



**Stantec**

**Interim Reclamation and Remedial  
Excavation Documentation Report  
– Pit #112108**

**API Number: 05-045-06159**

**South Canyon Field  
Garfield County, Colorado**

**Submitted to:**

Bob Hartman  
Bureau of Land Management  
2815 H Road  
Grand Junction, CO 81506

**Submitted by:**

Stantec Consulting Corporation  
2321 Club Meridian Dr., Suite E  
Okemos, MI 48864

**On Behalf of:**

Jenee' Homer  
Chevron Environmental Management  
Company  
1400 Smith St. Room 19001A  
Houston, Texas 77002

December 15, 2008

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## 1.0 Introduction

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This report documents the interim reclamation and remedial excavation (IRRE) activities conducted at the disposal pit identified as State of Colorado Oil and Gas Conservation Commission (COGCC) Facility #112108 (Pit #112108). Pit #112108 was located at the well site of Federal 6-13 (Site) in Garfield County, Colorado (Figure 1). IRRE activities were proposed to the Bureau of Land Management (BLM) and the COGCC in the work plan entitled *Interim Reclamation and Remedial Excavation Work Plan; API Numbers: 05-045-06123, 05-045-06107, 05-045-06103, 05-045-06159, and 05-045-06164*, dated August 28, 2008 (Work Plan). The IRRE activities were conducted by Stantec Consulting Corporation (Stantec) on behalf of Chevron Environmental Management Company (CEMC). IRRE activities took place between September 15, 2008 and December 5, 2008.

Pertinent details used to identify the Site are summarized in the following table:

LEASE NAME	WELL NO.	API NO.	SURFACE LOCATION	OIL & GAS LESSOR	SURFACE OWNER/ MANAGEMENT AGENCY
FEDERAL	6-13	05-045-06159	SW/4SW/4 SEC 6, T8S- R104W	U.S.A. BLM C-12701A	THOMAS E. LUCKS ET AL

The operator of the Site (Chevron Midcontinent LP) provided bonding for the IRRE activities conducted. Refer to BLM Bond # NM2881.

## 2.0 Project Scope

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IRRE activities were conducted at Pit #112108 in accordance with objectives and procedures outlined in the Work Plan except as noted in Section 2.1. The Work Plan was based on guidelines provided in the BLM Gold Book (2007 version) and the COGCC series 1000 rules (January 2006 version). The project team selected the guidelines found in the COGCC series 900 rules (November 2006 version) as being suitable for this project.

IRRE activities consisted of the following basic steps:

1. Collected a background sample from the Site. Used background results and Allowable Concentrations in Table 910-1 of the series 900 rules to establish compliance values.
2. Collected delineation samples using an excavator. The samples were collected from two excavation floor locations and four excavation sidewall locations. Compared delineation results to compliance values to develop a remedial excavation plan.
3. Excavated and stockpiled soils in accordance with the remedial excavation plan.
4. Treated soils that were understood to exceed the compliance values on-site. Soils were treated by mixing in suitable amendments.
5. Sampled amended soils to ensure quality prior to beneficially re-using them as backfill.
6. Backfilled and compacted the excavation in 2-foot lifts to a depth of 3 feet below ground surface (bgs) with amended soils.
7. Backfilled top 3 feet of excavation with native clean soils.
8. Placed a 4-inch non-compacted layer of topsoil on the surface of the excavation to promote vegetation growth.
9. Seeded pit area with native seed blend and completed Site housekeeping. Copies of the seed tags are provided in Appendix A.

While the Work Plan guided most IRRE activities at the pit, several noteworthy changes were made to the final scope. These changes are outlined in Section 2.1.

### 2.1 SCOPE CHANGES

Several changes to the approved Work Plan were made during project implementation as appropriate:

## Interim Reclamation and Remedial Excavation Documentation Report – Pit #112108

1. In response to BLM comments on the Work Plan, Stantec provided a response to comments letter dated September 19, 2008. The letter served as clarification to details provided in the Work Plan. Appendix B provides a copy of the letter.
2. 28 feet of a 2-inch steel blow down line running from the gas well to the pit was encountered and removed entirely instead of being abandoned in-place.
3. Metals were removed from the soil analytical suite on October 24, 2008 after initial sampling results obtained from the laboratory indicated that metals concentrations were not a remedial driver based on the series 900 rules. The COGCC and BLM were petitioned to allow this deviation from the Work Plan. Appendix C provides documentation of these communications. Select samples collected prior to October 24 had metals analyses held while total petroleum hydrocarbon (TPH), pH, sodium adsorption ratio (SAR), and conductivity analyses were performed to avoid conducting unnecessary analyses. Once the approval to eliminate the metals analyses was received, no further analyses were conducted on these samples.
4. During the excavation delineation process, several confirmation samples were found to have conductivity, SAR, and pH exceedances. The samples were collected at depths of 14 feet bgs or greater and hydrocarbon exceedances were not found in the samples. Stantec proposed that these samples be permitted to serve confirmatory purposes since hydrocarbon concentrations were negligible and the soils at depth would not adversely impact revegetation efforts. Stantec received permission from the COGCC to allow this deviation from the Work Plan. Appendix D provides documentation of these communications.

## 3.0 Field Implementation

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Section 3 documents the excavation extents of Pit #112108, excavated soil management procedures, and soil sampling results.

### 3.1 EXCAVATION EXTENTS

Pit #112108 had nominal dimensions of 25 feet wide by 45 feet long by 10 feet deep prior to remedial excavation. Results of the delineation sampling effort were used to design an excavation plan to remove soils above the compliance values. The excavation plan consisted of the following:

- Excavated 3 feet to the north of the original pit footprint;
- Excavated 13.5 feet to the east of the original pit footprint;
- Excavated 9 feet to the south of the original pit footprint;
- Excavated 22 feet to the west of the original pit footprint; and
- Excavated the floor of the pit to 30 feet bgs.

After executing the excavation plan, the nominal dimensions<sup>1</sup> of the excavation were 60.5 feet wide by 57 feet long by 30 feet deep.

Figure 2 indicates the original pit perimeter, the nominal excavation perimeter, soil delineation sampling locations, and other surface features of the Site.

### 3.2 AMENDING OF EXCAVATED SOILS

Approximately 750 cubic yards (cy) of soils with concentrations above compliance values were generated during execution of the excavation plan. Pit #112108 contained no fluids and no product was found during excavation activities. Excavated soils were held in bermed stockpiles that were lined with plastic sheeting prior to treatment.

Treatment consisted of mixing in amendment materials at specific ratios as follows:

- Approximately 750 cy of clean fill. Mixing in the clean fill helped homogenize the excavated soil and provided an initial drop in concentration that made the hydrocarbons more biologically available for remediation.

---

<sup>1</sup> Dimensions do not include the areas required for benching or heavy equipment access required for construction.

- 2,500 pounds of 35-5-7 fertilizer. The fertilizer will provide nutrients required during the biological degradation of the hydrocarbons in-situ.
- Approximately 44 tons of bulk gypsum. Gypsum was added to provide an electron acceptor required during the biological degradation of the hydrocarbons in-situ.

Following treatment, 15 confirmation samples were collected from the amended soils. All were below the specified compliance values.

### **3.3 SOIL SAMPLING RESULTS**

Table 1 provides compliance values and summarizes background sample analytical results, excavation confirmation sample analytical results, and amended soil sample analytical results. It should be noted that only confirmation, and not all delineation samples, are shown in Table 1. Complete analytical laboratory reports for all samples are included in Appendix E.

## **4.0 Limitations and Certification**

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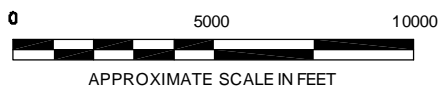
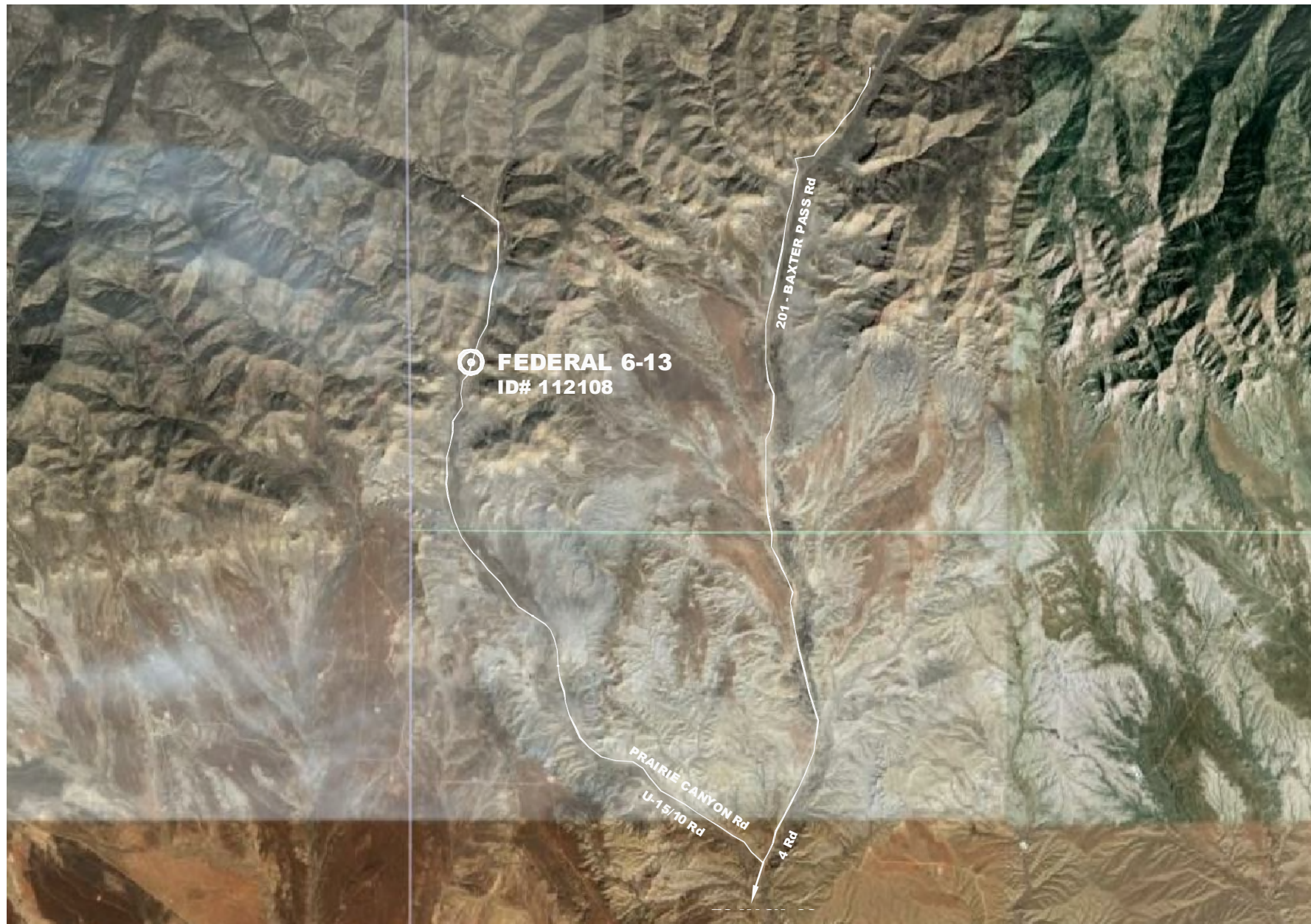
This documentation report was prepared in accordance with the scope of work outlined in Stantec's contract and with generally accepted professional engineering and environmental consulting practices existing at the time this documentation report was prepared and applicable to the location of the site.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



