: **8/7/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft): EASTING (ft):  
 LATITUDE: LONGITUDE:  
 GROUND ELEV (ft): TOC ELEV (ft):  
 INITIAL DTW (ft): **N/A** BOREHOLE DEPTH (ft): **10.0**  
 STATIC DTW (ft): **N/A** WELL DEPTH (ft): **---**  
 WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2**  
 LOGGED BY: **C.Beall** CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/3 brown; dry; no odor; no staining			1.5/2	6 8 10 11	0.1		
		SP	<b>SAND SOME SILT</b> ; SP; 7.5YR 4/3 brown; dry; no odor; no staining			2/2	7 9 11 11	0.1		
5			Moist to wet; black staining, strong odor		8/7/13 10:25 T-5-5-4'	2/2	6 7 7 8	362.2	5	Natural collapse/ native fill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 5/1 gray; wet; no odor; some staining		8/7/13 10:30 T-5-5-8'	2/2	3 4 7 10			
					8/7/13 10:35 T-5-5-9'	2/2	7 10 12 12	2.6		
10			Hole terminated at 10 feet.						10	
15									15	



PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-6-2** PAGE 1 OF 1

DRILLING: STARTED **8/7/13** COMPLETED: **8/7/13**  
 INSTALLATION: STARTED **8/7/13** COMPLETED: **8/7/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **10.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/3 brown; dry; no odor; no staining		8/7/13 10:00 T-6-2-3'	1/2	5 5 8 10	0.0		
					8/7/13 10:05 T-6-2-4'	1.5/2	15 16 8 12	64.3		
5			7.5YR 3/3 dark brown; moist; slight odor, possible staining							
			No odor		8/7/13 10:10 T-6-2-5'	1/2	5 6 7 7	0.1	5	Natural collapse/ native fill
		CL	<b>CLAY SOME SILT</b> ; CL; 7.5YR 2.5/3 dark brown; wet; no odor; no staining			1/2	5 5 5 5	0.0		
10						2/2	5 5 5 5	0.0		
			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-6-3** PAGE 1 OF 1

DRILLING: STARTED **8/6/13** COMPLETED: **8/6/13**  
 INSTALLATION: STARTED **8/6/13** COMPLETED: **8/6/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft): EASTING (ft):  
 LATITUDE: LONGITUDE:  
 GROUND ELEV (ft): TOC ELEV (ft):  
 INITIAL DTW (ft): **N/A** BOREHOLE DEPTH (ft): **10.0**  
 STATIC DTW (ft): **N/A** WELL DEPTH (ft): **---**  
 WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2**  
 LOGGED BY: **C.Beall** CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH SAND AND GRAVEL</b> ; ML; 7.5YR 3/3 dark brown; dry							
						2/2	4 5 7 8	15.6		
					8/6/13 9:00 T-6-3-4'	2/2	8 8 7 8	12.5		
		CL	Moist; slight odor <b>CLAY TRACE SILT</b> ; CL; 7.5YR 3/3 dark brown; moist; slight odor, black staining							
5					8/6/13 9:05 T-6-3-5'	2/2	8 5 5 5	276.6	5	Natural collapse/ native fill
					8/6/13 9:10 T-6-3-8'	1/2	4 5 5 4	2.9		
			Wet; no odor; no staining							
						2/2	3 3 2 3	2.4		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-6-4** PAGE 1 OF 1

DRILLING: STARTED **8/7/13** COMPLETED: **8/7/13**  
 INSTALLATION: STARTED **8/7/13** COMPLETED: **8/7/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft): EASTING (ft):  
 LATITUDE: LONGITUDE:  
 GROUND ELEV (ft): TOC ELEV (ft):  
 INITIAL DTW (ft): **N/A** BOREHOLE DEPTH (ft): **10.0**  
 STATIC DTW (ft): **N/A** WELL DEPTH (ft): **---**  
 WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2**  
 LOGGED BY: **C.Beall** CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
5		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/3 brown; dry; no odor; no staining			1.5/2	10 16 21 22	0.6		
			7.5YR 3/2 brown; slight odor		8/7/13 9:45 T-6-4-4'	1.5/2	16 15 10 11	4.7		
						1/2	18 24 17 16	2.4	5	Natural collapse/ native fill
		CL	<b>CLAY</b> ; CL; 7.5YR 3/4 dark brown; wet; no odor; no staining				5 6 6 7	0.8		
		SP	<b>SAND WITH SILT</b> ; SP; 7.5YR 5/1 gray; very fine-grained sand; wet; no odor; no staining				5 6 11 10			
		CL	<b>CLAY</b> ; CL; 7.5YR 3/3 dark brown; wet; no odor; no staining							
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-6-5** PAGE 1 OF 1

DRILLING: STARTED **8/7/13** COMPLETED: **8/7/13**  
 INSTALLATION: STARTED **8/7/13** COMPLETED: **8/7/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **10.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/3 brown; dry; no odor; no staining			1/2	4 5 7 6	0.0		
						1/2	4 3 6 5	0.0		
5			7.5YR 3/3 dark brown; trace brick fragments		8/7/13 9:50 T-6-5-4'	2/2	6 8 8 11	0.0	5	Natural collapse/ native fill
			7.5YR 3/3 dark brown; wet; no odor			2/2	4 6 4 6	0.0		
		SP	<b>SAND</b> ; SP; 7.5YR 5/1 gray; very fine-grained sand; wet; no odor; no staining			1/2	6 6 50	0.0		
10		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 3/3 dark brown; wet; no odor @9.5': sand lenses						10	
			Hole terminated at 10 feet.							
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-7-2** PAGE 1 OF 1

DRILLING: STARTED **8/6/13** COMPLETED: **8/6/13**  
 INSTALLATION: STARTED **8/6/13** COMPLETED: **8/6/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft): EASTING (ft):  
 LATITUDE: LONGITUDE:  
 GROUND ELEV (ft): TOC ELEV (ft):  
 INITIAL DTW (ft): **N/A** BOREHOLE DEPTH (ft): **10.0**  
 STATIC DTW (ft): **N/A** WELL DEPTH (ft): **---**  
 WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2**  
 LOGGED BY: **C.Beall** CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/3 brown; dry; no odor; no staining			2/2	6 10 5 13	0		
			7.5YR 3/3 dark brown; moist; no odor; trace iron staining			2/2	10 8 9 9	0		
5					8/6/13 13:00 T-7-2-4'	2/2	6 7 5 6	0.1	5	Natural collapse/ native fill
			Wet; trace very fine gravel			2/2	3 4 3 4	0		
		SP	<b>SAND WITH SILT</b> ; SP; 10YR 5/3 brown; very fine-grained sand; wet; no odor; no staining			2/2	4 4 4 10	0.1		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**LOCATION: **Meeker, CO**PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:

**T-7-3** PAGE 1 OF 1DRILLING: STARTED **8/6/13** COMPLETED: **8/6/13**INSTALLATION: STARTED **8/6/13** COMPLETED: **8/6/13**DRILLING COMPANY: **Dakota Drilling**DRILLING EQUIPMENT: **ATV-Diedrich D-50**DRILLING METHOD: **Direct push**SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):

LATITUDE:

GROUND ELEV (ft):

INITIAL DTW (ft): **N/A**STATIC DTW (ft): **N/A**

WELL CASING DIAMETER (in): ---

LOGGED BY: **C.Beall**

EASTING (ft):

LONGITUDE:

TOC ELEV (ft):

BOREHOLE DEPTH (ft): **10.0**

WELL DEPTH (ft): ---

BOREHOLE DIAMETER (in): **2**CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 4/3 brown; dry; no odor; no staining			2/2	5 6 7 8	0.0		
			705YR 3/3 dark brown			1.5/2	8 7 8 8	0.0		
5		CL	<b>CLAY TRACE COARSE SAND</b> ; CL; 7.5YR 2.5/3 very dark brown; wet; no odor; trace iron staining		8/6/13 13:50 T-7-3-4'	2/2	3 2 3 3	0.3	5	Natural collapse/ native fill
		ML	<b>SILT WITH FINE SAND</b> ; ML; 7.5YR 2.5/3 very dark brown; wet; no odor; trace iron staining			2/2	2 3 3 3	0.0		
10			Hole terminated at 10 feet.			2/2	2 3 3 3	0.0	10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-7-4** PAGE 1 OF 1

DRILLING: STARTED **8/6/13** COMPLETED: **8/6/13**  
 INSTALLATION: STARTED **8/6/13** COMPLETED: **8/6/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **10.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT WITH FINE SAND AND GRAVEL ; ML;</b> 7.5YR 5/3 brown; dry; no odor; no staining			2/2	7 7 6 7	0.0		
						2/2	4 4 6 5	0.0		
5			7.5YR 3/3 dark brown; trace iron staining		8/6/13 14:10 T-7-4-4'	2/2	4 4 5 6	0.0	5	Natural collapse/ native fill
			Moist			1.5/2	4 4 5 6	0.0		
			7.5YR 2.5/3 very dark brown; trace iron oxide staining			2/2	4 5 5 6	0.0		
10			Hole terminated at 10 feet.						10	
15									15	

PROJECT: **Chevron-Wilson Creek**  
 LOCATION: **Meeker, CO**  
 PROJECT NUMBER: **212201118**

WELL / PROBEHOLE / BOREHOLE NO:



**T-7-5** PAGE 1 OF 1

DRILLING: STARTED **8/6/13** COMPLETED: **8/6/13**  
 INSTALLATION: STARTED **8/6/13** COMPLETED: **8/6/13**  
 DRILLING COMPANY: **Dakota Drilling**  
 DRILLING EQUIPMENT: **ATV-Diedrich D-50**  
 DRILLING METHOD: **Direct push**  
 SAMPLING EQUIPMENT: **2' split spoon**

NORTHING (ft):  
 LATITUDE:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **N/A**  
 STATIC DTW (ft): **N/A**  
 WELL CASING DIAMETER (in): ---  
 LOGGED BY: **C.Beall**  
 EASTING (ft):  
 LONGITUDE:  
 TOC ELEV (ft):  
 BOREHOLE DEPTH (ft): **10.0**  
 WELL DEPTH (ft): ---  
 BOREHOLE DIAMETER (in): **2**  
 CHECKED BY: **D.Worden**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	<b>SILT TRACE FINE SAND ; ML; 7.5YR 4/3</b> brown; dry; no odor; trace iron staining				4 5 7 6	0.0		
						1/2				
			7.5YR 3/4 dark brown; moist		8/6/13 13:20 T-7-5-3'	1.5	13 11 13 8	0.0		
			Slight odor				7 7 6 5	26.0	5	Natural collapse/ native fill
5					8/6/13 13:30 T-7-5-4'	2/2				
			Wet		8/6/13 13:40 T-7-5-7'	2/2	3 2 3 3	0.0		
		CL	<b>CLAY TRACE COARSE SAND ; CL; 7.5YR</b> 2.5/3 very dark brown			2/2	3 3 3 3	0.0		
10			Hole terminated at 10 feet.						10	
15									15	



## **Appendix C**

### Laboratory Analytical Reports

**ANALYTICAL RESULTS**

Prepared for:

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

517-349-9499

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425**SAMPLE GROUP**

The sample group for this submittal is 1061790. Samples arrived at the laboratory on Friday, October 19, 2007. The PO# for this group is 89CH.49557.07 and the release number is WILSON CREEK.

**Client Description****Lancaster Labs Number**

T1-1-101007 Grab Soil Sample	5189496
T2-1-101007 Grab Soil Sample	5189497
T3-1-101007 Grab Soil Sample	5189498
T4-1-101007 Grab Soil Sample	5189499
T5-1-101007 Grab Soil Sample	5189500
T6-1-101007 Grab Soil Sample	5189501
LF-1-101007 Composite Soil Sample	5189502
LF-2-101007 Composite Soil Sample	5189503
LF-3-101007 Composite Soil Sample	5189504
LF-4-101007 Composite Soil Sample	5189505
Trip Blank Water Sample	5189506

ELECTRONIC      SECOR International, Inc.  
COPY TO

Attn: Seth Maher

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

Respectfully Submitted,



Max E. Snively  
Senior Specialist

**Lancaster Laboratories Sample No. SW 5189496**
**T1-1-101007 Grab Soil Sample  
Wilson Creek**

Collected: 10/10/2007 09:30 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:09  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

T1110  
I 5E w

CAT			Dry	Dry		
No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Units	Dilution Factor
00159	Mercury	7439-97-6	0.382	0.121	mg/kg	1
06935	Arsenic	7440-38-2	5.25	2.46	mg/kg	1
06936	Selenium	7782-49-2	< 2.46	2.46	mg/kg	1
06946	Barium	7440-39-3	206.	0.616	mg/kg	1
06949	Cadmium	7440-43-9	< 0.616	0.616	mg/kg	1
06951	Chromium	7440-47-3	19.7	1.85	mg/kg	1
06955	Lead	7439-92-1	27.1	1.85	mg/kg	1
06966	Silver	7440-22-4	< 0.616	0.616	mg/kg	1
00111	Moisture	n.a.	19.6	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.						
02321	TNRCC 1005 - (Soils)					
02322	Total C6 - C28 Hydrocarbons	n.a.	9,600.	500.	mg/kg	20
02323	Total C6 - C35 Hydrocarbons	n.a.	11,000.	500.	mg/kg	20
08751	C6 - C12 Hydrocarbons	n.a.	1,300.	500.	mg/kg	20
08752	>C12 - C28 Hydrocarbons	n.a.	8,300.	500.	mg/kg	20
08753	>C28 - C35 Hydrocarbons	n.a.	1,800.	500.	mg/kg	20

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				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
00159	Mercury	SW-846 7471A	1	10/24/2007 10:02	Damary Valentin	1
06935	Arsenic	SW-846 6010B	1	10/24/2007 01:54	Choon Y Tian	1
06936	Selenium	SW-846 6010B	1	10/24/2007 01:54	Choon Y Tian	1
06946	Barium	SW-846 6010B	1	10/24/2007 01:54	Choon Y Tian	1
06949	Cadmium	SW-846 6010B	1	10/24/2007 01:54	Choon Y Tian	1
06951	Chromium	SW-846 6010B	1	10/24/2007 01:54	Choon Y Tian	1
06955	Lead	SW-846 6010B	1	10/24/2007 01:54	Choon Y Tian	1
06966	Silver	SW-846 6010B	1	10/24/2007 01:54	Choon Y Tian	1
00111	Moisture	SM20 2540 G	1	10/22/2007 17:13	Scott W Freisher	1
02321	TNRCC 1005 - (Soils)	TNRCC 1005 Rev 3	1	10/24/2007 20:50	Heather E Williams	20
05708	SW SW846 ICP Digest	SW-846 3050B	1	10/22/2007 19:30	James L Mertz	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	10/23/2007 23:00	Annamaria Stipkovits	1



# Analysis Report

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Page 2 of 2

Lancaster Laboratories Sample No. SW 5189496

T1-1-101007 Grab Soil Sample  
Wilson Creek

Collected: 10/10/2007 09:30 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:09  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

T1110

07004	Extraction - DRO (Soils)	TNRCC 1005 06/01	1	10/22/2007 14:30	Kerrie A Greenfield	1
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**Lancaster Laboratories Sample No. SW 5189497**
**T2-1-101007 Grab Soil Sample  
Wilson Creek**

Collected: 10/10/2007 09:45 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:10  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

T2110  
I 5E w

CAT			Dry	Dry		
No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Units	Dilution Factor
00159	Mercury	7439-97-6	< 0.126	0.126	mg/kg	1
06935	Arsenic	7440-38-2	5.83	2.63	mg/kg	1
06936	Selenium	7782-49-2	< 2.63	2.63	mg/kg	1
06946	Barium	7440-39-3	242.	0.657	mg/kg	1
06949	Cadmium	7440-43-9	< 0.657	0.657	mg/kg	1
06951	Chromium	7440-47-3	20.9	1.97	mg/kg	1
06955	Lead	7439-92-1	26.5	1.97	mg/kg	1
06966	Silver	7440-22-4	< 0.657	0.657	mg/kg	1
00111	Moisture	n.a.	24.7	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.						
02321	TNRCC 1005 - (Soils)					
02322	Total C6 - C28 Hydrocarbons	n.a.	4,700.	530.	mg/kg	20
02323	Total C6 - C35 Hydrocarbons	n.a.	4,700.	530.	mg/kg	20
08751	C6 - C12 Hydrocarbons	n.a.	1,100.	530.	mg/kg	20
08752	>C12 - C28 Hydrocarbons	n.a.	3,600.	530.	mg/kg	20
08753	>C28 - C35 Hydrocarbons	n.a.	< 530.	530.	mg/kg	20

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				Analysis		
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471A	1	10/24/2007 10:04	Damary Valentin	1
06935	Arsenic	SW-846 6010B	1	10/24/2007 01:58	Choon Y Tian	1
06936	Selenium	SW-846 6010B	1	10/24/2007 01:58	Choon Y Tian	1
06946	Barium	SW-846 6010B	1	10/24/2007 01:58	Choon Y Tian	1
06949	Cadmium	SW-846 6010B	1	10/24/2007 01:58	Choon Y Tian	1
06951	Chromium	SW-846 6010B	1	10/24/2007 01:58	Choon Y Tian	1
06955	Lead	SW-846 6010B	1	10/24/2007 01:58	Choon Y Tian	1
06966	Silver	SW-846 6010B	1	10/24/2007 01:58	Choon Y Tian	1
00111	Moisture	SM20 2540 G	1	10/22/2007 17:13	Scott W Freisher	1
02321	TNRCC 1005 - (Soils)	TNRCC 1005 Rev 3	1	10/29/2007 09:16	Heather E Williams	20
05708	SW SW846 ICP Digest	SW-846 3050B	1	10/22/2007 19:30	James L Mertz	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	10/23/2007 23:00	Annamaria Stipkovits	1



