

State of Colorado  
**Oil and Gas Conservation Commission**

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



#7933

FOR OGCC USE ONLY

**RECEIVED**  
4/11/2014

**SITE INVESTIGATION AND REMEDIATION WORKPLAN**

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

**CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED**

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☒ Other (describe): Pit Closure

OGCC Employee:

☐ Spill ☐ Complaint  
☐ Inspection ☐ NOAV

Tracking No:

OGCC Operator Number: 96155

Name of Operator: Whiting Oil and Gas Corporation

Address: 1700 Broadway, Suite 2300

City: Denver State: CO Zip: 80290-2300

Contact Name and Telephone:

William Lambert

No: 303-837-4238

Fax: 720-644-3637

API Number: 05-103-11064

County: Rio Blanco #103

Facility Name: \_\_\_\_\_

Facility Number: 335975

Well Name: Boies

Well Number: C-27K-G1

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NESW, 27, 2S, 98W, 6th Latitude: 39.846072 Longitude: -108.381334

**TECHNICAL CONDITIONS**

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): NA

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☐ Y ☒ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Rangeland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Harvre loam, 0-4% slope

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Black Sulphur Creek ~319 feet

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):

Extent of Impact:

How Determined:

☐

Soils

☐

Vegetation

☐

Groundwater

☐

Surface Water

**REMEDIATION WORKPLAN**

Describe initial action taken (if previously provided, refer to that form or document):

See work plan associated with Remediation Number 7933.

Describe how source is to be removed:

N/A. Pit bottom analytical indicates no further action is needed (see attached Completion Report).

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

N/A. Pit bottom analytical indicates no further action is needed (see attached Completion Report).

FORM  
27  
Rev 6/99

State of Colorado  
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**REMEDIAL WORKPLAN (Cont.)**

Tracking Number: \_\_\_\_\_  
Name of Operator: \_\_\_\_\_  
OGCC Operator No: \_\_\_\_\_  
Received Date: \_\_\_\_\_  
Well Name & No: \_\_\_\_\_  
Facility Name & No: 335975

OGCC Employee: \_\_\_\_\_

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

N/A

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

N/A. The pits had been reclaimed during the summer of 2012. The sampling event did not disturb the reclamation.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☐ Y ☒ N If yes, describe:

N/A. Pit bottom analytical indicates no further action is needed (see attached Completion Report).

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

N/A. No waste was generated during the sampling event.

**IMPLEMENTATION SCHEDULE**

Date Site Investigation Began: <u>11/11/13</u>	Date Site Investigation Completed: <u>11/11/13</u>	Date Remediation Plan Submitted: <u>4/12/13</u>
Remediation Start Date: <u>11/11/13</u>	Anticipated Completion Date: <u>11/11/13</u>	Actual Completion Date: <u>11/11/13</u>

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

Print Name: William Lambert

Signed: [Signature]

Title: Environmental Professional II

Date: 3/21/2014

OGCC Approved: [Signature]

Title: EPS SWPP

Date: 4/8/2014



# InterTech

March, 2014

***NOTICE OF COMPLETION REPORT  
BOIES C-27K-G1 PIT  
T2S R98W Section 27  
Rio Blanco County, Colorado***

Prepared For:



**Whiting Oil and Gas Corporation  
1700 Broadway, Suite 2300  
Denver, CO 80290**

Prepared By:



## InterTech

**InterTech Environmental & Engineering, LLC  
743 Horizon Court, Suite 110  
Grand Junction, Colorado 81506**

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## EXECUTIVE SUMMARY

On November 13, 2013, activities associated with the closure sampling of the pit located on the Boies C-27K-G1 (27K) well pad site, Remediation Number 7933, were initiated. Nine Whiting Oil and Gas Corporation (Whiting) drilling, reserve and production pits, including Boies 27K pit, were reclaimed during the summer of 2012. According to Whiting, the pits were constructed but not all were used. The lining materials were removed and the pits were backfilled; however, confirmation sampling from the bottom of the pits was not conducted at the time of closure.

Soil sample aliquots were collected from three (3) locations at the bottom of the 27K pit. Soils were collected using a track mounted drill rig to bore through the fill material. One pit bottom confirmation sample, consisting of the three (3) aliquots, was submitted to ALS Laboratories (ALS) for analysis of Colorado Oil and Gas Conservation Commission (COGCC) Table 910-1 analytes.

Analytical results received from the laboratory for the confirmation sample revealed concentrations of all 910-1 constituents to be within the allowable concentrations set by COGCC, except arsenic. A summary of the sample exceeding regulatory concentrations is as follows:

Constituent	Units	Standard	Result
Arsenic	mg/kg	0.39	3.8

It is requested that background arsenic concentrations be taken into consideration for the completion of the pit closure. This request is in accordance with and pertaining to footnote 1 to the Table 910-1 of the COGCC 900 series Rule.

## 1.0 - INTRODUCTION

This document was prepared to describe the procedures and protocol used for the closure sampling of the drilling pit at the 27K pad site. The practices used are as described in the Whiting Pit Closure Work Plan, approved by COGCC and assigned Remediation Number 7933. The report provides the documentation necessary to demonstrate a comprehensive and diligent sampling of the pit. Samples were obtained as described and in accordance with all appropriate County, State and Federal rules and regulations.

### 1.1 - Site Description

The 27K pad site is located in the NE1/4 of the SW1/4 of Section 27 of Township 2 South and Range 98 West in Rio Blanco County, Colorado. The coordinates for the site are:

API/Facility ID	Easting	Northing
05-103-11314	724044	4415485

The well pad is situated on non-crop rangelands and Havre loam soils with a zero (0) to four (4) percent (%) slope. Receiving waters include the perennial flowing Black Sulphur Creek. The estimated distance to the receiving waters is approximately 319 feet. Vegetation consists of sagebrush and grassland communities. See Figure 1 for a Site Vicinity map (Appendix A).

## 2.0 - PIT CLOSURE SAMPLING EVENT

Whiting records indicate that the nine (9) pits were reclaimed during the summer of 2012. Closure practices included removal of the liner material and backfill; however, did not include confirmation samples being collected from the pit bottom.

The soils investigation was completed as described in the Whiting Oil & Gas Pit Closure Work Plan and further described below.

### 2.1 - Visual Observation of Soil Aliquots

All soils were observed for any visual indication of hydrocarbon impact. The following was noted from the soil aliquots collected from the 27K pit.

Pit	Aliquot Location Within Pit	Aliquot Depth (feet below surface)	Soil Observation(s)
27K	Northeast	8	Brown, no odor, extremely moist
	Middle	8	Brown, no odor, very moist
	Southwest	8	Brown, no odor, dry

### 2.2 - PID Screening

Using a RAE Systems Photoionization Detector (PID), calibrated daily with Isobutylene per manufacture's recommendations, the three (3) aliquots were screened for Volatile Organic Compounds (VOCs). If the PID reading was above 100 parts per million (ppm) or visual screening indicated sub-soils had been impacted, the suspect aliquot was to be submitted separately to the laboratory for analysis of Table 910-1 constituents. All aliquots with PID readings below 100 ppm were combined and submitted as one (1) composite sample.

Aliquot PID readings are as follows:

Aliquot Location Within Pit	PID Reading (ppm)
Northeast	0.0
Middle	0.0
Southwest	0.2

### **2.3 - Sample Collection**

The pit is approximately 30 feet by 100 feet. Whiting estimated the pit bottom to be eight (8) feet in depth. Using a track mounted drill rig, flight augers bored through the fill material until native soil was reached. Pit bottom soil samples were collected from three (3) locations along the axis of the pit with a two (2) foot split spoon.

The sampled material was field screened, as described above, composited and then placed into laboratory specified sample containers. The samples were labeled with unique sample identification, sampler's name, date collected and the time of collection. Samples were then placed into a cooler with ice to cool to four (4) degrees (°) to preserve sample integrity. Samples were submitted to ALS laboratory via overnight courier for analysis of contaminants listed in COGCC Table 910-1.

All pertinent site and sampling activity information were recorded, in print, in a dedicated field notebook. Site conditions and sampling locations were recorded on a site plan, plotted relative to a known reference point or located by means of a handheld Global Positioning System (GPS) device, and photographed.

The sample name and aliquot coordinates are as follows:

Sample ID	Aliquot ID	Easting	Northing
WOG_27K_PB_8	1 (Northeast)	724066	4414016
	2 (Middle)	724061	4414011
	3 (Southwest)	724055	4414004

### **3.0 - ANALYTICAL RESULTS AND INTERPRETATION**

The confirmation sample analytical showed the 27K pit bottom sample to be below COGCC Table 910-1 standards for all constituents, except arsenic. A summary of constituents for the pit bottom sample is as follows and a copy of the laboratory report is included in Appendix B:

Constituent	Table 910-1 Standard	Units	Results
<b>Organic Compounds in Soil</b>			
TPH - DRO			ND
TPH - GRO			ND
TPH - Total	500	mg/kg	ND
Benzene	0.17	mg/kg	ND
Toluene	85	mg/kg	ND
Ethylbenzene	100	mg/kg	ND
Xylenes, Total	175	mg/kg	ND
Acenaphthene	1,000	mg/kg	ND
Anthracene	1,000	mg/kg	ND
Benzo(a)anthracene	0.22	mg/kg	ND
Benzo(b)fluoranthene	0.22	mg/kg	ND
Benzo(k)fluoranthene	2.2	mg/kg	ND
Benzo(a)pyrene	0.022	mg/kg	ND
Chrysene	22	mg/kg	ND
Dibenzo(a,h)anthracene	0.022	mg/kg	ND
Fluoranthene	1,000	mg/kg	ND
Fluorene	1,000	mg/kg	ND
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	ND
Naphthalene	23	mg/kg	ND
Pyrene	1,000	mg/kg	ND
<b>Inorganics in Soil</b>			
Electrical Conductivity	<4 or 2 x background	mmhos/cm	0.98
Sodium Adsorption Ratio	<12	unitless	2.7
pH	6-9	unitless	8.1
<b>Metals in Soil</b>			
Arsenic	0.39	mg/kg	3.8
Barium	15,000	mg/kg	220
Cadmium	70	mg/kg	ND
Chromium, Hexavalent	23	mg/kg	ND
Chromium, Trivalent	120,000	mg/kg	30
Copper	3,100	mg/kg	10
Lead	400	mg/kg	12
Mercury	23	mg/kg	ND
Nickel	1,600	mg/kg	14
Selenium	390	mg/kg	ND
Silver	390	mg/kg	ND
Zinc	23,000	mg/kg	44
ND - Non Detect			
Exceeds COGCC Table 910-1 Standard			

### 3.1 - Analytical Interpretation

As illustrated above, the analytical results show the pit bottom soils meet COGCC Table 910-1 standards with the exception of arsenic. Arsenic exceeds the allowable concentrations in Table



910-1; however, a study of the Boies Ranch area, completed in July 2011, revealed a mean background concentration of 6.4 mg/kg and a maximum value of 10.0 mg/kg. Background arsenic samples were not collected during the time of the pit closure as an area wide study had been completed in 2011. The study area included representative samples from areas near the 27K pit. Analytical results from the study are shown below and a map depicting the sampling locations is included in Appendix A.

Location	Sample ID	Sample Date	Constituent	Result	Unit
Boies_Ranch	SO_Boies_Background_Sect_1_1	7/27/2011	Arsenic, Total	10.0	mg/kg
	SO_Boies_Background_Sect_1_2			5.0*	
	SO_Boies_Background_Sect_2_1			5.0*	
	SO_Boies_Background_Sect_2_2			8.0	
	SO_Boies_Background_Sect_2_3			5.0*	
	SO_Boies_Background_Sect_3_1			5.0	
	SO_Boies_Background_Sect_3_2			6.0	
	SO_Boies_Background_Sect_3_3			6.0	
	SO_Boies_Background_Sect_3_4			8.0	
		Mean Value	6.4	mg/kg	
		Highest Reported Value	10.0	mg/kg	

\*In instances where the laboratory indicated the constituent results were non-detect (ND), the Practical Quantitation Level (PQL) was used for the results value.

It is requested that background arsenic concentrations be taken into consideration for the completion of the pit closure. This request is in accordance with and pertaining to footnote 1 to the Table 910-1 of the COGCC 900 series Rule.