## Tables

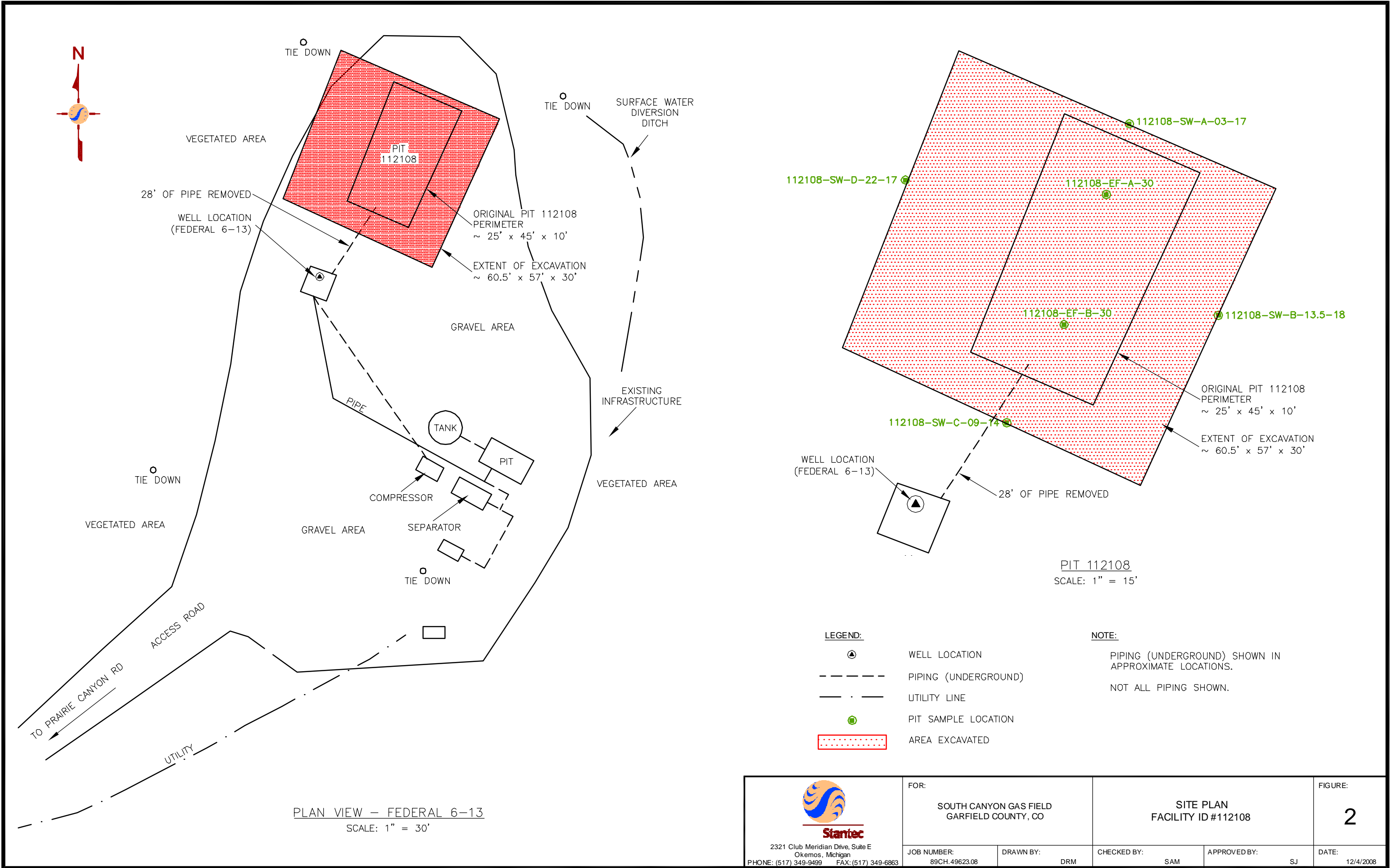


## Figures



2321 Oub Meriden Drive, Suite E  
Okemos, Michigan  
PHONE: (517) 349-9499 FAX: (517) 349-6863

FOR: SOUTH CANYON GAS FIELD GARFIELD COUNTY, CO		SITE LOCATION MAP FACILITY ID #112108		FIGURE: <b>1</b>
JOB NUMBER: 89CH.49623.08	DRAWN BY: DRM	CHECKED BY: SAM	APPROVED BY: SJ	DATE: 12/4/2008



# **Appendix A**

## **Seed Tags**



**SOUTH CANYON 1 ACRE MIX**  
**LOT # : G-81279**

Mixture/Variety:	Purity %	Germ%	Origin:
4-WING SALT BUSH	24.65	42	CO
PUBESCENT WHEATGRASS, LUNA	19.74	96	SD
WESTERN WHEATGRASS, ARriba	17.37	97	WY
STREAMBANK WHEATGRASS, SODAR	17.22	67	WY
INDIAN RICEGRASS, PALOMA	12.81	97	WY
SCARLET GLOBEMALLOW	4.55	89	UT

Crop: 0.07% Inert: 3.47% Weeds: 0.13% Net Wt. 19.5#

Noxious Weeds: NONE FOUND

Tested: JUNE 2008

**CUSTOM MIX FOR STANTEC**

Sharp Bros. Seed Co.

Greeley, CO 80631

(970) 356-4710

**SOUTH CANYON 2 ACRE MIX**  
**LOT # : G-81383**

Mixture/Variety:	Purity %	Germ%	Origin:
4-WING SALT BUSH	24.96	42	CO
PUBESCENT WHEATGRASS, LUNA	20.00	96	SD
WESTERN WHEATGRASS, ARriba	17.60	97	WY
STREAMBANK WHEATGRASS, SODAR	17.44	67	WY
INDIAN RICEGRASS, PALOMA	13.63	97	WY
SCARLET GLOBEMALLOW	03.23	94	UT

Crop: 0.00% Inert: 3.03% Weeds: 0.11% Net Wt. 38.5#

Noxious Weeds: NONE FOUND

Tested: AUGUST 2008

**CUSTOM MIX FOR STANTEC**

Sharp Bros. Seed Co.

Greeley, CO 80631

(970) 356-4710

## **Appendix B**

### **Response to Comments Regarding Interim Reclamation and Remedial Excavation Work Plan**





**Stantec Consulting Corporation**  
2321 Club Meridian Drive, Suite E  
Okemos MI 48864  
Tel: (517) 349-9499  
Fax: (517) 349-6863

---

**Stantec**

September 19, 2008

Julia Christiansen  
Natural Resource Specialist  
Bureau of Land Management  
2815 H Road  
Grand Junction, CO 81506

**Reference: Response to Comments regarding the Interim Reclamation and Remedial Excavation Work Plan; API Numbers: 05-045-06123, 05-045-06107, 05-045-06103, 05-045-06159, and 05-045-06164, dated 08/28/08.**

Dear Ms Christiansen,

Stantec Consulting Corporation (Stantec) on behalf of Chevron Environmental Management Company (CEMC) is submitting this letter as a response to the comments provided by the Bureau of Land Management (BLM) email regarding recommendations to the interim reclamation activities outlined in the above referenced plan. Each BLM comment is summarized below followed by Stantec's response in *italics*.

**BLM Comment**

1. Add language in section 2.4.1 (Grading) for compaction of pit subsoil before topsoil.

***Stantec Response***

*Soil will be placed back into the excavation in 2-foot lifts and compacted to minimize subsidence. Backfill will be placed with the excavator and compacted with the excavator bucket until the fill reaches within two feet of the ground surface. The last two feet will be compacted using the tracks of the excavator or loader until no ground pumping is observed.*

**BLM Comment**

2. In Section 2.4.2 (Revegetation) do not dozer track for seed bed prep (too much compaction), but pock/pit -please review the language in the reclamation stipulations attached.

**Stantec Response**

*Final grading will be conducted using a 4-inch thick layer of soil comparable to the native topsoil in the area. Grading will be such as to blend with the natural contours and minimize ponding. Top soil that is placed as part of the interim reclamation activities will not be compacted in place to allow for seedbed preparation. In addition the area to be seeded will be scarified (ripped) immediately prior to seeding. Ripping will occur in two passes in perpendicular directions. The seed mixture used will be as follows:*

<i>Species</i>	<i>Application Rate PLS – Pounds per Acre</i>
<i>Arriba Western wheatgrass</i>	<i>3.2</i>
<i>Sodar Streambank wheatgrass</i>	<i>2.2</i>
<i>Luna Pubescent wheatgrass</i>	<i>3.6</i>
<i>Paloma Indian ricegrass</i>	<i>2.4</i>
<i>Rincon or Native Four-wing saltbush</i>	<i>2.0</i>
<i>Scarlet Globemallow</i>	<i>0.5</i>
	<i>13.9lbs. PLS/acre Total</i>

**BLM Comment**

3. Note in Section 2.5 (Pit Associated Reclamation Tasks) that, if needed, pipelines will be purged before plugging.

**Stantec Response**

*Pipelines associated with the interim reclamation activities that are selected for in-place abandonment will be purged prior to being plugged.*

**BLM Comment**

4. Submit a Sundry detailing the work that was conducted (including seed tags) at the completion of the project.

**Stantec Response**

*Per the specifications for reclamation activities, the following will be completed;*

*The Grand Junction Field Office shall be notified at least 48 hours prior to commencing any reclamation work and within 48 hours of completion of reclamation work.*

*Within 30 days of seeding, a Sundry Notice of Subsequent Report describing the work completed will be submitted to BLM, including the weed free certification and seed tags.*

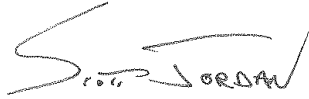
September 19, 2008

Page 3 of 3

Please let me know if you have any questions or if additional clarification is needed.

Sincerely,

**Stantec Consulting Corporation**

A handwritten signature in black ink, appearing to read "Scott Jordan". The signature is stylized with a large, sweeping "S" and a distinct "J".

Scott Jordan  
Project Manager  
Tel: (517) 349-9499 ext 236  
Fax: (517) 349-6863  
[scott.jordan@stantec.com](mailto:scott.jordan@stantec.com)

Attachments:

cc:

Jenee' Homer Chevron Environmental Management Company  
1400 Smith St. Room 19001A; Houston, Texas 77002

COGCC

1120 Lincoln Street, Suite 801, Denver, Colorado 80203

## **Appendix C**

### **Regulatory Approval of Removal of Metals from Soil Analytical Suite**

BLM Approval for Metals South Canyon Pit Reclamation.txt  
From: Julia\_Christiansen@blm.gov  
Sent: Friday, October 24, 2008 12:58 PM  
To: Jordan, Scott  
Subject: Fw: Chevron South Canyon Pit Reclamation

Scott, sorry you had to wait so long for this.

Julia Christiansen | Natural Resource Specialist BLM, Grand Junction Field Office  
2815 H Road, Grand Junction, CO 81506  
Desk: 970-244-3093 Fax: 970-244-3083  
julia\_christiansen@blm.gov

"May your trails be crooked, winding, lonesome, dangerous... leading to the most amazing views."

----- Forwarded by Julia Christiansen/GJFO/CO/BLM/DOI on 10/24/2008 10:57 AM -----

Alan  
Kraus/GJFO/CO/BLM  
/DOI

10/24/2008 10:27  
AM

To  
Julia  
Christiansen/GJFO/CO/BLM/DOI@BLM  
CC  
Subject  
Re: Fw: Chevron South Canyon Pit  
Reclamation(Document link: Julia  
Christiansen)

Julia

I looked at their results and the COGCC table for allowable metals in the 900 series regulations and would agree with COGCC's call that further metals analyais is not warranted.