# Analysis Report

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Lancaster Laboratories Sample No. SW 5189497

T2-1-101007 Grab Soil Sample  
Wilson Creek

Collected: 10/10/2007 09:45 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:10  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

T2110

07004	Extraction - DRO (Soils)	TNRCC 1005 06/01	1	10/22/2007 14:30	Kerrie A Greenfield	1
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**Lancaster Laboratories Sample No. SW 5189498**
**T3-1-101007 Grab Soil Sample  
Wilson Creek**

Collected: 10/10/2007 10:00 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:10  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

T3110  
I 5E w

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Units	Dilution Factor
00159	Mercury	7439-97-6	< 0.123	0.123	mg/kg	1
06935	Arsenic	7440-38-2	4.48	2.56	mg/kg	1
06936	Selenium	7782-49-2	< 2.56	2.56	mg/kg	1
06946	Barium	7440-39-3	267.	0.640	mg/kg	1
06949	Cadmium	7440-43-9	< 0.640	0.640	mg/kg	1
06951	Chromium	7440-47-3	19.6	1.90	mg/kg	1
06955	Lead	7439-92-1	28.0	1.92	mg/kg	1
06966	Silver	7440-22-4	< 0.640	0.640	mg/kg	1
00111	Moisture	n.a.	22.6	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.						
02321	TNRCC 1005 - (Soils)					
02322	Total C6 - C28 Hydrocarbons	n.a.	3,600.	520.	mg/kg	20
02323	Total C6 - C35 Hydrocarbons	n.a.	3,600.	520.	mg/kg	20
08751	C6 - C12 Hydrocarbons	n.a.	850.	520.	mg/kg	20
08752	>C12 - C28 Hydrocarbons	n.a.	2,700.	520.	mg/kg	20
08753	>C28 - C35 Hydrocarbons	n.a.	< 520.	520.	mg/kg	20

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
00159	Mercury	SW-846 7471A	1	10/24/2007 10:05	Damary Valentin	1
06935	Arsenic	SW-846 6010B	1	10/24/2007 11:02	Joanne M Gates	1
06936	Selenium	SW-846 6010B	1	10/24/2007 04:52	Tara L Snyder	1
06946	Barium	SW-846 6010B	1	10/24/2007 04:52	Tara L Snyder	1
06949	Cadmium	SW-846 6010B	1	10/24/2007 04:52	Tara L Snyder	1
06951	Chromium	SW-846 6010B	1	10/31/2007 15:47	Joanne M Gates	1
06955	Lead	SW-846 6010B	1	10/24/2007 04:52	Tara L Snyder	1
06966	Silver	SW-846 6010B	1	10/24/2007 04:52	Tara L Snyder	1
00111	Moisture	SM20 2540 G	1	10/22/2007 17:13	Scott W Freisher	1
02321	TNRCC 1005 - (Soils)	TNRCC 1005 Rev 3	1	10/29/2007 09:50	Heather E Williams	20
05708	SW SW846 ICP Digest	SW-846 3050B	3	10/30/2007 18:55	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	10/23/2007 23:00	Annamaria Stipkovits	1





# Analysis Report

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Page 2 of 2

Lancaster Laboratories Sample No. SW 5189498

T3-1-101007 Grab Soil Sample  
Wilson Creek

Collected: 10/10/2007 10:00 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:10  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

T3110

07004	Extraction - DRO (Soils)	TNRCC 1005 06/01	1	10/22/2007 14:30	Kerrie A Greenfield	1
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**Lancaster Laboratories Sample No. SW 5189499**
**T4-1-101007 Grab Soil Sample  
Wilson Creek**

Collected: 10/10/2007 10:15 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:10  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

T4110  
I 5E w

CAT			Dry	Dry		
No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Units	Dilution Factor
00159	Mercury	7439-97-6	0.547	0.114	mg/kg	1
06935	Arsenic	7440-38-2	3.82	2.35	mg/kg	1
06936	Selenium	7782-49-2	< 2.35	2.35	mg/kg	1
06946	Barium	7440-39-3	178.	0.588	mg/kg	1
06949	Cadmium	7440-43-9	< 0.588	0.588	mg/kg	1
06951	Chromium	7440-47-3	18.1	1.77	mg/kg	1
06955	Lead	7439-92-1	33.5	1.77	mg/kg	1
06966	Silver	7440-22-4	< 0.588	0.588	mg/kg	1
00111	Moisture	n.a.	16.7	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.						
02321	TNRCC 1005 - (Soils)					
02322	Total C6 - C28 Hydrocarbons	n.a.	11,000.	480.	mg/kg	20
02323	Total C6 - C35 Hydrocarbons	n.a.	13,000.	480.	mg/kg	20
08751	C6 - C12 Hydrocarbons	n.a.	1,900.	480.	mg/kg	20
08752	>C12 - C28 Hydrocarbons	n.a.	9,500.	480.	mg/kg	20
08753	>C28 - C35 Hydrocarbons	n.a.	1,500.	480.	mg/kg	20

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				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
00159	Mercury	SW-846 7471A	1	10/24/2007 10:09	Damary Valentin	1
06935	Arsenic	SW-846 6010B	1	10/25/2007 16:28	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	10/24/2007 04:56	Tara L Snyder	1
06946	Barium	SW-846 6010B	1	10/24/2007 04:56	Tara L Snyder	1
06949	Cadmium	SW-846 6010B	1	10/24/2007 04:56	Tara L Snyder	1
06951	Chromium	SW-846 6010B	1	10/31/2007 15:52	Joanne M Gates	1
06955	Lead	SW-846 6010B	1	10/24/2007 04:56	Tara L Snyder	1
06966	Silver	SW-846 6010B	1	10/24/2007 04:56	Tara L Snyder	1
00111	Moisture	SM20 2540 G	1	10/22/2007 17:13	Scott W Freisher	1
02321	TNRCC 1005 - (Soils)	TNRCC 1005 Rev 3	1	10/29/2007 11:01	Heather E Williams	20
05708	SW SW846 ICP Digest	SW-846 3050B	3	10/30/2007 18:55	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	10/23/2007 23:00	Annamaria Stipkovits	1



# Analysis Report

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Page 2 of 2

Lancaster Laboratories Sample No. SW 5189499

T4-1-101007 Grab Soil Sample  
Wilson Creek

Collected: 10/10/2007 10:15 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:10  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

T4110

07004	Extraction - DRO (Soils)	TNRCC 1005 06/01	1	10/22/2007 14:30	Kerrie A Greenfield	1
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**Lancaster Laboratories Sample No. SW 5189500**

**T5-1-101007 Grab Soil Sample  
Wilson Creek**

Collected: 10/10/2007 10:30 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:10  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

T5110  
I 5E w

CAT			Dry	Dry		
No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Units	Dilution Factor
00159	Mercury	7439-97-6	0.176	0.115	mg/kg	1
06935	Arsenic	7440-38-2	4.18	2.43	mg/kg	1
06936	Selenium	7782-49-2	< 2.43	2.43	mg/kg	1
06946	Barium	7440-39-3	189.	0.607	mg/kg	1
06949	Cadmium	7440-43-9	< 0.607	0.607	mg/kg	1
06951	Chromium	7440-47-3	16.3	1.79	mg/kg	1
06955	Lead	7439-92-1	21.5	1.82	mg/kg	1
06966	Silver	7440-22-4	< 0.607	0.607	mg/kg	1
00111	Moisture	n.a.	18.5	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.						
02321	TNRCC 1005 - (Soils)					
02322	Total C6 - C28 Hydrocarbons	n.a.	9,700.	490.	mg/kg	20
02323	Total C6 - C35 Hydrocarbons	n.a.	12,000.	490.	mg/kg	20
08751	C6 - C12 Hydrocarbons	n.a.	1,500.	490.	mg/kg	20
08752	>C12 - C28 Hydrocarbons	n.a.	8,100.	490.	mg/kg	20
08753	>C28 - C35 Hydrocarbons	n.a.	2,200.	490.	mg/kg	20

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				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
00159	Mercury	SW-846 7471A	1	10/24/2007 10:10	Damary Valentin	1
06935	Arsenic	SW-846 6010B	1	10/24/2007 11:11	Joanne M Gates	1
06936	Selenium	SW-846 6010B	1	10/24/2007 05:01	Tara L Snyder	1
06946	Barium	SW-846 6010B	1	10/24/2007 05:01	Tara L Snyder	1
06949	Cadmium	SW-846 6010B	1	10/24/2007 05:01	Tara L Snyder	1
06951	Chromium	SW-846 6010B	1	10/31/2007 15:56	Joanne M Gates	1
06955	Lead	SW-846 6010B	1	10/24/2007 05:01	Tara L Snyder	1
06966	Silver	SW-846 6010B	1	10/24/2007 05:01	Tara L Snyder	1
00111	Moisture	SM20 2540 G	1	10/22/2007 17:13	Scott W Freisher	1
02321	TNRCC 1005 - (Soils)	TNRCC 1005 Rev 3	1	10/29/2007 12:10	Heather E Williams	20
05708	SW SW846 ICP Digest	SW-846 3050B	3	10/30/2007 18:55	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	10/23/2007 23:00	Annamaria Stipkovits	1



# Analysis Report

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Lancaster Laboratories Sample No. SW 5189500

T5-1-101007 Grab Soil Sample  
Wilson Creek

Collected: 10/10/2007 10:30 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:10  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

T5110

07004	Extraction - DRO (Soils)	TNRCC 1005 06/01	1	10/22/2007 14:30	Kerrie A Greenfield	1
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**Lancaster Laboratories Sample No. SW 5189501**

**T6-1-101007 Grab Soil Sample  
Wilson Creek**

Collected: 10/10/2007 10:45 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:10  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

T6110  
I 5E w

CAT			Dry	Dry		
No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Units	Dilution Factor
00159	Mercury	7439-97-6	0.167	0.118	mg/kg	1
06935	Arsenic	7440-38-2	4.66	2.37	mg/kg	1
06936	Selenium	7782-49-2	< 2.37	2.37	mg/kg	1
06946	Barium	7440-39-3	209.	0.591	mg/kg	1
06949	Cadmium	7440-43-9	< 0.591	0.591	mg/kg	1
06951	Chromium	7440-47-3	14.3	1.74	mg/kg	1
06955	Lead	7439-92-1	19.6	1.77	mg/kg	1
06966	Silver	7440-22-4	< 0.591	0.591	mg/kg	1
00111	Moisture	n.a.	17.1	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.						
02321	TNRCC 1005 - (Soils)					
02322	Total C6 - C28 Hydrocarbons	n.a.	2,800.	480.	mg/kg	20
02323	Total C6 - C35 Hydrocarbons	n.a.	2,800.	480.	mg/kg	20
08751	C6 - C12 Hydrocarbons	n.a.	640.	480.	mg/kg	20
08752	>C12 - C28 Hydrocarbons	n.a.	2,200.	480.	mg/kg	20
08753	>C28 - C35 Hydrocarbons	n.a.	< 480.	480.	mg/kg	20

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				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
00159	Mercury	SW-846 7471A	1	10/24/2007 10:11	Damary Valentin	1
06935	Arsenic	SW-846 6010B	1	10/25/2007 16:32	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	10/24/2007 05:05	Tara L Snyder	1
06946	Barium	SW-846 6010B	1	10/24/2007 05:05	Tara L Snyder	1
06949	Cadmium	SW-846 6010B	1	10/24/2007 05:05	Tara L Snyder	1
06951	Chromium	SW-846 6010B	1	10/31/2007 16:01	Joanne M Gates	1
06955	Lead	SW-846 6010B	1	10/24/2007 05:05	Tara L Snyder	1
06966	Silver	SW-846 6010B	1	10/24/2007 05:05	Tara L Snyder	1
00111	Moisture	SM20 2540 G	1	10/22/2007 17:13	Scott W Freisher	1
02321	TNRCC 1005 - (Soils)	TNRCC 1005 Rev 3	1	10/29/2007 13:21	Heather E Williams	20
05708	SW SW846 ICP Digest	SW-846 3050B	3	10/30/2007 18:55	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	10/23/2007 23:00	Annamaria Stipkovits	1



# Analysis Report

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Lancaster Laboratories Sample No. SW 5189501

T6-1-101007 Grab Soil Sample  
Wilson Creek

Collected: 10/10/2007 10:45 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:10  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

T6110

07004	Extraction - DRO (Soils)	TNRCC 1005 06/01	1	10/22/2007 14:30	Kerrie A Greenfield	1
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# Analysis Report

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Page 1 of 1

Lancaster Laboratories Sample No. SW 5189502

LF-1-101007 Composite Soil Sample  
Wilson Creek

Collected: 10/10/2007 14:20 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:10  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

LF110  
I 5E w

CAT			Dry	Dry		Dilution
No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Units	Factor
00111	Moisture	n.a.	14.9	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.					
02321	TNRCC 1005 -(Soils)					
02322	Total C6 - C28 Hydrocarbons	n.a.	420.	24.	mg/kg	1
02323	Total C6 - C35 Hydrocarbons	n.a.	460.	24.	mg/kg	1
08751	C6 - C12 Hydrocarbons	n.a.	49.	24.	mg/kg	1
08752	>C12 - C28 Hydrocarbons	n.a.	370.	24.	mg/kg	1
08753	>C28 - C35 Hydrocarbons	n.a.	46.	24.	mg/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				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
00111	Moisture	SM20 2540 G	1	10/22/2007 17:13	Scott W Freisher	1
02321	TNRCC 1005 -(Soils)	TNRCC 1005 Rev 3	1	10/29/2007 05:42	Heather E Williams	1
07004	Extraction - DRO (Soils)	TNRCC 1005 06/01	1	10/22/2007 14:30	Kerrie A Greenfield	1



**Lancaster Laboratories Sample No. SW 5189503**

**LF-2-101007 Composite Soil Sample  
Wilson Creek**

Collected: 10/10/2007 14:30 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:10  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

LF210  
I 5E w

CAT			Dry	Dry		Dilution
No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Units	Factor
00111	Moisture	n.a.	11.1	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.					
02321	TNRCC 1005 -(Soils)					
02322	Total C6 - C28 Hydrocarbons	n.a.	150.	22.	mg/kg	1
02323	Total C6 - C35 Hydrocarbons	n.a.	180.	22.	mg/kg	1
08751	C6 - C12 Hydrocarbons	n.a.	< 22.	22.	mg/kg	1
08752	>C12 - C28 Hydrocarbons	n.a.	150.	22.	mg/kg	1
08753	>C28 - C35 Hydrocarbons	n.a.	35.	22.	mg/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				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
00111	Moisture	SM20 2540 G	1	10/22/2007 17:13	Scott W Freisher	1
02321	TNRCC 1005 -(Soils)	TNRCC 1005 Rev 3	1	10/29/2007 06:19	Heather E Williams	1
07004	Extraction - DRO (Soils)	TNRCC 1005 06/01	1	10/22/2007 14:30	Kerrie A Greenfield	1

**Lancaster Laboratories Sample No. SW 5189504**

**LF-3-101007 Composite Soil Sample  
Wilson Creek**

Collected: 10/10/2007 14:40 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:10  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

LF310  
I 5E w

CAT			Dry	Dry		Dilution
No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Units	Factor
00111	Moisture	n.a.	15.3	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.					
02321	TNRCC 1005 -(Soils)					
02322	Total C6 - C28 Hydrocarbons	n.a.	170.	24.	mg/kg	1
02323	Total C6 - C35 Hydrocarbons	n.a.	220.	24.	mg/kg	1
08751	C6 - C12 Hydrocarbons	n.a.	< 24.	24.	mg/kg	1
08752	>C12 - C28 Hydrocarbons	n.a.	170.	24.	mg/kg	1
08753	>C28 - C35 Hydrocarbons	n.a.	48.	24.	mg/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				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
00111	Moisture	SM20 2540 G	1	10/22/2007 17:13	Scott W Freisher	1
02321	TNRCC 1005 -(Soils)	TNRCC 1005 Rev 3	1	10/30/2007 04:01	Heather E Williams	1
07004	Extraction - DRO (Soils)	TNRCC 1005 06/01	1	10/22/2007 14:30	Kerrie A Greenfield	1

**Lancaster Laboratories Sample No. SW 5189505**

**LF-4-101007 Composite Soil Sample  
Wilson Creek**

Collected: 10/10/2007 14:50 by CB

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:10  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

LF410  
I 5E w

CAT			Dry	Dry		Dilution
No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Units	Factor
00111	Moisture	n.a.	16.1	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.					
02321	TNRCC 1005 -(Soils)					
02322	Total C6 - C28 Hydrocarbons	n.a.	690.	24.	mg/kg	1
02323	Total C6 - C35 Hydrocarbons	n.a.	1,000.	24.	mg/kg	1
08751	C6 - C12 Hydrocarbons	n.a.	< 24.	24.	mg/kg	1
08752	>C12 - C28 Hydrocarbons	n.a.	670.	24.	mg/kg	1
08753	>C28 - C35 Hydrocarbons	n.a.	330.	24.	mg/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				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
00111	Moisture	SM20 2540 G	1	10/22/2007 17:13	Scott W Freisher	1
02321	TNRCC 1005 -(Soils)	TNRCC 1005 Rev 3	1	10/30/2007 04:38	Heather E Williams	1
07004	Extraction - DRO (Soils)	TNRCC 1005 06/01	1	10/22/2007 14:30	Kerrie A Greenfield	1



# Analysis Report

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Page 1 of 1

Lancaster Laboratories Sample No. WW 5189506

Trip Blank Water Sample  
Wilson Creek

Collected: 10/10/2007

Account Number: 11842

Submitted: 10/19/2007 09:15  
Reported: 11/01/2007 at 08:10  
Discard: 12/02/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

TBL10  
I 5E w

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	< 1.0	1.0	ug/l	1
00777	Toluene	108-88-3	< 1.0	1.0	ug/l	1
00778	Ethylbenzene	100-41-4	< 1.0	1.0	ug/l	1
00779	Total Xylenes	1330-20-7	< 3.0	3.0	ug/l	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	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/22/2007 12:20	Patrick N Evans	1
01146	GC VOA Water Prep	SW-846 5030B	1	10/22/2007 12:20	Patrick N Evans	1

## Quality Control Summary

Client Name: SECOR International, Inc.