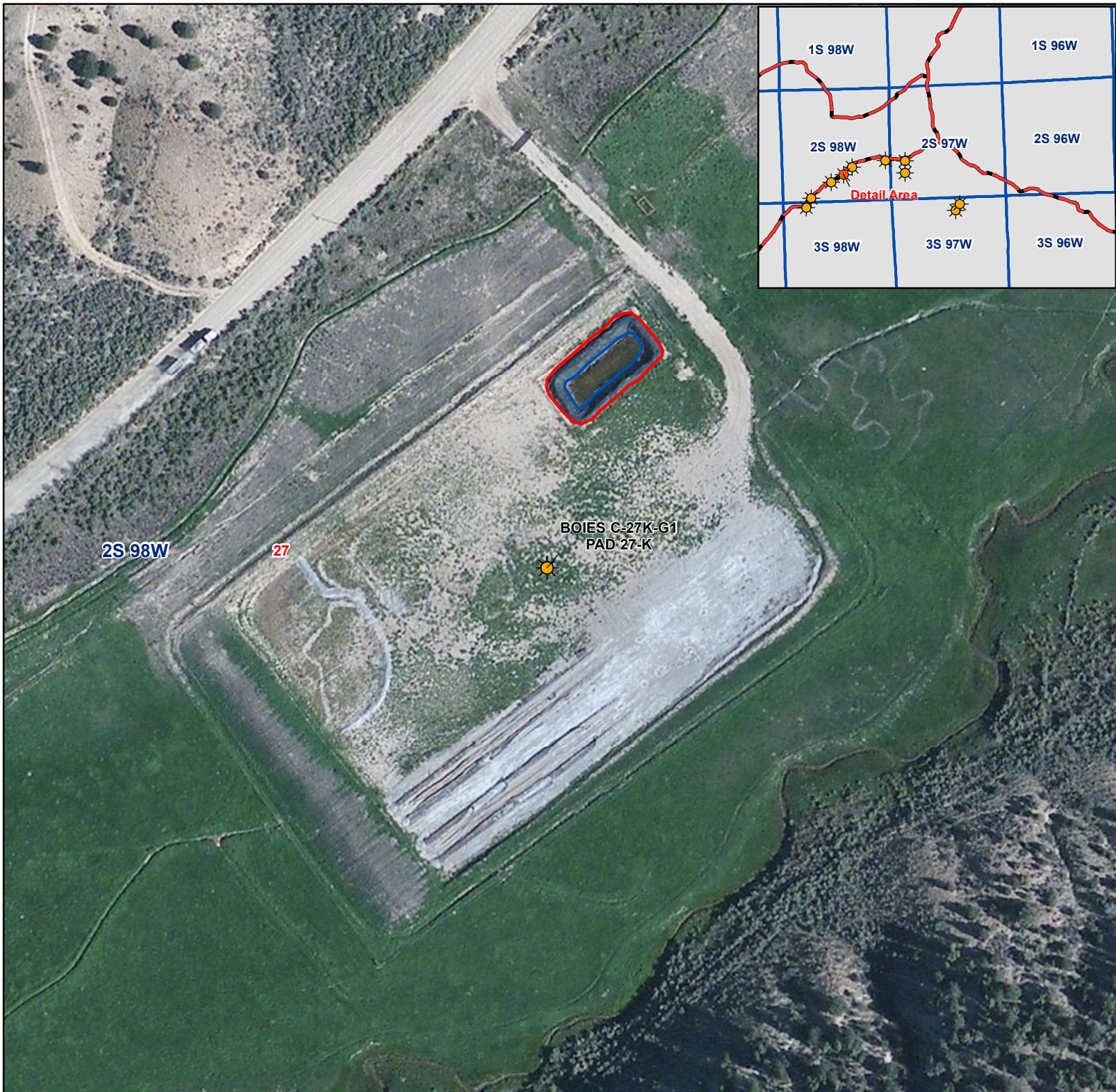
**InterTech**



## ***APPENDIX A***

### ***Figures***








Whiting Petroleum Corporation

**Boies C-27K-G1  
Pad 27-K  
Sec 27, T2S R98W**

**December 5, 2012**

**Explanation:**

-  Whiting Well Location
-  Pit Bottom
-  Pit Perimeter



0 50 100  
Feet

1:1,500









Whiting Petroleum Corporation

**Boies C-27K-G1  
Pad 27-K Sample Locations  
Sec 27, T2S R98W**

**December 20, 2013**

**Explanation:**

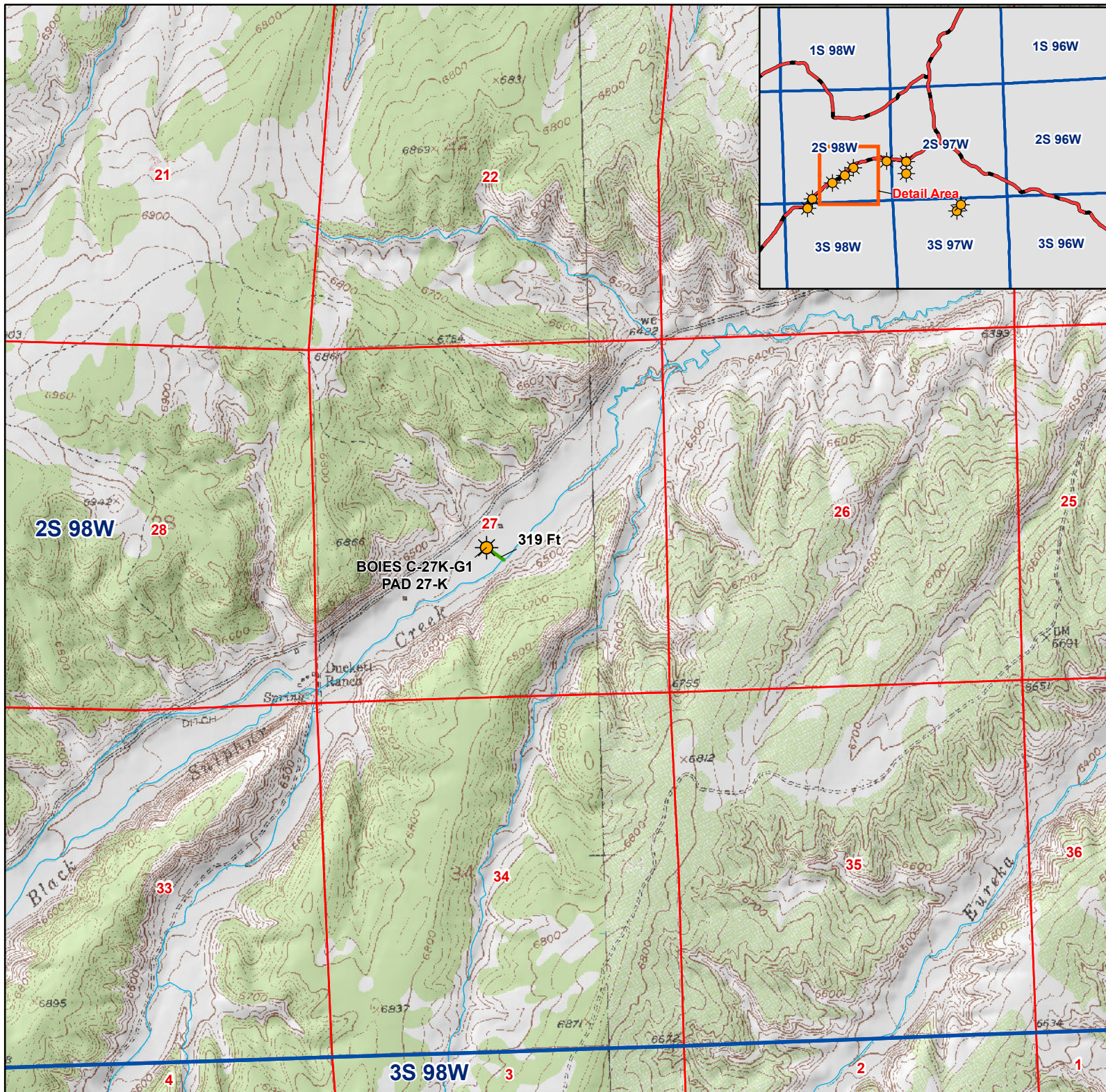
-  Whiting Well Location
-  Sample Location



0 110 220  
Feet

1:2,000







Whiting Petroleum Corporation

**Boies C-27K-G1  
Pad 27-K Setback Map  
Sec 27, T2S R98W**

**December 20, 2013**

**Explanation:**

-  Whiting Well Location
-  Setback Distance

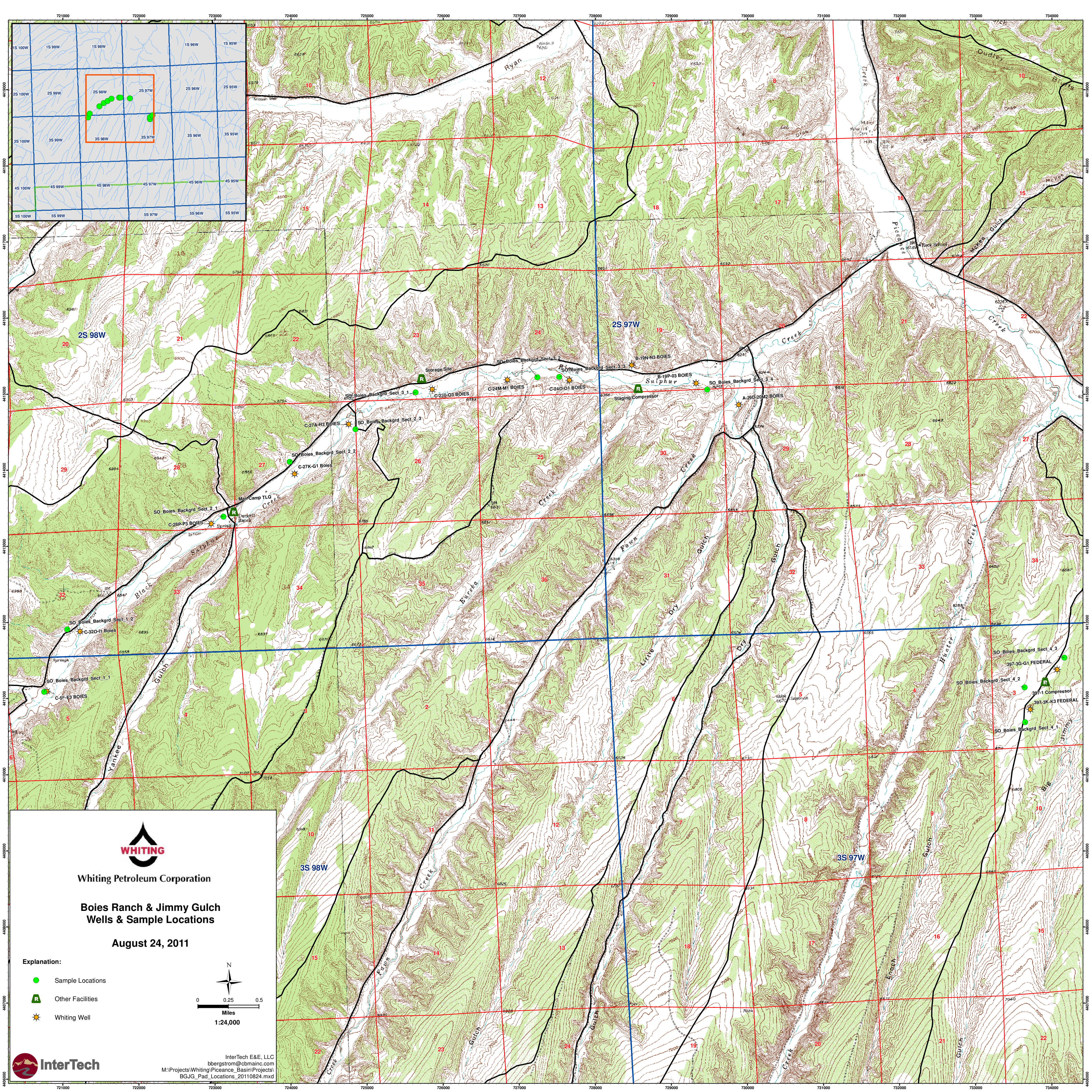


0 0.25 0.5  
Miles

1:24,000










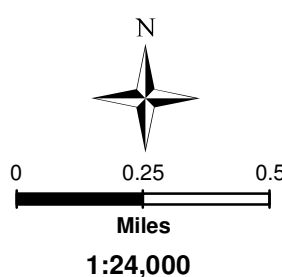
Whiting Petroleum Corporation

## Boies Ranch & Jimmy Gulch Wells & Sample Locations

August 24, 2011

### Explanation:

-  Sample Locations
-  Other Facilities
-  Whiting Well



InterTech E&E, LLC  
bbergstrom@cbmainc.com  
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BGJG\_Pad\_Locations\_20110824.mxd





**InterTech**



## ***APPENDIX B***

### ***Laboratory Analytical Report***



23-Nov-2013

Jana Sanders  
InterTech  
743 Horizon Court, Suite 110  
Grand Junction, CO 81506

Re: **WOG Boies Ranch Pits 11.12.13**

Work Order: **1311784**

Dear Jana,

ALS Environmental received 8 samples on 14-Nov-2013 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 41.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston  
Project Manager



Certificate No: MN 532786

### Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

[www.alsglobal.com](http://www.alsglobal.com)

RIGHT SOLUTIONS RIGHT PARTNER



**Client:** InterTech  
**Project:** WOG Boies Ranch Pits 11.12.13  
**Work Order:** 1311784

**Work Order Sample Summary**

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1311784-01	WOG_27_AH_SW_PB	Soil		11/12/2013 11:30	11/14/2013 09:30	<input type="checkbox"/>
1311784-02	WOG_27_AH_SW_4_8	Soil		11/12/2013 10:15	11/14/2013 09:30	<input type="checkbox"/>
1311784-03	WOG_27_AH_NE_PB	Soil		11/12/2013 12:30	11/14/2013 09:30	<input type="checkbox"/>
1311784-04	WOG_240_PB_10	Soil		11/12/2013 14:15	11/14/2013 09:30	<input type="checkbox"/>
1311784-05	WOG_27K_PB_8	Soil		11/12/2013 09:40	11/14/2013 09:30	<input type="checkbox"/>
1311784-06	WOG_H_30_NE_10	Soil		11/12/2013 16:30	11/14/2013 09:30	<input type="checkbox"/>
1311784-07	WOG_H_30_SW_8	Soil		11/12/2013 15:40	11/14/2013 09:30	<input type="checkbox"/>
1311784-08	WOG_27_AH_SW_6_8	Soil		11/12/2013 10:40	11/14/2013 09:30	<input type="checkbox"/>

**Client:** InterTech  
**Project:** WOG Boies Ranch Pits 11.12.13  
**WorkOrder:** 1311784

## **QUALIFIERS, ACRONYMS, UNITS**

<b><u>Qualifier</u></b>	<b><u>Description</u></b>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<b><u>Acronym</u></b>	<b><u>Description</u></b>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<b><u>Units Reported</u></b>	<b><u>Description</u></b>
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	
s.u.	Standard Units

# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Work Order: 1311784

Sample ID: WOG\_27\_AH\_SW\_PB

Lab ID: 1311784-01

Collection Date: 11/12/2013 11:30 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>46</b>		<b>SW8015M</b>		Prep Date: <b>11/15/2013</b>	Analyst: <b>CW</b>
			<b>5.3</b>	<b>mg/Kg-dry</b>	1	11/15/2013 11:02 PM
<i>Surr: 4-Terphenyl-d14</i>	<i>48.5</i>		<i>39-115</i>	<i>%REC</i>	1	11/15/2013 11:02 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015</b>		Prep Date: <b>11/16/2013</b>	Analyst: <b>CW</b>
			<b>3.2</b>	<b>mg/Kg-dry</b>	1	11/17/2013 03:04 PM
<i>Surr: Toluene-d8</i>	<i>108</i>		<i>50-150</i>	<i>%REC</i>	1	11/17/2013 03:04 PM
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>ND</b>		<b>SW7471</b>		Prep Date: <b>11/15/2013</b>	Analyst: <b>LR</b>
			<b>0.019</b>	<b>mg/Kg-dry</b>	1	11/15/2013 05:48 PM
<b>METALS BY ICP-MS</b>						
<b>Arsenic</b>	<b>3.9</b>		<b>SW6020A</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>ML</b>
			<b>2.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 07:54 PM
<b>Barium</b>	<b>310</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 07:54 PM
<b>Cadmium</b>	<b>ND</b>		<b>0.84</b>	<b>mg/Kg-dry</b>	5	11/20/2013 07:54 PM
<b>Chromium</b>	<b>27</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 07:54 PM
<b>Copper</b>	<b>9.7</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 07:54 PM
<b>Lead</b>	<b>12</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 07:54 PM
<b>Nickel</b>	<b>13</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 07:54 PM
<b>Selenium</b>	<b>ND</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 07:54 PM
<b>Silver</b>	<b>ND</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 07:54 PM
<b>Zinc</b>	<b>42</b>		<b>4.2</b>	<b>mg/Kg-dry</b>	5	11/20/2013 07:54 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
<b>Calcium</b>	<b>28</b>		<b>SW6020A</b>		Prep Date: <b>11/19/2013</b>	Analyst: <b>CES</b>
			<b>10</b>	<b>mg/L</b>	20	11/20/2013 09:09 AM
<b>Magnesium</b>	<b>21</b>		<b>4.0</b>	<b>mg/L</b>	20	11/20/2013 09:09 AM
<b>Sodium</b>	<b>470</b>		<b>4.0</b>	<b>mg/L</b>	20	11/20/2013 09:09 AM
<b>SODIUM ADSORPTION RATIO</b>						
<b>Sodium Adsorption Ratio</b>	<b>16</b>		<b>USDA H60 METHO</b>		Prep Date: <b>11/19/2013</b>	Analyst: <b>CES</b>
			<b>0.010</b>	<b>none</b>	1	11/18/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
<b>Acenaphthene</b>	<b>ND</b>		<b>SW8270</b>		Prep Date: <b>11/15/2013</b>	Analyst: <b>HL</b>
			<b>0.0084</b>	<b>mg/Kg-dry</b>	1	11/16/2013 02:31 AM
<b>Anthracene</b>	<b>ND</b>		<b>0.0084</b>	<b>mg/Kg-dry</b>	1	11/16/2013 02:31 AM
<b>Benzo(a)anthracene</b>	<b>ND</b>		<b>0.0084</b>	<b>mg/Kg-dry</b>	1	11/16/2013 02:31 AM
<b>Benzo(a)pyrene</b>	<b>ND</b>		<b>0.0084</b>	<b>mg/Kg-dry</b>	1	11/16/2013 02:31 AM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		<b>0.0084</b>	<b>mg/Kg-dry</b>	1	11/16/2013 02:31 AM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		<b>0.0084</b>	<b>mg/Kg-dry</b>	1	11/16/2013 02:31 AM
<b>Chrysene</b>	<b>ND</b>		<b>0.0084</b>	<b>mg/Kg-dry</b>	1	11/16/2013 02:31 AM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		<b>0.0084</b>	<b>mg/Kg-dry</b>	1	11/16/2013 02:31 AM
<b>Fluoranthene</b>	<b>ND</b>		<b>0.0084</b>	<b>mg/Kg-dry</b>	1	11/16/2013 02:31 AM
<b>Fluorene</b>	<b>ND</b>		<b>0.0084</b>	<b>mg/Kg-dry</b>	1	11/16/2013 02:31 AM
<b>Indeno(1,2,3-cd)pyrene</b>	<b>ND</b>		<b>0.0084</b>	<b>mg/Kg-dry</b>	1	11/16/2013 02:31 AM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Work Order: 1311784