Alan Kraus  
Hazardous Materials Specialist  
Grand Junction Field Office  
970-244-3078 (office)  
970-640-3943 (cell)

**From:** Jordan, Scott  
**Sent:** Friday, October 17, 2008 10:38 AM  
**To:** 'Julia\_Christiansen@blm.gov'  
**Cc:** Maher, Seth  
**Subject:** Chevron South Canyon Pit Reclamation

**Attachments:** South Canyon Metals Results.pdf  
 Julia,

Below are a couple of emails outlining a request to COGCC and subsequently their approval, to eliminate additional metals analysis on our South Canyon project based on the data we have collected and received to date.

To summarize, we have collected more than 100 soil samples as part of our excavation delineation and background sampling and analyzed each sample for the full soil analytical suite outlined in Table 910-1 of the series 900 rules. As stated below; *"A review of the compiled data shows that metals are not a remedial driver for this project as concentrations of metals are relatively low, and are either below the Allowable Concentrations designated in Table 910-1 or no Allowable Concentrations are specified."* Attached is a table that summarizes the maximum and minimum concentrations we have so far.

Having received COGCC's initial approval to eliminate additional metals analysis on this project, Stantec would like to gain BLM's concurrence on this approach.

Please let myself or Seth know if you have additional questions or comments.

We look forward to your response,

Thanks Julia,

**Scott Jordan**  
 Chevron National OE Coordinator  
 Stantec  
 2321 Club Meridian Drive Suite E  
 Okemos MI 48864  
 Ph: (517) 349-9499 Ext. 236  
 Fx: (517) 349-6863  
 Cell: (517) 202-5617  
 scott.jordan@stantec.com  
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**From:** Canfield, Chris [mailto:Chris.Canfield@state.co.us]  
**Sent:** Wednesday, October 15, 2008 1:21 PM  
**To:** Maher, Seth  
**Cc:** Jordan, Scott; Patterson, Marisa  
**Subject:** RE: Chevron South Canyon Pit reclamation project update

Hi Seth,

I agree with your conclusion and recommendation. Regarding a conference call, my next two or three days are pretty well packed, but Tuesday October 21 is wide open if that day works for you.

Chris

Chris Canfield, P.G.  
 Environmental Protection Specialist, Northwest Region  
**Colorado Oil & Gas Conservation Commission**  
 707 Wapiti Court  
 Suite 204  
 Rifle, CO 81650

(970) 625-2497 Office  
 (970) 625-5682 Fax  
 (970) 216-6832 Cellular  
[chris.canfield@state.co.us](mailto:chris.canfield@state.co.us)

---

**From:** Maher, Seth [mailto:Seth.Maher@stantec.com]  
**Sent:** Wednesday, October 15, 2008 9:29 AM  
**To:** Canfield, Chris  
**Cc:** Jordan, Scott; Patterson, Marisa  
**Subject:** Chevron South Canyon Pit reclamation project update  
**Importance:** High

Chris-

The interim pit reclamation activities being conducted on behalf of Chevron at Federal 6-13, Lewis USA 36-1, Federal 23-12, and Federal 27-11 are on-going, and excavation extents are currently approximately 70-80% delineated. We anticipate finishing the fieldwork in mid-November, which is a little bit beyond our initial estimate.

Attached is a table summarizing the maximum and minimum concentrations of the metals data we have thus far. To date we have analyzed over 100 soil samples for the full soil analytical suite outlined in Table 910-1 of the series 900 rules. These samples are from background and pit excavation delineation sampling (and are representative of the six pits found at the four well sites referenced above). A review of the compiled data shows that metals are not a remedial driver for this project as concentrations of metals are relatively low, and are either below the Allowable Concentrations designated in Table 910-1 or no Allowable Concentrations are specified.

Based on this conclusion, the project team would like to eliminate the metals analysis specified in the originally submitted work plan from the remainder of the project sampling in the interest of stewarding costs and expediting the field work. Stantec would like the opportunity to discuss this matter with you at your earliest convenience. Providing an agreement can be reached on this issue, the project team would then contact the BLM with the proposed sampling strategy.

Please comment on your availability so we can schedule a conference call to discuss, and let me know if you have any initial questions or comments.

Thank you.

Seth M

<<South Canyon Metals Results.pdf>>

**Seth Maher, PE**  
Associate Engineer  
Stantec  
2321 Club Meridian Drive Suite E  
Okemos MI 48864  
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## **Appendix D**

### **Regulatory Approval of Confirmatory Sample Variance**

## **Maher, Seth**

---

**From:** Canfield, Chris [Chris.Canfield@state.co.us]  
**Sent:** Wednesday, November 05, 2008 3:36 PM  
**To:** Maher, Seth  
**Cc:** Jordan, Scott  
**Subject:** RE: Sundry Notice Pit 112108

Hi Seth,

Yes, I received the Sundry Notice; however I haven't had an opportunity to enter it into our system yet. I should have it approved and entered by the end of this week.

Chris

Chris Canfield, P.G.  
Environmental Protection Specialist, Northwest Region Colorado Oil & Gas Conservation Commission  
707 Wapiti Court  
Suite 204  
Rifle, CO 81650

(970) 625-2497 Office  
(970) 625-5682 Fax  
(970) 216-6832 Cellular  
chris.canfield@state.co.us

-----Original Message-----

From: Maher, Seth [mailto:Seth.Maher@stantec.com]  
Sent: Tuesday, November 04, 2008 12:55 PM  
To: Canfield, Chris  
Cc: Jordan, Scott  
Subject: FW: Sundry Notice Pit 112108

Hi Chris-

I just wanted to circle back around with you on this Sundry Notice submittal to make sure you received it and didn't need anything else.  
Please let me know if have any question or comments.

Thank you

Seth M

517-490-7967

-----Original Message-----

From: Maher, Seth  
Sent: Tuesday, October 28, 2008 2:34 PM  
To: 'chris.canfield@state.co.us'  
Cc: Patterson, Marisa; Jordan, Scott; 'Homer, Jenee' M'  
Subject: Sundry Notice Pit 112108

Chris-

Attached you'll find a Sundry Notice package for Pit 112108 requesting a Rule 502 Variance to deviate slightly from the series 900 rules. We tried to craft this submittal based on the comments you provided me.  
Please let me know if there needs to be any other edits before you can approve. Thank you for your time and consideration.

Sincerely,

Seth Maher  
517.490.7967



**Stantec**

**Stantec Consulting Corporation**  
2321 Club Meridian Drive, Suite E  
Okemos MI 48864  
Tel: (517) 349-9499  
Fax: (517) 349-6863

---

October 28, 2008

Chris Canfield  
State of Colorado Oil and Gas Conservation Commission  
707 Wapiti Ct., STE 204  
Rifle, CO 81650

Reference: Sundry Notice Requesting Rule 502 Variance at **Federal 6-13—Pit #112108**  
**South Canyon Field**  
**Garfield County, Colorado**

Dear Mr. Canfield,

Attached is a Sundry Notice (Form 4) requesting a Rule 502 variance to allow a slight deviation from the current regulatory values indicated in Table 910-1 of the 900 series rules for an on-going pit reclamation project. The details of the requested variance are summarized below.

Remedial excavation activities are being conducted at a pit (Facility ID #112108) located at well site Federal 6-13 as described in the *Interim Reclamation and Remedial Excavation Work Plan; API Numbers: 05-045-06123, 05-045-06107, 05-045-06103, 05-045-06159, and 05-045-06164* (Work Plan), dated August 28, 2008, provided to the Colorado Oil and Gas Conservation Commission (COGCC) by Stantec Consulting Corporation (Stantec) on behalf of Chevron Environmental Management Company (CEMC). Excavation activities are currently on-going.

The initial dimensions for Pit 112108, prior to delineation and excavation, were 15 feet by 45 feet. Pit 112108 has been excavated and the extents of soils containing total petroleum hydrocarbons (TPH) above 10,000 mg/kg have been delineated as described in the Work Plan. The current excavation extents are nominally estimated to be 50 feet wide, 57 feet long, and 30 feet deep.

Table 1 provides sampling results for the two excavation floor samples, four excavation sidewall samples, and one background sample that Stantec is proposing to satisfy the excavation delineation documentation requirement for the reclamation of Pit 112108. Results in Table 1 indicate that while TPH and metals concentrations in the delineation samples are below the allowable concentrations provided in Table 910-1 of the 900 series rules, there are exceedances of the allowable concentrations for electrical conductivity (EC), sodium adsorption ratio (SAR), and pH. Specifically, Stantec notes the following exceedances:

- North excavation floor sample does not fall within the pH range of 6 to 9;
- South excavation floor sample exceeds allowable concentration for SAR of 12;
- East excavation sidewall sample exceeds allowable concentrations for EC (less than 4 mmhos/cm or twice the background concentration) and SAR; and
- South excavation sidewall sample exceeds allowable concentration for SAR.

These exceedances are observed in samples that were collected from depths 14 to 30 feet below ground surface. Plants, wildlife, and the public should have limited exposure to soils at these

depths. Ceasing excavation activities at Pit 112108 with the current excavation extents will leave soils with the aforementioned exceedances in place. Leaving these soils in place is not expected to have an adverse affect on future revegetation efforts or probable land uses.

Stantec is requesting a Rule 502 variance for leaving soils in place at Pit 112108 with pH, SAR, and EC exceedances as detailed in this letter.

Please contact me if you have any questions or require additional information while you deliberate on the variance request.

Sincerely,

**Stantec Consulting Corporation**

A handwritten signature in black ink, appearing to read 'Seth Maher', with a large, stylized initial 'S'.

Seth Maher, PE  
Associate Engineer  
Tel: (517) 349-9499  
Fax: (517) 349-6863  
seth.maher@stantec.com

Attachments:

Table 1  
Sundry Notice

cc:

Jenee' Homer, Chevron Environmental Management Company  
1400 Smith St, Room 19001A, Houston, Texas 77002

Scott Jordan, Stantec Consulting Corporation  
2321 Club Meridian Dr., Suite E, Okemos, MI 48864

Jim Burns, Stantec Consulting Corporation  
2321 Club Meridian Dr., Suite E, Okemos, MI 48864

Table 1  
Delineation Samples for Pit # 112108 at Federal 6-13

Interim Pit Reclamation  
South Canyon Field  
October 2008

Sample Description	Sample ID	Sample Date	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	Total TPH (mg/kg)	Conductivity (umhos/cm)	SAR	pH	Arsenic (mg/kg)	Barium (mg/kg)	Boron (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
	Table 910-1 Allowable Concentrations		--	--	--	10,000	<4 mmhos/cm or 2x background	<12	Range of 6-9	41	180,000	--	26	1,500	750	300	17	Site-specific	210	Site-specific	100	1,400
Background	112108-B-08	9/26/2008	<1	<4	<4	4.5	7,100	6.44	8.29	0.78	24.9	<2.0	<0.20	<1.0	1.3	3.28	<0.050	<0.50	2.4	<0.20	<0.10	2.7
	Final Allowable Concentrations		--	--	--	10,000	14,200	<12	Range of 6-9	41	180,000	--	26	1,500	750	300	17	--	210	--	100	1,400
North Floor	112108-EF-A-30	10/8/2008	<1	<4	<4	4.5	5,900	6.46	<b>9.06</b>	1.32	40.7	<2.0	<0.20	<1.0	6.1	7.98	<0.050	<0.50	4.0	<0.20	<0.10	6.3
South Floor	112108-EF-B-30	10/8/2008	<1	<4	<4	4.5	9,120	<b>26.2</b>	8.92	1.22	26.4	<2.0	<0.20	<1.0	6.6	8.91	<0.050	<0.50	3.9	0.25	<0.10	7.3
North Sidewall	112108-SW-A-03-17	10/9/2008	<0.2	<4	<4	4.1	2,595	3.49	8.23	0.61	22.1	<2.0	<0.20	<1.0	1.8	3.86	<0.050	<0.50	2.9	<0.20	<0.10	2.9
East Sidewall	112108-SW-B-13.5-18	10/7/2008	<1	<4	<4	4.5	<b>15,250</b>	<b>31.7</b>	8.42	0.82	15.3	<2.0	<0.20	<1.0	1.9	4.15	<0.050	<0.50	1.9	<0.20	<0.10	4.0
South Sidewall	112108-SW-C-09-14	10/7/2008	<1	<4	<4	4.5	12,250	<b>13.4</b>	8.58	0.49	24.5	<2.0	<0.20	<1.0	<1.0	2.16	<0.050	<0.50	1.4	<0.20	<0.10	1.7
West Sidewall	112108-SW-D-22-17	10/9/2008	590	160	<10	755	13,250	8.39	8.33	--	--	--	--	--	--	--	--	--	--	--	--	--

-- Not analyzed  
Exceedances are shown in **bold** text.  
Total TPH is the sum of TPH GRO, TPH DRO, and TPH ORO. Non-detects are assumed to be one-half of the sample quantitation limit.