Group Number: 1061790

Reported: 11/01/07 at 08:10 AM

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 LOQ</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: 07292A51B	Sample number(s): 5189506							
Benzene	< 1.0	1.0	ug/l	102	98	86-119	4	30
Toluene	< 1.0	1.0	ug/l	104	101	82-119	2	30
Ethylbenzene	< 1.0	1.0	ug/l	103	101	81-119	2	30
Total Xylenes	< 3.0	3.0	ug/l	113	102	82-120	10	30
Batch number: 072950005A	Sample number(s): 5189496-5189505							
Total C6 - C28 Hydrocarbons	< 20.	20.	mg/kg	103	102	75-125	0	20
Total C6 - C35 Hydrocarbons	< 20.	20.	mg/kg					
C6 - C12 Hydrocarbons	< 20.	20.	mg/kg	101	101	75-125	0	20
>C12 - C28 Hydrocarbons	< 20.	20.	mg/kg	105	103	75-125	1	20
>C28 - C35 Hydrocarbons	< 20.	20.	mg/kg					
Batch number: 072955708001	Sample number(s): 5189496-5189497							
Arsenic	< 2.00	2.00	mg/kg	94		86-114		
Selenium	< 2.00	2.00	mg/kg	98		85-115		
Barium	< 0.500	0.500	mg/kg	98		90-110		
Cadmium	< 0.500	0.500	mg/kg	95		90-110		
Chromium	< 1.50	1.50	mg/kg	113		79-121		
Lead	< 1.50	1.50	mg/kg	96		90-110		
Silver	< 0.500	0.500	mg/kg	96		89-111		
Batch number: 07295820003A	Sample number(s): 5189496-5189500							
Moisture				100		99-101		
Batch number: 07295820003B	Sample number(s): 5189501-5189505							
Moisture				100		99-101		
Batch number: 072965708001	Sample number(s): 5189498-5189501							
Arsenic	< 2.00	2.00	mg/kg	104		86-114		
Selenium	< 2.00	2.00	mg/kg	110		85-115		
Barium	< 0.500	0.500	mg/kg	104		90-110		
Cadmium	< 0.500	0.500	mg/kg	105		90-110		
Lead	< 1.50	1.50	mg/kg	103		90-110		
Silver	< 0.500	0.500	mg/kg	101		89-111		
Batch number: 072965711001	Sample number(s): 5189496-5189501							
Mercury	< 0.100	0.100	mg/kg	72		66-133		
Batch number: 073035708001	Sample number(s): 5189498-5189501							
Chromium	< 1.50	1.50	mg/kg	116		79-121		

### Sample Matrix Quality Control

\*- 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.

Group Number: 1061790

Reported: 11/01/07 at 08:10 AM

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</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup</u> <u>RPD</u> <u>Max</u>
Batch number: 07292A51B	Sample number(s): 5189506 UNSPK: P183633								
Benzene	121		78-131						
Toluene	106		78-129						
Ethylbenzene	106		75-133						
Total Xylenes	94		84-131						
Batch number: 072950005A	Sample number(s): 5189496-5189505 UNSPK: 5189496								
Total C6 - C28 Hydrocarbons	590 (2)	878 (2)	75-125	13	20				
C6 - C12 Hydrocarbons	216 (2)	276 (2)	75-125	9	20				
>C12 - C28 Hydrocarbons	964 (2)	1481 (2)	75-125	13	20				
Batch number: 072955708001	Sample number(s): 5189496-5189497 UNSPK: P188717 BKG: P188717								
Arsenic	75	63*	75-125	6	20	19.2	14.5	28*	20
Selenium	103	107	75-125	4	20	< 1.94	< 1.90	200* (1)	20
Barium	84	83	75-125	1	20	196.	174.	12	20
Cadmium	89	89	75-125	1	20	< 0.485	< 0.476	94* (1)	20
Chromium	109	76	75-125	13	20	33.7	26.2	25*	20
Lead	97	63*	75-125	16	20	16.5	14.6	13	20
Silver	97	98	75-125	1	20	< 0.485	< 0.476	38* (1)	20
Batch number: 07295820003A	Sample number(s): 5189496-5189500 BKG: 5189497								
Moisture						24.7	23.9	3	15
Batch number: 07295820003B	Sample number(s): 5189501-5189505 BKG: P190832								
Moisture						69.9	70.9	1	15
Batch number: 072965708001	Sample number(s): 5189498-5189501 UNSPK: P189129 BKG: P189129								
Arsenic	98	90	75-125	6	20	5.49	5.16	6 (1)	20
Selenium	126*	118	75-125	6	20	< 2.00	< 2.00	200* (1)	20
Barium	108	105	75-125	2	20	46.5	44.6	4	20
Cadmium	103	100	75-125	3	20	< 0.500	< 0.500	22* (1)	20
Lead	109	111	75-125	1	20	29.0	27.6	5	20
Silver	104	102	75-125	2	20	< 0.500	< 0.500	5 (1)	20
Batch number: 072965711001	Sample number(s): 5189496-5189501 UNSPK: P189985 BKG: P189985								
Mercury	94	99	80-120	5	20	< 0.0960	< 0.0956	0 (1)	20
Batch number: 073035708001	Sample number(s): 5189498-5189501 UNSPK: P189129 BKG: P189129								
Chromium	110	116	75-125	3	20	27.0	28.1	4	20

## 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: BTEX (8021)

Batch number: 07292A51B

Trifluorotoluene-P

5189506 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.

Group Number: 1061790

Reported: 11/01/07 at 08:10 AM

### Surrogate Quality Control

Blank	121
LCS	115
LCSD	118
MS	118

---

Limits: 69-129

Analysis Name: TNRCC 1005 - (Soils)

Batch number: 072950005A

	Orthoterphenyl	Trifluorotoluene
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5189496	68*	62*
5189497	83	74
5189498	69*	63*
5189499	99	70
5189500	101	77
5189501	70	68*
5189502	72	76
5189503	72	77
5189504	70	80
5189505	76	83
Blank	97	95
LCS	99	102
LCSD	100	95
MS	94	79
MSD	102	65*

---

Limits: 70-130      70-130

\*- 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.

# Chevron Generic Analysis Request/Chain of Custody



004309

For Lancaster Laboratories use only

Acct. #: 11842 Sample #: 5189496-506 SCR#: \_\_\_\_\_

Group# 1061790

Facility #: Wilson Creek Unit  
 Site Address: Meeker CO  
 Chevron PM: Huddleson Lead Consultant: SECOR  
 Consultant/Office: Lansing, MI  
 Consultant Prj. Mgr.: Seth Maher  
 Consultant Phone #: 517-349-9499 Fax #: 517-349-6863  
 Sampler: CB/JA  
 Service Order #: \_\_\_\_\_ ☐ Non SAR: \_\_\_\_\_

Sample Identification		Date Collected	Time Collected	Matrix		Total Number of Containers	Analyses Requested										Preservative Codes		Comments / Remarks
				Soil	Water		Preservation Codes										Preservative Codes		
				Grab	Composite		BTEX + 8260	8260 full scan	Oxygenates	TPH G	TPH D	Lead Total	VPI/EPH	NWTPH HClD	TNRLC 1005	PCRA 8 Metals	Moisture		
T1-1-101007	101007	0930	X		X	2	<input checked="" type="checkbox"/>									X	X	X	
T2-1-101007	101007	0945	X		X	2										X	X	X	
T3-1-101007	101007	1000	X		X	2										X	X	X	
<del>T3-1-101007</del> T4-1-101007	101007	1015	X		X	2										X	X	X	
T5-1-101007	101007	1030	X		X	2										X	X	X	
T6-1-101007	101007	1045	X		X	2										X	X	X	
LF-1-101007	101007	1420		X	X	2										X	X	X	
LF-2-101007	101007	1430		X	X	2										X	X	X	
LF-3-101007	101007	1440		X	X	2										X	X	X	
LF-4-101007	101007	1450		X	X	2										X	X	X	
Trip Blank	—	—	X		X	2	X												

**Turnaround Time Requested (TAT) (please circle)**

STD. TAT      72 hour      48 hour  
 24 hour      4 day      5 day

**Data Package Options (please circle if required)**

QC Summary      Type I - Full  
 Type VI (Raw Data)      Disk / EDD  
 WIP (RWQCB)      Standard Format  
 Disk      \_\_\_\_\_ Other.

Relinquished by:	Date: <u>10/07</u>	Time: <u>1500</u>	Received by: _____	Date: _____	Time: _____
Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____
Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____
Relinquished by Commercial Carrier: _____	Date: _____	Time: _____	Received by:	Date: <u>10/07</u>	Time: <u>0915</u>
UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other _____	Temperature Upon Receipt: <u>0-6-3.5</u> C°		Custody Seals Intact? <input checked="" type="checkbox"/> No		



## 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

<b>A</b>	TIC is a possible aldol-condensation product
<b>B</b>	Analyte was also detected in the blank
<b>C</b>	Pesticide result confirmed by GC/MS
<b>D</b>	Compound quantitated on a diluted sample
<b>E</b>	Concentration exceeds the calibration range of the instrument
<b>J</b>	Estimated value
<b>N</b>	Presumptive evidence of a compound (TICs only)
<b>P</b>	Concentration difference between primary and confirmation columns >25%
<b>U</b>	Compound was not detected
<b>X,Y,Z</b>	Defined in case narrative

#### Inorganic Qualifiers

<b>B</b>	Value is <CRDL, but ≥IDL
<b>E</b>	Estimated due to interference
<b>M</b>	Duplicate injection precision not met
<b>N</b>	Spike amount not within control limits
<b>S</b>	Method of standard additions (MSA) used for calculation
<b>U</b>	Compound was not detected
<b>W</b>	Post digestion spike out of control limits
<b>*</b>	Duplicate analysis not within control limits
<b>+</b>	Correlation coefficient for MSA <0.995

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.

**WARRANTY AND LIMITS OF LIABILITY** – In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.

**ANALYTICAL RESULTS**

Prepared for:

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

517-349-9499

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425**SAMPLE GROUP**

The sample group for this submittal is 1062278. Samples arrived at the laboratory on Tuesday, October 23, 2007. The PO# for this group is 89CH.49557.07 and the release number is WILSON CREEK.

**Client Description**T-7-101707 Grab Soil Sample  
Trip Blank Water Sample**Lancaster Labs Number**5192711  
5192712ELECTRONIC      SECOR International, Inc.  
COPY TO

Attn: Seth Maher

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

Respectfully Submitted,



Max E. Snively  
Senior Specialist

**Lancaster Laboratories Sample No. SW 5192711**
**T-7-101707 Grab Soil Sample  
Wilson Creek**

Collected: 10/17/2007 17:30 by CB

Account Number: 11842

Submitted: 10/23/2007 09:40  
Reported: 11/02/2007 at 06:58  
Discard: 12/03/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

717WC  
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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Units	Dilution Factor
00159	Mercury	7439-97-6	< 0.116	0.116	mg/kg	1
06935	Arsenic	7440-38-2	4.09	2.37	mg/kg	1
06936	Selenium	7782-49-2	< 2.37	2.37	mg/kg	1
06946	Barium	7440-39-3	180.	0.593	mg/kg	1
06949	Cadmium	7440-43-9	< 0.593	0.593	mg/kg	1
06951	Chromium	7440-47-3	15.2	1.78	mg/kg	1
06955	Lead	7439-92-1	16.0	1.78	mg/kg	1
06966	Silver	7440-22-4	< 0.593	0.593	mg/kg	1
00111	Moisture	n.a.	17.4	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.						
02321	TNRCC 1005 - (Soils)					
02322	Total C6 - C28 Hydrocarbons	n.a.	4,200.	480.	mg/kg	20
02323	Total C6 - C35 Hydrocarbons	n.a.	4,200.	480.	mg/kg	20
08751	C6 - C12 Hydrocarbons	n.a.	590.	480.	mg/kg	20
08752	>C12 - C28 Hydrocarbons	n.a.	3,600.	480.	mg/kg	20
08753	>C28 - C35 Hydrocarbons	n.a.	< 480.	480.	mg/kg	20

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
00159	Mercury	SW-846 7471A	1	10/26/2007 08:53	Damary Valentin	1
06935	Arsenic	SW-846 6010B	1	11/02/2007 02:33	Tara L Snyder	1
06936	Selenium	SW-846 6010B	1	11/02/2007 02:33	Tara L Snyder	1
06946	Barium	SW-846 6010B	1	11/02/2007 02:33	Tara L Snyder	1
06949	Cadmium	SW-846 6010B	1	11/01/2007 04:15	Laura E Hartman	1
06951	Chromium	SW-846 6010B	1	11/01/2007 04:15	Laura E Hartman	1
06955	Lead	SW-846 6010B	1	11/01/2007 04:15	Laura E Hartman	1
06966	Silver	SW-846 6010B	1	11/01/2007 04:15	Laura E Hartman	1
00111	Moisture	SM20 2540 G	1	10/24/2007 17:32	Scott W Freisher	1
02321	TNRCC 1005 - (Soils)	TNRCC 1005 Rev 3	1	10/26/2007 17:04	Heather E Williams	20
05708	SW SW846 ICP Digest	SW-846 3050B	1	10/29/2007 18:30	James L Mertz	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	10/25/2007 22:55	Annamaria Stipkovits	1



# 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. SW 5192711

T-7-101707 Grab Soil Sample  
Wilson Creek

Collected: 10/17/2007 17:30 by CB

Account Number: 11842

Submitted: 10/23/2007 09:40  
Reported: 11/02/2007 at 06:58  
Discard: 12/03/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

717WC

07004	Extraction - DRO (Soils)	TNRCC 1005 06/01	1	10/24/2007 09:00	Deborah M Zimmerman	1
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# Analysis Report

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

Page 1 of 1

Lancaster Laboratories Sample No. WW 5192712

Trip Blank Water Sample  
Wilson Creek

Collected: 10/17/2007

Account Number: 11842

Submitted: 10/23/2007 09:40  
Reported: 11/02/2007 at 06:58  
Discard: 12/03/2007

SECOR International, Inc.  
2321 Club Meridian Drive  
Suite E  
Okemos MI 48864

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CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	< 1.0	1.0	ug/l	1
00777	Toluene	108-88-3	< 1.0	1.0	ug/l	1
00778	Ethylbenzene	100-41-4	< 1.0	1.0	ug/l	1
00779	Total Xylenes	1330-20-7	< 3.0	3.0	ug/l	1

Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 5.

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	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/25/2007 13:03	Steven A Skiles	1
01146	GC VOA Water Prep	SW-846 5030B	1	10/25/2007 13:03	Steven A Skiles	1

## Quality Control Summary

Client Name: SECOR International, Inc.  
Reported: 11/02/07 at 06:58 AM

Group Number: 1062278

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 LOQ</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: 072960024A	Sample number(s): 5192711							
Total C6 - C28 Hydrocarbons	< 20.	20.	mg/kg	103	91	75-125	12	20
Total C6 - C35 Hydrocarbons	< 20.	20.	mg/kg					
C6 - C12 Hydrocarbons	< 20.	20.	mg/kg	99	87	75-125	13	20
>C12 - C28 Hydrocarbons	< 20.	20.	mg/kg	106	95	75-125	11	20
>C28 - C35 Hydrocarbons	< 20.	20.	mg/kg					
Batch number: 07296A07D	Sample number(s): 5192712							
Benzene	< 1.0	1.0	ug/l	88	103	86-119	15	30
Toluene	< 1.0	1.0	ug/l	88	103	82-119	16	30
Ethylbenzene	< 1.0	1.0	ug/l	90	104	81-119	15	30
Total Xylenes	< 3.0	3.0	ug/l	94	109	82-120	15	30
Batch number: 07297820012A	Sample number(s): 5192711							
Moisture				100		99-101		
Batch number: 072985711001	Sample number(s): 5192711							
Mercury	< 0.100	0.100	mg/kg	76		66-133		
Batch number: 073025708001	Sample number(s): 5192711							
Arsenic	< 2.00	2.00	mg/kg	93		86-114		
Selenium	< 2.00	2.00	mg/kg	97		85-115		
Barium	< 0.500	0.500	mg/kg	95		90-110		
Cadmium	< 0.500	0.500	mg/kg	92		90-110		
Chromium	< 1.50	1.50	mg/kg	109		79-121		
Lead	< 1.50	1.50	mg/kg	91		90-110		
Silver	< 0.500	0.500	mg/kg	90		89-111		

### 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: 072960024A	Sample number(s): 5192711 UNSPK: P192129								
Total C6 - C28 Hydrocarbons	89	91	75-125	2	20				
C6 - C12 Hydrocarbons	85	86	75-125	1	20				
>C12 - C28 Hydrocarbons	93	97	75-125	4	20				
Batch number: 07296A07D	Sample number(s): 5192712 UNSPK: P191678								
Benzene	81	(2)	78-131						
Toluene	105		78-129						
Ethylbenzene	105		75-133						
Total Xylenes	111		84-131						

\*- 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.