Sample ID: WOG\_27\_AH\_SW\_PB

Lab ID: 1311784-01

Collection Date: 11/12/2013 11:30 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	ND		0.0084	mg/Kg-dry	1	11/16/2013 02:31 AM
Pyrene	ND		0.0084	mg/Kg-dry	1	11/16/2013 02:31 AM
Surr: 2-Fluorobiphenyl	82.1		12-100	%REC	1	11/16/2013 02:31 AM
Surr: 4-Terphenyl-d14	84.6		25-137	%REC	1	11/16/2013 02:31 AM
Surr: Nitrobenzene-d5	78.0		37-107	%REC	1	11/16/2013 02:31 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: 11/16/2013	Analyst: BG
Benzene	ND		0.039	mg/Kg-dry	1	11/21/2013 05:38 AM
Ethylbenzene	ND		0.039	mg/Kg-dry	1	11/21/2013 05:38 AM
m,p-Xylene	0.084		0.077	mg/Kg-dry	1	11/21/2013 05:38 AM
o-Xylene	ND		0.039	mg/Kg-dry	1	11/21/2013 05:38 AM
Toluene	ND		0.039	mg/Kg-dry	1	11/21/2013 05:38 AM
Xylenes, Total	ND		0.12	mg/Kg-dry	1	11/21/2013 05:38 AM
Surr: 1,2-Dichloroethane-d4	91.5		70-130	%REC	1	11/21/2013 05:38 AM
Surr: 4-Bromofluorobenzene	98.6		70-130	%REC	1	11/21/2013 05:38 AM
Surr: Dibromofluoromethane	91.6		70-130	%REC	1	11/21/2013 05:38 AM
Surr: Toluene-d8	97.5		70-130	%REC	1	11/21/2013 05:38 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: 11/19/2013	Analyst: JB
Electrical Conductivity @ Saturation	2.7		0.050	mmhos/cm @2	10	11/19/2013 05:30 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: MB
Chromium, Trivalent	27		0.64	mg/Kg-dry	1	11/22/2013 09:30 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: 11/19/2013	Analyst: MB
Chromium, Hexavalent	ND		0.65	mg/Kg-dry	1	11/19/2013 04:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: MEB
Moisture	22		0.050	% of sample	1	11/18/2013 04:20 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: 11/15/2013	Analyst: JB
pH	8.4			s.u.	1	11/15/2013 03:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Work Order: 1311784

Sample ID: WOG\_27\_AH\_SW\_4\_8

Lab ID: 1311784-02

Collection Date: 11/12/2013 10:15 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>CW</b>
<b>DRO (C10-C28)</b>	<b>1,900</b>		<b>4.9</b>	<b>mg/Kg-dry</b>	1	11/19/2013 06:23 AM
Surr: 4-Terphenyl-d14	43.5		39-115	%REC	1	11/19/2013 06:23 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015</b>		Prep Date: <b>11/16/2013</b>	Analyst: <b>CW</b>
<b>GRO (C6-C10)</b>	<b>940</b>		<b>2.9</b>	<b>mg/Kg-dry</b>	1	11/17/2013 06:13 PM
Surr: Toluene-d8	107		50-150	%REC	1	11/17/2013 06:13 PM
<b>MERCURY BY CVAA</b>						
			<b>SW7471</b>		Prep Date: <b>11/15/2013</b>	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.019</b>		<b>0.017</b>	<b>mg/Kg-dry</b>	1	11/15/2013 05:50 PM
<b>METALS BY ICP-MS</b>						
			<b>SW6020A</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>ML</b>
<b>Arsenic</b>	<b>3.6</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	5	11/20/2013 08:00 PM
<b>Barium</b>	<b>440</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	5	11/20/2013 08:00 PM
Cadmium	ND		0.94	mg/Kg-dry	5	11/20/2013 08:00 PM
<b>Chromium</b>	<b>30</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	5	11/20/2013 08:00 PM
<b>Copper</b>	<b>9.6</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	5	11/20/2013 08:00 PM
<b>Lead</b>	<b>13</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	5	11/20/2013 08:00 PM
<b>Nickel</b>	<b>13</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	5	11/20/2013 08:00 PM
Selenium	ND		2.4	mg/Kg-dry	5	11/20/2013 08:00 PM
Silver	ND		2.4	mg/Kg-dry	5	11/20/2013 08:00 PM
<b>Zinc</b>	<b>44</b>		<b>4.7</b>	<b>mg/Kg-dry</b>	5	11/20/2013 08:00 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW6020A</b>		Prep Date: <b>11/19/2013</b>	Analyst: <b>CES</b>
<b>Calcium</b>	<b>25</b>		<b>10</b>	<b>mg/L</b>	20	11/20/2013 09:15 AM
<b>Magnesium</b>	<b>10</b>		<b>4.0</b>	<b>mg/L</b>	20	11/20/2013 09:15 AM
<b>Sodium</b>	<b>1,100</b>		<b>4.0</b>	<b>mg/L</b>	20	11/20/2013 09:15 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep Date: <b>11/19/2013</b>	Analyst: <b>CES</b>
<b>Sodium Adsorption Ratio</b>	<b>46</b>		<b>0.010</b>	<b>none</b>	1	11/18/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>11/17/2013</b>	Analyst: <b>CW</b>
Acenaphthene	ND		0.0078	mg/Kg-dry	1	11/19/2013 12:07 PM
Anthracene	ND		0.0078	mg/Kg-dry	1	11/19/2013 12:07 PM
Benzo(a)anthracene	ND		0.0078	mg/Kg-dry	1	11/19/2013 12:07 PM
Benzo(a)pyrene	ND		0.0078	mg/Kg-dry	1	11/19/2013 12:07 PM
Benzo(b)fluoranthene	ND		0.0078	mg/Kg-dry	1	11/19/2013 12:07 PM
Benzo(k)fluoranthene	ND		0.0078	mg/Kg-dry	1	11/19/2013 12:07 PM
Chrysene	ND		0.0078	mg/Kg-dry	1	11/19/2013 12:07 PM
Dibenzo(a,h)anthracene	ND		0.0078	mg/Kg-dry	1	11/19/2013 12:07 PM
Fluoranthene	ND		0.0078	mg/Kg-dry	1	11/19/2013 12:07 PM
<b>Fluorene</b>	<b>0.29</b>		<b>0.0078</b>	<b>mg/Kg-dry</b>	1	11/19/2013 12:07 PM
Indeno(1,2,3-cd)pyrene	ND		0.0078	mg/Kg-dry	1	11/19/2013 12:07 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Work Order: 1311784

Sample ID: WOG\_27\_AH\_SW\_4\_8

Lab ID: 1311784-02

Collection Date: 11/12/2013 10:15 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	1.6		0.0078	mg/Kg-dry	1	11/19/2013 12:07 PM
Pyrene	ND		0.0078	mg/Kg-dry	1	11/19/2013 12:07 PM
Surr: 2-Fluorobiphenyl	80.9		12-100	%REC	1	11/19/2013 12:07 PM
Surr: 4-Terphenyl-d14	116		25-137	%REC	1	11/19/2013 12:07 PM
Surr: Nitrobenzene-d5	114	S	37-107	%REC	1	11/19/2013 12:07 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: 11/16/2013	Analyst: BG
Benzene	ND		0.035	mg/Kg-dry	1	11/21/2013 06:03 AM
Ethylbenzene	1.8		0.035	mg/Kg-dry	1	11/21/2013 06:03 AM
m,p-Xylene	45		0.35	mg/Kg-dry	5	11/21/2013 07:28 PM
o-Xylene	5.4		0.035	mg/Kg-dry	1	11/21/2013 06:03 AM
Toluene	2.6		0.035	mg/Kg-dry	1	11/21/2013 06:03 AM
Xylenes, Total	52		0.53	mg/Kg-dry	5	11/21/2013 07:28 PM
Surr: 1,2-Dichloroethane-d4	92.8		70-130	%REC	1	11/21/2013 06:03 AM
Surr: 1,2-Dichloroethane-d4	105		70-130	%REC	5	11/21/2013 07:28 PM
Surr: 4-Bromofluorobenzene	94.0		70-130	%REC	5	11/21/2013 07:28 PM
Surr: 4-Bromofluorobenzene	93.2		70-130	%REC	1	11/21/2013 06:03 AM
Surr: Dibromofluoromethane	89.4		70-130	%REC	1	11/21/2013 06:03 AM
Surr: Dibromofluoromethane	105		70-130	%REC	5	11/21/2013 07:28 PM
Surr: Toluene-d8	100		70-130	%REC	5	11/21/2013 07:28 PM
Surr: Toluene-d8	116		70-130	%REC	1	11/21/2013 06:03 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: 11/19/2013	Analyst: JB
Electrical Conductivity @ Saturation	5.6		0.050	mmhos/cm @2	10	11/19/2013 05:30 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: MB
Chromium, Trivalent	30		0.59	mg/Kg-dry	1	11/22/2013 09:30 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: 11/19/2013	Analyst: MB
Chromium, Hexavalent	ND		0.59	mg/Kg-dry	1	11/19/2013 04:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: MEB
Moisture	15		0.050	% of sample	1	11/18/2013 04:20 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: 11/15/2013	Analyst: JB
pH	8.7		s.u.		1	11/15/2013 03:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Work Order: 1311784

Sample ID: WOG\_27\_AH\_NE\_PB

Lab ID: 1311784-03

Collection Date: 11/12/2013 12:30 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>CW</b>
<b>DRO (C10-C28)</b>	<b>46</b>		<b>5.1</b>	<b>mg/Kg-dry</b>	1	11/19/2013 06:52 AM
Surr: 4-Terphenyl-d14	49.6		39-115	%REC	1	11/19/2013 06:52 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015</b>		Prep Date: <b>11/16/2013</b>	Analyst: <b>CW</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.1</b>	<b>mg/Kg-dry</b>	1	11/17/2013 03:28 PM
Surr: Toluene-d8	115		50-150	%REC	1	11/17/2013 03:28 PM
<b>MERCURY BY CVAA</b>						
			<b>SW7471</b>		Prep Date: <b>11/15/2013</b>	Analyst: <b>LR</b>
Mercury	ND		0.019	mg/Kg-dry	1	11/15/2013 05:52 PM
<b>METALS BY ICP-MS</b>						
			<b>SW6020A</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>ML</b>
<b>Arsenic</b>	<b>3.8</b>		<b>2.6</b>	<b>mg/Kg-dry</b>	5	11/20/2013 08:06 PM
<b>Barium</b>	<b>250</b>		<b>2.6</b>	<b>mg/Kg-dry</b>	5	11/20/2013 08:06 PM
Cadmium	ND		1.0	mg/Kg-dry	5	11/20/2013 08:06 PM
<b>Chromium</b>	<b>27</b>		<b>2.6</b>	<b>mg/Kg-dry</b>	5	11/20/2013 08:06 PM
<b>Copper</b>	<b>9.3</b>		<b>2.6</b>	<b>mg/Kg-dry</b>	5	11/20/2013 08:06 PM
<b>Lead</b>	<b>13</b>		<b>2.6</b>	<b>mg/Kg-dry</b>	5	11/20/2013 08:06 PM
<b>Nickel</b>	<b>13</b>		<b>2.6</b>	<b>mg/Kg-dry</b>	5	11/20/2013 08:06 PM
Selenium	ND		2.6	mg/Kg-dry	5	11/20/2013 08:06 PM
Silver	ND		2.6	mg/Kg-dry	5	11/20/2013 08:06 PM
<b>Zinc</b>	<b>41</b>		<b>5.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 08:06 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW6020A</b>		Prep Date: <b>11/19/2013</b>	Analyst: <b>CES</b>
<b>Calcium</b>	<b>31</b>		<b>10</b>	<b>mg/L</b>	20	11/20/2013 09:21 AM
<b>Magnesium</b>	<b>27</b>		<b>4.0</b>	<b>mg/L</b>	20	11/20/2013 09:21 AM
<b>Sodium</b>	<b>450</b>		<b>4.0</b>	<b>mg/L</b>	20	11/20/2013 09:21 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep Date: <b>11/19/2013</b>	Analyst: <b>CES</b>
Sodium Adsorption Ratio	14		0.010	none	1	11/18/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>11/17/2013</b>	Analyst: <b>CW</b>
Acenaphthene	ND		0.0082	mg/Kg-dry	1	11/19/2013 11:47 AM
Anthracene	ND		0.0082	mg/Kg-dry	1	11/19/2013 11:47 AM
Benzo(a)anthracene	ND		0.0082	mg/Kg-dry	1	11/19/2013 11:47 AM
Benzo(a)pyrene	ND		0.0082	mg/Kg-dry	1	11/19/2013 11:47 AM
Benzo(b)fluoranthene	ND		0.0082	mg/Kg-dry	1	11/19/2013 11:47 AM
Benzo(k)fluoranthene	ND		0.0082	mg/Kg-dry	1	11/19/2013 11:47 AM
Chrysene	ND		0.0082	mg/Kg-dry	1	11/19/2013 11:47 AM
Dibenzo(a,h)anthracene	ND		0.0082	mg/Kg-dry	1	11/19/2013 11:47 AM
Fluoranthene	ND		0.0082	mg/Kg-dry	1	11/19/2013 11:47 AM
Fluorene	ND		0.0082	mg/Kg-dry	1	11/19/2013 11:47 AM
Indeno(1,2,3-cd)pyrene	ND		0.0082	mg/Kg-dry	1	11/19/2013 11:47 AM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Work Order: 1311784

Sample ID: WOG\_27\_AH\_NE\_PB

Lab ID: 1311784-03

Collection Date: 11/12/2013 12:30 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	ND		0.0082	mg/Kg-dry	1	11/19/2013 11:47 AM
Pyrene	ND		0.0082	mg/Kg-dry	1	11/19/2013 11:47 AM
Surr: 2-Fluorobiphenyl	63.2		12-100	%REC	1	11/19/2013 11:47 AM
Surr: 4-Terphenyl-d14	108		25-137	%REC	1	11/19/2013 11:47 AM
Surr: Nitrobenzene-d5	66.3		37-107	%REC	1	11/19/2013 11:47 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: 11/16/2013	Analyst: RS
Benzene	ND		0.037	mg/Kg-dry	1	11/21/2013 07:04 PM
Ethylbenzene	ND		0.037	mg/Kg-dry	1	11/21/2013 07:04 PM
m,p-Xylene	ND		0.075	mg/Kg-dry	1	11/21/2013 07:04 PM
o-Xylene	ND		0.037	mg/Kg-dry	1	11/21/2013 07:04 PM
Toluene	ND		0.037	mg/Kg-dry	1	11/21/2013 07:04 PM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	11/21/2013 07:04 PM
Surr: 1,2-Dichloroethane-d4	109		70-130	%REC	1	11/21/2013 07:04 PM
Surr: 4-Bromofluorobenzene	93.4		70-130	%REC	1	11/21/2013 07:04 PM
Surr: Dibromofluoromethane	107		70-130	%REC	1	11/21/2013 07:04 PM
Surr: Toluene-d8	93.8		70-130	%REC	1	11/21/2013 07:04 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: 11/19/2013	Analyst: JB
Electrical Conductivity @ Saturation	2.7		0.050	mmhos/cm @2	10	11/19/2013 05:30 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: MB
Chromium, Trivalent	27		0.62	mg/Kg-dry	1	11/22/2013 09:30 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: 11/19/2013	Analyst: MB
Chromium, Hexavalent	ND		0.64	mg/Kg-dry	1	11/19/2013 04:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: MEB
Moisture	20		0.050	% of sample	1	11/18/2013 04:20 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: 11/15/2013	Analyst: JB
pH	8.3			s.u.	1	11/15/2013 03:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.



# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Work Order: 1311784

Sample ID: WOG\_240\_PB\_10

Lab ID: 1311784-04

Collection Date: 11/12/2013 02:15 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>55</b>		<b>SW8015M</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>CW</b>
			<b>4.8</b>	<b>mg/Kg-dry</b>	1	11/19/2013 07:22 AM
Surr: 4-Terphenyl-d14	47.4		39-115	%REC	1	11/19/2013 07:22 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>20</b>		<b>SW8015</b>		Prep Date: <b>11/16/2013</b>	Analyst: <b>CW</b>
			<b>3.0</b>	<b>mg/Kg-dry</b>	1	11/17/2013 05:49 PM
Surr: Toluene-d8	106		50-150	%REC	1	11/17/2013 05:49 PM
<b>MERCURY BY CVAA</b>						
Mercury	ND		<b>SW7471</b>		Prep Date: <b>11/15/2013</b>	Analyst: <b>LR</b>
			0.018	mg/Kg-dry	1	11/15/2013 05:54 PM
<b>METALS BY ICP-MS</b>						
<b>Arsenic</b>	<b>4.1</b>		<b>SW6020A</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>ML</b>
			<b>2.4</b>	<b>mg/Kg-dry</b>	5	11/20/2013 09:58 PM
<b>Barium</b>	<b>2,300</b>		<b>24</b>	<b>mg/Kg-dry</b>	50	11/20/2013 09:52 PM
Cadmium	ND		0.97	mg/Kg-dry	5	11/20/2013 09:58 PM
<b>Chromium</b>	<b>21</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	5	11/20/2013 09:58 PM
<b>Copper</b>	<b>12</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	5	11/20/2013 09:58 PM
<b>Lead</b>	<b>16</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	5	11/20/2013 09:58 PM
<b>Nickel</b>	<b>16</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	5	11/20/2013 09:58 PM
Selenium	ND		2.4	mg/Kg-dry	5	11/20/2013 09:58 PM
Silver	ND		2.4	mg/Kg-dry	5	11/20/2013 09:58 PM
<b>Zinc</b>	<b>56</b>		<b>4.9</b>	<b>mg/Kg-dry</b>	5	11/20/2013 09:58 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
<b>Calcium</b>	<b>280</b>		<b>SW6020A</b>		Prep Date: <b>11/19/2013</b>	Analyst: <b>CES</b>
			<b>10</b>	<b>mg/L</b>	20	11/20/2013 09:27 AM
<b>Magnesium</b>	<b>96</b>		<b>4.0</b>	<b>mg/L</b>	20	11/20/2013 09:27 AM
<b>Sodium</b>	<b>1,100</b>		<b>4.0</b>	<b>mg/L</b>	20	11/20/2013 09:27 AM
<b>SODIUM ADSORPTION RATIO</b>						
<b>Sodium Adsorption Ratio</b>	<b>15</b>		<b>USDA H60 METHO</b>		Prep Date: <b>11/19/2013</b>	Analyst: <b>CES</b>
			<b>0.010</b>	<b>none</b>	1	11/18/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
<b>Acenaphthene</b>	<b>ND</b>		<b>SW8270</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>CW</b>
			<b>0.0078</b>	<b>mg/Kg-dry</b>	1	11/19/2013 01:48 PM
<b>Anthracene</b>	<b>ND</b>		<b>0.0078</b>	<b>mg/Kg-dry</b>	1	11/19/2013 01:48 PM
<b>Benzo(a)anthracene</b>	<b>ND</b>		<b>0.0078</b>	<b>mg/Kg-dry</b>	1	11/19/2013 01:48 PM
<b>Benzo(a)pyrene</b>	<b>ND</b>		<b>0.0078</b>	<b>mg/Kg-dry</b>	1	11/19/2013 01:48 PM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		<b>0.0078</b>	<b>mg/Kg-dry</b>	1	11/19/2013 01:48 PM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		<b>0.0078</b>	<b>mg/Kg-dry</b>	1	11/19/2013 01:48 PM
<b>Chrysene</b>	<b>ND</b>		<b>0.0078</b>	<b>mg/Kg-dry</b>	1	11/19/2013 01:48 PM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		<b>0.0078</b>	<b>mg/Kg-dry</b>	1	11/19/2013 01:48 PM
<b>Fluoranthene</b>	<b>ND</b>		<b>0.0078</b>	<b>mg/Kg-dry</b>	1	11/19/2013 01:48 PM
<b>Fluorene</b>	<b>ND</b>		<b>0.0078</b>	<b>mg/Kg-dry</b>	1	11/19/2013 01:48 PM
<b>Indeno(1,2,3-cd)pyrene</b>	<b>ND</b>		<b>0.0078</b>	<b>mg/Kg-dry</b>	1	11/19/2013 01:48 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Work Order: 1311784

Sample ID: WOG\_240\_PB\_10

Lab ID: 1311784-04

Collection Date: 11/12/2013 02:15 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	ND		0.0078	mg/Kg-dry	1	11/19/2013 01:48 PM
Pyrene	ND		0.0078	mg/Kg-dry	1	11/19/2013 01:48 PM
Surr: 2-Fluorobiphenyl	71.6		12-100	%REC	1	11/19/2013 01:48 PM
Surr: 4-Terphenyl-d14	104		25-137	%REC	1	11/19/2013 01:48 PM
Surr: Nitrobenzene-d5	72.5		37-107	%REC	1	11/19/2013 01:48 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: 11/16/2013	Analyst: BG
Benzene	ND		0.035	mg/Kg-dry	1	11/21/2013 06:52 AM
Ethylbenzene	ND		0.035	mg/Kg-dry	1	11/21/2013 06:52 AM
m,p-Xylene	ND		0.071	mg/Kg-dry	1	11/21/2013 06:52 AM
o-Xylene	ND		0.035	mg/Kg-dry	1	11/21/2013 06:52 AM
Toluene	ND		0.035	mg/Kg-dry	1	11/21/2013 06:52 AM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	11/21/2013 06:52 AM
Surr: 1,2-Dichloroethane-d4	93.2		70-130	%REC	1	11/21/2013 06:52 AM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	11/21/2013 06:52 AM
Surr: Dibromofluoromethane	89.7		70-130	%REC	1	11/21/2013 06:52 AM
Surr: Toluene-d8	97.3		70-130	%REC	1	11/21/2013 06:52 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: 11/19/2013	Analyst: JB
Electrical Conductivity @ Saturation	8.0		0.050	mmhos/cm @2	10	11/19/2013 05:30 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: MB
Chromium, Trivalent	21		0.59	mg/Kg-dry	1	11/22/2013 09:30 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: 11/19/2013	Analyst: MB
Chromium, Hexavalent	ND		0.59	mg/Kg-dry	1	11/19/2013 04:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: MEB
Moisture	15		0.050	% of sample	1	11/18/2013 04:20 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: 11/15/2013	Analyst: JB
pH	8.4			s.u.	1	11/15/2013 03:00 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Work Order: 1311784

Sample ID: WOG\_27K\_PB\_8

Lab ID: 1311784-05

Collection Date: 11/12/2013 09:40 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>CW</b>
DRO (C10-C28)	ND		5.2	mg/Kg-dry	1	11/19/2013 07:52 AM
Surr: 4-Terphenyl-d14	53.0		39-115	%REC	1	11/19/2013 07:52 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015</b>		Prep Date: <b>11/16/2013</b>	Analyst: <b>CW</b>
GRO (C6-C10)	ND		3.2	mg/Kg-dry	1	11/17/2013 03:51 PM
Surr: Toluene-d8	110		50-150	%REC	1	11/17/2013 03:51 PM
<b>MERCURY BY CVAA</b>						
			<b>SW7471</b>		Prep Date: <b>11/15/2013</b>	Analyst: <b>LR</b>
Mercury	ND		0.016	mg/Kg-dry	1	11/15/2013 05:56 PM
<b>METALS BY ICP-MS</b>						
			<b>SW6020A</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>ML</b>
Arsenic	3.8		2.1	mg/Kg-dry	5	11/20/2013 10:04 PM
Barium	220		2.1	mg/Kg-dry	5	11/20/2013 10:04 PM
Cadmium	ND		0.82	mg/Kg-dry	5	11/20/2013 10:04 PM
Chromium	30		2.1	mg/Kg-dry	5	11/20/2013 10:04 PM
Copper	10		2.1	mg/Kg-dry	5	11/20/2013 10:04 PM
Lead	12		2.1	mg/Kg-dry	5	11/20/2013 10:04 PM
Nickel	14		2.1	mg/Kg-dry	5	11/20/2013 10:04 PM
Selenium	ND		2.1	mg/Kg-dry	5	11/20/2013 10:04 PM
Silver	ND		2.1	mg/Kg-dry	5	11/20/2013 10:04 PM
Zinc	44		4.1	mg/Kg-dry	5	11/20/2013 10:04 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW6020A</b>		Prep Date: <b>11/19/2013</b>	Analyst: <b>CES</b>
Calcium	51		10	mg/L	20	11/20/2013 09:32 AM
Magnesium	24		4.0	mg/L	20	11/20/2013 09:32 AM
Sodium	92		4.0	mg/L	20	11/20/2013 09:32 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep Date: <b>11/19/2013</b>	Analyst: <b>CES</b>
Sodium Adsorption Ratio	2.7		0.010	none	1	11/18/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>CW</b>
Acenaphthene	ND		0.0083	mg/Kg-dry	1	11/19/2013 02:08 PM
Anthracene	ND		0.0083	mg/Kg-dry	1	11/19/2013 02:08 PM
Benzo(a)anthracene	ND		0.0083	mg/Kg-dry	1	11/19/2013 02:08 PM
Benzo(a)pyrene	ND		0.0083	mg/Kg-dry	1	11/19/2013 02:08 PM
Benzo(b)fluoranthene	ND		0.0083	mg/Kg-dry	1	11/19/2013 02:08 PM
Benzo(k)fluoranthene	ND		0.0083	mg/Kg-dry	1	11/19/2013 02:08 PM
Chrysene	ND		0.0083	mg/Kg-dry	1	11/19/2013 02:08 PM
Dibenzo(a,h)anthracene	ND		0.0083	mg/Kg-dry	1	11/19/2013 02:08 PM
Fluoranthene	ND		0.0083	mg/Kg-dry	1	11/19/2013 02:08 PM
Fluorene	ND		0.0083	mg/Kg-dry	1	11/19/2013 02:08 PM
Indeno(1,2,3-cd)pyrene	ND		0.0083	mg/Kg-dry	1	11/19/2013 02:08 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Work Order: 1311784

Sample ID: WOG\_27K\_PB\_8

Lab ID: 1311784-05

Collection Date: 11/12/2013 09:40 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	ND		0.0083	mg/Kg-dry	1	11/19/2013 02:08 PM
Pyrene	ND		0.0083	mg/Kg-dry	1	11/19/2013 02:08 PM
Surr: 2-Fluorobiphenyl	75.6		12-100	%REC	1	11/19/2013 02:08 PM
Surr: 4-Terphenyl-d14	113		25-137	%REC	1	11/19/2013 02:08 PM
Surr: Nitrobenzene-d5	79.0		37-107	%REC	1	11/19/2013 02:08 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep Date: 11/16/2013 Analyst: BG		
Benzene	ND		0.039	mg/Kg-dry	1	11/21/2013 07:17 AM
Ethylbenzene	ND		0.039	mg/Kg-dry	1	11/21/2013 07:17 AM
m,p-Xylene	ND		0.077	mg/Kg-dry	1	11/21/2013 07:17 AM
o-Xylene	ND		0.039	mg/Kg-dry	1	11/21/2013 07:17 AM
Toluene	ND		0.039	mg/Kg-dry	1	11/21/2013 07:17 AM
Xylenes, Total	ND		0.12	mg/Kg-dry	1	11/21/2013 07:17 AM
Surr: 1,2-Dichloroethane-d4	91.8		70-130	%REC	1	11/21/2013 07:17 AM
Surr: 4-Bromofluorobenzene	99.8		70-130	%REC	1	11/21/2013 07:17 AM
Surr: Dibromofluoromethane	89.8		70-130	%REC	1	11/21/2013 07:17 AM
Surr: Toluene-d8	96.6		70-130	%REC	1	11/21/2013 07:17 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep Date: 11/19/2013 Analyst: JB		
Electrical Conductivity @ Saturation	0.98		0.050	mmhos/cm @2	10	11/19/2013 05:30 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>	Analyst: MB		
Chromium, Trivalent	30		0.64	mg/Kg-dry	1	11/22/2013 09:30 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep Date: 11/19/2013 Analyst: MB		
Chromium, Hexavalent	ND		0.63	mg/Kg-dry	1	11/19/2013 04:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>	Analyst: MEB		
Moisture	22		0.050	% of sample	1	11/18/2013 04:20 PM
<b>PH</b>			<b>SW9045D</b>	Prep Date: 11/15/2013 Analyst: JB		
pH	8.1		s.u.		1	11/15/2013 03:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Sample ID: WOG\_H\_30\_NE\_10

Collection Date: 11/12/2013 04:30 PM

Work Order: 1311784

Lab ID: 1311784-06

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>40</b>		<b>5.5</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>11/19/2013 08:22 AM</b>
Surr: 4-Terphenyl-d14	49.8		39-115	%REC	1	11/19/2013 08:22 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>5.9</b>		<b>3.3</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>11/17/2013 05:02 PM</b>
Surr: Toluene-d8	110		50-150	%REC	1	11/17/2013 05:02 PM
<b>MERCURY BY CVAA</b>						
Mercury	ND		0.019	mg/Kg-dry	1	11/15/2013 05:58 PM
<b>METALS BY ICP-MS</b>						
<b>Arsenic</b>	<b>5.1</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>11/20/2013 10:10 PM</b>
<b>Barium</b>	<b>650</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>11/20/2013 10:10 PM</b>
Cadmium	ND		0.85	mg/Kg-dry	5	11/20/2013 10:10 PM
<b>Chromium</b>	<b>38</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>11/20/2013 10:10 PM</b>
<b>Copper</b>	<b>16</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>11/20/2013 10:10 PM</b>
<b>Lead</b>	<b>15</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>11/20/2013 10:10 PM</b>
<b>Nickel</b>	<b>25</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>11/20/2013 10:10 PM</b>
Selenium	ND		2.1	mg/Kg-dry	5	11/20/2013 10:10 PM
Silver	ND		2.1	mg/Kg-dry	5	11/20/2013 10:10 PM
<b>Zinc</b>	<b>57</b>		<b>4.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>11/20/2013 10:10 PM</b>
<b>SOLUBLE CATIONS FOR SAR</b>						
<b>Calcium</b>	<b>73</b>		<b>10</b>	<b>mg/L</b>	<b>20</b>	<b>11/20/2013 09:38 AM</b>
<b>Magnesium</b>	<b>51</b>		<b>4.0</b>	<b>mg/L</b>	<b>20</b>	<b>11/20/2013 09:38 AM</b>
<b>Sodium</b>	<b>160</b>		<b>4.0</b>	<b>mg/L</b>	<b>20</b>	<b>11/20/2013 09:38 AM</b>
<b>SODIUM ADSORPTION RATIO</b>						
Sodium Adsorption Ratio	3.6		0.010	none	1	11/18/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
<b>Acenaphthene</b>	<b>ND</b>		<b>0.0088</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>11/19/2013 02:28 PM</b>
Anthracene	ND		0.0088	mg/Kg-dry	1	11/19/2013 02:28 PM
Benzo(a)anthracene	ND		0.0088	mg/Kg-dry	1	11/19/2013 02:28 PM
Benzo(a)pyrene	ND		0.0088	mg/Kg-dry	1	11/19/2013 02:28 PM
Benzo(b)fluoranthene	ND		0.0088	mg/Kg-dry	1	11/19/2013 02:28 PM
Benzo(k)fluoranthene	ND		0.0088	mg/Kg-dry	1	11/19/2013 02:28 PM
Chrysene	ND		0.0088	mg/Kg-dry	1	11/19/2013 02:28 PM
Dibenzo(a,h)anthracene	ND		0.0088	mg/Kg-dry	1	11/19/2013 02:28 PM
Fluoranthene	ND		0.0088	mg/Kg-dry	1	11/19/2013 02:28 PM
Fluorene	ND		0.0088	mg/Kg-dry	1	11/19/2013 02:28 PM
Indeno(1,2,3-cd)pyrene	ND		0.0088	mg/Kg-dry	1	11/19/2013 02:28 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Work Order: 1311784