State of Colorado  
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)894-2100 Fax: (303)894-2109



## SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form.) Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b.)

1. OGCC Operator Number: 16695	4. Contact Name: Jenee' Homer	Complete the Attachment Checklist OP OGCC
2. Name of Operator: CHEVRON MIDCONTINENT LP	Phone: 713-372-1035	
3. Address: 11111 S WILCREST	Fax: 713-372-1107	
City: HOUSTON State: TX Zip: 77099		
5. API Number: 05-045-06159	OGCC Facility ID Number: 112108	Survey Plat
6. Well/Facility Name: FEDERAL 6-13	7. Well/Facility Number: 112108	Directional Survey
8. Location (Qtr/Qtr, Sec, Twp, Rng, Meridian): SW/4SW/4 SEC 6, T8S-R104W		Surface Eqmpt Diagram
9. County: Garfield County, Colorado	10. Field Name: SOUTH CANYON 77750	Technical Info Page
11. Federal, Indian or State Lease Number: C-12701A		Other

## General Notice

<input type="checkbox"/> <b>CHANGE OF LOCATION:</b> Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)	
Change of Surface Footage from Exterior Section Lines:	<input type="checkbox"/> FNL/FSL <input type="checkbox"/> FEL/FWL
Change of Surface Footage to Exterior Section Lines:	<input type="checkbox"/>
Change of Bottomhole Footage from Exterior Section Lines:	<input type="checkbox"/>
Change of Bottomhole Footage to Exterior Section Lines:	<input type="checkbox"/> attach directional survey
Bottomhole location Qtr/Qtr, Sec, Twp, Rng, Mer: _____	
Latitude: _____	Distance to nearest property line: _____ Distance to nearest bldg, public rd, utility or RR: _____
Longitude: _____	Distance to nearest lease line: _____ Is location in a High Density Area (rule 603b)? Yes/No: _____
Ground Elevation: _____	Distance to nearest well same formation: _____ Surface owner consultation date: _____
<b>GPS DATA:</b> Date of Measurement: _____ PDOP Reading: _____ Instrument Operator's Name: _____	
<input type="checkbox"/> <b>CHANGE SPACING UNIT</b> Formation: _____ Formation Code: _____ Spacing order number: _____ Unit Acreage: _____ Unit configuration: _____	<input type="checkbox"/> <b>Remove from surface bond</b> Signed surface use agreement attached
<input type="checkbox"/> <b>CHANGE OF OPERATOR (prior to drilling):</b> Effective Date: _____ Plugging Bond: <input type="checkbox"/> Blanket <input type="checkbox"/> Individual	<input type="checkbox"/> <b>CHANGE WELL NAME</b> <b>NUMBER</b> From: _____ To: _____ Effective Date: _____
<input type="checkbox"/> <b>ABANDONED LOCATION:</b> Was location ever built? <input type="checkbox"/> Yes <input type="checkbox"/> No Is site ready for inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No Date Ready for Inspection: _____	<input type="checkbox"/> <b>NOTICE OF CONTINUED SHUT IN STATUS</b> Date well shut in or temporarily abandoned: _____ Has Production Equipment been removed from site? <input type="checkbox"/> Yes <input type="checkbox"/> No MIT required if shut in longer than two years. Date of last MIT: _____
<input type="checkbox"/> <b>SPUD DATE:</b> _____	<input type="checkbox"/> <b>REQUEST FOR CONFIDENTIAL STATUS</b> (6 mos from date casing set)
<input type="checkbox"/> <b>SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK</b> *submit cbl and cement job summaries Method used: _____ Cementing tool setting/perf depth: _____ Cement volume: _____ Cement top: _____ Cement bottom: _____ Date: _____	
<input type="checkbox"/> <b>RECLAMATION:</b> Attach technical page describing final reclamation procedures per Rule 1004. Final reclamation will commence on approximately: _____ <input type="checkbox"/> Final reclamation is completed and site is ready for inspection.	

## Technical Engineering/Environmental Notice

<input type="checkbox"/> Notice of Intent Approximate Start Date: _____	<input checked="" type="checkbox"/> Report of Work Done Date Work Completed: October 7-9, 2008	
Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)		
<input type="checkbox"/> Intent to Recomplete (submit form 2)	<input type="checkbox"/> Request to Vent or Flare	<input type="checkbox"/> E&P Waste Disposal
<input type="checkbox"/> Change Drilling Plans	<input type="checkbox"/> Repair Well	<input type="checkbox"/> Beneficial Reuse of E&P Waste
<input type="checkbox"/> Gross Interval Changed?	<input checked="" type="checkbox"/> Rule 502 variance requested	<input type="checkbox"/> Status Update/Change of Remediation Plans
<input type="checkbox"/> Casing/Cementing Program Change	<input type="checkbox"/> Other: _____	for Spills and Releases

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: Jenee' Homer Date: 10/28/08 Email: jhomer@chevron.comPrint Name: Jenee' Homer Title: Project Manager--Chevron Environmental Management Company

COGCC Approved: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

## TECHNICAL INFORMATION PAGE



FOR OGCC USE ONLY

1. OGCC Operator Number: 16695 API Number: 05-045-06159  
2. Name of Operator: CHEVRON MIDCONTINENT LP OGCC Facility ID #  
3. Well/Facility Name: Federal 6-13 Well/Facility Number: 112108  
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): SW/4SW/4 SEC 6, T8S-R104W

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5. DESCRIBE PROPOSED OR COMPLETED OPERATIONS

Soils were excavated at Federal 6-13 from Pit # 112108. Approximately 800 cubic yards of soil perceived to be above regulatory concentrations indicated in Table 910-1 of the series 900 rules were removed from Pit 112108 between October 7, 2008 and October 9, 2008.

Two excavation floor samples, four excavation sidewall samples, and one background sample were collected and analyzed to document the soil quality of remaining soils. The data was compared to Table 910-1 values after background data was considered. The data evaluation indicated that there were several conductivity (EC), SAR, and pH exceedances above the standards provided under the rules. The exceedances are summarized below.

Sample Description	Location Description	Sample Date	Documented Exceedances
North Floor	North side of excavation floor, ~30 ft bgs.	10/8/2008	pH = 9.06
South Floor	South side of excavation floor, ~30 ft bgs.	10/8/2008	SAR = 26.2
North Sidewall	~3 ft offset from north sidewall of former pit, ~17 ft bgs.	10/9/2008	NA
East Sidewall	~13.5 ft offset from east sidewall of former pit, ~18 ft bgs.	10/7/2008	EC = 15,250 umhos/cm SAR = 31.7
South Sidewall	~9 ft offset from south sidewall of former pit, ~14 ft bgs.	10/7/2008	SAR = 13.4
West Sidewall	~22 ft offset from west sidewall of former pit, ~17 ft bgs.	10/9/2008	NA

Rule 502 variance requested to leave soils with these concentrations in place.



## **Appendix E**

### **Analytical Laboratory Reports**



# Analytical Laboratory Report

Supplemental Report

Report ID: S38365.01(02)  
Generated on 10/13/2008  
Replaces report S38365.01(01) generated on 10/01/2008

## Report to

Attention: Marisa Patterson  
Stantec  
2321 Club Meridian Dr. #E  
Okemos, MI 48864-4505  
MSA# 94023

Phone: 517-349-9499 FAX: 517-349-6863  
Email: marisa.patterson@stantec.com

## Report produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

## Report Summary

Lab Sample ID(s): S38365.01-S38365.24  
Project: South Canyon  
Collected Date: 09/26/2008  
Submitted Date/Time: 09/29/2008 08:00  
Sampled by: Chris Beell  
P.O. #:

## 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 RL.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

Supplemental Report

## Sample Summary (24 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S38365.01	112108-EF-A-07	Soil	09/26/2008 11:40
S38365.02	112108-EF-A-09	Soil	09/26/2008 11:50
S38365.03	112108-EF-A-11	Soil	09/26/2008 12:00
S38365.04	112108-EF-A-13	Soil	09/26/2008 12:10
S38365.05	112108-EF-B-07	Soil	09/26/2008 12:20
S38365.06	112108-EF-B-09	Soil	09/26/2008 12:30
S38365.07	112108-EF-B-11	Soil	09/26/2008 12:40
S38365.08	112108-EF-B-13	Soil	09/26/2008 15:50
S38365.09	112108-B-08	Soil	09/26/2008 14:05
S38365.10	112108-SW-A-01-06	Soil	09/26/2008 14:30
S38365.11	112108-SW-A-01-09	Soil	09/26/2008 14:40
S38365.12	112108-SW-A-03-09	Soil	09/26/2008 14:50
S38365.13	112108-SW-A-01-11	Soil	09/26/2008 14:55
S38365.14	112108-SW-A-03-11	Soil	09/26/2008 15:05
S38365.15	112108-SW-C-01-06	Soil	09/26/2008 15:15
S38365.16	112108-SW-C-01-11	Soil	09/26/2008 15:20
S38365.17	112108-SW-C-03-11	Soil	09/26/2008 15:25
S38365.18	112108-SW-C-01-13	Soil	09/26/2008 15:30
S38365.19	112108-SW-C-03-13	Soil	09/26/2008 15:35
S38365.20	112108-SW-B-01-06	Soil	09/26/2008 15:40
S38365.21	112108-SW-B-01-11	Soil	09/26/2008 15:45
S38365.22	112108-SW-B-03-11	Soil	09/26/2008 15:50
S38365.23	112108-SW-B-01-13	Soil	09/26/2008 15:55
S38365.24	112108-SW-B-03-13	Soil	09/26/2008 16:00



# Analytical Laboratory Report

Supplemental Report

Lab Sample ID: S38365.01  
Sample Tag: 112108-EF-A-07  
Collected Date/Time: 09/26/2008 11:40  
Matrix: Soil  
COC Reference: 51083

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	8oz. Glass	None	Yes	4.4	IR

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

DRO Extraction	Completed			3510C	09/29/08 14:22	PL		
Mercury Digestion	Completed			7471A	09/30/08 11:00	JRT		
Metal Digestion	Completed			3050B	09/30/08 12:00	SLS		
Metal Digestion	Completed			3015A	09/30/08 10:00	PER		
Sodium Adsorption Ratio Prep.	Completed			20B	09/29/08 14:04	DJS		

**Inorganics**

Conductivity	1,400	umhos/cm		120.1	09/30/08 12:20	JKB		
pH	9.75	STD Units	0.1	9045D	09/29/08 17:37	WAR		
Total Solids	81	%	1	Std M 2540 B	09/29/08 10:00	DJS		