Group Number: 1062278

Reported: 11/02/07 at 06:58 AM

### 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</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup</u> <u>RPD</u> <u>Max</u>
Batch number: 07297820012A Moisture	Sample number(s): 5192711 BKG: P191837					15.3	14.4	6	15
Batch number: 072985711001 Mercury	Sample number(s): 5192711 UNSPK: P190832 BKG: P190832				200 (2) 580 (2) 80-120 12	20 4.19	4.40	5 (1)	20
Batch number: 073025708001 Arsenic	Sample number(s): 5192711 UNSPK: P193116 BKG: P193116				151* 137* 75-125 7	20 < 9.90	10.2	14 (1)	20
Selenium	109	129*	75-125	17	20	< 9.90	< 10.0	0 (1)	20
Barium	146*	135*	75-125	4	20	235.	208.	12	20
Cadmium	-126*	-108*	75-125	14	20	12.0	0.749	177* (1)	20
Chromium	126*	146*	75-125	8	20	24.7	29.9	19	20
Lead	3602 (2)	2404 (2)	75-125	14	20	684.	729.	6	20
Silver	94	92	75-125	2	20	0.722	0.692	4 (1)	20

### 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: TNRCC 1005 -(Soils)

Batch number: 072960024A

Orthoterphenyl

Trifluorotoluene

5192711	37*	70
Blank	94	85
LCS	120	101
LCSD	89	89
MS	92	86
MSD	91	90

Limits: 70-130 70-130

Analysis Name: BTEX (8021)

Batch number: 07296A07D

Trifluorotoluene-P

5192712	95
Blank	91
LCS	106
LCSD	106
MS	106

Limits: 69-129

\*- 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.



# Chevron Generic Analysis Request/Chain of Custody



005998

For Lancaster Laboratories use only

Acct. #: 11842 Sample #: 5192711-12 SCR#: \_\_\_\_\_

Facility #: <u>Wilson Creek unit</u> Site Address: <u>Meeker, CO</u> Chevron PM: <u>Huddleson</u> Lead Consultant: <u>SECOR</u> Consultant/Office: <u>Lansing MI</u> Consultant Prj. Mgr.: <u>Seth Maher</u> Consultant Phone #: <u>517 349-9499</u> Fax #: <u>517 349 6863</u> Sampler: <u>CB/JA</u> Service Order #: _____ <input type="checkbox"/> Non SAR: _____				<b>Matrix</b> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Water <input type="checkbox"/> Air <input type="checkbox"/> Soil <input type="checkbox"/>		<b>Analyses Requested</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="10">Preservation Codes</th> </tr> <tr> <td><input type="checkbox"/> BTEX + 8021</td> <td><input type="checkbox"/> 8260</td> <td><input type="checkbox"/> Naphth</td> <td><input type="checkbox"/> 8021</td> <td><input type="checkbox"/> 8260</td> <td><input type="checkbox"/> full scan</td> <td><input type="checkbox"/> Oxygenates</td> <td><input type="checkbox"/> TPH G</td> <td><input type="checkbox"/> TPH D</td> <td><input type="checkbox"/> Extended Rng.</td> <td><input type="checkbox"/> Silica Gel Cleanup</td> <td><input type="checkbox"/> Lead Total</td> <td><input type="checkbox"/> Diss.</td> <td><input type="checkbox"/> Method</td> <td><input type="checkbox"/> VPH/EPH</td> <td><input type="checkbox"/> NWTPH HClID</td> <td><input type="checkbox"/> quantification</td> </tr> </table>										Preservation Codes										<input type="checkbox"/> BTEX + 8021	<input type="checkbox"/> 8260	<input type="checkbox"/> Naphth	<input type="checkbox"/> 8021	<input type="checkbox"/> 8260	<input type="checkbox"/> full scan	<input type="checkbox"/> Oxygenates	<input type="checkbox"/> TPH G	<input type="checkbox"/> TPH D	<input type="checkbox"/> Extended Rng.	<input type="checkbox"/> Silica Gel Cleanup	<input type="checkbox"/> Lead Total	<input type="checkbox"/> Diss.	<input type="checkbox"/> Method	<input type="checkbox"/> VPH/EPH	<input type="checkbox"/> NWTPH HClID	<input type="checkbox"/> quantification	<b>Preservative Codes</b> H = HCl      T = Thiosulfate N = HNO <sub>3</sub> B = NaOH S = H <sub>2</sub> SO <sub>4</sub> O = Other <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run ____ oxy's on highest hit <input type="checkbox"/> Run ____ oxy's on all hits	
Preservation Codes																																												
<input type="checkbox"/> BTEX + 8021	<input type="checkbox"/> 8260	<input type="checkbox"/> Naphth	<input type="checkbox"/> 8021	<input type="checkbox"/> 8260	<input type="checkbox"/> full scan	<input type="checkbox"/> Oxygenates	<input type="checkbox"/> TPH G	<input type="checkbox"/> TPH D	<input type="checkbox"/> Extended Rng.	<input type="checkbox"/> Silica Gel Cleanup	<input type="checkbox"/> Lead Total	<input type="checkbox"/> Diss.	<input type="checkbox"/> Method	<input type="checkbox"/> VPH/EPH	<input type="checkbox"/> NWTPH HClID	<input type="checkbox"/> quantification																												
<b>Sample Identification</b> <u>T-7-101707</u> <u>Trip Blank</u>		Date Collected <u>10/7/07</u>	Time Collected <u>1730</u>	Grab <input checked="" type="checkbox"/> Composite <input type="checkbox"/>	Soil <input checked="" type="checkbox"/> Water <input type="checkbox"/> Oil <input type="checkbox"/>	Total Number of Containers <u>2</u>	BTEX + 8021 <input checked="" type="checkbox"/> 8260 <input checked="" type="checkbox"/> full scan <input checked="" type="checkbox"/> Oxygenates <input type="checkbox"/> TPH G <input type="checkbox"/> TPH D <input type="checkbox"/> Extended Rng. <input type="checkbox"/> Silica Gel Cleanup <input type="checkbox"/> Lead Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/> VPH/EPH <input type="checkbox"/> NWTPH HClID <input type="checkbox"/> quantification <input type="checkbox"/>	<u>TN RCL 1005</u> <u>K RCRA 8 Metals</u>	<b>Comments / Remarks</b>																																			
<b>Turnaround Time Requested (TAT) (please circle)</b> STD. TAT      72 hour      48 hour 24 hour      4 day      5 day							Relinquished by: <u>Jason Anderson</u> Relinquished by: _____ Relinquished by Commercial Carrier: _____ UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other <input type="checkbox"/>		Date <u>10/23/07</u>	Time <u>0900</u>	Received by: _____ Received by: _____ Received by: _____ Received by: <u>Shirley Meyer</u>		Date <u>10-23-07</u>	Time <u>0940</u>																														
<b>Data Package Options (please circle if required)</b> QC Summary      Type I - Full Type VI (Raw Data)      Disk / EDD WIP (RWQCB)      Standard Format Disk      _____ Other: _____							Temperature Upon Receipt <u>2.2°</u> C°		Custody Seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																			

## 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

<b>A</b>	TIC is a possible aldol-condensation product
<b>B</b>	Analyte was also detected in the blank
<b>C</b>	Pesticide result confirmed by GC/MS
<b>D</b>	Compound quantitated on a diluted sample
<b>E</b>	Concentration exceeds the calibration range of the instrument
<b>J</b>	Estimated value
<b>N</b>	Presumptive evidence of a compound (TICs only)
<b>P</b>	Concentration difference between primary and confirmation columns >25%
<b>U</b>	Compound was not detected
<b>X,Y,Z</b>	Defined in case narrative

#### Inorganic Qualifiers

<b>B</b>	Value is <CRDL, but ≥IDL
<b>E</b>	Estimated due to interference
<b>M</b>	Duplicate injection precision not met
<b>N</b>	Spike amount not within control limits
<b>S</b>	Method of standard additions (MSA) used for calculation
<b>U</b>	Compound was not detected
<b>W</b>	Post digestion spike out of control limits
<b>*</b>	Duplicate analysis not within control limits
<b>+</b>	Correlation coefficient for MSA <0.995

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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## Analytical Laboratory Report

Report ID: S57595.01(01)  
Generated on 09/04/2013

### Report to

Attention: Chris Beall  
Stantec  
2000 S. Colorado Blvd.  
Ste. 2-300  
Denver, CO 80222

Phone: 970-214-1126 FAX:  
Email: Christopher.Beall@stantec.com

### Report produced by

Merit Laboratories, Inc.  
2680 East Lansing Drive  
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

### Contacts for report questions:

Tabitha Faust (tfaust@meritlabs.com)  
Barbara Ball (bball@meritlabs.com)

### Report Summary

Lab Sample ID(s): S57595.01-S57595.54  
Project: 212201118/ Chevron Wilson Creek  
Collected Date: 08/06/2013 - 08/08/2013  
Submitted Date/Time: 08/13/2013 10:40  
Sampled by: Chris Beall  
P.O. #: 130620-4541

### Report Notes

Results relate only to items tested as received by the laboratory.  
Methods may be modified for improved performance.  
Results reported on a dry weight basis where applicable.  
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).  
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.  
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### Laboratory Certifications:

Michigan DNRE (#9956), DOD/ISO 17025 (#69699), WBENC (#2005110032), Ohio EPA (#CL0002), IN Drinking Water (#C-MI-07), NELAC NY (#11814)  
Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

## Sample Summary (54 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S57595.01	T-1-2-4'-080813	Soil	08/08/2013 13:00
S57595.02	T-1-3-4'-080813	Soil	08/08/2013 14:10
S57595.03	T-1-4-2'-080813	Soil	08/08/2013 13:30
S57595.04	T-1-4-5'-080813	Soil	08/08/2013 13:40
S57595.05	T-1-4-10'-080813	Soil	08/08/2013 13:50
S57595.06	T-1-5-5'-080813	Soil	08/08/2013 12:55
S57595.07	T-2-2-5'-080813	Soil	08/08/2013 10:55
S57595.08	T-2-3-6'-080813	Soil	08/08/2013 11:45
S57595.09	T-2-3-2'-080813	Soil	08/08/2013 11:30
S57595.10	T-2-3-12'-080813	Soil	08/08/2013 12:00
S57595.11	T-2-4-2'-080813	Soil	08/08/2013 11:00
S57595.12	T-2-4-7'-080813	Soil	08/08/2013 11:45
S57595.13	T-2-4-5'-080813	Soil	08/08/2013 11:05
S57595.14	T-2-5-5'-080813	Soil	08/08/2013 10:40
S57595.15	T-3-2-6'-080813	Soil	08/08/2013 08:15
S57595.16	T-3-2-10'-080813	Soil	08/08/2013 08:20
S57595.17	T-3-2-15'-080813	Soil	08/08/2013 08:35
S57595.18	T-3-3-5'-080813	Soil	08/08/2013 10:05
S57595.19	T-3-3-7'-080813	Soil	08/08/2013 10:10
S57595.20	T-3-3-10'-080813	Soil	08/08/2013 10:15
S57595.21	T-3-4-5'-080813	Soil	08/08/2013 09:35
S57595.22	T-3-5-4'-080813	Soil	08/08/2013 09:00
S57595.23	T-3-5-6'-080813	Soil	08/08/2013 09:10
S57595.24	T-3-5-9'-080813	Soil	08/08/2013 09:15
S57595.25	T-4-2-5'-080713	Soil	08/07/2013 14:00
S57595.26	T-4-3-3'-080713	Soil	08/07/2013 13:35
S57595.27	T-4-3-4'-080713	Soil	08/07/2013 13:40
S57595.28	T-4-3-6'-080713	Soil	08/07/2013 13:45
S57595.29	T-4-4-7'-080713	Soil	08/07/2013 15:10
S57595.30	T-4-5-5'-080713	Soil	08/07/2013 15:00
S57595.31	T-5-2-6'-080713	Soil	08/07/2013 11:20
S57595.32	T-5-2-8'-080713	Soil	08/07/2013 11:25
S57595.33	T-5-2-10'-080713	Soil	08/07/2013 11:35
S57595.34	T-5-3-4'-080713	Soil	08/07/2013 12:10
S57595.35	T-5-3-5'-080713	Soil	08/07/2013 12:15
S57595.36	T-5-3-8'-080713	Soil	08/07/2013 12:25
S57595.37	T-5-4-4'-080713	Soil	08/07/2013 10:55
S57595.38	T-5-5-4'-080713	Soil	08/07/2013 10:25
S57595.39	T-5-5-8'-080713	Soil	08/07/2013 10:30
S57595.40	T-5-5-9'-080713	Soil	08/07/2013 10:35
S57595.41	T-6-2-3'-080713	Soil	08/07/2013 10:00
S57595.42	T-6-2-4'-080713	Soil	08/07/2013 10:05
S57595.43	T-6-2-5'-080713	Soil	08/07/2013 10:10
S57595.44	T-6-3-4'-080713	Soil	08/07/2013 09:00
S57595.45	T-6-3-5'-080713	Soil	08/07/2013 09:05
S57595.46	T-6-3-8'-080713	Soil	08/07/2013 09:10
S57595.47	T-6-4-4'-080713	Soil	08/07/2013 09:45
S57595.48	T-6-5-4'-080713	Soil	08/07/2013 09:50
S57595.49	T-7-2-4'-080613	Soil	08/06/2013 13:00
S57595.50	T-7-3-4'-080613	Soil	08/06/2013 13:50
S57595.51	T-7-4-4'-080613	Soil	08/06/2013 14:10
S57595.52	T-7-5-3'-080613	Soil	08/06/2013 13:20
S57595.53	T-7-5-4'-080613	Soil	08/06/2013 13:30
S57595.54	T-7-5-7'-080613	Soil	08/06/2013 13:40



## Analytical Laboratory Report

Lab Sample ID: S57595.01  
Sample Tag: T-1-2-4'-080813  
Collected Date/Time: 08/08/2013 13:00  
Matrix: Soil  
COC Reference: 75022

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/13/13 23:38	EMR		
<b>Inorganics</b>								
Total Solids	89	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	17,000	ug/kg	4,000	SW8015M	08/15/13 20:31	PL		
TPH DRO (C32-C36)	6,000	ug/kg	4,000	SW8015M	08/15/13 20:31	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/15/13 14:31	JGH		



## Analytical Laboratory Report

Lab Sample ID: S57595.02  
Sample Tag: T-1-3-4'-080813  
Collected Date/Time: 08/08/2013 14:10  
Matrix: Soil  
COC Reference: 75022

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/13/13 23:38	EMR		
<b>Inorganics</b>								
Total Solids	91	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	11,000	ug/kg	4,000	SW8015M	08/15/13 20:52	PL		
TPH DRO (C32-C36)	Not detected	ug/kg	4,000	SW8015M	08/15/13 20:52	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/15/13 14:49	JGH		



# Analytical Laboratory Report

Lab Sample ID: S57595.03  
Sample Tag: T-1-4-2'-080813  
Collected Date/Time: 08/08/2013 13:30  
Matrix: Soil  
COC Reference: 75022

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/13/13 23:38	EMR		
<b>Inorganics</b>								
Total Solids	93	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	219,000	ug/kg	18,000	SW8015M	08/15/13 21:13	PL		Y
TPH DRO (C32-C36)	64,000	ug/kg	18,000	SW8015M	08/15/13 21:13	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/15/13 15:07	JGH		

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S57595.04  
Sample Tag: T-1-4-5'-080813  
Collected Date/Time: 08/08/2013 13:40  
Matrix: Soil  
COC Reference: 75022

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
2	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

DRO Extraction	Completed			3550B	08/13/13 23:38	EMR		
Mercury Digestion	Completed			SW7471A	08/15/13 12:00	CCM		
Metal Digestion	Completed			3050B	08/27/13 12:00	PER		
Metal Digestion	Completed			3015A	08/28/13 09:00	PER		
PNA Extraction	Completed			3550B	08/13/13 23:39	EMR		
Sodium Adsorption Ratio Prep.	Completed			20B	08/13/13 17:30	WAR		

### Inorganics

Chromium VI	Not detected	mg/kg	1	3500-Cr B	08/14/13 13:54	MJC	18540-29-9	
Conductivity	1,590	umhos/cm	NA	120.1	08/20/13 12:56	JDP		
pH/ Corrosivity	8.30	STD Units	0.1	9045D	08/27/13 15:00	WAR		
Total Solids	81	%	1	Std M 2540 B	08/13/13 17:30	ASB		

### Metals

Hot Water Extraction	Completed				08/28/13 09:00	PER		
Arsenic	1.82	mg/kg	0.20	SW6020	08/27/13 16:08	PER	7440-38-2	
Barium	106	mg/kg	1.0	SW6020	08/27/13 16:08	PER	7440-39-3	
Cadmium	0.34	mg/kg	0.20	SW6020	08/27/13 16:08	PER	7440-43-9	
Chromium III	6.28	mg/kg	0.5	SW6020	08/30/13 15:00	JDP	16065-83-1	
Chromium	6.28	mg/kg	0.50	SW6020	08/27/13 16:08	PER	7440-47-3	
Copper	24.0	mg/kg	0.50	SW6020	08/27/13 16:08	PER	7440-50-8	
Lead	16.5	mg/kg	0.30	SW6020	08/27/13 16:08	PER	7439-92-1	
Mercury	0.174	mg/kg	0.050	SW7471A	08/15/13 16:27	CCM	7439-97-6	
Nickel	10.5	mg/kg	0.50	SW6020	08/27/13 16:08	PER	7440-02-0	
Selenium	Not detected	mg/kg	0.40	SW6020	08/27/13 16:08	PER	7782-49-2	
Silver	Not detected	mg/kg	0.20	SW6020	08/27/13 16:08	PER	7440-22-4	
Zinc	100	mg/kg	1.0	SW6020	08/27/13 16:08	PER	7440-66-6	
Boron	1.25	mg/L	0.05	E200.8	08/28/13 14:12	PER	7440-42-8	
Calcium	50.8	mg/L	1.0	E200.8	08/28/13 12:59	PER	7440-70-2	
Magnesium	17.5	mg/L	0.50	E200.8	08/28/13 12:59	PER	7439-95-4	
Sodium	164	mg/L	0.50	E200.8	08/28/13 12:59	PER	7440-23-5	
Sodium Adsorption Ratio	5.06	ru		20B	09/03/13 10:00	BJB		