Sample ID: WOG\_H\_30\_NE\_10

Lab ID: 1311784-06

Collection Date: 11/12/2013 04:30 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	ND		0.0088	mg/Kg-dry	1	11/19/2013 02:28 PM
Pyrene	ND		0.0088	mg/Kg-dry	1	11/19/2013 02:28 PM
Surr: 2-Fluorobiphenyl	77.1		12-100	%REC	1	11/19/2013 02:28 PM
Surr: 4-Terphenyl-d14	110		25-137	%REC	1	11/19/2013 02:28 PM
Surr: Nitrobenzene-d5	82.1		37-107	%REC	1	11/19/2013 02:28 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: 11/16/2013	Analyst: BG
Benzene	ND		0.040	mg/Kg-dry	1	11/21/2013 07:41 AM
Ethylbenzene	ND		0.040	mg/Kg-dry	1	11/21/2013 07:41 AM
m,p-Xylene	ND		0.079	mg/Kg-dry	1	11/21/2013 07:41 AM
o-Xylene	ND		0.040	mg/Kg-dry	1	11/21/2013 07:41 AM
Toluene	ND		0.040	mg/Kg-dry	1	11/21/2013 07:41 AM
Xylenes, Total	ND		0.12	mg/Kg-dry	1	11/21/2013 07:41 AM
Surr: 1,2-Dichloroethane-d4	92.0		70-130	%REC	1	11/21/2013 07:41 AM
Surr: 4-Bromofluorobenzene	99.8		70-130	%REC	1	11/21/2013 07:41 AM
Surr: Dibromofluoromethane	89.6		70-130	%REC	1	11/21/2013 07:41 AM
Surr: Toluene-d8	97.0		70-130	%REC	1	11/21/2013 07:41 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: 11/19/2013	Analyst: JB
Electrical Conductivity @ Saturation	1.7		0.050	mmhos/cm @2	10	11/19/2013 05:30 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: MB
Chromium, Trivalent	38		0.66	mg/Kg-dry	1	11/22/2013 09:30 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: 11/19/2013	Analyst: MB
Chromium, Hexavalent	ND		0.66	mg/Kg-dry	1	11/19/2013 04:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: MEB
Moisture	24		0.050	% of sample	1	11/18/2013 04:20 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: 11/15/2013	Analyst: JB
pH	7.9			s.u.	1	11/15/2013 03:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Work Order: 1311784

Sample ID: WOG\_H\_30\_SW\_8

Lab ID: 1311784-07

Collection Date: 11/12/2013 03:40 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>CW</b>
<b>DRO (C10-C28)</b>	<b>30</b>		<b>6.1</b>	<b>mg/Kg-dry</b>	1	11/19/2013 08:52 AM
<i>Surr: 4-Terphenyl-d14</i>	<i>50.7</i>		<i>39-115</i>	<i>%REC</i>	1	11/19/2013 08:52 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015</b>		Prep Date: <b>11/16/2013</b>	Analyst: <b>CW</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.7</b>	<b>mg/Kg-dry</b>	1	11/17/2013 04:15 PM
<i>Surr: Toluene-d8</i>	<i>110</i>		<i>50-150</i>	<i>%REC</i>	1	11/17/2013 04:15 PM
<b>MERCURY BY CVAA</b>						
			<b>SW7471</b>		Prep Date: <b>11/15/2013</b>	Analyst: <b>LR</b>
<b>Mercury</b>	<b>ND</b>		<b>0.019</b>	<b>mg/Kg-dry</b>	1	11/15/2013 06:00 PM
<b>METALS BY ICP-MS</b>						
			<b>SW6020A</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>ML</b>
<b>Arsenic</b>	<b>4.6</b>		<b>3.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:16 PM
<b>Barium</b>	<b>390</b>		<b>3.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:16 PM
<b>Cadmium</b>	<b>ND</b>		<b>1.2</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:16 PM
<b>Chromium</b>	<b>36</b>		<b>3.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:16 PM
<b>Copper</b>	<b>17</b>		<b>3.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:16 PM
<b>Lead</b>	<b>16</b>		<b>3.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:16 PM
<b>Nickel</b>	<b>20</b>		<b>3.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:16 PM
<b>Selenium</b>	<b>ND</b>		<b>3.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:16 PM
<b>Silver</b>	<b>ND</b>		<b>3.1</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:16 PM
<b>Zinc</b>	<b>61</b>		<b>6.2</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:16 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW6020A</b>		Prep Date: <b>11/19/2013</b>	Analyst: <b>CES</b>
<b>Calcium</b>	<b>63</b>		<b>10</b>	<b>mg/L</b>	20	11/20/2013 09:44 AM
<b>Magnesium</b>	<b>38</b>		<b>4.0</b>	<b>mg/L</b>	20	11/20/2013 09:44 AM
<b>Sodium</b>	<b>140</b>		<b>4.0</b>	<b>mg/L</b>	20	11/20/2013 09:44 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep Date: <b>11/19/2013</b>	Analyst: <b>CES</b>
<b>Sodium Adsorption Ratio</b>	<b>3.3</b>		<b>0.010</b>	<b>none</b>	1	11/18/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>CW</b>
<b>Acenaphthene</b>	<b>ND</b>		<b>0.0097</b>	<b>mg/Kg-dry</b>	1	11/19/2013 02:48 PM
<b>Anthracene</b>	<b>ND</b>		<b>0.0097</b>	<b>mg/Kg-dry</b>	1	11/19/2013 02:48 PM
<b>Benzo(a)anthracene</b>	<b>ND</b>		<b>0.0097</b>	<b>mg/Kg-dry</b>	1	11/19/2013 02:48 PM
<b>Benzo(a)pyrene</b>	<b>ND</b>		<b>0.0097</b>	<b>mg/Kg-dry</b>	1	11/19/2013 02:48 PM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		<b>0.0097</b>	<b>mg/Kg-dry</b>	1	11/19/2013 02:48 PM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		<b>0.0097</b>	<b>mg/Kg-dry</b>	1	11/19/2013 02:48 PM
<b>Chrysene</b>	<b>ND</b>		<b>0.0097</b>	<b>mg/Kg-dry</b>	1	11/19/2013 02:48 PM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		<b>0.0097</b>	<b>mg/Kg-dry</b>	1	11/19/2013 02:48 PM
<b>Fluoranthene</b>	<b>ND</b>		<b>0.0097</b>	<b>mg/Kg-dry</b>	1	11/19/2013 02:48 PM
<b>Fluorene</b>	<b>ND</b>		<b>0.0097</b>	<b>mg/Kg-dry</b>	1	11/19/2013 02:48 PM
<b>Indeno(1,2,3-cd)pyrene</b>	<b>ND</b>		<b>0.0097</b>	<b>mg/Kg-dry</b>	1	11/19/2013 02:48 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Work Order: 1311784

Sample ID: WOG\_H\_30\_SW\_8

Lab ID: 1311784-07

Collection Date: 11/12/2013 03:40 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	ND		0.0097	mg/Kg-dry	1	11/19/2013 02:48 PM
Pyrene	ND		0.0097	mg/Kg-dry	1	11/19/2013 02:48 PM
Surr: 2-Fluorobiphenyl	75.7		12-100	%REC	1	11/19/2013 02:48 PM
Surr: 4-Terphenyl-d14	115		25-137	%REC	1	11/19/2013 02:48 PM
Surr: Nitrobenzene-d5	75.4		37-107	%REC	1	11/19/2013 02:48 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep Date: 11/16/2013 Analyst: BG		
Benzene	ND		0.045	mg/Kg-dry	1	11/21/2013 08:06 AM
Ethylbenzene	ND		0.045	mg/Kg-dry	1	11/21/2013 08:06 AM
m,p-Xylene	ND		0.089	mg/Kg-dry	1	11/21/2013 08:06 AM
o-Xylene	ND		0.045	mg/Kg-dry	1	11/21/2013 08:06 AM
Toluene	ND		0.045	mg/Kg-dry	1	11/21/2013 08:06 AM
Xylenes, Total	ND		0.13	mg/Kg-dry	1	11/21/2013 08:06 AM
Surr: 1,2-Dichloroethane-d4	91.0		70-130	%REC	1	11/21/2013 08:06 AM
Surr: 4-Bromofluorobenzene	100		70-130	%REC	1	11/21/2013 08:06 AM
Surr: Dibromofluoromethane	89.9		70-130	%REC	1	11/21/2013 08:06 AM
Surr: Toluene-d8	97.4		70-130	%REC	1	11/21/2013 08:06 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep Date: 11/19/2013 Analyst: JB		
Electrical Conductivity @ Saturation	1.3		0.050	mmhos/cm @2	10	11/19/2013 05:30 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>	Analyst: MB		
Chromium, Trivalent	36		0.74	mg/Kg-dry	1	11/22/2013 09:30 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep Date: 11/19/2013 Analyst: MB		
Chromium, Hexavalent	ND		0.73	mg/Kg-dry	1	11/19/2013 04:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>	Analyst: MEB		
Moisture	33		0.050	% of sample	1	11/18/2013 04:20 PM
<b>PH</b>			<b>SW9045D</b>	Prep Date: 11/15/2013 Analyst: JB		
pH	8.1		s.u.		1	11/15/2013 03:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.



# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Work Order: 1311784

Sample ID: WOG\_27\_AH\_SW\_6\_8

Lab ID: 1311784-08

Collection Date: 11/12/2013 10:40 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>CW</b>
<b>DRO (C10-C28)</b>	<b>160</b>		<b>5.5</b>	<b>mg/Kg-dry</b>	1	11/19/2013 09:22 AM
Surr: 4-Terphenyl-d14	58.8		39-115	%REC	1	11/19/2013 09:22 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015</b>		Prep Date: <b>11/16/2013</b>	Analyst: <b>CW</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.3</b>	<b>mg/Kg-dry</b>	1	11/17/2013 04:39 PM
Surr: Toluene-d8	111		50-150	%REC	1	11/17/2013 04:39 PM
<b>MERCURY BY CVAA</b>						
			<b>SW7471</b>		Prep Date: <b>11/15/2013</b>	Analyst: <b>LR</b>
Mercury	ND		0.016	mg/Kg-dry	1	11/15/2013 06:03 PM
<b>METALS BY ICP-MS</b>						
			<b>SW6020A</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>ML</b>
<b>Arsenic</b>	<b>3.6</b>		<b>2.5</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:22 PM
<b>Barium</b>	<b>270</b>		<b>2.5</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:22 PM
Cadmium	ND		0.99	mg/Kg-dry	5	11/20/2013 10:22 PM
<b>Chromium</b>	<b>30</b>		<b>2.5</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:22 PM
<b>Copper</b>	<b>10</b>		<b>2.5</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:22 PM
<b>Lead</b>	<b>13</b>		<b>2.5</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:22 PM
<b>Nickel</b>	<b>13</b>		<b>2.5</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:22 PM
Selenium	ND		2.5	mg/Kg-dry	5	11/20/2013 10:22 PM
Silver	ND		2.5	mg/Kg-dry	5	11/20/2013 10:22 PM
<b>Zinc</b>	<b>44</b>		<b>5.0</b>	<b>mg/Kg-dry</b>	5	11/20/2013 10:22 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW6020A</b>		Prep Date: <b>11/19/2013</b>	Analyst: <b>CES</b>
<b>Calcium</b>	<b>28</b>		<b>10</b>	<b>mg/L</b>	20	11/20/2013 10:07 AM
<b>Magnesium</b>	<b>14</b>		<b>4.0</b>	<b>mg/L</b>	20	11/20/2013 10:07 AM
<b>Sodium</b>	<b>870</b>		<b>4.0</b>	<b>mg/L</b>	20	11/20/2013 10:07 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep Date: <b>11/19/2013</b>	Analyst: <b>CES</b>
Sodium Adsorption Ratio	34		0.010	none	1	11/18/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>11/18/2013</b>	Analyst: <b>CW</b>
Acenaphthene	ND		0.0089	mg/Kg-dry	1	11/19/2013 03:08 PM
Anthracene	ND		0.0089	mg/Kg-dry	1	11/19/2013 03:08 PM
Benzo(a)anthracene	ND		0.0089	mg/Kg-dry	1	11/19/2013 03:08 PM
Benzo(a)pyrene	ND		0.0089	mg/Kg-dry	1	11/19/2013 03:08 PM
Benzo(b)fluoranthene	ND		0.0089	mg/Kg-dry	1	11/19/2013 03:08 PM
Benzo(k)fluoranthene	ND		0.0089	mg/Kg-dry	1	11/19/2013 03:08 PM
Chrysene	ND		0.0089	mg/Kg-dry	1	11/19/2013 03:08 PM
Dibenzo(a,h)anthracene	ND		0.0089	mg/Kg-dry	1	11/19/2013 03:08 PM
Fluoranthene	ND		0.0089	mg/Kg-dry	1	11/19/2013 03:08 PM
Fluorene	ND		0.0089	mg/Kg-dry	1	11/19/2013 03:08 PM
Indeno(1,2,3-cd)pyrene	ND		0.0089	mg/Kg-dry	1	11/19/2013 03:08 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 23-Nov-13

Client: InterTech

Project: WOG Boies Ranch Pits 11.12.13

Work Order: 1311784

Sample ID: WOG\_27\_AH\_SW\_6\_8

Lab ID: 1311784-08

Collection Date: 11/12/2013 10:40 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	ND		0.0089	mg/Kg-dry	1	11/19/2013 03:08 PM
Pyrene	ND		0.0089	mg/Kg-dry	1	11/19/2013 03:08 PM
Surr: 2-Fluorobiphenyl	79.5		12-100	%REC	1	11/19/2013 03:08 PM
Surr: 4-Terphenyl-d14	107		25-137	%REC	1	11/19/2013 03:08 PM
Surr: Nitrobenzene-d5	78.9		37-107	%REC	1	11/19/2013 03:08 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: 11/16/2013	Analyst: BG
Benzene	ND		0.040	mg/Kg-dry	1	11/21/2013 08:30 AM
Ethylbenzene	ND		0.040	mg/Kg-dry	1	11/21/2013 08:30 AM
m,p-Xylene	ND		0.080	mg/Kg-dry	1	11/21/2013 08:30 AM
o-Xylene	ND		0.040	mg/Kg-dry	1	11/21/2013 08:30 AM
Toluene	ND		0.040	mg/Kg-dry	1	11/21/2013 08:30 AM
Xylenes, Total	ND		0.12	mg/Kg-dry	1	11/21/2013 08:30 AM
Surr: 1,2-Dichloroethane-d4	91.6		70-130	%REC	1	11/21/2013 08:30 AM
Surr: 4-Bromofluorobenzene	98.6		70-130	%REC	1	11/21/2013 08:30 AM
Surr: Dibromofluoromethane	89.7		70-130	%REC	1	11/21/2013 08:30 AM
Surr: Toluene-d8	96.3		70-130	%REC	1	11/21/2013 08:30 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: 11/19/2013	Analyst: JB
Electrical Conductivity @ Saturation	4.5		0.050	mmhos/cm @2	10	11/19/2013 05:30 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: MB
Chromium, Trivalent	30		0.67	mg/Kg-dry	1	11/22/2013 09:30 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: 11/19/2013	Analyst: MB
Chromium, Hexavalent	ND		0.66	mg/Kg-dry	1	11/19/2013 04:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: MEB
Moisture	25		0.050	% of sample	1	11/18/2013 04:20 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: 11/15/2013	Analyst: JB
pH	8.9			s.u.	1	11/15/2013 03:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: InterTech