**Metals**

Sodium Adsorption Ratio	5.30			20B	09/30/08 15:00	BJR		
Arsenic	3.88	mg/kg	0.10	6020	09/30/08 12:52	SLS	7440-38-2	
Barium	70.2	mg/kg	1.0	6020	09/30/08 12:52	SLS	7440-39-3	
Boron	3.49	mg/kg	2.0	6020	09/30/08 12:52	SLS	7440-42-8	
Cadmium	Not detected	mg/kg	0.20	6020	09/30/08 12:52	SLS	7440-43-9	
Chromium	1.7	mg/kg	1.0	6020	09/30/08 12:52	SLS	7440-47-3	
Copper	14.4	mg/kg	1.0	6020	09/30/08 12:52	SLS	7440-50-8	
Lead	16.9	mg/kg	0.50	6020	09/30/08 12:52	SLS	7439-92-1	
Mercury	Not detected	mg/kg	0.050	7471A	09/30/08 14:35	JRT	7439-97-6	
Molybdenum	Not detected	mg/kg	0.50	6020	09/30/08 12:52	SLS	7439-98-7	
Nickel	13.1	mg/kg	1.0	6020	09/30/08 12:52	SLS	7440-02-0	
Selenium	0.34	mg/kg	0.20	6020	09/30/08 12:52	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	09/30/08 12:52	SLS	7440-22-4	
Zinc	46.0	mg/kg	1.0	6020	09/30/08 12:52	SLS	7440-66-6	
Calcium	418	mg/L	2.0	200.8	09/30/08 12:30	PER	7440-70-2	
Magnesium	68.8	mg/L	0.4	200.8	09/30/08 12:30	PER	7439-95-4	
Sodium	444	mg/L	0.4	200.8	09/30/08 12:30	PER	7440-23-5	

**Organics - Semi-Volatiles**

TPH DRO (C10-C28)	103,000	ug/kg	8,000	8015B	09/29/08 19:42	ARH		X
TPH ORO (C28-C36)	Not detected	ug/kg	8,000	8015M	09/29/08 19:42	ARH		X

**Organics - Volatiles**

TPH GRO (C6-C10)	400,000	ug/kg	70,000	8015M	09/30/08 14:35	JGH		Y
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X-Elevated reporting limit due to matrix interference

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Supplemental Report

Lab Sample ID: S38365.02  
Sample Tag: 112108-EF-A-09  
Collected Date/Time: 09/26/2008 11:50  
Matrix: Soil  
COC Reference: 51083

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	8oz. Glass	None	Yes	4.4	IR

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

DRO Extraction	Completed			3510C	09/29/08 14:22	PL		
Mercury Digestion	Completed			7471A	09/30/08 11:00	JRT		
Metal Digestion	Completed			3050B	09/30/08 12:00	SLS		
Metal Digestion	Completed			3015A	09/30/08 10:00	PER		
Sodium Adsorption Ratio Prep.	Completed			20B	09/29/08 14:04	DJS		

**Inorganics**

Conductivity	1,590	umhos/cm		120.1	09/30/08 12:30	JKB		
pH	9.97	STD Units	0.1	9045D	09/29/08 17:37	WAR		
Total Solids	82	%	1	Std M 2540 B	09/29/08 10:00	DJS		

**Metals**

Sodium Adsorption Ratio	8.58			20B	09/30/08 15:00	BJR		
Arsenic	2.20	mg/kg	0.10	6020	09/30/08 12:55	SLS	7440-38-2	
Barium	56.2	mg/kg	1.0	6020	09/30/08 12:55	SLS	7440-39-3	
Boron	3.64	mg/kg	2.0	6020	09/30/08 12:55	SLS	7440-42-8	
Cadmium	Not detected	mg/kg	0.20	6020	09/30/08 12:55	SLS	7440-43-9	
Chromium	1.3	mg/kg	1.0	6020	09/30/08 12:55	SLS	7440-47-3	
Copper	10.9	mg/kg	1.0	6020	09/30/08 12:55	SLS	7440-50-8	
Lead	13.3	mg/kg	0.50	6020	09/30/08 12:55	SLS	7439-92-1	
Mercury	Not detected	mg/kg	0.050	7471A	09/30/08 14:37	JRT	7439-97-6	
Molybdenum	Not detected	mg/kg	0.50	6020	09/30/08 12:55	SLS	7439-98-7	
Nickel	7.2	mg/kg	1.0	6020	09/30/08 12:55	SLS	7440-02-0	
Selenium	0.20	mg/kg	0.20	6020	09/30/08 12:55	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	09/30/08 12:55	SLS	7440-22-4	
Zinc	33.4	mg/kg	1.0	6020	09/30/08 12:55	SLS	7440-66-6	
Calcium	370	mg/L	2.0	200.8	09/30/08 12:32	PER	7440-70-2	
Magnesium	72.5	mg/L	0.4	200.8	09/30/08 12:32	PER	7439-95-4	
Sodium	690	mg/L	0.4	200.8	09/30/08 12:32	PER	7440-23-5	

**Organics - Semi-Volatiles**

TPH DRO (C10-C28)	750,000	ug/kg	100,000	8015B	09/29/08 20:03	ARH		X
TPH ORO (C28-C36)	Not detected	ug/kg	100,000	8015M	09/29/08 20:03	ARH		X

**Organics - Volatiles**

TPH GRO (C6-C10)	18,400,000	ug/kg	700,000	8015M	09/30/08 21:33	JGH		Y
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X-Elevated reporting limit due to matrix interference

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Supplemental Report

Lab Sample ID: S38365.03  
Sample Tag: 112108-EF-A-11  
Collected Date/Time: 09/26/2008 12:00  
Matrix: Soil  
COC Reference: 51083

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	8oz. Glass	None	Yes	4.4	IR

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

DRO Extraction	Completed			3510C	09/29/08 14:22	PL		
Mercury Digestion	Completed			7471A	09/30/08 11:00	JRT		
Metal Digestion	Completed			3050B	09/30/08 12:00	SLS		
Metal Digestion	Completed			3015A	09/30/08 10:00	PER		
Sodium Adsorption Ratio Prep.	Completed			20B	09/29/08 14:04	DJS		

**Inorganics**

Conductivity	1,830	umhos/cm		120.1	09/30/08 12:35	JKB		
pH	9.14	STD Units	0.1	9045D	09/29/08 17:37	WAR		
Total Solids	83	%	1	Std M 2540 B	09/29/08 10:00	DJS		

**Metals**

Sodium Adsorption Ratio	15.0			20B	09/30/08 15:00	BJR		
Arsenic	3.04	mg/kg	0.10	6020	09/30/08 12:59	SLS	7440-38-2	
Barium	94.4	mg/kg	1.0	6020	09/30/08 12:59	SLS	7440-39-3	
Boron	3.11	mg/kg	2.0	6020	09/30/08 12:59	SLS	7440-42-8	
Cadmium	Not detected	mg/kg	0.20	6020	09/30/08 12:59	SLS	7440-43-9	
Chromium	1.9	mg/kg	1.0	6020	09/30/08 12:59	SLS	7440-47-3	
Copper	10.9	mg/kg	1.0	6020	09/30/08 12:59	SLS	7440-50-8	
Lead	13.3	mg/kg	0.50	6020	09/30/08 12:59	SLS	7439-92-1	
Mercury	Not detected	mg/kg	0.050	7471A	09/30/08 14:39	JRT	7439-97-6	
Molybdenum	Not detected	mg/kg	0.50	6020	09/30/08 12:59	SLS	7439-98-7	
Nickel	8.1	mg/kg	1.0	6020	09/30/08 12:59	SLS	7440-02-0	
Selenium	0.29	mg/kg	0.20	6020	09/30/08 12:59	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	09/30/08 12:59	SLS	7440-22-4	
Zinc	41.2	mg/kg	1.0	6020	09/30/08 12:59	SLS	7440-66-6	
Calcium	34.3	mg/L	2.0	200.8	09/30/08 12:33	PER	7440-70-2	
Magnesium	42.9	mg/L	0.4	200.8	09/30/08 12:33	PER	7439-95-4	
Sodium	559	mg/L	0.4	200.8	09/30/08 12:33	PER	7440-23-5	

**Organics - Semi-Volatiles**

TPH DRO (C10-C28)	1,350,000	ug/kg	100,000	8015B	09/29/08 20:24	ARH		X
TPH ORO (C28-C36)	Not detected	ug/kg	100,000	8015M	09/29/08 20:24	ARH		X

**Organics - Volatiles**

TPH GRO (C6-C10)	13,400,000	ug/kg	700,000	8015M	09/30/08 19:25	JGH		Y
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X-Elevated reporting limit due to matrix interference

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Supplemental Report

Lab Sample ID: S38365.04  
Sample Tag: 112108-EF-A-13  
Collected Date/Time: 09/26/2008 12:10  
Matrix: Soil  
COC Reference: 51083

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	8oz. Glass	None	Yes	4.4	IR

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

DRO Extraction	Completed			3510C	09/29/08 14:22	PL		
Mercury Digestion	Completed			7471A	09/30/08 11:00	JRT		
Metal Digestion	Completed			3050B	09/30/08 12:00	SLS		
Metal Digestion	Completed			3015A	09/30/08 10:00	PER		
Sodium Adsorption Ratio Prep.	Completed			20B	09/29/08 14:04	DJS		

**Inorganics**

Conductivity	2,760	umhos/cm		120.1	09/30/08 12:40	JKB		
pH	8.37	STD Units	0.1	9045D	09/29/08 17:37	WAR		
Total Solids	86	%	1	Std M 2540 B	09/29/08 10:00	DJS		

**Metals**

Sodium Adsorption Ratio	8.44			20B	09/30/08 15:00	BJR		
Arsenic	2.55	mg/kg	0.10	6020	09/30/08 13:03	SLS	7440-38-2	
Barium	51.0	mg/kg	1.0	6020	09/30/08 13:03	SLS	7440-39-3	
Boron	Not detected	mg/kg	2.0	6020	09/30/08 13:03	SLS	7440-42-8	
Cadmium	Not detected	mg/kg	0.20	6020	09/30/08 13:03	SLS	7440-43-9	
Chromium	Not detected	mg/kg	1.0	6020	09/30/08 13:03	SLS	7440-47-3	
Copper	6.8	mg/kg	1.0	6020	09/30/08 13:03	SLS	7440-50-8	
Lead	9.56	mg/kg	0.50	6020	09/30/08 13:03	SLS	7439-92-1	
Mercury	Not detected	mg/kg	0.050	7471A	09/30/08 14:40	JRT	7439-97-6	
Molybdenum	Not detected	mg/kg	0.50	6020	09/30/08 13:03	SLS	7439-98-7	
Nickel	5.8	mg/kg	1.0	6020	09/30/08 13:03	SLS	7440-02-0	
Selenium	Not detected	mg/kg	0.20	6020	09/30/08 13:03	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	09/30/08 13:03	SLS	7440-22-4	
Zinc	24.2	mg/kg	1.0	6020	09/30/08 13:03	SLS	7440-66-6	
Calcium	136	mg/L	2.0	200.8	09/30/08 12:35	PER	7440-70-2	
Magnesium	110	mg/L	0.4	200.8	09/30/08 12:35	PER	7439-95-4	
Sodium	546	mg/L	0.4	200.8	09/30/08 12:35	PER	7440-23-5	

**Organics - Semi-Volatiles**

TPH DRO (C10-C28)	2,040,000	ug/kg	100,000	8015B	09/29/08 20:45	ARH		X
TPH ORO (C28-C36)	Not detected	ug/kg	100,000	8015M	09/29/08 20:45	ARH		X

**Organics - Volatiles**

TPH GRO (C6-C10)	43,000,000	ug/kg	1,000,000	8015M	09/30/08 21:51	JGH		Y
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X-Elevated reporting limit due to matrix interference