### Organics - Semi-Volatiles

TPH DRO (C10-C32)	4,349,000	ug/kg	412,000	SW8015M	08/15/13 22:37	PL		Y
TPH DRO (C32-C36)	807,000	ug/kg	412,000	SW8015M	08/15/13 22:37	PL		Y

### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	SW8270C	08/14/13 23:32	PL	83-32-9	
Anthracene	Not detected	ug/kg	300	SW8270C	08/14/13 23:32	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	SW8270C	08/14/13 23:32	PL	56-55-3	

Y-Elevated reporting limit due to high target concentration





# Analytical Laboratory Report

Lab Sample ID: S57595.04 (continued)

Sample Tag: T-1-4-5'-080813

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Polynuclear Aromatics (continued)</b>								
Benzo(a)pyrene	Not detected	ug/kg	300	SW8270C	08/14/13 23:32	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	SW8270C	08/14/13 23:32	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	SW8270C	08/14/13 23:32	PL	207-08-9	
Chrysene	Not detected	ug/kg	300	SW8270C	08/14/13 23:32	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	SW8270C	08/14/13 23:32	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	SW8270C	08/14/13 23:32	PL	206-44-0	
Fluorene	900	ug/kg	300	SW8270C	08/14/13 23:32	PL	86-73-7	Z
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	SW8270C	08/14/13 23:32	PL	193-39-5	
Naphthalene	1,400	ug/kg	300	SW8270C	08/14/13 23:32	PL	91-20-3	
Pyrene	Not detected	ug/kg	300	SW8270C	08/14/13 23:32	PL	129-00-0	
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	83,000	ug/kg	7,000	SW8015M	08/19/13 16:25	WAT		
<b>BTEX 5035</b>								
Benzene	Not detected	ug/kg	70	5035/8260B	08/20/13 14:28	WAT	71-43-2	
Toluene	Not detected	ug/kg	70	5035/8260B	08/20/13 14:28	WAT	108-88-3	
Ethylbenzene	550	ug/kg	70	5035/8260B	08/20/13 14:28	WAT	100-41-4	
p,m-Xylene	300	ug/kg	100	5035/8260B	08/20/13 14:28	WAT		
o-Xylene	Not detected	ug/kg	70	5035/8260B	08/20/13 14:28	WAT	95-47-6	

Z-Estimated result due to matrix interference



## Analytical Laboratory Report

Lab Sample ID: S57595.05  
Sample Tag: T-1-4-10'-080813  
Collected Date/Time: 08/08/2013 13:50  
Matrix: Soil  
COC Reference: 75022

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/13/13 23:38	EMR		
<b>Inorganics</b>								
Total Solids	79	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	36,000	ug/kg	4,000	SW8015M	08/15/13 22:16	PL		
TPH DRO (C32-C36)	8,000	ug/kg	4,000	SW8015M	08/15/13 22:16	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	8,000	SW8015M	08/15/13 15:25	JGH		



## Analytical Laboratory Report

Lab Sample ID: S57595.06  
Sample Tag: T-1-5-5'-080813  
Collected Date/Time: 08/08/2013 12:55  
Matrix: Soil  
COC Reference: 75022

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/13/13 23:38	EMR		
<b>Inorganics</b>								
Total Solids	86	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	17,000	ug/kg	4,000	SW8015M	08/15/13 21:34	PL		
TPH DRO (C32-C36)	5,000	ug/kg	4,000	SW8015M	08/15/13 21:34	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/15/13 15:43	JGH		



## Analytical Laboratory Report

Lab Sample ID: S57595.07  
Sample Tag: T-2-2-5'-080813  
Collected Date/Time: 08/08/2013 10:55  
Matrix: Soil  
COC Reference: 75022

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/13/13 23:38	EMR		
<b>Inorganics</b>								
Total Solids	82	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	14,000	ug/kg	4,000	SW8015M	08/15/13 21:55	PL		
TPH DRO (C32-C36)	6,000	ug/kg	4,000	SW8015M	08/15/13 21:55	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/15/13 16:02	JGH		



# Analytical Laboratory Report

Lab Sample ID: S57595.08  
Sample Tag: T-2-3-6'-080813  
Collected Date/Time: 08/08/2013 11:45  
Matrix: Soil  
COC Reference: 75022

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
2	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
Mercury Digestion	Completed			SW7471A	08/15/13 12:00	CCM		
Metal Digestion	Completed			3050B	08/27/13 12:00	PER		
Metal Digestion	Completed			3015A	08/28/13 09:00	PER		
PNA Extraction	Completed			3550B	08/14/13 22:49	EMR		
Sodium Adsorption Ratio Prep.	Completed			20B	08/13/13 17:30	WAR		

### Inorganics

Chromium VI	Not detected	mg/kg	1	3500-Cr B	08/14/13 14:09	MJC	18540-29-9	
Conductivity	1,668	umhos/cm	NA	120.1	08/20/13 12:58	JDP		
pH/ Corrosivity	7.85	STD Units	0.1	9045D	08/27/13 15:00	WAR		
Total Solids	79	%	1	Std M 2540 B	08/13/13 17:30	ASB		

### Metals

Hot Water Extraction	Completed				08/28/13 09:00	PER		
Arsenic	1.73	mg/kg	0.20	SW6020	08/27/13 16:13	PER	7440-38-2	
Barium	88.9	mg/kg	1.0	SW6020	08/27/13 16:13	PER	7440-39-3	
Cadmium	0.40	mg/kg	0.20	SW6020	08/27/13 16:13	PER	7440-43-9	
Chromium III	4.56	mg/kg	0.5	SW6020	08/30/13 15:01	JDP	16065-83-1	
Chromium	4.56	mg/kg	0.50	SW6020	08/27/13 16:13	PER	7440-47-3	
Copper	16.7	mg/kg	0.50	SW6020	08/27/13 16:13	PER	7440-50-8	
Lead	18.6	mg/kg	0.30	SW6020	08/27/13 16:13	PER	7439-92-1	
Mercury	0.264	mg/kg	0.050	SW7471A	08/15/13 16:29	CCM	7439-97-6	
Nickel	10.6	mg/kg	0.50	SW6020	08/27/13 16:13	PER	7440-02-0	
Selenium	Not detected	mg/kg	0.40	SW6020	08/27/13 16:13	PER	7782-49-2	
Silver	Not detected	mg/kg	0.20	SW6020	08/27/13 16:13	PER	7440-22-4	
Zinc	59.0	mg/kg	1.0	SW6020	08/27/13 16:13	PER	7440-66-6	
Boron	1.17	mg/L	0.05	E200.8	08/28/13 14:15	PER	7440-42-8	
Calcium	209	mg/L	1.0	E200.8	08/28/13 13:00	PER	7440-70-2	
Magnesium	60.1	mg/L	0.50	E200.8	08/28/13 13:00	PER	7439-95-4	
Sodium	86.3	mg/L	0.50	E200.8	08/28/13 13:00	PER	7440-23-5	
Sodium Adsorption Ratio	1.35	ru		20B	09/03/13 10:00	BJB		

### Organics - Semi-Volatiles

TPH DRO (C10-C32)	13,947,000	ug/kg	633,000	SW8015M	08/16/13 17:36	PL		Y
TPH DRO (C32-C36)	1,713,000	ug/kg	133,000	SW8015M	08/16/13 17:36	PL		Y

### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	1,600	SW8270C	08/15/13 18:37	PL	83-32-9	X
Anthracene	Not detected	ug/kg	1,600	SW8270C	08/15/13 18:37	PL	120-12-7	X

Y-Elevated reporting limit due to high target concentration

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S57595.08 (continued)

Sample Tag: T-2-3-6'-080813

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Polynuclear Aromatics (continued)</b>								
Benzo(a)anthracene	Not detected	ug/kg	1,600	SW8270C	08/15/13 18:37	PL	56-55-3	X
Benzo(a)pyrene	Not detected	ug/kg	1,600	SW8270C	08/15/13 18:37	PL	50-32-8	X
Benzo(b)fluoranthene	Not detected	ug/kg	1,600	SW8270C	08/15/13 18:37	PL	205-99-2	X
Benzo(k)fluoranthene	Not detected	ug/kg	1,600	SW8270C	08/15/13 18:37	PL	207-08-9	X
Chrysene	Not detected	ug/kg	1,600	SW8270C	08/15/13 18:37	PL	218-01-9	X
Dibenzo(ah)anthracene	Not detected	ug/kg	1,600	SW8270C	08/15/13 18:37	PL	53-70-3	X
Fluoranthene	Not detected	ug/kg	1,600	SW8270C	08/15/13 18:37	PL	206-44-0	X
Fluorene	Not detected	ug/kg	1,600	SW8270C	08/15/13 18:37	PL	86-73-7	X
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	1,600	SW8270C	08/15/13 18:37	PL	193-39-5	X
Naphthalene	3,900	ug/kg	1,600	SW8270C	08/15/13 18:37	PL	91-20-3	X
Pyrene	Not detected	ug/kg	1,600	SW8270C	08/15/13 18:37	PL	129-00-0	X
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	188,000	ug/kg	8,000	SW8015M	08/19/13 16:43	WAT		
<b>BTEX 5035</b>								
Benzene	Not detected	ug/kg	400	5035/8260B	08/22/13 14:14	WAT	71-43-2	X
Toluene	Not detected	ug/kg	400	5035/8260B	08/22/13 14:14	WAT	108-88-3	X
Ethylbenzene	1,500	ug/kg	400	5035/8260B	08/22/13 14:14	WAT	100-41-4	X
p,m-Xylene	2,900	ug/kg	800	5035/8260B	08/22/13 14:14	WAT		X
o-Xylene	Not detected	ug/kg	400	5035/8260B	08/22/13 14:14	WAT	95-47-6	X

X-Elevated reporting limit due to matrix interference



## Analytical Laboratory Report

Lab Sample ID: S57595.09

Sample Tag: T-2-3-2'-080813

Collected Date/Time: 08/08/2013 11:30

Matrix: Soil

COC Reference: 75022

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	94	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	206,000	ug/kg	53,000	SW8015M	08/16/13 17:57	PL		Y
TPH DRO (C32-C36)	84,000	ug/kg	53,000	SW8015M	08/16/13 17:57	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/15/13 16:20	JGH		

Y-Elevated reporting limit due to high target concentration



## Analytical Laboratory Report

Lab Sample ID: S57595.10  
Sample Tag: T-2-3-12'-080813  
Collected Date/Time: 08/08/2013 12:00  
Matrix: Soil  
COC Reference: 75022

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	84	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	7,000	ug/kg	4,000	SW8015M	08/16/13 18:18	PL		
TPH DRO (C32-C36)	Not detected	ug/kg	4,000	SW8015M	08/16/13 18:18	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/15/13 16:38	JGH		





# Analytical Laboratory Report

Lab Sample ID: S57595.11  
Sample Tag: T-2-4-2'-080813  
Collected Date/Time: 08/08/2013 11:00  
Matrix: Soil  
COC Reference: 75022

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	95	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	129,000	ug/kg	35,000	SW8015M	08/16/13 18:39	PL		Y
TPH DRO (C32-C36)	42,000	ug/kg	35,000	SW8015M	08/16/13 18:39	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	5,000	SW8015M	08/15/13 16:56	JGH		

Y-Elevated reporting limit due to high target concentration



## Analytical Laboratory Report

Lab Sample ID: S57595.12

Sample Tag: T-2-4-7'-080813

Collected Date/Time: 08/08/2013 11:45

Matrix: Soil

COC Reference: 75022

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	80	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	9,000	ug/kg	4,000	SW8015M	08/16/13 19:00	PL		
TPH DRO (C32-C36)	Not detected	ug/kg	4,000	SW8015M	08/16/13 19:00	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/15/13 17:15	JGH		



## Analytical Laboratory Report

Lab Sample ID: S57595.13  
Sample Tag: T-2-4-5'-080813  
Collected Date/Time: 08/08/2013 11:05  
Matrix: Soil  
COC Reference: 75023

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	76	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	13,244,000	ug/kg	1,316,000	SW8015M	08/16/13 19:21	PL		Y
TPH DRO (C32-C36)	2,098,000	ug/kg	1,316,000	SW8015M	08/16/13 19:21	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	41,000	ug/kg	8,000	SW8015M	08/15/13 17:33	JGH		

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S57595.14  
Sample Tag: T-2-5-5'-080813  
Collected Date/Time: 08/08/2013 10:40  
Matrix: Soil  
COC Reference: 75023

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	86	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	16,000	ug/kg	4,000	SW8015M	08/16/13 19:42	PL		
TPH DRO (C32-C36)	6,000	ug/kg	4,000	SW8015M	08/16/13 19:42	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	5,000	SW8015M	08/15/13 17:51	JGH		



## Analytical Laboratory Report

Lab Sample ID: S57595.15  
Sample Tag: T-3-2-6'-080813  
Collected Date/Time: 08/08/2013 08:15  
Matrix: Soil  
COC Reference: 75023

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	84	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	460,000	ug/kg	40,000	SW8015M	08/16/13 20:03	PL		Y
TPH DRO (C32-C36)	140,000	ug/kg	40,000	SW8015M	08/16/13 20:03	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/15/13 18:10	JGH		

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S57595.16  
Sample Tag: T-3-2-10'-080813  
Collected Date/Time: 08/08/2013 08:20  
Matrix: Soil  
COC Reference: 75023

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
2	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
Mercury Digestion	Completed			SW7471A	08/15/13 12:00	CCM		
Metal Digestion	Completed			3050B	08/27/13 12:00	PER		
Metal Digestion	Completed			3015A	08/28/13 09:00	PER		
PNA Extraction	Completed			3550B	08/14/13 22:49	EMR		
Sodium Adsorption Ratio Prep.	Completed			20B	08/13/13 17:30	WAR		

### Inorganics

Chromium VI	Not detected	mg/kg	1	3500-Cr B	08/14/13 14:43	MJC	18540-29-9	
Conductivity	1,585	umhos/cm	NA	120.1	08/20/13 13:00	JDP		
pH/ Corrosivity	8.75	STD Units	0.1	9045D	08/27/13 15:00	WAR		
Total Solids	68	%	1	Std M 2540 B	08/13/13 17:30	ASB		

### Metals

Hot Water Extraction	Completed				08/28/13 09:00	PER		
Arsenic	2.01	mg/kg	0.20	SW6020	08/27/13 16:15	PER	7440-38-2	
Barium	130	mg/kg	1.0	SW6020	08/27/13 16:15	PER	7440-39-3	
Cadmium	0.43	mg/kg	0.20	SW6020	08/27/13 16:15	PER	7440-43-9	
Chromium III	7.89	mg/kg	0.5	SW6020	08/30/13 15:02	JDP	16065-83-1	
Chromium	7.89	mg/kg	0.50	SW6020	08/27/13 16:15	PER	7440-47-3	
Copper	17.7	mg/kg	0.50	SW6020	08/27/13 16:15	PER	7440-50-8	
Lead	18.1	mg/kg	0.30	SW6020	08/27/13 16:15	PER	7439-92-1	
Mercury	0.310	mg/kg	0.050	SW7471A	08/15/13 16:31	CCM	7439-97-6	
Nickel	10.6	mg/kg	0.50	SW6020	08/27/13 16:15	PER	7440-02-0	
Selenium	Not detected	mg/kg	0.40	SW6020	08/27/13 16:15	PER	7782-49-2	
Silver	Not detected	mg/kg	0.20	SW6020	08/27/13 16:15	PER	7440-22-4	
Zinc	60.7	mg/kg	1.0	SW6020	08/27/13 16:15	PER	7440-66-6	
Boron	1.40	mg/L	0.05	E200.8	08/28/13 14:16	PER	7440-42-8	
Calcium	209	mg/L	1.0	E200.8	08/28/13 13:01	PER	7440-70-2	
Magnesium	59.2	mg/L	0.50	E200.8	08/28/13 13:01	PER	7439-95-4	
Sodium	302	mg/L	0.50	E200.8	08/28/13 13:01	PER	7440-23-5	
Sodium Adsorption Ratio	4.75	ru		20B	09/03/13 10:00	BJB		

### Organics - Semi-Volatiles

TPH DRO (C10-C32)	18,366,000	ug/kg	735,000	SW8015M	08/16/13 20:24	PL		Y
TPH DRO (C32-C36)	2,379,000	ug/kg	735,000	SW8015M	08/16/13 20:24	PL		Y

### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	1,800	SW8270C	08/15/13 18:59	PL	83-32-9	X
Anthracene	Not detected	ug/kg	1,800	SW8270C	08/15/13 18:59	PL	120-12-7	X

Y-Elevated reporting limit due to high target concentration

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S57595.16 (continued)