## QC BATCH REPORT

Work Order: 1311784

Project: WOG Boies Ranch Pits 11.12.13

Batch ID: 53319

Instrument ID GC8

Method: SW8015M

<b>MBLK</b>		Sample ID: <b>DBLKS1-53319-53319</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/15/2013 03:33 PM</b>		
Client ID:		Run ID: <b>GC8_131115A</b>				SeqNo: <b>2541318</b>		Prep Date: <b>11/15/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	4.2								
Surr: 4-Terphenyl-d14	0.9783	0	1.667	0	58.7	39-115	0			

<b>LCS</b>		Sample ID: <b>DLCSS1-53319-53319</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/15/2013 04:03 PM</b>		
Client ID:		Run ID: <b>GC8_131115A</b>				SeqNo: <b>2541320</b>		Prep Date: <b>11/15/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	134.8	4.2	166.7	0	80.9	49-124	0			
Surr: 4-Terphenyl-d14	1.038	0	1.667	0	62.3	39-115	0			

<b>MS</b>		Sample ID: <b>1311701-01B MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/15/2013 04:33 PM</b>		
Client ID:		Run ID: <b>GC8_131115A</b>				SeqNo: <b>2541321</b>		Prep Date: <b>11/15/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	286.5	8.1	323	21.33	82.1	49-130	0			
Surr: 4-Terphenyl-d14	2.095	0	3.23	0	64.8	39-115	0			

<b>MSD</b>		Sample ID: <b>1311701-01B MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/15/2013 05:03 PM</b>		
Client ID:		Run ID: <b>GC8_131115A</b>				SeqNo: <b>2541322</b>		Prep Date: <b>11/15/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	283.9	8.2	328.7	21.33	79.9	49-130	286.5	0.899	30	
Surr: 4-Terphenyl-d14	2.176	0	3.287	0	66.2	39-115	2.095	3.83	30	

The following samples were analyzed in this batch: 1311784-01B

**Client:** InterTech  
**Work Order:** 1311784  
**Project:** WOG Boies Ranch Pits 11.12.13

## QC BATCH REPORT

Batch ID: **53395**      Instrument ID **GC8**      Method: **SW8015M**

<b>MBLK</b>		Sample ID: <b>DBLKS1-53395-53395</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/19/2013 04:53 A</b>		
Client ID:		Run ID: <b>GC8_131118A</b>				SeqNo: <b>2544913</b>		Prep Date: <b>11/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	5.0								
<i>Surr: 4-Terphenyl-d14</i>	1.134	0	2	0	56.7	39-115	0			

<b>LCS</b>		Sample ID: <b>DLCSS1-53395-53395</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/19/2013 05:52 A</b>		
Client ID:		Run ID: <b>GC8_131118A</b>				SeqNo: <b>2544914</b>		Prep Date: <b>11/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	162.2	5.0	200	0	81.1	49-124	0			
<i>Surr: 4-Terphenyl-d14</i>	1.156	0	2	0	57.8	39-115	0			

<b>MS</b>		Sample ID: <b>1311857-01A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/19/2013 03:30 PM</b>		
Client ID:		Run ID: <b>GC8_131119A</b>				SeqNo: <b>2546817</b>		Prep Date: <b>11/18/2013</b>		DF: <b>5</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	928.6	41	331.1	567.6	109	49-130	0			
<i>Surr: 4-Terphenyl-d14</i>	1.434	0	3.311	0	43.3	39-115	0			

<b>MSD</b>		Sample ID: <b>1311857-01A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/19/2013 03:59 PM</b>		
Client ID:		Run ID: <b>GC8_131119A</b>				SeqNo: <b>2546818</b>		Prep Date: <b>11/18/2013</b>		DF: <b>5</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	939.5	39	313.5	567.6	119	49-130	928.6	1.17	30	
<i>Surr: 4-Terphenyl-d14</i>	1.461	0	3.135	0	46.6	39-115	1.434	1.87	30	

The following samples were analyzed in this batch:

1311784-02B	1311784-03B	1311784-04B
1311784-05B	1311784-06B	1311784-07B
1311784-08B		

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: InterTech  
 Work Order: 1311784  
 Project: WOG Boies Ranch Pits 11.12.13

## QC BATCH REPORT

Batch ID: **53374** Instrument ID **GC10** Method: **SW8015**

<b>MBLK</b>		Sample ID: <b>MBLK-53374-53374</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>11/17/2013 10:44 A</b>		
Client ID:		Run ID: <b>GC10_131117A</b>				SeqNo: <b>2541601</b>		Prep Date: <b>11/16/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	4912	0	5000	0	98.2	50-150	0			

<b>LCS</b>		Sample ID: <b>LCS-53374-53374</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>11/17/2013 09:34 A</b>		
Client ID:		Run ID: <b>GC10_131117A</b>				SeqNo: <b>2541600</b>		Prep Date: <b>11/16/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	467000	2,500	500000	0	93.4	70-130	0			
Surr: Toluene-d8	5752	0	5000	0	115	50-150	0			

<b>MS</b>		Sample ID: <b>1311782-03A MS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>11/17/2013 07:00 PM</b>		
Client ID:		Run ID: <b>GC10_131117A</b>				SeqNo: <b>2541615</b>		Prep Date: <b>11/16/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	531400	2,500	500000	15380	103	70-130	0			
Surr: Toluene-d8	5906	0	5000	0	118	50-150	0			

<b>MSD</b>		Sample ID: <b>1311782-03A MSD</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>11/17/2013 07:24 PM</b>		
Client ID:		Run ID: <b>GC10_131117A</b>				SeqNo: <b>2541616</b>		Prep Date: <b>11/16/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	515400	2,500	500000	15380	100	70-130	531400	3.05	30	
Surr: Toluene-d8	5847	0	5000	0	117	50-150	5906	1	30	

The following samples were analyzed in this batch:

1311784-01A	1311784-02A	1311784-03A
1311784-04A	1311784-05A	1311784-06A
1311784-07A	1311784-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** InterTech  
**Work Order:** 1311784  
**Project:** WOG Boies Ranch Pits 11.12.13

## QC BATCH REPORT

Batch ID: **53340** Instrument ID **HG1** Method: **SW7471**

MBLK				Sample ID: MBLK-53340-53340				Units: mg/Kg			Analysis Date: 11/15/2013 04:58 PM			
Client ID:				Run ID: HG1_131115A				SeqNo: 2540510			Prep Date: 11/15/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Mercury	0.005583	0.020								J				

LCS				Sample ID: LCS-53340-53340				Units: mg/Kg			Analysis Date: 11/15/2013 05:00 PM		
Client ID:				Run ID: HG1_131115A				SeqNo: 2540511		Prep Date: 11/15/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Mercury	0.1793	0.020	0.1665	0	108	80-120	0						

<b>MS</b>				Sample ID: <b>1311782-03BMS</b>				Units: <b>mg/Kg</b>			Analysis Date: <b>11/15/2013 06:23 PM</b>			
Client ID:				Run ID: <b>HG1_131115A</b>				SeqNo: <b>2540537</b>			Prep Date: <b>11/15/2013</b>		DF: <b>1</b>	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Mercury		0.1341	0.012	0.1018	0.02243	110	75-125	0						

<b>MSD</b>		Sample ID: <b>1311782-03BMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/15/2013 06:25 PM</b>		
Client ID:		Run ID: <b>HG1_131115A</b>				SeqNo: <b>2540538</b>		Prep Date: <b>11/15/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1347	0.013	0.1042	0.02243	108	75-125	0.1341	0.428	35	

The following samples were analyzed in this batch:

1311784-01B	1311784-02B	1311784-03B
1311784-04B	1311784-05B	1311784-06B
1311784-07B	1311784-08B	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** InterTech  
**Work Order:** 1311784  
**Project:** WOG Boies Ranch Pits 11.12.13

## QC BATCH REPORT

Batch ID: **53357**      Instrument ID **ICPMS2**      Method: **SW6020A**

<b>DUP</b>		Sample ID: <b>1311782-01CDUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>11/20/2013 08:22 A</b>		
Client ID:		Run ID: <b>ICPMS2_131118A</b>				SeqNo: <b>2546467</b>		Prep Date: <b>11/19/2013</b>		DF: <b>20</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	125.6	10	0	0	0	0-0	118	6.22		
Magnesium	49.46	4.0	0	0	0	0-0	45.2	9		
Sodium	770.8	4.0	0	0	0	0-0	727.4	5.79		

<b>DUP</b>		Sample ID: <b>1311782-01CDUP</b>				Units: <b>none</b>		Analysis Date: <b>11/18/2013</b>		
Client ID:		Run ID: <b>SAR_131118B</b>				SeqNo: <b>2547303</b>		Prep Date: <b>11/19/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	14.75	0.010	0	0	0		14.44	2.12	50	

The following samples were analyzed in this batch:

1311784-01C	1311784-02C	1311784-03C
1311784-04C	1311784-05C	1311784-06C
1311784-07C	1311784-08C	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** InterTech  
**Work Order:** 1311784  
**Project:** WOG Boies Ranch Pits 11.12.13

## QC BATCH REPORT

Batch ID: **53426**      Instrument ID **ICPMS1**      Method: **SW6020A**

<b>MBLK</b>		Sample ID: <b>MBLK-53426-53426</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/19/2013 09:27 PM</b>		
Client ID:		Run ID: <b>ICPMS1_131119A</b>				SeqNo: <b>2545687</b>		Prep Date: <b>11/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Cadmium	0.00138	0.10								J
Chromium	0.1816	0.25								J
Copper	0.0506	0.25								J
Lead	ND	0.25								
Nickel	0.03362	0.25								J
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	0.0918	0.50								J

<b>MBLK</b>		Sample ID: <b>MBLK-53426-53426</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/20/2013 07:10 PM</b>		
Client ID:		Run ID: <b>ICPMS1_131120A</b>				SeqNo: <b>2547574</b>		Prep Date: <b>11/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	ND	0.25								

<b>LCS</b>		Sample ID: <b>LCS-53426-53426</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/19/2013 09:34 PM</b>		
Client ID:		Run ID: <b>ICPMS1_131119A</b>				SeqNo: <b>2545688</b>		Prep Date: <b>11/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.409	0.25	5	0	88.2	80-120	0			
Cadmium	4.702	0.10	5	0	94	80-120	0			
Chromium	4.598	0.25	5	0	92	80-120	0			
Copper	4.764	0.25	5	0	95.3	80-120	0			
Lead	5.025	0.25	5	0	100	80-120	0			
Nickel	4.651	0.25	5	0	93	80-120	0			
Selenium	4.106	0.25	5	0	82.1	80-120	0			
Silver	5.4	0.25	5	0	108	80-120	0			
Zinc	4.532	0.50	5	0	90.6	80-120	0			

<b>LCS</b>		Sample ID: <b>LCS-53426-53426</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/20/2013 07:17 PM</b>		
Client ID:		Run ID: <b>ICPMS1_131120A</b>				SeqNo: <b>2547576</b>		Prep Date: <b>11/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	4.993	0.25	5	0	99.9	80-120	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** InterTech  
**Work Order:** 1311784  
**Project:** WOG Boies Ranch Pits 11.12.13

## QC BATCH REPORT

Batch ID: **53426**      Instrument ID **ICPMS1**      Method: **SW6020A**

MS				Sample ID: <b>1311808-01BMS</b>			Units: <b>mg/Kg</b>		Analysis Date: <b>11/20/2013 10:34 PM</b>	
Client ID:		Run ID: <b>ICPMS1_131120A</b>			SeqNo: <b>2547645</b>		Prep Date: <b>11/18/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	7.606	0.36	7.278	1.341	86.1	75-125	0			
Barium	13.49	0.36	7.278	5.754	106	75-125	0			
Cadmium	6.782	0.15	7.278	0.148	91.2	75-125	0			
Chromium	10.32	0.36	7.278	3.018	100	75-125	0			
Copper	13.06	0.36	7.278	6.865	85.2	75-125	0			
Lead	10.06	0.36	7.278	2.584	103	75-125	0			
Nickel	10.1	0.36	7.278	2.913	98.8	75-125	0			
Selenium	5.91	0.36	7.278	0.1358	79.3	75-125	0			
Silver	7.387	0.36	7.278	0.004448	101	75-125	0			
Zinc	19.55	0.73	7.278	12.46	97.4	75-125	0			

MSD				Sample ID: <b>1311808-01BMSD</b>			Units: <b>mg/Kg</b>		Analysis Date: <b>11/20/2013 10:40 PM</b>	
Client ID:		Run ID: <b>ICPMS1_131120A</b>			SeqNo: <b>2547646</b>		Prep Date: <b>11/18/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	7.742	0.37	7.331	1.341	87.3	75-125	7.606	1.78	25	
Barium	13.43	0.37	7.331	5.754	105	75-125	13.49	0.463	25	
Cadmium	6.913	0.15	7.331	0.148	92.3	75-125	6.782	1.91	25	
Chromium	10.79	0.37	7.331	3.018	106	75-125	10.32	4.47	25	
Copper	13.24	0.37	7.331	6.865	87	75-125	13.06	1.34	25	
Lead	10.47	0.37	7.331	2.584	108	75-125	10.06	4	25	
Nickel	10.23	0.37	7.331	2.913	99.9	75-125	10.1	1.31	25	
Selenium	5.907	0.37	7.331	0.1358	78.7	75-125	5.91	0.0607	25	
Silver	7.397	0.37	7.331	0.004448	101	75-125	7.387	0.138	25	
Zinc	19.06	0.73	7.331	12.46	90	75-125	19.55	2.52	25	

The following samples were analyzed in this batch:

1311784-01B	1311784-02B	1311784-03B
1311784-04B	1311784-05B	1311784-06B
1311784-07B	1311784-08B	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: InterTech  
 Work Order: 1311784  
 Project: WOG Boies Ranch Pits 11.12.13

## QC BATCH REPORT

Batch ID: **53318** Instrument ID **SVMS4** Method: **SW8270**

MBLK		Sample ID: <b>SBLKS1-53318-53318</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>11/15/2013 03:41 PM</b>		
Client ID:		Run ID: <b>SVMS4_131115A</b>				SeqNo: <b>2541621</b>		Prep Date: <b>11/15/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
Surr: 2-Fluorobiphenyl	1398	0	1667	0	83.9	12-100	0			
Surr: 4-Terphenyl-d14	1658	0	1667	0	99.5	25-137	0			
Surr: Nitrobenzene-d5	1363	0	1667	0	81.8	37-107	0			

LCS		Sample ID: <b>SLCSS1-53318-53318</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>11/15/2013 03:01 PM</b>		
Client ID:		Run ID: <b>SVMS4_131115A</b>				SeqNo: <b>2541620</b>		Prep Date: <b>11/15/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	562	6.7	666.7	0	84.3	45-110	0			
Anthracene	631.3	6.7	666.7	0	94.7	55-105	0			
Benzo(a)anthracene	680	6.7	666.7	0	102	50-110	0			
Benzo(a)pyrene	614.7	6.7	666.7	0	92.2	50-110	0			
Benzo(b)fluoranthene	611	6.7	666.7	0	91.6	45-115	0			
Benzo(k)fluoranthene	603.7	6.7	666.7	0	90.5	45-115	0			
Chrysene	639.3	6.7	666.7	0	95.9	55-110	0			
Dibenzo(a,h)anthracene	675.3	6.7	666.7	0	101	40-125	0			
Fluoranthene	657.7	6.7	666.7	0	98.6	55-115	0			
Fluorene	596	6.7	666.7	0	89.4	50-110	0			
Indeno(1,2,3-cd)pyrene	691.7	6.7	666.7	0	104	40-120	0			
Naphthalene	538.3	6.7	666.7	0	80.7	40-105	0			
Pyrene	590	6.7	666.7	0	88.5	45-125	0			
Surr: 2-Fluorobiphenyl	1417	0	1667	0	85	12-100	0			
Surr: 4-Terphenyl-d14	1612	0	1667	0	96.7	25-137	0			
Surr: Nitrobenzene-d5	1391	0	1667	0	83.5	37-107	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** InterTech  
**Work Order:** 1311784  
**Project:** WOG Boies Ranch Pits 11.12.13