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Supplemental Report

Lab Sample ID: S38365.05  
Sample Tag: 112108-EF-B-07  
Collected Date/Time: 09/26/2008 12:20  
Matrix: Soil  
COC Reference: 51083

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	8oz. Glass	None	Yes	4.4	IR

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

DRO Extraction	Completed			3510C	09/29/08 14:22	PL		
Mercury Digestion	Completed			7471A	09/30/08 12:30	JRT		
Metal Digestion	Completed			3050B	09/30/08 12:00	SLS		
Metal Digestion	Completed			3015A	09/30/08 10:00	PER		
Sodium Adsorption Ratio Prep.	Completed			20B	09/29/08 14:04	DJS		

**Inorganics**

Conductivity	3,550	umhos/cm		120.1	09/30/08 12:45	JKB		
pH	8.79	STD Units	0.1	9045D	09/29/08 17:37	WAR		
Total Solids	87	%	1	Std M 2540 B	09/29/08 10:00	DJS		

**Metals**

Sodium Adsorption Ratio	6.57			20B	09/30/08 15:00	BJR		
Arsenic	4.71	mg/kg	0.10	6020	09/30/08 13:07	SLS	7440-38-2	
Barium	59.0	mg/kg	1.0	6020	09/30/08 13:07	SLS	7440-39-3	
Boron	6.72	mg/kg	2.0	6020	09/30/08 13:07	SLS	7440-42-8	
Cadmium	Not detected	mg/kg	0.20	6020	09/30/08 13:07	SLS	7440-43-9	
Chromium	1.4	mg/kg	1.0	6020	09/30/08 13:07	SLS	7440-47-3	
Copper	12.9	mg/kg	1.0	6020	09/30/08 13:07	SLS	7440-50-8	
Lead	15.2	mg/kg	0.50	6020	09/30/08 13:07	SLS	7439-92-1	
Mercury	Not detected	mg/kg	0.050	7471A	09/30/08 15:29	JRT	7439-97-6	
Molybdenum	Not detected	mg/kg	0.50	6020	09/30/08 13:07	SLS	7439-98-7	
Nickel	8.3	mg/kg	1.0	6020	09/30/08 13:07	SLS	7440-02-0	
Selenium	0.30	mg/kg	0.20	6020	09/30/08 13:07	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	09/30/08 13:07	SLS	7440-22-4	
Zinc	37.3	mg/kg	1.0	6020	09/30/08 13:07	SLS	7440-66-6	
Calcium	916	mg/L	2.0	200.8	09/30/08 12:37	PER	7440-70-2	
Magnesium	95.4	mg/L	0.4	200.8	09/30/08 12:37	PER	7439-95-4	
Sodium	782	mg/L	0.4	200.8	09/30/08 12:37	PER	7440-23-5	

**Organics - Semi-Volatiles**

TPH DRO (C10-C28)	16,000	ug/kg	4,000	8015B	09/30/08 10:35	ARH		
TPH ORO (C28-C36)	Not detected	ug/kg	4,000	8015M	09/30/08 10:35	ARH		

**Organics - Volatiles**

TPH GRO (C6-C10)	Not detected	ug/kg	1,000	8015M	09/30/08 15:46	JGH		
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# Analytical Laboratory Report

Supplemental Report

Lab Sample ID: S38365.06  
Sample Tag: 112108-EF-B-09  
Collected Date/Time: 09/26/2008 12:30  
Matrix: Soil  
COC Reference: 51083

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	8oz. Glass	None	Yes	4.4	IR

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

DRO Extraction	Completed			3510C	09/29/08 14:22	PL		
Mercury Digestion	Completed			7471A	09/30/08 12:30	JRT		
Metal Digestion	Completed			3050B	09/30/08 12:00	SLS		
Metal Digestion	Completed			3015A	09/30/08 10:00	PER		
Sodium Adsorption Ratio Prep.	Completed			20B	09/29/08 14:04	DJS		

**Inorganics**

Conductivity	935	umhos/cm		120.1	09/30/08 12:50	JKB		
pH	9.06	STD Units	0.1	9045D	09/29/08 17:37	WAR		
Total Solids	84	%	1	Std M 2540 B	09/29/08 10:00	DJS		

**Metals**

Sodium Adsorption Ratio	4.34			20B	09/30/08 15:00	BJR		
Arsenic	5.49	mg/kg	0.10	6020	09/30/08 13:11	SLS	7440-38-2	
Barium	57.5	mg/kg	1.0	6020	09/30/08 13:11	SLS	7440-39-3	
Boron	3.21	mg/kg	2.0	6020	09/30/08 13:11	SLS	7440-42-8	
Cadmium	Not detected	mg/kg	0.20	6020	09/30/08 13:11	SLS	7440-43-9	
Chromium	1.5	mg/kg	1.0	6020	09/30/08 13:11	SLS	7440-47-3	
Copper	14.0	mg/kg	1.0	6020	09/30/08 13:11	SLS	7440-50-8	
Lead	16.6	mg/kg	0.50	6020	09/30/08 13:11	SLS	7439-92-1	
Mercury	Not detected	mg/kg	0.050	7471A	09/30/08 15:30	JRT	7439-97-6	
Molybdenum	Not detected	mg/kg	0.50	6020	09/30/08 13:11	SLS	7439-98-7	
Nickel	10.0	mg/kg	1.0	6020	09/30/08 13:11	SLS	7440-02-0	
Selenium	0.36	mg/kg	0.20	6020	09/30/08 13:11	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	09/30/08 13:11	SLS	7440-22-4	
Zinc	45.6	mg/kg	1.0	6020	09/30/08 13:11	SLS	7440-66-6	
Calcium	189	mg/L	2.0	200.8	09/30/08 12:38	PER	7440-70-2	
Magnesium	37.8	mg/L	0.4	200.8	09/30/08 12:38	PER	7439-95-4	
Sodium	250	mg/L	0.4	200.8	09/30/08 12:38	PER	7440-23-5	

**Organics - Semi-Volatiles**

TPH DRO (C10-C28)	180,000	ug/kg	40,000	8015B	09/30/08 14:07	ARH		XY
TPH ORO (C28-C36)	Not detected	ug/kg	40,000	8015M	09/30/08 14:07	ARH		X

**Organics - Volatiles**

TPH GRO (C6-C10)	6,100,000	ug/kg	300,000	8015M	09/30/08 18:31	JGH		Y
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X-Elevated reporting limit due to matrix interference Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Supplemental Report

Lab Sample ID: S38365.07  
Sample Tag: 112108-EF-B-11  
Collected Date/Time: 09/26/2008 12:40  
Matrix: Soil  
COC Reference: 51083

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	8oz. Glass	None	Yes	4.4	IR

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

DRO Extraction	Completed			3510C	09/29/08 14:22	PL		
Mercury Digestion	Completed			7471A	09/30/08 12:30	JRT		
Metal Digestion	Completed			3050B	09/30/08 12:00	SLS		
Metal Digestion	Completed			3015A	09/30/08 10:00	PER		
Sodium Adsorption Ratio Prep.	Completed			20B	09/29/08 14:04	DJS		

**Inorganics**

Conductivity	1,280	umhos/cm		120.1	09/30/08 12:55	JKB		
pH	9.69	STD Units	0.1	9045D	09/29/08 17:37	WAR		
Total Solids	82	%	1	Std M 2540 B	09/29/08 10:00	DJS		

**Metals**

Sodium Adsorption Ratio	17.0			20B	09/30/08 15:00	BJR		
Arsenic	4.38	mg/kg	0.10	6020	09/30/08 13:15	SLS	7440-38-2	
Barium	59.3	mg/kg	1.0	6020	09/30/08 13:15	SLS	7440-39-3	
Boron	2.46	mg/kg	2.0	6020	09/30/08 13:15	SLS	7440-42-8	
Cadmium	Not detected	mg/kg	0.20	6020	09/30/08 13:15	SLS	7440-43-9	
Chromium	1.3	mg/kg	1.0	6020	09/30/08 13:15	SLS	7440-47-3	
Copper	11.9	mg/kg	1.0	6020	09/30/08 13:15	SLS	7440-50-8	
Lead	15.2	mg/kg	0.50	6020	09/30/08 13:15	SLS	7439-92-1	
Mercury	Not detected	mg/kg	0.050	7471A	09/30/08 15:32	JRT	7439-97-6	
Molybdenum	Not detected	mg/kg	0.50	6020	09/30/08 13:15	SLS	7439-98-7	
Nickel	8.7	mg/kg	1.0	6020	09/30/08 13:15	SLS	7440-02-0	
Selenium	0.27	mg/kg	0.20	6020	09/30/08 13:15	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	09/30/08 13:15	SLS	7440-22-4	
Zinc	39.3	mg/kg	1.0	6020	09/30/08 13:15	SLS	7440-66-6	
Calcium	31.5	mg/L	2.0	200.8	09/30/08 12:40	PER	7440-70-2	
Magnesium	34.6	mg/L	0.4	200.8	09/30/08 12:40	PER	7439-95-4	
Sodium	581	mg/L	0.4	200.8	09/30/08 12:40	PER	7440-23-5	

**Organics - Semi-Volatiles**

TPH DRO (C10-C28)	160,000	ug/kg	40,000	8015B	09/30/08 14:28	ARH		XY
TPH ORO (C28-C36)	Not detected	ug/kg	40,000	8015M	09/30/08 14:28	ARH		X

**Organics - Volatiles**

TPH GRO (C6-C10)	10,400,000	ug/kg	400,000	8015M	09/30/08 18:49	JGH		Y
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X-Elevated reporting limit due to matrix interference Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Supplemental Report

Lab Sample ID: S38365.08  
Sample Tag: 112108-EF-B-13  
Collected Date/Time: 09/26/2008 15:50  
Matrix: Soil  
COC Reference: 51083

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	8oz. Glass	None	Yes	4.4	IR

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

DRO Extraction	Completed			3510C	09/29/08 14:22	PL		
Mercury Digestion	Completed			7471A	09/30/08 12:30	JRT		
Metal Digestion	Completed			3050B	09/30/08 12:00	SLS		
Metal Digestion	Completed			3015A	09/30/08 10:00	PER		
Sodium Adsorption Ratio Prep.	Completed			20B	09/29/08 14:04	DJS		

**Inorganics**

Conductivity	2,210	umhos/cm		120.1	09/30/08 13:00	JKB		
pH	9.54	STD Units	0.1	9045D	09/29/08 17:37	WAR		
Total Solids	79	%	1	Std M 2540 B	09/29/08 10:00	DJS		

**Metals**

Sodium Adsorption Ratio	20.3			20B	09/30/08 15:00	BJR		
Arsenic	3.54	mg/kg	0.10	6020	09/30/08 13:19	SLS	7440-38-2	
Barium	62.1	mg/kg	1.0	6020	09/30/08 13:19	SLS	7440-39-3	
Boron	4.30	mg/kg	2.0	6020	09/30/08 13:19	SLS	7440-42-8	
Cadmium	Not detected	mg/kg	0.20	6020	09/30/08 13:19	SLS	7440-43-9	
Chromium	1.3	mg/kg	1.0	6020	09/30/08 13:19	SLS	7440-47-3	
Copper	9.4	mg/kg	1.0	6020	09/30/08 13:19	SLS	7440-50-8	
Lead	12.8	mg/kg	0.50	6020	09/30/08 13:19	SLS	7439-92-1	
Mercury	Not detected	mg/kg	0.050	7471A	09/30/08 15:34	JRT	7439-97-6	
Molybdenum	Not detected	mg/kg	0.50	6020	09/30/08 13:19	SLS	7439-98-7	
Nickel	7.7	mg/kg	1.0	6020	09/30/08 13:19	SLS	7440-02-0	
Selenium	0.21	mg/kg	0.20	6020	09/30/08 13:19	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	09/30/08 13:19	SLS	7440-22-4	
Zinc	35.9	mg/kg	1.0	6020	09/30/08 13:19	SLS	7440-66-6	
Calcium	26.9	mg/L	2.0	200.8	09/30/08 12:42	PER	7440-70-2	
Magnesium	62.5	mg/L	0.4	200.8	09/30/08 12:42	PER	7439-95-4	
Sodium	841	mg/L	0.4	200.8	09/30/08 12:42	PER	7440-23-5	