Sample Tag: T-3-2-10'-080813

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Polynuclear Aromatics (continued)</b>								
Benzo(a)anthracene	Not detected	ug/kg	1,800	SW8270C	08/15/13 18:59	PL	56-55-3	X
Benzo(a)pyrene	Not detected	ug/kg	1,800	SW8270C	08/15/13 18:59	PL	50-32-8	X
Benzo(b)fluoranthene	Not detected	ug/kg	1,800	SW8270C	08/15/13 18:59	PL	205-99-2	X
Benzo(k)fluoranthene	Not detected	ug/kg	1,800	SW8270C	08/15/13 18:59	PL	207-08-9	X
Chrysene	Not detected	ug/kg	1,800	SW8270C	08/15/13 18:59	PL	218-01-9	X
Dibenzo(ah)anthracene	Not detected	ug/kg	1,800	SW8270C	08/15/13 18:59	PL	53-70-3	X
Fluoranthene	Not detected	ug/kg	1,800	SW8270C	08/15/13 18:59	PL	206-44-0	X
Fluorene	Not detected	ug/kg	1,800	SW8270C	08/15/13 18:59	PL	86-73-7	X
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	1,800	SW8270C	08/15/13 18:59	PL	193-39-5	X
Naphthalene	5,700	ug/kg	1,800	SW8270C	08/15/13 18:59	PL	91-20-3	X
Pyrene	Not detected	ug/kg	1,800	SW8270C	08/15/13 18:59	PL	129-00-0	X
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	420,000	ug/kg	50,000	SW8015M	08/20/13 15:42	WAT		Y
<b>BTEX 5035</b>								
Benzene	Not detected	ug/kg	500	5035/8260B	08/20/13 15:42	WAT	71-43-2	Y
Toluene	Not detected	ug/kg	500	5035/8260B	08/20/13 15:42	WAT	108-88-3	Y
Ethylbenzene	3,700	ug/kg	500	5035/8260B	08/20/13 15:42	WAT	100-41-4	Y
p,m-Xylene	17,000	ug/kg	1,000	5035/8260B	08/20/13 15:42	WAT		Y
o-Xylene	3,200	ug/kg	500	5035/8260B	08/20/13 15:42	WAT	95-47-6	Y

X-Elevated reporting limit due to matrix interference

Y-Elevated reporting limit due to high target concentration



## Analytical Laboratory Report

Lab Sample ID: S57595.17  
Sample Tag: T-3-2-15'-080813  
Collected Date/Time: 08/08/2013 08:35  
Matrix: Soil  
COC Reference: 75023

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	83	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	38,000	ug/kg	4,000	SW8015M	08/16/13 20:45	PL		
TPH DRO (C32-C36)	10,000	ug/kg	4,000	SW8015M	08/16/13 20:45	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/15/13 18:28	JGH		





## Analytical Laboratory Report

Lab Sample ID: S57595.18  
Sample Tag: T-3-3-5'-080813  
Collected Date/Time: 08/08/2013 10:05  
Matrix: Soil  
COC Reference: 75023

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	85	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	9,053,000	ug/kg	588,000	SW8015M	08/16/13 21:06	PL		Y
TPH DRO (C32-C36)	1,577,000	ug/kg	588,000	SW8015M	08/16/13 21:06	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/15/13 18:46	JGH		

Y-Elevated reporting limit due to high target concentration



## Analytical Laboratory Report

Lab Sample ID: S57595.19  
Sample Tag: T-3-3-7'-080813  
Collected Date/Time: 08/08/2013 10:10  
Matrix: Soil  
COC Reference: 75023

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	86	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	19,341,000	ug/kg	1,453,000	SW8015M	08/16/13 21:27	PL		Y
TPH DRO (C32-C36)	3,053,000	ug/kg	1,453,000	SW8015M	08/16/13 21:27	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	119,000	ug/kg	7,000	SW8015M	08/15/13 19:04	JGH		

Y-Elevated reporting limit due to high target concentration



## Analytical Laboratory Report

Lab Sample ID: S57595.20  
Sample Tag: T-3-3-10'-080813  
Collected Date/Time: 08/08/2013 10:15  
Matrix: Soil  
COC Reference: 75023

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	82	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	10,000	ug/kg	4,000	SW8015M	08/16/13 21:48	PL		
TPH DRO (C32-C36)	Not detected	ug/kg	4,000	SW8015M	08/16/13 21:48	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/15/13 19:22	JGH		



## Analytical Laboratory Report

Lab Sample ID: S57595.21  
Sample Tag: T-3-4-5'-080813  
Collected Date/Time: 08/08/2013 09:35  
Matrix: Soil  
COC Reference: 75023

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	85	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	12,000	ug/kg	4,000	SW8015M	08/16/13 22:09	PL		
TPH DRO (C32-C36)	Not detected	ug/kg	4,000	SW8015M	08/16/13 22:09	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/15/13 19:40	JGH		



## Analytical Laboratory Report

Lab Sample ID: S57595.22  
Sample Tag: T-3-5-4'-080813  
Collected Date/Time: 08/08/2013 09:00  
Matrix: Soil  
COC Reference: 75023

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	88	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	252,000	ug/kg	38,000	SW8015M	08/16/13 22:30	PL		Y
TPH DRO (C32-C36)	86,000	ug/kg	38,000	SW8015M	08/16/13 22:30	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/15/13 19:59	JGH		

Y-Elevated reporting limit due to high target concentration



## Analytical Laboratory Report

Lab Sample ID: S57595.23  
Sample Tag: T-3-5-6'-080813  
Collected Date/Time: 08/08/2013 09:10  
Matrix: Soil  
COC Reference: 75023

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	80	%	1	Std M 2540 B	08/13/13 17:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	21,730,000	ug/kg	1,563,000	SW8015M	08/16/13 22:51	PL		Y
TPH DRO (C32-C36)	4,009,000	ug/kg	1,563,000	SW8015M	08/16/13 22:51	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	53,000	ug/kg	8,000	SW8015M	08/15/13 20:17	JGH		

Y-Elevated reporting limit due to high target concentration



## Analytical Laboratory Report

Lab Sample ID: S57595.24  
Sample Tag: T-3-5-9'-080813  
Collected Date/Time: 08/08/2013 09:15  
Matrix: Soil  
COC Reference: 75023

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	77	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	75,000	ug/kg	4,000	SW8015M	08/16/13 23:12	PL		
TPH DRO (C32-C36)	11,000	ug/kg	4,000	SW8015M	08/16/13 23:12	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	8,000	SW8015M	08/16/13 13:31	WAT		



## Analytical Laboratory Report

Lab Sample ID: S57595.25  
Sample Tag: T-4-2-5'-080713  
Collected Date/Time: 08/07/2013 14:00  
Matrix: Soil  
COC Reference: 75024

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	89	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	54,000	ug/kg	11,000	SW8015M	08/16/13 23:32	PL		Y
TPH DRO (C32-C36)	28,000	ug/kg	11,000	SW8015M	08/16/13 23:32	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/16/13 13:49	WAT		

Y-Elevated reporting limit due to high target concentration





## Analytical Laboratory Report

Lab Sample ID: S57595.26  
Sample Tag: T-4-3-3'-080713  
Collected Date/Time: 08/07/2013 13:35  
Matrix: Soil  
COC Reference: 75024

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
<b>Inorganics</b>								
Total Solids	89	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	249,000	ug/kg	37,000	SW8015M	08/16/13 23:53	PL		Y
TPH DRO (C32-C36)	77,000	ug/kg	37,000	SW8015M	08/16/13 23:53	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/16/13 14:07	WAT		

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S57595.27  
Sample Tag: T-4-3-4'-080713  
Collected Date/Time: 08/07/2013 13:40  
Matrix: Soil  
COC Reference: 75024

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
2	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

DRO Extraction	Completed			3550B	08/14/13 22:48	EMR		
Mercury Digestion	Completed			SW7471A	08/15/13 12:00	CCM		
Metal Digestion	Completed			3050B	08/27/13 12:00	PER		
Metal Digestion	Completed			3015A	08/28/13 09:00	PER		
PNA Extraction	Completed			3550B	08/14/13 22:49	EMR		
Sodium Adsorption Ratio Prep.	Completed			20B	08/13/13 17:30	WAR		

### Inorganics

Chromium VI	Not detected	mg/kg	1	3500-Cr B	08/14/13 14:56	MJC	18540-29-9	
Conductivity	1,193	umhos/cm	NA	120.1	08/20/13 13:04	JDP		
pH/ Corrosivity	7.85	STD Units	0.1	9045D	08/27/13 15:00	WAR		
Total Solids	84	%	1	Std M 2540 B	08/13/13 19:30	ASB		

### Metals

Hot Water Extraction	Completed				08/28/13 09:00	PER		
Arsenic	0.62	mg/kg	0.20	SW6020	08/27/13 16:18	PER	7440-38-2	
Barium	96.0	mg/kg	1.0	SW6020	08/27/13 16:18	PER	7440-39-3	
Cadmium	0.38	mg/kg	0.20	SW6020	08/27/13 16:18	PER	7440-43-9	
Chromium III	2.97	mg/kg	0.5	SW6020	08/30/13 15:03	JDP	16065-83-1	
Chromium	2.97	mg/kg	0.50	SW6020	08/27/13 16:18	PER	7440-47-3	
Copper	14.2	mg/kg	0.50	SW6020	08/27/13 16:18	PER	7440-50-8	
Lead	15.0	mg/kg	0.30	SW6020	08/27/13 16:18	PER	7439-92-1	
Mercury	0.378	mg/kg	0.050	SW7471A	08/15/13 16:33	CCM	7439-97-6	
Nickel	5.36	mg/kg	0.50	SW6020	08/27/13 16:18	PER	7440-02-0	
Selenium	Not detected	mg/kg	0.40	SW6020	08/27/13 16:18	PER	7782-49-2	
Silver	Not detected	mg/kg	0.20	SW6020	08/27/13 16:18	PER	7440-22-4	
Zinc	29.1	mg/kg	1.0	SW6020	08/27/13 16:18	PER	7440-66-6	
Boron	0.72	mg/L	0.05	E200.8	08/28/13 14:17	PER	7440-42-8	
Calcium	114	mg/L	1.0	E200.8	08/28/13 13:02	PER	7440-70-2	
Magnesium	32.1	mg/L	0.50	E200.8	08/28/13 13:02	PER	7439-95-4	
Sodium	22.6	mg/L	0.50	E200.8	08/28/13 13:02	PER	7440-23-5	
Sodium Adsorption Ratio	0.481	ru		20B	09/03/13 10:00	BJB		

### Organics - Semi-Volatiles

TPH DRO (C10-C32)	6,514,000	ug/kg	397,000	SW8015M	08/17/13 00:14	PL		Y
TPH DRO (C32-C36)	870,000	ug/kg	397,000	SW8015M	08/17/13 00:14	PL		Y

### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	1,500	SW8270C	08/15/13 19:22	PL	83-32-9	X
Anthracene	Not detected	ug/kg	1,500	SW8270C	08/15/13 19:22	PL	120-12-7	X

Y-Elevated reporting limit due to high target concentration

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S57595.27 (continued)

Sample Tag: T-4-3-4'-080713

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Polynuclear Aromatics (continued)</b>								
Benzo(a)anthracene	Not detected	ug/kg	1,500	SW8270C	08/15/13 19:22	PL	56-55-3	X
Benzo(a)pyrene	Not detected	ug/kg	1,500	SW8270C	08/15/13 19:22	PL	50-32-8	X
Benzo(b)fluoranthene	Not detected	ug/kg	1,500	SW8270C	08/15/13 19:22	PL	205-99-2	X
Benzo(k)fluoranthene	Not detected	ug/kg	1,500	SW8270C	08/15/13 19:22	PL	207-08-9	X
Chrysene	Not detected	ug/kg	1,500	SW8270C	08/15/13 19:22	PL	218-01-9	X
Dibenzo(ah)anthracene	Not detected	ug/kg	1,500	SW8270C	08/15/13 19:22	PL	53-70-3	X
Fluoranthene	Not detected	ug/kg	1,500	SW8270C	08/15/13 19:22	PL	206-44-0	X
Fluorene	Not detected	ug/kg	1,500	SW8270C	08/15/13 19:22	PL	86-73-7	X
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	1,500	SW8270C	08/15/13 19:22	PL	193-39-5	X
Naphthalene	1,600	ug/kg	1,500	SW8270C	08/15/13 19:22	PL	91-20-3	X
Pyrene	Not detected	ug/kg	1,500	SW8270C	08/15/13 19:22	PL	129-00-0	X
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	97,000	ug/kg	7,000	SW8015M	08/19/13 17:20	WAT		
<b>BTEX 5035</b>								
Benzene	Not detected	ug/kg	70	5035/8260B	08/19/13 17:20	WAT	71-43-2	
Toluene	Not detected	ug/kg	70	5035/8260B	08/19/13 17:20	WAT	108-88-3	
Ethylbenzene	660	ug/kg	70	5035/8260B	08/19/13 17:20	WAT	100-41-4	
p,m-Xylene	3,700	ug/kg	100	5035/8260B	08/19/13 17:20	WAT		
o-Xylene	Not detected	ug/kg	70	5035/8260B	08/19/13 17:20	WAT	95-47-6	

X-Elevated reporting limit due to matrix interference



## Analytical Laboratory Report

Lab Sample ID: S57595.28  
Sample Tag: T-4-3-6'-080713  
Collected Date/Time: 08/07/2013 13:45  
Matrix: Soil  
COC Reference: 75024

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	83	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	5,000	ug/kg	4,000	SW8015M	08/19/13 16:11	PL		
TPH DRO (C32-C36)	Not detected	ug/kg	4,000	SW8015M	08/19/13 16:11	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/16/13 14:25	WAT		



## Analytical Laboratory Report

Lab Sample ID: S57595.29  
Sample Tag: T-4-4-7'-080713  
Collected Date/Time: 08/07/2013 15:10  
Matrix: Soil  
COC Reference: 75024

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	80	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	5,000	ug/kg	4,000	SW8015M	08/19/13 16:32	PL		
TPH DRO (C32-C36)	Not detected	ug/kg	4,000	SW8015M	08/19/13 16:32	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/16/13 14:44	WAT		



## Analytical Laboratory Report

Lab Sample ID: S57595.30  
Sample Tag: T-4-5-5'-080713  
Collected Date/Time: 08/07/2013 15:00  
Matrix: Soil  
COC Reference: 75024

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	74	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	20,000	ug/kg	4,000	SW8015M	08/19/13 16:53	PL		
TPH DRO (C32-C36)	9,000	ug/kg	4,000	SW8015M	08/19/13 16:53	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	9,000	SW8015M	08/16/13 15:02	WAT		



# Analytical Laboratory Report

Lab Sample ID: S57595.31  
Sample Tag: T-5-2-6'-080713  
Collected Date/Time: 08/07/2013 11:20  
Matrix: Soil  
COC Reference: 75024

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### **Extraction / Prep.**

DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
DRO Extraction (Replicate 01)	Completed			3550B	08/21/13 17:59	EMR		

### **Inorganics**

Total Solids	86	%	1	Std M 2540 B	08/13/13 19:30	ASB		
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### **Organics - Semi-Volatiles**

TPH DRO (C10-C32)	187,000	ug/kg	19,000	SW8015M	08/19/13 17:14	PL		SY
TPH DRO (C10-C32) (Replicate 01)	358,000	ug/kg	19,000	SW8015M	08/22/13 23:08	PL		Y
TPH DRO (C32-C36)	47,000	ug/kg	19,000	SW8015M	08/19/13 17:14	PL		SY
TPH DRO (C32-C36) (Replicate 01)	86,000	ug/kg	19,000	SW8015M	08/22/13 23:08	PL		Y

### **Organics - Volatiles**

TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/16/13 15:20	WAT		
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S-Surrogate recovery outside of control limits Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S57595.32  
Sample Tag: T-5-2-8'-080713  
Collected Date/Time: 08/07/2013 11:25  
Matrix: Soil  
COC Reference: 75024

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
2	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
Mercury Digestion	Completed			SW7471A	08/15/13 12:00	CCM		
Metal Digestion	Completed			3050B	08/27/13 12:00	PER		
Metal Digestion	Completed			3015A	08/28/13 09:00	PER		
PNA Extraction	Completed			3550B	08/15/13 21:51	EMR		
Sodium Adsorption Ratio Prep.	Completed			20B	08/13/13 17:30	WAR		

### Inorganics

Chromium VI	Not detected	mg/kg	2	3500-Cr B	08/14/13 15:01	MJC	18540-29-9	
Conductivity	1,155	umhos/cm	NA	120.1	08/20/13 13:06	JDP		
pH/ Corrosivity	7.26	STD Units	0.1	9045D	08/27/13 15:00	WAR		
Total Solids	82	%	1	Std M 2540 B	08/13/13 19:30	ASB		

### Metals

Hot Water Extraction	Completed				08/28/13 09:00	PER		
Arsenic	1.25	mg/kg	0.20	SW6020	08/27/13 16:20	PER	7440-38-2	
Barium	122	mg/kg	1.0	SW6020	08/27/13 16:20	PER	7440-39-3	
Cadmium	0.36	mg/kg	0.20	SW6020	08/27/13 16:20	PER	7440-43-9	
Chromium III	3.19	mg/kg	0.5	SW6020	08/30/13 15:04	JDP	16065-83-1	
Chromium	3.19	mg/kg	0.50	SW6020	08/27/13 16:20	PER	7440-47-3	
Copper	13.7	mg/kg	0.50	SW6020	08/27/13 16:20	PER	7440-50-8	
Lead	15.4	mg/kg	0.30	SW6020	08/27/13 16:20	PER	7439-92-1	
Mercury	Not detected	mg/kg	0.050	SW7471A	08/15/13 16:37	CCM	7439-97-6	
Nickel	7.72	mg/kg	0.50	SW6020	08/27/13 16:20	PER	7440-02-0	
Selenium	Not detected	mg/kg	0.40	SW6020	08/27/13 16:20	PER	7782-49-2	
Silver	Not detected	mg/kg	0.20	SW6020	08/27/13 16:20	PER	7440-22-4	
Zinc	48.7	mg/kg	1.0	SW6020	08/27/13 16:20	PER	7440-66-6	
Boron	1.43	mg/L	0.05	E200.8	08/28/13 14:19	PER	7440-42-8	
Calcium	100	mg/L	1.0	E200.8	08/28/13 13:04	PER	7440-70-2	
Magnesium	40.6	mg/L	0.50	E200.8	08/28/13 13:04	PER	7439-95-4	
Sodium	38.1	mg/L	0.50	E200.8	08/28/13 13:04	PER	7440-23-5	
Sodium Adsorption Ratio	0.811	ru		20B	09/03/13 10:00	BJB		

### Organics - Semi-Volatiles

TPH DRO (C10-C32)	3,473,000	ug/kg	203,000	SW8015M	08/19/13 17:35	PL		Y
TPH DRO (C32-C36)	482,000	ug/kg	203,000	SW8015M	08/19/13 17:35	PL		Y

### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	800	SW8270C	08/16/13 22:52	PL	83-32-9	X
Anthracene	Not detected	ug/kg	800	SW8270C	08/16/13 22:52	PL	120-12-7	X

Y-Elevated reporting limit due to high target concentration

X-Elevated reporting limit due to matrix interference





# Analytical Laboratory Report

Lab Sample ID: S57595.32 (continued)

Sample Tag: T-5-2-8'-080713

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Polynuclear Aromatics (continued)</b>								
Benzo(a)anthracene	Not detected	ug/kg	800	SW8270C	08/16/13 22:52	PL	56-55-3	X
Benzo(a)pyrene	Not detected	ug/kg	800	SW8270C	08/16/13 22:52	PL	50-32-8	X
Benzo(b)fluoranthene	Not detected	ug/kg	800	SW8270C	08/16/13 22:52	PL	205-99-2	X
Benzo(k)fluoranthene	Not detected	ug/kg	800	SW8270C	08/16/13 22:52	PL	207-08-9	X
Chrysene	Not detected	ug/kg	800	SW8270C	08/16/13 22:52	PL	218-01-9	X
Dibenzo(ah)anthracene	Not detected	ug/kg	800	SW8270C	08/16/13 22:52	PL	53-70-3	X
Fluoranthene	Not detected	ug/kg	800	SW8270C	08/16/13 22:52	PL	206-44-0	X
Fluorene	Not detected	ug/kg	800	SW8270C	08/16/13 22:52	PL	86-73-7	X
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	800	SW8270C	08/16/13 22:52	PL	193-39-5	X
Naphthalene	1,700	ug/kg	800	SW8270C	08/16/13 22:52	PL	91-20-3	X
Pyrene	Not detected	ug/kg	800	SW8270C	08/16/13 22:52	PL	129-00-0	X
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	370,000	ug/kg	10,000	SW8015M	08/20/13 16:19	WAT		Y
<b>BTEX 5035</b>								
Benzene	Not detected	ug/kg	100	5035/8260B	08/20/13 16:19	WAT	71-43-2	Y
Toluene	Not detected	ug/kg	100	5035/8260B	08/20/13 16:19	WAT	108-88-3	Y
Ethylbenzene	3,100	ug/kg	100	5035/8260B	08/20/13 16:19	WAT	100-41-4	Y
p,m-Xylene	16,900	ug/kg	300	5035/8260B	08/20/13 16:19	WAT		Y
o-Xylene	200	ug/kg	100	5035/8260B	08/20/13 16:19	WAT	95-47-6	Y

X-Elevated reporting limit due to matrix interference

Y-Elevated reporting limit due to high target concentration



## Analytical Laboratory Report

Lab Sample ID: S57595.33  
Sample Tag: T-5-2-10'-080713  
Collected Date/Time: 08/07/2013 11:35  
Matrix: Soil  
COC Reference: 75024

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	82	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	10,000	ug/kg	4,000	SW8015M	08/19/13 17:56	PL		
TPH DRO (C32-C36)	Not detected	ug/kg	4,000	SW8015M	08/19/13 17:56	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/16/13 15:39	WAT		



## Analytical Laboratory Report

Lab Sample ID: S57595.34  
Sample Tag: T-5-3-4'-080713  
Collected Date/Time: 08/07/2013 12:10  
Matrix: Soil  
COC Reference: 75024

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	88	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	457,000	ug/kg	57,000	SW8015M	08/19/13 18:17	PL		Y
TPH DRO (C32-C36)	160,000	ug/kg	57,000	SW8015M	08/19/13 18:17	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/16/13 15:58	WAT		

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S57595.35  
Sample Tag: T-5-3-5'-080713  
Collected Date/Time: 08/07/2013 12:15  
Matrix: Soil  
COC Reference: 75024

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	85	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	3,095,000	ug/kg	196,000	SW8015M	08/19/13 18:38	PL		Y
TPH DRO (C32-C36)	424,000	ug/kg	196,000	SW8015M	08/19/13 18:38	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	83,000	ug/kg	7,000	SW8015M	08/16/13 16:16	WAT		

Y-Elevated reporting limit due to high target concentration



## Analytical Laboratory Report

Lab Sample ID: S57595.36

Sample Tag: T-5-3-8'-080713

Collected Date/Time: 08/07/2013 12:25

Matrix: Soil

COC Reference: 75024

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	83	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	15,000	ug/kg	4,000	SW8015M	08/19/13 18:59	PL		
TPH DRO (C32-C36)	5,000	ug/kg	4,000	SW8015M	08/19/13 18:59	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/16/13 16:34	WAT		



## Analytical Laboratory Report

Lab Sample ID: S57595.37  
Sample Tag: T-5-4-4'-080713  
Collected Date/Time: 08/07/2013 10:55  
Matrix: Soil  
COC Reference: 75028

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	87	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	19,000	ug/kg	4,000	SW8015M	08/19/13 19:20	PL		
TPH DRO (C32-C36)	9,000	ug/kg	4,000	SW8015M	08/19/13 19:20	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/16/13 16:52	WAT		



## Analytical Laboratory Report

Lab Sample ID: S57595.38  
Sample Tag: T-5-5-4'-080713  
Collected Date/Time: 08/07/2013 10:25  
Matrix: Soil  
COC Reference: 75028

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	93	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	247,000	ug/kg	36,000	SW8015M	08/19/13 19:41	PL		Y
TPH DRO (C32-C36)	97,000	ug/kg	36,000	SW8015M	08/19/13 19:41	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/16/13 17:10	WAT		

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S57595.39  
Sample Tag: T-5-5-8'-080713  
Collected Date/Time: 08/07/2013 10:30  
Matrix: Soil  
COC Reference: 75028

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	83	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	7,180,000	ug/kg	301,000	SW8015M	08/19/13 20:02	PL		Y
TPH DRO (C32-C36)	821,000	ug/kg	301,000	SW8015M	08/19/13 20:02	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	240,000	ug/kg	7,000	SW8015M	08/16/13 17:29	WAT		

Y-Elevated reporting limit due to high target concentration





## Analytical Laboratory Report

Lab Sample ID: S57595.40  
Sample Tag: T-5-5-9'-080713  
Collected Date/Time: 08/07/2013 10:35  
Matrix: Soil  
COC Reference: 75028

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	83	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	14,000	ug/kg	4,000	SW8015M	08/19/13 20:23	PL		
TPH DRO (C32-C36)	4,000	ug/kg	4,000	SW8015M	08/19/13 20:23	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/16/13 17:47	WAT		



# Analytical Laboratory Report

Lab Sample ID: S57595.41  
Sample Tag: T-6-2-3'-080713  
Collected Date/Time: 08/07/2013 10:00  
Matrix: Soil  
COC Reference: 75028

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	94	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	134,000	ug/kg	35,000	SW8015M	08/19/13 20:44	PL		Y
TPH DRO (C32-C36)	55,000	ug/kg	35,000	SW8015M	08/19/13 20:44	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/16/13 18:05	WAT		

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S57595.42  
Sample Tag: T-6-2-4'-080713  
Collected Date/Time: 08/07/2013 10:05  
Matrix: Soil  
COC Reference: 75028

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	87	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	1,658,000	ug/kg	115,000	SW8015M	08/19/13 21:05	PL		Y
TPH DRO (C32-C36)	298,000	ug/kg	115,000	SW8015M	08/19/13 21:05	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/16/13 18:23	WAT		

Y-Elevated reporting limit due to high target concentration



## Analytical Laboratory Report

Lab Sample ID: S57595.43

Sample Tag: T-6-2-5'-080713

Collected Date/Time: 08/07/2013 10:10

Matrix: Soil

COC Reference: 75028

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	83	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	20,000	ug/kg	4,000	SW8015M	08/19/13 21:26	PL		
TPH DRO (C32-C36)	7,000	ug/kg	4,000	SW8015M	08/19/13 21:26	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/16/13 18:41	WAT		



## Analytical Laboratory Report

Lab Sample ID: S57595.44  
Sample Tag: T-6-3-4'-080713  
Collected Date/Time: 08/07/2013 09:00  
Matrix: Soil  
COC Reference: 75028

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	86	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	1,332,000	ug/kg	116,000	SW8015M	08/19/13 21:47	PL		Y
TPH DRO (C32-C36)	256,000	ug/kg	116,000	SW8015M	08/19/13 21:47	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/16/13 18:59	WAT		

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S57595.45  
Sample Tag: T-6-3-5'-080713  
Collected Date/Time: 08/07/2013 09:05  
Matrix: Soil  
COC Reference: 75028

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
2	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
Mercury Digestion	Completed			SW7471A	08/15/13 12:00	CCM		
Metal Digestion	Completed			3050B	08/27/13 12:00	PER		
Metal Digestion	Completed			3015A	08/28/13 09:00	PER		
PNA Extraction	Completed			3550B	08/15/13 21:51	EMR		
Sodium Adsorption Ratio Prep.	Completed			20B	08/13/13 17:30	WAR		

### Inorganics

Chromium VI	Not detected	mg/kg	1	3500-Cr B	08/14/13 15:08	MJC	18540-29-9	
Conductivity	870	umhos/cm	NA	120.1	08/20/13 13:08	JDP		
pH/ Corrosivity	7.57	STD Units	0.1	9045D	08/27/13 15:00	WAR		
Total Solids	84	%	1	Std M 2540 B	08/13/13 19:30	ASB		

### Metals

Hot Water Extraction	Completed				08/28/13 09:00	PER		
Arsenic	1.26	mg/kg	0.20	SW6020	08/27/13 16:23	PER	7440-38-2	
Barium	75.4	mg/kg	1.0	SW6020	08/27/13 16:23	PER	7440-39-3	
Cadmium	0.27	mg/kg	0.20	SW6020	08/27/13 16:23	PER	7440-43-9	
Chromium III	2.90	mg/kg	0.5	SW6020	08/30/13 15:05	JDP	16065-83-1	
Chromium	2.90	mg/kg	0.50	SW6020	08/27/13 16:23	PER	7440-47-3	
Copper	12.6	mg/kg	0.50	SW6020	08/27/13 16:23	PER	7440-50-8	
Lead	12.2	mg/kg	0.30	SW6020	08/27/13 16:23	PER	7439-92-1	
Mercury	Not detected	mg/kg	0.050	SW7471A	08/15/13 16:50	CCM	7439-97-6	
Nickel	8.67	mg/kg	0.50	SW6020	08/27/13 16:23	PER	7440-02-0	
Selenium	Not detected	mg/kg	0.40	SW6020	08/27/13 16:23	PER	7782-49-2	
Silver	Not detected	mg/kg	0.20	SW6020	08/27/13 16:23	PER	7440-22-4	
Zinc	35.1	mg/kg	1.0	SW6020	08/27/13 16:23	PER	7440-66-6	
Boron	1.07	mg/L	0.05	E200.8	08/28/13 14:20	PER	7440-42-8	
Calcium	53.3	mg/L	1.0	E200.8	08/28/13 13:05	PER	7440-70-2	
Magnesium	23.2	mg/L	0.50	E200.8	08/28/13 13:05	PER	7439-95-4	
Sodium	44.2	mg/L	0.50	E200.8	08/28/13 13:05	PER	7440-23-5	
Sodium Adsorption Ratio	1.27	ru		20B	09/03/13 10:00	BJB		

### Organics - Semi-Volatiles

TPH DRO (C10-C32)	4,285,000	ug/kg	198,000	SW8015M	08/19/13 22:08	PL		Y
TPH DRO (C32-C36)	498,000	ug/kg	198,000	SW8015M	08/19/13 22:08	PL		Y

### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	800	SW8270C	08/19/13 23:11	PL	83-32-9	X
Anthracene	Not detected	ug/kg	800	SW8270C	08/19/13 23:11	PL	120-12-7	X

Y-Elevated reporting limit due to high target concentration

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S57595.45 (continued)

Sample Tag: T-6-3-5'-080713

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Polynuclear Aromatics (continued)</b>								
Benzo(a)anthracene	Not detected	ug/kg	800	SW8270C	08/19/13 23:11	PL	56-55-3	X
Benzo(a)pyrene	Not detected	ug/kg	800	SW8270C	08/19/13 23:11	PL	50-32-8	X
Benzo(b)fluoranthene	Not detected	ug/kg	800	SW8270C	08/19/13 23:11	PL	205-99-2	X
Benzo(k)fluoranthene	Not detected	ug/kg	800	SW8270C	08/19/13 23:11	PL	207-08-9	X
Chrysene	Not detected	ug/kg	800	SW8270C	08/19/13 23:11	PL	218-01-9	X
Dibenzo(ah)anthracene	Not detected	ug/kg	800	SW8270C	08/19/13 23:11	PL	53-70-3	X
Fluoranthene	Not detected	ug/kg	800	SW8270C	08/19/13 23:11	PL	206-44-0	X
Fluorene	Not detected	ug/kg	800	SW8270C	08/19/13 23:11	PL	86-73-7	X
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	800	SW8270C	08/19/13 23:11	PL	193-39-5	X
Naphthalene	Not detected	ug/kg	800	SW8270C	08/19/13 23:11	PL	91-20-3	X
Pyrene	Not detected	ug/kg	800	SW8270C	08/19/13 23:11	PL	129-00-0	X
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	34,000	ug/kg	7,000	SW8015M	08/19/13 14:36	WAT		
<b>BTEX 5035</b>								
Benzene	Not detected	ug/kg	70	5035/8260B	08/19/13 14:36	WAT	71-43-2	
Toluene	Not detected	ug/kg	70	5035/8260B	08/19/13 14:36	WAT	108-88-3	
Ethylbenzene	210	ug/kg	70	5035/8260B	08/19/13 14:36	WAT	100-41-4	
p,m-Xylene	600	ug/kg	100	5035/8260B	08/19/13 14:36	WAT		
o-Xylene	Not detected	ug/kg	70	5035/8260B	08/19/13 14:36	WAT	95-47-6	

X-Elevated reporting limit due to matrix interference



## Analytical Laboratory Report

Lab Sample ID: S57595.46  
Sample Tag: T-6-3-8'-080713  
Collected Date/Time: 08/07/2013 09:10  
Matrix: Soil  
COC Reference: 75028

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	82	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	10,000	ug/kg	4,000	SW8015M	08/19/13 22:29	PL		
TPH DRO (C32-C36)	4,000	ug/kg	4,000	SW8015M	08/19/13 22:29	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/16/13 19:17	WAT		





# Analytical Laboratory Report

Lab Sample ID: S57595.47  
Sample Tag: T-6-4-4'-080713  
Collected Date/Time: 08/07/2013 09:45  
Matrix: Soil  
COC Reference: 75028

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/15/13 21:49	EMR		
<b>Inorganics</b>								
Total Solids	92	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	147,000	ug/kg	36,000	SW8015M	08/19/13 22:50	PL		Y
TPH DRO (C32-C36)	59,000	ug/kg	36,000	SW8015M	08/19/13 22:50	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/20/13 15:05	WAT		

Y-Elevated reporting limit due to high target concentration



## Analytical Laboratory Report

Lab Sample ID: S57595.48  
Sample Tag: T-6-5-4'-080713  
Collected Date/Time: 08/07/2013 09:50  
Matrix: Soil  
COC Reference: 75028

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/19/13 23:57	EMR		
<b>Inorganics</b>								
Total Solids	84	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	12,000	ug/kg	4,000	SW8015M	08/21/13 16:47	PL		
TPH DRO (C32-C36)	5,000	ug/kg	4,000	SW8015M	08/21/13 16:47	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/20/13 15:23	WAT		



## Analytical Laboratory Report

Lab Sample ID: S57595.49  
Sample Tag: T-7-2-4'-080613  
Collected Date/Time: 08/06/2013 13:00  
Matrix: Soil  
COC Reference: 75026

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/19/13 23:57	EMR		
<b>Inorganics</b>								
Total Solids	88	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	29,000	ug/kg	4,000	SW8015M	08/21/13 17:08	PL		
TPH DRO (C32-C36)	8,000	ug/kg	4,000	SW8015M	08/21/13 17:08	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/20/13 14:10	WAT		



## Analytical Laboratory Report

Lab Sample ID: S57595.50  
Sample Tag: T-7-3-4'-080613  
Collected Date/Time: 08/06/2013 13:50  
Matrix: Soil  
COC Reference: 75026

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/19/13 23:57	EMR		
<b>Inorganics</b>								
Total Solids	89	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	66,000	ug/kg	7,000	SW8015M	08/21/13 17:29	PL		Y
TPH DRO (C32-C36)	20,000	ug/kg	7,000	SW8015M	08/21/13 17:29	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/19/13 14:54	WAT		

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S57595.51  
Sample Tag: T-7-4-4'-080613  
Collected Date/Time: 08/06/2013 14:10  
Matrix: Soil  
COC Reference: 75026

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/19/13 23:57	EMR		
<b>Inorganics</b>								
Total Solids	94	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	14,000	ug/kg	4,000	SW8015M	08/21/13 17:50	PL		
TPH DRO (C32-C36)	5,000	ug/kg	4,000	SW8015M	08/21/13 17:50	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/19/13 15:12	WAT		



## Analytical Laboratory Report

Lab Sample ID: S57595.52  
Sample Tag: T-7-5-3'-080613  
Collected Date/Time: 08/06/2013 13:20  
Matrix: Soil  
COC Reference: 75026

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/19/13 23:57	EMR		
<b>Inorganics</b>								
Total Solids	90	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	359,000	ug/kg	37,000	SW8015M	08/21/13 18:11	PL		Y
TPH DRO (C32-C36)	97,000	ug/kg	37,000	SW8015M	08/21/13 18:11	PL		Y
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	6,000	SW8015M	08/19/13 15:31	WAT		