**Organics - Semi-Volatiles**

TPH DRO (C10-C28)	730,000	ug/kg	100,000	8015B	09/29/08 22:10	ARH		X
TPH ORO (C28-C36)	Not detected	ug/kg	100,000	8015M	09/29/08 22:10	ARH		X

**Organics - Volatiles**

TPH GRO (C6-C10)	8,900,000	ug/kg	400,000	8015M	09/30/08 19:07	JGH		Y
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X-Elevated reporting limit due to matrix interference

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Supplemental Report

Lab Sample ID: S38365.09  
Sample Tag: 112108-B-08  
Collected Date/Time: 09/26/2008 14:05  
Matrix: Soil  
COC Reference: 51083

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	8oz. Glass	None	Yes	4.4	IR

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

DRO Extraction	Completed			3510C	09/29/08 14:22	PL		
Mercury Digestion	Completed			7471A	09/30/08 12:30	JRT		
Metal Digestion	Completed			3050B	09/30/08 12:00	SLS		
Metal Digestion	Completed			3015A	09/30/08 10:00	PER		
Sodium Adsorption Ratio Prep.	Completed			20B	09/29/08 14:04	DJS		

**Inorganics**

Conductivity	7,100	umhos/cm		120.1	09/30/08 13:05	JKB		
pH	8.29	STD Units	0.1	9045D	09/29/08 17:37	WAR		
Total Solids	95	%	1	Std M 2540 B	09/29/08 10:00	DJS		

**Metals**

Sodium Adsorption Ratio	6.44			20B	09/30/08 15:00	BJR		
Arsenic	0.78	mg/kg	0.10	6020	09/30/08 13:23	SLS	7440-38-2	
Barium	24.9	mg/kg	1.0	6020	09/30/08 13:23	SLS	7440-39-3	
Boron	Not detected	mg/kg	2.0	6020	09/30/08 13:23	SLS	7440-42-8	
Cadmium	Not detected	mg/kg	0.20	6020	09/30/08 13:23	SLS	7440-43-9	
Chromium	Not detected	mg/kg	1.0	6020	09/30/08 13:23	SLS	7440-47-3	
Copper	1.3	mg/kg	1.0	6020	09/30/08 13:23	SLS	7440-50-8	
Lead	3.28	mg/kg	0.50	6020	09/30/08 13:23	SLS	7439-92-1	
Mercury	Not detected	mg/kg	0.050	7471A	09/30/08 15:36	JRT	7439-97-6	
Molybdenum	Not detected	mg/kg	0.50	6020	09/30/08 13:23	SLS	7439-98-7	
Nickel	2.4	mg/kg	1.0	6020	09/30/08 13:23	SLS	7440-02-0	
Selenium	Not detected	mg/kg	0.20	6020	09/30/08 13:23	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	09/30/08 13:23	SLS	7440-22-4	
Zinc	2.7	mg/kg	1.0	6020	09/30/08 13:23	SLS	7440-66-6	
Calcium	1,140	mg/L	2.0	200.8	09/30/08 12:43	PER	7440-70-2	
Magnesium	803	mg/L	0.40	200.8	09/30/08 12:43	PER	7439-95-4	
Sodium	1,160	mg/L	0.40	200.8	09/30/08 12:43	PER	7440-23-5	

**Organics - Semi-Volatiles**

TPH DRO (C10-C28)	Not detected	ug/kg	4,000	8015B	09/30/08 11:38	ARH		
TPH ORO (C28-C36)	Not detected	ug/kg	4,000	8015M	09/30/08 11:38	ARH		

**Organics - Volatiles**

TPH GRO (C6-C10)	Not detected	ug/kg	1,000	8015M	09/30/08 16:04	JGH		
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# Analytical Laboratory Report

Supplemental Report

Lab Sample ID: S38365.10  
Sample Tag: 112108-SW-A-01-06  
Collected Date/Time: 09/26/2008 14:30  
Matrix: Soil  
COC Reference: 51083

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	8oz. Glass	None	Yes	4.4	IR

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

DRO Extraction	Completed			3510C	09/29/08 14:22	PL		
Mercury Digestion	Completed			7471A	09/30/08 12:30	JRT		
Metal Digestion	Completed			3050B	09/30/08 12:00	SLS		
Metal Digestion	Completed			3015A	09/30/08 10:00	PER		
Sodium Adsorption Ratio Prep.	Completed			20B	09/29/08 14:04	DJS		

### Inorganics

Conductivity	2,020	umhos/cm		120.1	09/30/08 13:10	JKB		
pH	8.78	STD Units	0.1	9045D	09/29/08 17:37	WAR		
Total Solids	94	%	1	Std M 2540 B	09/29/08 10:00	DJS		

### Metals

Sodium Adsorption Ratio	5.19			20B	09/30/08 15:00	BJR		
Arsenic	0.89	mg/kg	0.10	6020	09/30/08 13:27	SLS	7440-38-2	
Barium	38.5	mg/kg	1.0	6020	09/30/08 13:27	SLS	7440-39-3	
Boron	Not detected	mg/kg	2.0	6020	09/30/08 13:27	SLS	7440-42-8	
Cadmium	Not detected	mg/kg	0.20	6020	09/30/08 13:27	SLS	7440-43-9	
Chromium	Not detected	mg/kg	1.0	6020	09/30/08 13:27	SLS	7440-47-3	
Copper	2.7	mg/kg	1.0	6020	09/30/08 13:27	SLS	7440-50-8	
Lead	5.89	mg/kg	0.50	6020	09/30/08 13:27	SLS	7439-92-1	
Mercury	Not detected	mg/kg	0.050	7471A	09/30/08 15:38	JRT	7439-97-6	
Molybdenum	Not detected	mg/kg	0.50	6020	09/30/08 13:27	SLS	7439-98-7	
Nickel	4.2	mg/kg	1.0	6020	09/30/08 13:27	SLS	7440-02-0	
Selenium	Not detected	mg/kg	0.20	6020	09/30/08 13:27	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	09/30/08 13:27	SLS	7440-22-4	
Zinc	4.6	mg/kg	1.0	6020	09/30/08 13:27	SLS	7440-66-6	
Calcium	140	mg/L	2.0	200.8	09/30/08 12:45	PER	7440-70-2	
Magnesium	42.3	mg/L	0.4	200.8	09/30/08 12:45	PER	7439-95-4	
Sodium	273	mg/L	0.4	200.8	09/30/08 12:45	PER	7440-23-5	

### Organics - Semi-Volatiles

TPH DRO (C10-C28)	Not detected	ug/kg	4,000	8015B	09/30/08 11:59	ARH		
TPH ORO (C28-C36)	Not detected	ug/kg	4,000	8015M	09/30/08 11:59	ARH		

### Organics - Volatiles

TPH GRO (C6-C10)	Not detected	ug/kg	1,000	8015M	09/30/08 16:22	JGH		
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# Analytical Laboratory Report

Supplemental Report

Lab Sample ID: S38365.11  
Sample Tag: 112108-SW-A-01-09  
Collected Date/Time: 09/26/2008 14:40  
Matrix: Soil  
COC Reference: 51083

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	8oz. Glass	None	Yes	4.4	IR

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

DRO Extraction	Completed			3510C	09/29/08 14:22	PL		
Mercury Digestion	Completed			7471A	09/30/08 12:30	JRT		
Metal Digestion	Completed			3050B	09/30/08 12:00	SLS		
Metal Digestion	Completed			3015A	09/30/08 10:00	PER		
Metal Digestion (Replicate 01)	Completed			3015A	10/10/08 12:00	SLS		
Sodium Adsorption Ratio Prep.	Completed			20B	09/29/08 14:04	DJS		

**Inorganics**

Conductivity	4,490	umhos/cm		120.1	09/30/08 13:15	JKB		
pH	8.27	STD Units	0.1	9045D	09/29/08 17:37	WAR		
Total Solids	91	%	1	Std M 2540 B	09/29/08 10:00	DJS		

**Metals**

Hot Water Extraction	Completed				10/09/08 18:10	TAS		
Sodium Adsorption Ratio	6.74			20B	09/30/08 15:00	BJR		
Arsenic	0.48	mg/kg	0.10	6020	09/30/08 13:47	SLS	7440-38-2	
Barium	50.2	mg/kg	1.0	6020	09/30/08 13:47	SLS	7440-39-3	
Boron	Not detected	mg/kg	2.0	6020	09/30/08 13:47	SLS	7440-42-8	
Cadmium	Not detected	mg/kg	0.20	6020	09/30/08 13:47	SLS	7440-43-9	
Chromium	Not detected	mg/kg	1.0	6020	09/30/08 13:47	SLS	7440-47-3	
Copper	2.3	mg/kg	1.0	6020	09/30/08 13:47	SLS	7440-50-8	
Lead	3.47	mg/kg	0.50	6020	09/30/08 13:47	SLS	7439-92-1	
Mercury	Not detected	mg/kg	0.050	7471A	09/30/08 15:40	JRT	7439-97-6	
Molybdenum	Not detected	mg/kg	0.50	6020	09/30/08 13:47	SLS	7439-98-7	
Nickel	3.8	mg/kg	1.0	6020	09/30/08 13:47	SLS	7440-02-0	
Selenium	Not detected	mg/kg	0.20	6020	09/30/08 13:47	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	09/30/08 13:47	SLS	7440-22-4	
Zinc	2.6	mg/kg	1.0	6020	09/30/08 13:47	SLS	7440-66-6	
Boron	0.52	mg/L	0.02	200.8	10/10/08 14:38	SLS	7440-42-8	
Calcium	351	mg/L	2.0	200.8	09/30/08 13:13	PER	7440-70-2	
Magnesium	98.5	mg/L	0.4	200.8	09/30/08 13:13	PER	7439-95-4	
Sodium	555	mg/L	0.4	200.8	09/30/08 13:13	PER	7440-23-5	

**Organics - Semi-Volatiles**

TPH DRO (C10-C28)	Not detected	ug/kg	4,000	8015B	09/30/08 12:21	ARH		
TPH ORO (C28-C36)	Not detected	ug/kg	4,000	8015M	09/30/08 12:21	ARH		

**Organics - Volatiles**

TPH GRO (C6-C10)	Not detected	ug/kg	1,000	8015M	09/30/08 16:41	JGH		
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# Analytical Laboratory Report

Supplemental Report

Lab Sample ID: S38365.12  
Sample Tag: 112108-SW-A-03-09  
Collected Date/Time: 09/26/2008 14:50  
Matrix: Soil  
COC Reference: 51083

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	8oz. Glass	None	Yes	4.4	IR

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

DRO Extraction	Completed			3510C	09/29/08 14:22	PL		
Mercury Digestion	Completed			7471A	09/30/08 12:30	JRT		
Metal Digestion	Completed			3050B	09/30/08 12:00	SLS		
Metal Digestion	Completed			3015A	09/30/08 10:00	PER		
Sodium Adsorption Ratio Prep.	Completed			20B	09/29/08 14:04	DJS		

**Inorganics**

Conductivity	3,270	umhos/cm		120.1	09/30/08 13:20	JKB		
pH	7.98	STD Units	0.1	9045D	09/29/08 17:37	WAR		
Total Solids	94	%	1	Std M 2540 B	09/29/08 10:00	DJS		

**Metals**

Sodium Adsorption Ratio	6.44			20B	09/30/08 15:00	BJR		
Arsenic	0.48	mg/kg	0.10	6020	09/30/08 13:51	SLS	7440-38-2	
Barium	49.2	mg/kg	1.0	6020	09/30/08 13:51	SLS	7440-39-3	
Boron	2.50	mg/kg	2.0	6020	09/30/08 13:51	SLS	7440-42-8	
Cadmium	Not detected	mg/kg	0.20	6020	09/30/08 13:51	SLS	7440-43-9	
Chromium	Not detected	mg/kg	1.0	6020	09/30/08 13:51	SLS	7440-47-3	
Copper	2.9	mg/kg	1.0	6020	09/30/08 13:51	SLS	7440-50-8	
Lead	3.94	mg/kg	0.50	6020	09/30/08 13:51	SLS	7439-92-1	
Mercury	Not detected	mg/kg	0.050	7471A	09/30/08 15:41	JRT	7439-97-6	
Molybdenum	Not detected	mg/kg	0.50	6020	09/30/08 13:51	SLS	7439-98-7	
Nickel	3.6	mg/kg	1.0	6020	09/30/08 13:51	SLS	7440-02-0	
Selenium	Not detected	mg/kg	0.20	6020	09/30/08 13:51	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	09/30/08 13:51	SLS	7440-22-4	
Zinc	2.5	mg/kg	1.0	6020	09/30/08 13:51	SLS	7440-66-6	
Calcium	162	mg/L	2.0	200.8	09/30/08 13:14	PER	7440-70-2	
Magnesium	35.8	mg/L	0.4	200.8	09/30/08 13:14	PER	7439-95-4	
Sodium	348	mg/L	0.4	200.8	09/30/08 13:14	PER	7440-23-5	

**Organics - Semi-Volatiles**

TPH DRO (C10-C28)	29,000	ug/kg	4,000	8015B	09/30/08 12:42	ARH		
TPH ORO (C28-C36)	5,000	ug/kg	4,000	8015M	09/30/08 12:42	ARH		

**Organics - Volatiles**

TPH GRO (C6-C10)	Not detected	ug/kg	1,000	8015M	09/30/08 16:59	JGH		
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# Analytical Laboratory Report

Supplemental Report

Lab Sample ID: S38365.13  
Sample Tag: 112108-SW-A-01-11  
Collected Date/Time: 09/26/2008 14:55  
Matrix: Soil  
COC Reference: 51085

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	8oz. Glass	None	Yes	4.4	IR

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

DRO Extraction	Completed			3510C	09/29/08 14:22	PL		
Mercury Digestion	Completed			7471A	09/30/08 12:30	JRT		
Metal Digestion	Completed			3050B	09/30/08 12:00	SLS		
Metal Digestion	Completed			3015A	09/30/08 10:00	PER		
Sodium Adsorption Ratio Prep.	Completed			20B	09/29/08 14:04	DJS		

**Inorganics**

Conductivity	5,620	umhos/cm		120.1	09/30/08 13:25	JKB		
pH	7.76	STD Units	0.1	9045D	09/29/08 17:37	WAR		
Total Solids	91	%	1	Std M 2540 B	09/29/08 10:00	DJS		

**Metals**

Sodium Adsorption Ratio	6.04			20B	09/30/08 15:00	BJR		
Arsenic	0.61	mg/kg	0.10	6020	09/30/08 13:55	SLS	7440-38-2	
Barium	31.7	mg/kg	1.0	6020	09/30/08 13:55	SLS	7440-39-3	
Boron	4.10	mg/kg	2.0	6020	09/30/08 13:55	SLS	7440-42-8	
Cadmium	Not detected	mg/kg	0.20	6020	09/30/08 13:55	SLS	7440-43-9	
Chromium	Not detected	mg/kg	1.0	6020	09/30/08 13:55	SLS	7440-47-3	
Copper	3.4	mg/kg	1.0	6020	09/30/08 13:55	SLS	7440-50-8	
Lead	5.09	mg/kg	0.50	6020	09/30/08 13:55	SLS	7439-92-1	
Mercury	Not detected	mg/kg	0.050	7471A	09/30/08 15:45	JRT	7439-97-6	
Molybdenum	Not detected	mg/kg	0.50	6020	09/30/08 13:55	SLS	7439-98-7	
Nickel	3.7	mg/kg	1.0	6020	09/30/08 13:55	SLS	7440-02-0	
Selenium	Not detected	mg/kg	0.20	6020	09/30/08 13:55	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	09/30/08 13:55	SLS	7440-22-4	
Zinc	3.3	mg/kg	1.0	6020	09/30/08 13:55	SLS	7440-66-6	
Calcium	402	mg/L	2.0	200.8	09/30/08 13:16	PER	7440-70-2	
Magnesium	62.3	mg/L	0.4	200.8	09/30/08 13:16	PER	7439-95-4	
Sodium	493	mg/L	0.4	200.8	09/30/08 13:16	PER	7440-23-5	

**Organics - Semi-Volatiles**

TPH DRO (C10-C28)	6,000	ug/kg	4,000	8015B	09/30/08 13:03	ARH		
TPH ORO (C28-C36)	Not detected	ug/kg	4,000	8015M	09/30/08 13:03	ARH		

**Organics - Volatiles**

TPH GRO (C6-C10)	Not detected	ug/kg	1,000	8015M	09/30/08 17:17	JGH		
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# Analytical Laboratory Report

Supplemental Report

Lab Sample ID: S38365.14  
Sample Tag: 112108-SW-A-03-11  
Collected Date/Time: 09/26/2008 15:05  
Matrix: Soil  
COC Reference: 51085

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	8oz. Glass	None	Yes	4.4	IR

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

DRO Extraction	Completed			3510C	09/29/08 14:22	PL		
Mercury Digestion	Completed			7471A	09/30/08 12:30	JRT		
Metal Digestion	Completed			3050B	09/30/08 12:00	SLS		
Metal Digestion	Completed			3015A	09/30/08 10:00	PER		
Sodium Adsorption Ratio Prep.	Completed			20B	09/29/08 14:04	DJS		

**Inorganics**

Conductivity	4,280	umhos/cm		120.1	09/30/08 13:30	JKB		
pH	7.84	STD Units	0.1	9045D	09/29/08 17:37	WAR		
Total Solids	88	%	1	Std M 2540 B	09/29/08 10:00	DJS		

**Metals**

Sodium Adsorption Ratio	8.10			20B	09/30/08 15:00	BJR		
Arsenic	0.91	mg/kg	0.10	6020	09/30/08 13:59	SLS	7440-38-2	
Barium	25.4	mg/kg	1.0	6020	09/30/08 13:59	SLS	7440-39-3	
Boron	2.25	mg/kg	2.0	6020	09/30/08 13:59	SLS	7440-42-8	
Cadmium	Not detected	mg/kg	0.20	6020	09/30/08 13:59	SLS	7440-43-9	
Chromium	Not detected	mg/kg	1.0	6020	09/30/08 13:59	SLS	7440-47-3	
Copper	3.8	mg/kg	1.0	6020	09/30/08 13:59	SLS	7440-50-8	
Lead	6.44	mg/kg	0.50	6020	09/30/08 13:59	SLS	7439-92-1	
Mercury	Not detected	mg/kg	0.050	7471A	09/30/08 15:43	JRT	7439-97-6	
Molybdenum	Not detected	mg/kg	0.50	6020	09/30/08 13:59	SLS	7439-98-7	
Nickel	3.1	mg/kg	1.0	6020	09/30/08 13:59	SLS	7440-02-0	
Selenium	Not detected	mg/kg	0.20	6020	09/30/08 13:59	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	09/30/08 13:59	SLS	7440-22-4	
Zinc	5.0	mg/kg	1.0	6020	09/30/08 13:59	SLS	7440-66-6	
Calcium	444	mg/L	2.0	200.8	09/30/08 13:19	PER	7440-70-2	
Magnesium	54.3	mg/L	0.4	200.8	09/30/08 13:19	PER	7439-95-4	
Sodium	680	mg/L	0.4	200.8	09/30/08 13:19	PER	7440-23-5	

**Organics - Semi-Volatiles**

TPH DRO (C10-C28)	25,000	ug/kg	4,000	8015B	09/30/08 13:24	ARH		
TPH ORO (C28-C36)	5,000	ug/kg	4,000	8015M	09/30/08 13:24	ARH		

**Organics - Volatiles**

TPH GRO (C6-C10)	Not detected	ug/kg	1,000	8015M	09/30/08 17:54	JGH		
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# Analytical Laboratory Report

Supplemental Report

Lab Sample ID: S38365.15  
Sample Tag: 112108-SW-C-01-06  
Collected Date/Time: 09/26/2008 15:15  
Matrix: Soil  
COC Reference: 51085

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	8oz. Glass	None	Yes	4.4	IR

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

DRO Extraction	Completed			3510C	09/29/08 14:22	PL		
Mercury Digestion	Completed			7471A	09/30/08 12:30	JRT		
Metal Digestion	Completed			3050B	09/30/08 12:00	SLS		
Metal Digestion	Completed			3015A	09/30/08 10:00	PER		
Sodium Adsorption Ratio Prep.	Completed			20B	09/29/08 14:04	DJS		

**Inorganics**

Conductivity	4,610	umhos/cm		120.1	09/30/08 13:35	JKB		
pH	9.14	STD Units	0.1	9045D	09/29/08 17:37	WAR		
Total Solids	92	%	1	Std M 2540 B	09/29/08 10:00	DJS		

**Metals**

Sodium Adsorption Ratio	15.6			20B	09/30/08 15:00	BJR		
Arsenic	0.71	mg/kg	0.10	6020	09/30/08 14:03	SLS	7440-38-2	
Barium	32.6	mg/kg	1.0	6020	09/30/08 14:03	SLS	7440-39-3	
Boron	Not detected	mg/kg	2.0	6020	09/30/08 14:03	SLS	7440-42-8	
Cadmium	Not detected	mg/kg	0.20	6020	09/30/08 14:03	SLS	7440-43-9	
Chromium	Not detected	mg/kg	1.0	6020	09/30/08 14:03	SLS	7440-47-3	
Copper	4.6	mg/kg	1.0	6020	09/30/08 14:03	SLS	7440-50-8	
Lead	6.28	mg/kg	0.50	6020	09/30/08 14:03	SLS	7439-92-1	
Mercury	Not detected	mg/kg	0.050	7471A	09/30/08 15:58	JRT	7439-97-6	
Molybdenum	Not detected	mg/kg	0.50	6020	09/30/08 14:03	SLS	7439-98-7	
Nickel	4.1	mg/kg	1.0	6020	09/30/08 14:03	SLS	7440-02-0	
Selenium	Not detected	mg/kg	0.20	6020	09/30/08 14:03	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	09/30/08 14:03	SLS	7440-22-4	
Zinc	4.4	mg/kg	1.0	6020	09/30/08 14:03	SLS	7440-66-6	
Calcium	211	mg/L	2.0	200.8	09/30/08 13:20	PER	7440-70-2	
Magnesium	114	mg/L	0.4	200.8	09/30/08 13:20	PER	7439-95-4	
Sodium	1,130	mg/L	0.4	200.8	09/30/08 13:20	PER	7440-23-5	

**Organics - Semi-Volatiles**

TPH DRO (C10-C28)	7,000	ug/kg	4,000	8015B	09/30/08 13:45	ARH		
TPH ORO (C28-C36)	Not detected	ug/kg	4,000	8015M	09/30/08 13:45	ARH		

**Organics - Volatiles**

TPH GRO (C6-C10)	Not detected	ug/kg	1,000	8015M	09/30/08 17:35	JGH		
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