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S57595.53  
Sample Tag: T-7-5-4'-080613  
Collected Date/Time: 08/06/2013 13:30  
Matrix: Soil  
COC Reference: 75026

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

DRO Extraction	Completed			3550B	08/19/13 23:57	EMR		
Mercury Digestion	Completed			SW7471A	08/15/13 12:00	CCM		
Metal Digestion	Completed			3050B	08/27/13 12:00	PER		
Metal Digestion	Completed			3015A	08/28/13 09:00	PER		
PNA Extraction	Completed			3550B	08/19/13 23:58	EMR		
Sodium Adsorption Ratio Prep.	Completed			20B	08/13/13 17:30	WAR		

### Inorganics

Chromium VI	Not detected	mg/kg	1	3500-Cr B	08/14/13 15:14	MJC	18540-29-9	
Conductivity	2,904	umhos/cm	NA	120.1	08/20/13 13:10	JDP		
pH/ Corrosivity	7.58	STD Units	0.1	9045D	08/27/13 15:00	WAR		
Total Solids	85	%	1	Std M 2540 B	08/13/13 19:30	ASB		

### Metals

Hot Water Extraction	Completed				08/28/13 09:00	PER		
Arsenic	1.13	mg/kg	0.20	SW6020	08/27/13 16:25	PER	7440-38-2	
Barium	111	mg/kg	1.0	SW6020	08/27/13 16:25	PER	7440-39-3	
Cadmium	0.35	mg/kg	0.20	SW6020	08/27/13 16:25	PER	7440-43-9	
Chromium III	3.04	mg/kg	0.5	SW6020	08/30/13 15:06	JDP	16065-83-1	
Chromium	3.04	mg/kg	0.50	SW6020	08/27/13 16:25	PER	7440-47-3	
Copper	11.6	mg/kg	0.50	SW6020	08/27/13 16:25	PER	7440-50-8	
Lead	11.0	mg/kg	0.30	SW6020	08/27/13 16:25	PER	7439-92-1	
Mercury	0.146	mg/kg	0.050	SW7471A	08/15/13 16:58	CCM	7439-97-6	
Nickel	6.11	mg/kg	0.50	SW6020	08/27/13 16:25	PER	7440-02-0	
Selenium	Not detected	mg/kg	0.40	SW6020	08/27/13 16:25	PER	7782-49-2	
Silver	Not detected	mg/kg	0.20	SW6020	08/27/13 16:25	PER	7440-22-4	
Zinc	21.0	mg/kg	1.0	SW6020	08/27/13 16:25	PER	7440-66-6	
Boron	0.49	mg/L	0.05	E200.8	08/28/13 14:21	PER	7440-42-8	
Calcium	234	mg/L	1.0	E200.8	08/28/13 13:06	PER	7440-70-2	
Magnesium	46.8	mg/L	0.50	E200.8	08/28/13 13:06	PER	7439-95-4	
Sodium	10.4	mg/L	0.50	E200.8	08/28/13 13:06	PER	7440-23-5	
Sodium Adsorption Ratio	0.162	ru		20B	09/03/13 10:00	BJB		

### Organics - Semi-Volatiles

TPH DRO (C10-C32)	3,984,000	ug/kg	196,000	SW8015M	08/21/13 18:32	PL		Y
TPH DRO (C32-C36)	725,000	ug/kg	196,000	SW8015M	08/21/13 18:32	PL		Y

### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	1,200	SW8270C	08/20/13 18:28	PL	83-32-9	X
Anthracene	Not detected	ug/kg	1,200	SW8270C	08/20/13 18:28	PL	120-12-7	X

Y-Elevated reporting limit due to high target concentration

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S57595.53 (continued)

Sample Tag: T-7-5-4'-080613

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Polynuclear Aromatics (continued)</b>								
Benzo(a)anthracene	Not detected	ug/kg	1,200	SW8270C	08/20/13 18:28	PL	56-55-3	X
Benzo(a)pyrene	Not detected	ug/kg	1,200	SW8270C	08/20/13 18:28	PL	50-32-8	X
Benzo(b)fluoranthene	Not detected	ug/kg	1,200	SW8270C	08/20/13 18:28	PL	205-99-2	X
Benzo(k)fluoranthene	Not detected	ug/kg	1,200	SW8270C	08/20/13 18:28	PL	207-08-9	X
Chrysene	Not detected	ug/kg	1,200	SW8270C	08/20/13 18:28	PL	218-01-9	X
Dibenzo(ah)anthracene	Not detected	ug/kg	1,200	SW8270C	08/20/13 18:28	PL	53-70-3	X
Fluoranthene	Not detected	ug/kg	1,200	SW8270C	08/20/13 18:28	PL	206-44-0	X
Fluorene	Not detected	ug/kg	1,200	SW8270C	08/20/13 18:28	PL	86-73-7	X
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	1,200	SW8270C	08/20/13 18:28	PL	193-39-5	X
Naphthalene	Not detected	ug/kg	1,200	SW8270C	08/20/13 18:28	PL	91-20-3	X
Pyrene	Not detected	ug/kg	1,200	SW8270C	08/20/13 18:28	PL	129-00-0	X
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/19/13 15:49	WAT		
<b>BTEX 5035</b>								
Benzene	Not detected	ug/kg	70	5035/8260B	08/19/13 15:49	WAT	71-43-2	
Toluene	Not detected	ug/kg	70	5035/8260B	08/19/13 15:49	WAT	108-88-3	
Ethylbenzene	Not detected	ug/kg	70	5035/8260B	08/19/13 15:49	WAT	100-41-4	
p,m-Xylene	Not detected	ug/kg	100	5035/8260B	08/19/13 15:49	WAT		
o-Xylene	Not detected	ug/kg	70	5035/8260B	08/19/13 15:49	WAT	95-47-6	

X-Elevated reporting limit due to matrix interference





## Analytical Laboratory Report

Lab Sample ID: S57595.54

Sample Tag: T-7-5-7'-080613

Collected Date/Time: 08/06/2013 13:40

Matrix: Soil

COC Reference: 75026

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.3	IR
1	4oz Glass	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
DRO Extraction	Completed			3550B	08/19/13 23:57	EMR		
<b>Inorganics</b>								
Total Solids	84	%	1	Std M 2540 B	08/13/13 19:30	ASB		
<b>Organics - Semi-Volatiles</b>								
TPH DRO (C10-C32)	10,000	ug/kg	4,000	SW8015M	08/21/13 18:53	PL		
TPH DRO (C32-C36)	4,000	ug/kg	4,000	SW8015M	08/21/13 18:53	PL		
<b>Organics - Volatiles</b>								
TPH GRO (C6-C10)	Not detected	ug/kg	7,000	SW8015M	08/19/13 16:07	WAT		









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C.O.C. PAGE # 4 OF 5

75028

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Christopher Beall  
COMPANY Stantec  
ADDRESS 2000 S. Colorado Blvd, Ste 2-300  
CITY Denver STATE CO ZIP CODE 80222  
PHONE NO. 970-214-1126 FAX NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_  
E-MAIL ADDRESS Christopher.beall@stantec.com QUOTE NO. 130620-4541

CONTACT NAME SAME  
COMPANY \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_  
PHONE NO. \_\_\_\_\_ E-MAIL ADDRESS \_\_\_\_\_

PROJECT NO./NAME 212201118 / Chevron Wilson Creek SAMPLE(S) - PLEASE PRINT SIGN NAME Chris Beall (CAB)  
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER \_\_\_\_\_  
DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER \_\_\_\_\_

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID  
SL=SLUDGE DW=DRINKING WATER O=OIL WP=WPIPE A=AIR W=WASTE

# Containers & Preservatives

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER	TPH	Table 910	(attached)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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RELINQUISHED BY: CAB/stantec DATE 08/21/13 TIME 1400  
RECEIVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
RECEIVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

RELINQUISHED BY: Fed-Ex DATE \_\_\_\_\_ TIME \_\_\_\_\_  
RECEIVED BY: Tahira Fawcett DATE 8/13/13 TIME 1040  
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS \_\_\_\_\_ NOTES: TEMP. ON ARRIVAL 53  
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS \_\_\_\_\_



2680 East Lansing Dr., East Lansing, MI 48823  
Phone (517) 332-0167 Fax (517) 332-4034  
[www.meritlabs.com](http://www.meritlabs.com)

C.O.C. PAGE # 5 OF 5

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# INVOICE TO

CONTACT NAME		Christopher Beall	
COMPANY		Stantec	
ADDRESS			
2000 S. Colorado Blvd, Ste 2-300			
CITY		STATE	ZIP CODE
Denver		CO	80222
PHONE NO.		P.O. NO.	
970-214-1126			
FAX NO.		QUOTE NO.	
		130620-4541	
E-MAIL ADDRESS			
Christopher.beall@Stantec.com			

CONTACT NAME		<input checked="" type="checkbox"/> SAME	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO.	E-MAIL ADDRESS		

## ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME 212201118 / Charmon Wilson Creek	SAMPLER(S) - PLEASE PRINT/SIGN NAME Oriskany (C) (C) (C)
TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____	
DELIVERABLES REQUIRED <input type="checkbox"/> STD <input type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input type="checkbox"/> EDD <input type="checkbox"/> OTHER _____	

**Certifications**

☐ OHIO VAP      ☐ Drinking Water

☐ DoD              ☐ NPDES

**Project Locations**

☐ Detroit            ☐ New York

☐ Other \_\_\_\_\_

**Special Instructions**

MATRIX	GW=GROUNDWATER	WW=WASTEWATER	S=SOIL	L=LIQUID	SD=SOLID
CODE:	SL=SLUDGE	DW=DRINKING WATER	O=OIL	WP=WIPE	A=AIR W=WASTE

### # Containers & Preservatives

[illegible][illegible]

RELINQUISHED BY: SIGNATURE/ORGANIZATION	<i>CSL / Stantec</i>	<i>✓</i> Sampler	DATE <i>08/21/13</i>	TIME <i>1400</i>
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE	TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION			DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE	TIME

RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION			Fed-Ex	
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION			Tahutu Fanta 5/13/13 1040	
SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS	NOTES: TEMP. ON ARRIVAL 5.3	
SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS		

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Form 4, within thirty (30) days of December 30, 1997. The Sundry Notice, Form 4 shall include a copy of the existing pit permit, if a permit was obtained, and a description of the closure process.

- (2) Pits closed prior to December 30, 1997 were required to be reclaimed in accordance with the 1000 Series rules. Pits closed after December 30, 1997 shall be closed in accordance with the 900 Series rules and reclaimed in accordance with the 1000 Series rules.
- (3) Operators of steel, fiberglass, concrete or other similar produced water vessels buried or partially buried and located in sensitive areas were required to repair or replace vessels and tanks found to be leaking. Operators shall repair or replace vessels and tanks found to be leaking. Operators shall submit to the Director a Sundry Notice, Form 4, describing the integrity testing results and action taken within thirty (30) days of December 30, 1997.
- (4) Closure of pits and steel, fiberglass, concrete or other similar produced water vessels, and associated remediation operations conducted prior to December 30, 1997 are not subject to Rules 905., 906., 907., 909. and 910.

#### 912. VENTING OR FLARING NATURAL GAS

- a. The unnecessary or excessive venting or flaring of natural gas produced from a well is prohibited.
- b. Except for gas flared or vented during an upset condition, well maintenance, well stimulation flowback, purging operations, or a productivity test, gas from a well shall be flared or vented only after notice has been given and approval obtained from the Director on a Sundry Notice, Form 4, stating the estimated volume and content of the gas. The notice shall indicate whether the gas contains more than one (1) ppm of hydrogen sulfide. If necessary to protect the public health, safety or welfare, the Director may require the flaring of gas.
- c. Gas flared, vented or used on the lease shall be estimated based on a gas-oil ratio test or other equivalent test approved by the Director, and reported on Operator's Monthly Production Report, Form 7.
- d. Flared gas that is subject to Sundry Notice, Form 4, shall be directed to a controlled flare in accordance with Rule 903.b.(2) or other combustion device operated as efficiently as possible to provide maximum reduction of air contaminants where practicable and without endangering the safety of the well site personnel and the public.
- e. Operators shall notify the local emergency dispatch or the local governmental designee of any natural gas flaring. Notice shall be given prior to flaring when flaring can be reasonably anticipated, or as soon as possible, but in no event more than two (2) hours after the flaring occurs.

Table 910-1  
CONCENTRATION LEVELS<sup>1</sup>

Contaminant of Concern	Concentrations
Organic Compounds in Soil	
TPH (total volatile and extractable petroleum hydrocarbons)	500 mg/kg
Benzene	0.17 mg/kg <sup>2</sup>

Toluene	85 mg/kg <sup>2</sup>
Ethylbenzene	100 mg/kg <sup>2</sup>
Xylenes (total)	175 mg/kg <sup>2</sup>
Acenaphthene	1,000 mg/kg <sup>2</sup>
Anthracene	1,000 mg/kg <sup>2</sup>
Benzo(A)anthracene	0.22 mg/kg <sup>2</sup>
Benzo(B)fluoranthene	0.22 mg/kg <sup>2</sup>
Benzo(K)fluoranthene	2.2 mg/kg <sup>2</sup>
Benzo(A)pyrene	0.022 mg/kg <sup>2</sup>
Chrysene	22 mg/kg <sup>2</sup>
Dibenzo(A,H)anthracene	0.022 mg/kg <sup>2</sup>
Fluoranthene	1,000 mg/kg <sup>2</sup>
Fluorene	1,000 mg/kg <sup>2</sup>
Indeno(1,2,3-C,D)pyrene	0.22 mg/kg <sup>2</sup>
Naphthalene	23 mg/kg <sup>2</sup>
Pyrene	1,000 mg/kg <sup>2</sup>
<b>Organic Compounds in Ground Water</b>	
Benzene	5 µg/l <sup>1</sup>
Toluene	560 to 1,000 µg/l <sup>3</sup>
Ethylbenzene	700 µg/l <sup>3</sup>
Xylenes (Total)	4,400 to 10,000 µg/l <sup>3,4</sup>
<b>Inorganics in Soils</b>	
Electrical Conductivity (EC)	<4 mmhos/cm or 2x background
Sodium Adsorption Ratio (SAR)	<12 <sup>5</sup>
pH	6-9
<b>Inorganics in Ground Water</b>	
Total Dissolved Solids (TDS)	<4.25 x background <sup>1</sup>
Chlorides	<4.25 x background <sup>1</sup>
Sulfates	≤ 1.25 x background <sup>3</sup>
<b>Metals in Soils</b>	
Arsenic	0.39 mg/kg <sup>2</sup>
Barium (LDNR True Total Barium)	15,000 mg/kg <sup>2</sup>
Boron (Hot Water Soluble)	2 mg/l <sup>3</sup>
Cadmium	70 mg/kg <sup>3,5</sup>
Chromium (III)	120,000 mg/kg <sup>2</sup>
Chromium (VI)	23 mg/kg <sup>2,6</sup>
Copper	3,100 mg/kg <sup>2</sup>
Lead (inorganic)	400 mg/kg <sup>2</sup>
Mercury	23 mg/kg <sup>2</sup>
Nickel (soluble salts)	1,600 mg/kg <sup>2,5</sup>
Selenium	390 mg/kg <sup>2,5</sup>
Silver	390 mg/kg <sup>2</sup>
Zinc	23,000 mg/kg <sup>2,5</sup>
<b>Liquid Hydrocarbons in Soils and Ground Water</b>	
Liquid hydrocarbons including condensate and oil	Below detection level

COGCC recommends that the latest version of EPA SW 846 analytical methods be used where possible and that analyses of samples be performed by laboratories that maintain state or national accreditation programs.

<sup>1</sup> Consideration shall be given to background levels in native soils and ground water.

<sup>2</sup> Concentrations taken from CDPHE-HMWMD Table 1 Colorado Soil Evaluation Values (December 2007).

<sup>3</sup> Concentrations taken from CDPHE-WQCC Regulation 41 - The Basic Standards for Ground Water.

<sup>4</sup> For this range of standards, the first number in the range is a strictly health-based value, based on the WQCC's established methodology for human health-based standards. The second number in the range is a maximum contaminant level (MCL), established under the Federal Safe Drinking Water Act which has been



determined to be an acceptable level of this chemical in public water supplies, taking treatability and laboratory detection limits into account. The WQCC intends that control requirements for this chemical be implemented to attain a level of ambient water quality that is at least equal to the first number in the range except as follows: 1) where ground water quality exceeds the first number in the range due to a release of contaminants that occurred prior to September 14, 2004 (regardless of the date of discovery or subsequent migration of such contaminants) clean-up levels for the entire contaminant plume shall be no more restrictive than the second number in the range or the ground water quality resulting from such release, whichever is more protective, and 2) whenever the WQCC has adopted alternative, site-specific standards for the chemical, the site-specific standards shall apply instead of these statewide standards.

<sup>5</sup> Analysis by USDA Agricultural Handbook 60 method (20B) with soluble cations determined by method (2). Method (20B) = estimation of exchangeable sodium percentage and exchangeable potassium percentage from soluble cations. Method (2) = saturated paste method (note: each analysis requires a unique sample of at least 500 grams). If soils are saturated, USDA Agricultural Handbook 60 with soluble cations determined by method (3A) saturation extraction method.

<sup>6</sup> The table value for these inorganic constituents is taken from the CDPHE-HMWMD Table 1 Colorado Soil Evaluation Values (December 2007). However, because these values are high, it is possible that site-specific geochemical conditions may exist that could allow these constituents to migrate into ground water at levels exceeding ground water standards even though the concentrations are below the table values. Therefore, when these constituents are present as contaminants, a secondary evaluation of their leachability must be performed to ensure ground water protection.