## QC BATCH REPORT

Batch ID: **53318**      Instrument ID **SVMS4**      Method: **SW8270**

MS				Sample ID: 1311751-04B MS			Units: µg/Kg		Analysis Date: 11/15/2013 04:58 PM		
Client ID:			Run ID: SVMS4_131115A			SeqNo: 2541622		Prep Date: 11/15/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1548	19	1866	0	82.9	45-110	0				
Anthracene	1714	19	1866	0	91.8	55-105	0				
Benzo(a)anthracene	1796	19	1866	0	96.2	50-110	0				
Benzo(a)pyrene	1662	19	1866	0	89	50-110	0				
Benzo(b)fluoranthene	1615	19	1866	0	86.5	45-115	0				
Benzo(k)fluoranthene	1678	19	1866	0	89.9	45-115	0				
Chrysene	1688	19	1866	0	90.4	55-110	0				
Dibenzo(a,h)anthracene	1772	19	1866	0	94.9	40-125	0				
Fluoranthene	1889	19	1866	0	101	55-115	0				
Fluorene	1623	19	1866	0	86.9	50-110	0				
Indeno(1,2,3-cd)pyrene	1800	19	1866	0	96.4	40-120	0				
Naphthalene	1440	19	1866	0	77.1	40-105	0				
Pyrene	1660	19	1866	0	88.9	45-125	0				
Surr: 2-Fluorobiphenyl	3806	0	4665	0	81.6	12-100	0				
Surr: 4-Terphenyl-d14	4560	0	4665	0	97.7	25-137	0				
Surr: Nitrobenzene-d5	3760	0	4665	0	80.6	37-107	0				

MSD				Sample ID: 1311751-04B MSD			Units: µg/Kg		Analysis Date: 11/15/2013 05:30 PM		
Client ID:			Run ID: SVMS4_131115A			SeqNo: 2541623		Prep Date: 11/15/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1555	19	1886	0	82.4	45-110	1548	0.455	30		
Anthracene	1745	19	1886	0	92.5	55-105	1714	1.82	30		
Benzo(a)anthracene	1860	19	1886	0	98.6	50-110	1796	3.52	30		
Benzo(a)pyrene	1734	19	1886	0	91.9	50-110	1662	4.26	30		
Benzo(b)fluoranthene	1695	19	1886	0	89.9	45-115	1615	4.86	30		
Benzo(k)fluoranthene	1740	19	1886	0	92.2	45-115	1678	3.58	30		
Chrysene	1738	19	1886	0	92.1	55-110	1688	2.92	30		
Dibenzo(a,h)anthracene	1833	19	1886	0	97.2	40-125	1772	3.4	30		
Fluoranthene	1936	19	1886	0	103	55-115	1889	2.43	30		
Fluorene	1639	19	1886	0	86.9	50-110	1623	1	30		
Indeno(1,2,3-cd)pyrene	1874	19	1886	0	99.3	40-120	1800	4.02	30		
Naphthalene	1430	19	1886	0	75.8	40-105	1440	0.639	30		
Pyrene	1687	19	1886	0	89.4	45-125	1660	1.62	30		
Surr: 2-Fluorobiphenyl	3864	0	4715	0	82	12-100	3806	1.52	40		
Surr: 4-Terphenyl-d14	4700	0	4715	0	99.7	25-137	4560	3.03	40		
Surr: Nitrobenzene-d5	3806	0	4715	0	80.7	37-107	3760	1.21	40		

The following samples were analyzed in this batch:

1311784-01B

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** InterTech  
**Work Order:** 1311784  
**Project:** WOG Boies Ranch Pits 11.12.13

## QC BATCH REPORT

Batch ID: **53385**      Instrument ID **SVMS8**      Method: **SW8270**

MBLK				Sample ID: <b>SBLKS1-53385-53385</b>				Units: <b>µg/Kg</b>			Analysis Date: <b>11/18/2013 07:57 A</b>		
Client ID:			Run ID: <b>SVMS8_131118A</b>				SeqNo: <b>2543551</b>		Prep Date: <b>11/17/2013</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Acenaphthene	ND	6.7											
Anthracene	ND	6.7											
Benzo(a)anthracene	ND	6.7											
Benzo(a)pyrene	ND	6.7											
Benzo(b)fluoranthene	ND	6.7											
Benzo(k)fluoranthene	ND	6.7											
Chrysene	ND	6.7											
Dibenzo(a,h)anthracene	ND	6.7											
Fluoranthene	ND	6.7											
Fluorene	ND	6.7											
Indeno(1,2,3-cd)pyrene	ND	6.7											
Naphthalene	ND	6.7											
Pyrene	ND	6.7											
<i>Surr: 2-Fluorobiphenyl</i>	1056	0	1667	0	63.4	12-100	0						
<i>Surr: 4-Terphenyl-d14</i>	1533	0	1667	0	92	25-137	0						
<i>Surr: Nitrobenzene-d5</i>	1137	0	1667	0	68.2	37-107	0						

LCS				Sample ID: SLCSS1-53385-53385				Units: µg/Kg		Analysis Date: 11/18/2013 08:17 A	
Client ID:			Run ID: SVMS8_131118A			SeqNo: 2543552		Prep Date: 11/17/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	471	6.7	666.7	0	70.6	45-110	0				
Anthracene	537.7	6.7	666.7	0	80.6	55-105	0				
Benzo(a)anthracene	526.3	6.7	666.7	0	78.9	50-110	0				
Benzo(a)pyrene	719.7	6.7	666.7	0	108	50-110	0				
Benzo(b)fluoranthene	694.3	6.7	666.7	0	104	45-115	0				
Benzo(k)fluoranthene	724.3	6.7	666.7	0	109	45-115	0				
Chrysene	556	6.7	666.7	0	83.4	55-110	0				
Dibenzo(a,h)anthracene	801.7	6.7	666.7	0	120	40-125	0				
Fluoranthene	584.3	6.7	666.7	0	87.6	55-115	0				
Fluorene	495.3	6.7	666.7	0	74.3	50-110	0				
Indeno(1,2,3-cd)pyrene	706.7	6.7	666.7	0	106	40-120	0				
Naphthalene	453	6.7	666.7	0	67.9	40-105	0				
Pyrene	551	6.7	666.7	0	82.6	45-125	0				
Surr: 2-Fluorobiphenyl	1069	0	1667	0	64.1	12-100	0				
Surr: 4-Terphenyl-d14	1499	0	1667	0	90	25-137	0				
Surr: Nitrobenzene-d5	1206	0	1667	0	72.4	37-107	0				

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: InterTech  
 Work Order: 1311784  
 Project: WOG Boies Ranch Pits 11.12.13

# QC BATCH REPORT

Batch ID: 53385 Instrument ID SVMS8 Method: SW8270

MS				Sample ID: 1311808-05B MS				Units: µg/Kg		Analysis Date: 11/18/2013 08:55 A	
Client ID:			Run ID: SVMS8_131118A			SeqNo: 2543553		Prep Date: 11/17/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	985.6	13	1325	0	74.4	45-110	0				
Anthracene	1101	13	1325	0	83.1	55-105	0				
Benzo(a)anthracene	1108	13	1325	0	83.6	50-110	0				
Benzo(a)pyrene	1509	13	1325	0	114	50-110	0			S	
Benzo(b)fluoranthene	1450	13	1325	0	109	45-115	0				
Benzo(k)fluoranthene	1393	13	1325	0	105	45-115	0				
Chrysene	1105	13	1325	0	83.4	55-110	0				
Dibenzo(a,h)anthracene	1593	13	1325	0	120	40-125	0				
Fluoranthene	1201	13	1325	0	90.6	55-115	0				
Fluorene	1053	13	1325	0	79.5	50-110	0				
Indeno(1,2,3-cd)pyrene	1458	13	1325	0	110	40-120	0				
Naphthalene	929.3	13	1325	49.61	66.4	40-105	0				
Pyrene	1119	13	1325	0	84.4	45-125	0				
Surr: 2-Fluorobiphenyl	2227	0	3312	0	67.3	12-100	0				
Surr: 4-Terphenyl-d14	2981	0	3312	0	90	25-137	0				
Surr: Nitrobenzene-d5	2446	0	3312	0	73.9	37-107	0				

MSD				Sample ID: 1311808-05B MSD				Units: µg/Kg		Analysis Date: 11/18/2013 09:15 A	
Client ID:			Run ID: SVMS8_131118A			SeqNo: 2543554		Prep Date: 11/17/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	944	13	1265	0	74.6	45-110	985.6	4.31	30		
Anthracene	1022	13	1265	0	80.8	55-105	1101	7.39	30		
Benzo(a)anthracene	1009	13	1265	0	79.8	50-110	1108	9.35	30		
Benzo(a)pyrene	1366	13	1265	0	108	50-110	1509	9.91	30		
Benzo(b)fluoranthene	1337	13	1265	0	106	45-115	1450	8.08	30		
Benzo(k)fluoranthene	1266	13	1265	0	100	45-115	1393	9.51	30		
Chrysene	996.5	13	1265	0	78.8	55-110	1105	10.4	30		
Dibenzo(a,h)anthracene	1359	13	1265	0	107	40-125	1593	15.8	30		
Fluoranthene	1120	13	1265	0	88.5	55-115	1201	6.99	30		
Fluorene	1007	13	1265	0	79.6	50-110	1053	4.46	30		
Indeno(1,2,3-cd)pyrene	1288	13	1265	0	102	40-120	1458	12.4	30		
Naphthalene	901.6	13	1265	49.61	67.4	40-105	929.3	3.02	30		
Pyrene	997.7	13	1265	0	78.9	45-125	1119	11.4	30		
Surr: 2-Fluorobiphenyl	2137	0	3161	0	67.6	12-100	2227	4.14	40		
Surr: 4-Terphenyl-d14	2687	0	3161	0	85	25-137	2981	10.4	40		
Surr: Nitrobenzene-d5	2407	0	3161	0	76.1	37-107	2446	1.61	40		

The following samples were analyzed in this batch:

1311784-02B 1311784-03B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: InterTech  
 Work Order: 1311784  
 Project: WOG Boies Ranch Pits 11.12.13

# QC BATCH REPORT

Batch ID: **53394** Instrument ID **SVMS8** Method: **SW8270**

MBLK		Sample ID: <b>SBLKS1-53394-53394</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>11/19/2013 09:46 A</b>		
Client ID:		Run ID: <b>SVMS8_131119A</b>				SeqNo: <b>2545135</b>		Prep Date: <b>11/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
Surr: 2-Fluorobiphenyl	1313	0	1667	0	78.8	12-100	0			
Surr: 4-Terphenyl-d14	1959	0	1667	0	118	25-137	0			
Surr: Nitrobenzene-d5	1370	0	1667	0	82.2	37-107	0			

LCS		Sample ID: <b>SLCSS1-53394-53394</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>11/19/2013 10:06 A</b>		
Client ID:		Run ID: <b>SVMS8_131119A</b>				SeqNo: <b>2545136</b>		Prep Date: <b>11/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	565	6.7	666.7	0	84.7	45-110	0			
Anthracene	606.3	6.7	666.7	0	90.9	55-105	0			
Benzo(a)anthracene	629.7	6.7	666.7	0	94.4	50-110	0			
Benzo(a)pyrene	730.7	6.7	666.7	0	110	50-110	0			
Benzo(b)fluoranthene	749	6.7	666.7	0	112	45-115	0			
Benzo(k)fluoranthene	730.7	6.7	666.7	0	110	45-115	0			
Chrysene	622	6.7	666.7	0	93.3	55-110	0			
Dibenzo(a,h)anthracene	761.3	6.7	666.7	0	114	40-125	0			
Fluoranthene	585	6.7	666.7	0	87.7	55-115	0			
Fluorene	556.7	6.7	666.7	0	83.5	50-110	0			
Indeno(1,2,3-cd)pyrene	701.7	6.7	666.7	0	105	40-120	0			
Naphthalene	544.3	6.7	666.7	0	81.6	40-105	0			
Pyrene	736.3	6.7	666.7	0	110	45-125	0			
Surr: 2-Fluorobiphenyl	1416	0	1667	0	85	12-100	0			
Surr: 4-Terphenyl-d14	2039	0	1667	0	122	25-137	0			
Surr: Nitrobenzene-d5	1553	0	1667	0	93.2	37-107	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: InterTech  
 Work Order: 1311784  
 Project: WOG Boies Ranch Pits 11.12.13

# QC BATCH REPORT

Batch ID: 53394 Instrument ID SVMS8 Method: SW8270

MS				Sample ID: 1311872-09A MS		Units: µg/Kg		Analysis Date: 11/19/2013 10:46 A		
Client ID:			Run ID: SVMS8_131119A		SeqNo: 2545137		Prep Date: 11/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1018	13	1319	0	77.1	45-110	0			
Anthracene	1165	13	1319	0	88.3	55-105	0			
Benzo(a)anthracene	1250	13	1319	26.98	92.7	50-110	0			
Benzo(a)pyrene	1497	13	1319	39.66	110	50-110	0			S
Benzo(b)fluoranthene	1509	13	1319	66.97	109	45-115	0			
Benzo(k)fluoranthene	1431	13	1319	19.18	107	45-115	0			
Chrysene	1231	13	1319	37.71	90.4	55-110	0			
Dibenzo(a,h)anthracene	1520	13	1319	0	115	40-125	0			
Fluoranthene	1224	13	1319	62.09	88	55-115	0			
Fluorene	1050	13	1319	0	79.6	50-110	0			
Indeno(1,2,3-cd)pyrene	1478	13	1319	61.77	107	40-120	0			
Naphthalene	933.4	13	1319	0	70.7	40-105	0			
Pyrene	1490	13	1319	62.42	108	45-125	0			
Surr: 2-Fluorobiphenyl	2437	0	3298	0	73.9	12-100	0			
Surr: 4-Terphenyl-d14	3908	0	3298	0	118	25-137	0			
Surr: Nitrobenzene-d5	2530	0	3298	0	76.7	37-107	0			

MSD				Sample ID: 1311872-09A MSD			Units: µg/Kg		Analysis Date: 11/19/2013 11:06 A		
Client ID:			Run ID: SVMS8_131119A			SeqNo: 2545138		Prep Date: 11/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1047	13	1327	0	78.9	45-110	1018	2.86	30		
Anthracene	1179	13	1327	0	88.8	55-105	1165	1.17	30		
Benzo(a)anthracene	1240	13	1327	26.98	91.4	50-110	1250	0.833	30		
Benzo(a)pyrene	1526	13	1327	39.66	112	50-110	1497	1.95	30	S	
Benzo(b)fluoranthene	1507	13	1327	66.97	109	45-115	1509	0.109	30		
Benzo(k)fluoranthene	1439	13	1327	19.18	107	45-115	1431	0.595	30		
Chrysene	1251	13	1327	37.71	91.5	55-110	1231	1.62	30		
Dibenzo(a,h)anthracene	1563	13	1327	0	118	40-125	1520	2.78	30		
Fluoranthene	1197	13	1327	62.09	85.6	55-115	1224	2.18	30		
Fluorene	1051	13	1327	0	79.2	50-110	1050	0.108	30		
Indeno(1,2,3-cd)pyrene	1512	13	1327	61.77	109	40-120	1478	2.27	30		
Naphthalene	953.8	13	1327	0	71.9	40-105	933.4	2.16	30		
Pyrene	1506	13	1327	62.42	109	45-125	1490	1.03	30		
Surr: 2-Fluorobiphenyl	2479	0	3316	0	74.8	12-100	2437	1.71	40		
Surr: 4-Terphenyl-d14	3965	0	3316	0	120	25-137	3908	1.44	40		
Surr: Nitrobenzene-d5	2566	0	3316	0	77.4	37-107	2530	1.43	40		

The following samples were analyzed in this batch:

1311784-04B	1311784-05B	1311784-06B
1311784-07B	1311784-08B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** InterTech  
**Work Order:** 1311784  
**Project:** WOG Boies Ranch Pits 11.12.13

# QC BATCH REPORT

Batch ID: **53373**      Instrument ID **VMS6**      Method: **SW8260B**

MBLK				Sample ID: <b>MBLK-53373-53373</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>11/17/2013 01:11 PM</b>	
Client ID:		Run ID: <b>VMS6_131117A</b>			SeqNo: <b>2542279</b>		Prep Date: <b>11/16/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	948	0	1000	0	94.8	70-130	0			
Surr: 4-Bromofluorobenzene	988	0	1000	0	98.8	70-130	0			
Surr: Dibromofluoromethane	853	0	1000	0	85.3	70-130	0			
Surr: Toluene-d8	920.5	0	1000	0	92	70-130	0			

LCS				Sample ID: <b>LCS-53373-53373</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>11/17/2013 11:33 A</b>	
Client ID:		Run ID: <b>VMS6_131117A</b>			SeqNo: <b>2542277</b>		Prep Date: <b>11/16/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1008	30	1000	0	101	75-125	0			
Ethylbenzene	959	30	1000	0	95.9	75-125	0			
m,p-Xylene	1918	60	2000	0	95.9	80-125	0			
o-Xylene	973.5	30	1000	0	97.4	75-125	0			
Toluene	947	30	1000	0	94.7	70-125	0			
Xylenes, Total	2891	90	3000	0	96.4	75-125	0			
Surr: 1,2-Dichloroethane-d4	936.5	0	1000	0	93.6	70-130	0			
Surr: 4-Bromofluorobenzene	1014	0	1000	0	101	70-130	0			
Surr: Dibromofluoromethane	944	0	1000	0	94.4	70-130	0			
Surr: Toluene-d8	926.5	0	1000	0	92.6	70-130	0			

MS				Sample ID: <b>1311784-08A MS</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>11/21/2013 10:09 A</b>	
Client ID: <b>WOG_27_AH_SW_6_8</b>		Run ID: <b>VMS5_131120B</b>			SeqNo: <b>2548668</b>		Prep Date: <b>11/16/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	922.5	30	1000	0	92.2	75-125	0			
Ethylbenzene	933	30	1000	0	93.3	75-125	0			
m,p-Xylene	1944	60	2000	39	95.2	80-125	0			
o-Xylene	964.5	30	1000	0	96.4	75-125	0			
Toluene	932	30	1000	0	93.2	70-125	0			
Xylenes, Total	2908	90	3000	39	95.6	75-125	0			
Surr: 1,2-Dichloroethane-d4	903.5	0	1000	0	90.4	70-130	0			
Surr: 4-Bromofluorobenzene	1001	0	1000	0	100	70-130	0			
Surr: Dibromofluoromethane	928.5	0	1000	0	92.8	70-130	0			
Surr: Toluene-d8	956	0	1000	0	95.6	70-130	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** InterTech  
**Work Order:** 1311784  
**Project:** WOG Boies Ranch Pits 11.12.13

## QC BATCH REPORT

Batch ID: **53373** Instrument ID **VMS6** Method: **SW8260B**

MSD					Sample ID: 1311784-08A MSD		Units: µg/Kg		Analysis Date: 11/21/2013 10:33 A	
Client ID: WOG_27_AH_SW_6_8			Run ID: VMS5_131120B			SeqNo: 2548670		Prep Date: 11/16/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	926	30	1000	0	92.6	75-125	922.5	0.379	30	
Ethylbenzene	928.5	30	1000	0	92.8	75-125	933	0.483	30	
m,p-Xylene	1930	60	2000	39	94.6	80-125	1944	0.697	30	
o-Xylene	965.5	30	1000	0	96.6	75-125	964.5	0.104	30	
Toluene	918.5	30	1000	0	91.8	70-125	932	1.46	30	
Xylenes, Total	2896	90	3000	39	95.2	75-125	2908	0.431	30	
Surr: 1,2-Dichloroethane-d4	905.5	0	1000	0	90.6	70-130	903.5	0.221	30	
Surr: 4-Bromofluorobenzene	1010	0	1000	0	101	70-130	1001	0.945	30	
Surr: Dibromofluoromethane	931	0	1000	0	93.1	70-130	928.5	0.269	30	
Surr: Toluene-d8	961	0	1000	0	96.1	70-130	956	0.522	30	

The following samples were analyzed in this batch:

1311784-01A	1311784-02A	1311784-03A
1311784-04A	1311784-05A	1311784-06A
1311784-07A	1311784-08A	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** InterTech  
**Work Order:** 1311784  
**Project:** WOG Boies Ranch Pits 11.12.13

## QC BATCH REPORT

Batch ID: **53354** Instrument ID **WETCHEM** Method: **SW9045D**

LCS				Sample ID: LCS-53354-53354				Units: s.u.			Analysis Date: 11/15/2013 03:00 PM		
Client ID:				Run ID: WETCHEM_131115N				SeqNo: 2540254		Prep Date: 11/15/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
pH	3.99	0	4	0	99.8	90-110	0						

DUP				Sample ID: 1311682-01B DUP				Units: s.u.			Analysis Date: 11/15/2013 03:00 PM		
Client ID:				Run ID: WETCHEM_131115N				SeqNo: 2540256		Prep Date: 11/15/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
pH	8.53	0	0	0	0	0-0	8.6	0.817	20				

DUP				Sample ID: 1311784-01B DUP				Units: s.u.		Analysis Date: 11/15/2013 03:00 PM		
Client ID: WOG_27_AH_SW_PB				Run ID: WETCHEM_131115N				SeqNo: 2540267		Prep Date: 11/15/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
pH	8.34	0	0	0	0	0-0	8.36	0.24	20			

The following samples were analyzed in this batch:

1311784-01B	1311784-02B	1311784-03B
1311784-04B	1311784-05B	1311784-06B
1311784-07B	1311784-08B	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** InterTech  
**Work Order:** 1311784  
**Project:** WOG Boies Ranch Pits 11.12.13

## QC BATCH REPORT

Batch ID: **53357** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

<b>DUP</b>		Sample ID: <b>1311782-01C DUP</b>				Units: <b>mmhos/cm @25°</b>		Analysis Date: <b>11/19/2013 05:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_131119K</b>				SeqNo: <b>2545429</b>		Prep Date: <b>11/19/2013</b>		DF: <b>10</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	5.24	0.050	0	0	0		4.98	5.09	50	

The following samples were analyzed in this batch:

1311784-01C	1311784-02C	1311784-03C
1311784-04C	1311784-05C	1311784-06C
1311784-07C	1311784-08C	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** InterTech  
**Work Order:** 1311784  
**Project:** WOG Boies Ranch Pits 11.12.13

## QC BATCH REPORT

Batch ID: **53472**      Instrument ID **WETCHEM**      Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-53472-53472</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/19/2013 04:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_131119I</b>		SeqNo: <b>2545398</b>		Prep Date: <b>11/19/2013</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent      ND      0.50

<b>LCS</b>		Sample ID: <b>LCS-53472-53472</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/19/2013 04:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_131119I</b>		SeqNo: <b>2545397</b>		Prep Date: <b>11/19/2013</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent      1.76      0.50      2      0      88      80-120      0

<b>MS</b>		Sample ID: <b>1311838-01B MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/19/2013 04:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_131119I</b>		SeqNo: <b>2545389</b>		Prep Date: <b>11/19/2013</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent      1.589      0.51      2.033      0      78.2      75-125      0

<b>MS</b>		Sample ID: <b>1311838-01B MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/19/2013 04:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_131119I</b>		SeqNo: <b>2545391</b>		Prep Date: <b>11/19/2013</b>		DF: <b>100</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent      1217      50      1207      0      101      75-125      0

<b>MSD</b>		Sample ID: <b>1311838-01B MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/19/2013 04:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_131119I</b>		SeqNo: <b>2545390</b>		Prep Date: <b>11/19/2013</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent      1.737      0.49      1.961      0      88.6      75-125      1.589      8.89      20

The following samples were analyzed in this batch:

1311784-01B	1311784-02B	1311784-03B
1311784-04B	1311784-05B	1311784-06B
1311784-07B	1311784-08B	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: InterTech  
 Work Order: 1311784  
 Project: WOG Boies Ranch Pits 11.12.13

## QC BATCH REPORT

Batch ID: **R130804** Instrument ID **MOIST** Method: **A2540 G**

MBLK				Sample ID: WBLKS-R130804				Units: % of sample			Analysis Date: 11/18/2013 04:20 PM			
Client ID:				Run ID: MOIST_131118C				SeqNo: 2544553			Prep Date:		DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 0.05 0.050

LCS				Sample ID: LCS-R130804				Units: % of sample				Analysis Date: 11/18/2013 04:20 PM											
Client ID:				Run ID: MOIST_131118C				SeqNo: 2544541				Prep Date:				DF: 1							
Analyte				Result		PQL		SPK Val		SPK Ref Value		%REC		Control Limit		RPD Ref Value		%RPD		RPD Limit		Qual	

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP				Sample ID: 1311751-09B DUP				Units: % of sample			Analysis Date: 11/18/2013 04:20 PM			
Client ID:				Run ID: MOIST_131118C				SeqNo: 2544516			Prep Date:		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 11.89 0.050 0 0 0 0-0 12.78 7.22 20

<b>DUP</b>				Sample ID: <b>1311753-02B DUP</b>				Units: % of sample			Analysis Date: <b>11/18/2013 04:20 PM</b>			
Client ID:				Run ID: <b>MOIST_131118C</b>				SeqNo: <b>2544519</b>			Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Moisture 7.17 0.050 0 0 0 0-0 7.74 7.65 20

The following samples were analyzed in this batch:

1311784-01B	1311784-02B	1311784-03B
1311784-04B	1311784-05B	1311784-06B
1311784-07B	1311784-08B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



**Environmental**

Cincinnati, OH  
+1 513 733 5336

Everett, WA  
+1 425 356 2600

Fort Collins, CO  
+1 970 490 1511

Holland, MI  
+1 616 399 6070

# Chain of Custody Form

Page 1 of 1

COC ID: **93138**

Houston, TX  
+1 281 530 5656

Middletown, PA  
+1 717 944 5541

Spring City, PA  
+1 610 948 4903

Salt Lake City, UT  
+1 801 266 7700

South Charleston, WV  
+1 304 356 3168

York, PA  
+1 717 505 5280

Customer Information			Project Information				ALS Project Manager: _____ ALS Work Order #: <u>131784</u>												
Parameter/Method Request for Analysis																			
Purchase Order		Project Name	<u>WOG-BOLES RANCH PITS</u>				A	BTEX, GRO											
Work Order		Project Number	<u>605-1210-00</u>				B	DRO, PAHs											
Company Name	<u>InterTech</u>	Bill To Company	<u>Intertech EE</u>				C	As, Ba, Cd, Cr, Cu, Pb, Ni, Se, Ag, Zn, Hg											
Send Report To	<u>Jana Sanders</u>	Invoice Attn	<u>Deanna Weston</u>				D	Cr+6, Cr+3											
Address	<u>743 Horizon Court, Suite 110</u>	Address	<u>3821 Beech Street</u>				E	pH, SAR											
							F	% Moisture											
City/State/Zip	<u>Grand Junction, CO 81506</u>	City/State/Zip	<u>Laramie, WY 82070</u>				G												
Phone	<u>(855) 687-8324</u>	Phone	<u>(307) 742-4991</u>				H												
Fax		Fax	<u>(307) 745-1582</u>				I												
e-Mail Address	<u>jsanders@cbmunc.com</u>	e-Mail Address					J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	<u>WOG-27-AH-SW-PB</u>	<u>11-12-13</u>	<u>1130</u>	<u>SOIL</u>	<u>8</u>	<u>5</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>						
2	<u>WOG-27-AH-SW-4-8</u>	<u>11-12-13</u>	<u>1015</u>	<u>SOIL</u>	<u>8</u>	<u>5</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>						
3	<u>WOG-27-AH-N2-PB-</u>	<u>11-12-13</u>	<u>1230</u>	<u>SOIL</u>	<u>8</u>	<u>5</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>						
4	<u>WOG-240-PB-10</u>	<u>11-12-13</u>	<u>1415</u>	<u>SOIL</u>	<u>8</u>	<u>5</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>						
5	<u>WOG-27K-PB-8</u>	<u>11-12-13</u>	<u>0940</u>	<u>SOIL</u>	<u>8</u>	<u>5</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>						
6	<u>WOG-H-30-N2-10</u>	<u>11-12-13</u>	<u>1630</u>	<u>SOIL</u>	<u>8</u>	<u>5</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>						
7	<u>WOG-H-30-SW-8</u>	<u>11-12-13</u>	<u>1540</u>	<u>SOIL</u>	<u>8</u>	<u>5</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>						
8	<u>WOG-27-AH-SW-6-8</u>	<u>11-12-13</u>	<u>1040</u>	<u>SOIL</u>	<u>8</u>	<u>5</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>						
9																	
10																	

Sampler(s) Please Print & Sign <u>MATTHEW FAUGHT</u>			Shipment Method <u>FedEx</u>		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> Std 10 WK Days <input type="checkbox"/> 5 WK Days <input type="checkbox"/> Other <input type="checkbox"/> 2 WK Days <input type="checkbox"/> 24 Hour				Results Due Date:				
Relinquished by:		Date:	Time:	Received by:		Notes:							
Relinquished by:		Date:	Time:	Received by (Laboratory):		Cooler ID					Cooler Temp.	QC Package: (Check One Box Below)	
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):							<u>4.2°C</u>	<input type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP CheckList <input type="checkbox"/> Level III Std QC/Raw Data <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other	
Preservative Key: 1-HCl 2-HNO <sub>3</sub> 3-H <sub>2</sub> SO <sub>4</sub> 4-NaOH 5-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 6-NaHSO <sub>3</sub> 7-Other 8-4°C 9-5035													

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.  
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.  
 3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2011 by ALS Environmental.

**FedEx** Express **NEW Package**  
**US Airbill**

FedEx  
Tracking  
Number

8022 0269 8502

**1 From**

Date

11-13-13

Sender's  
Name

INTERTECH

Phone

970 763 8679

Company

INTERTECH 812

Address

743 HAMILTON CT STE 110

City

GRAND JUNCTION

State

CO

ZIP

81506

**2 Your Internal Billing Reference**

**3 To**

Recipient's  
Name

SHARPE RESEARCH

Phone

616 399 6170

Company

SHARPE RESEARCH

Address

3357 178TH AVE

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City

GRAND JUNCTION

State

CO

ZIP

81506

**HOLD Weekday**  
FedEx location address  
REQUIRED. NOT available for  
FedEx First Overnight.

**HOLD Saturday**  
FedEx location address  
REQUIRED. Available ONLY for  
FedEx Priority Overnight and  
FedEx 2Day to select locations.

**4 Express Package Service**

\* To most locations.

NOTE: Service order has changed. Please select carefully.

**Packages up to 150 lbs.**  
For packages over 150 lbs., use the new  
FedEx Express Freight US Airbill.

**Next Business Day**

☐ **FedEx First Overnight**  
Earliest next business morning delivery to select  
locations. Friday shipments will be delivered on  
Monday unless SATURDAY Delivery is selected.

☐ **FedEx Priority Overnight**  
Next business morning. Friday shipments will be  
delivered on Monday unless SATURDAY Delivery  
is selected.

☒ **FedEx Standard Overnight**  
Next business afternoon.  
Saturday Delivery NOT available.

**2 or 3 Business Days**

☐ **FedEx 2Day A.M.**  
Second business morning.  
Saturday Delivery NOT available.

☐ **FedEx 2Day**  
Second business afternoon. Thursday shipments  
will be delivered on Monday unless SATURDAY  
Delivery is selected.

☐ **FedEx Express Saver**  
Third business day.  
Saturday Delivery NOT available.

**5 Packaging**

\* Declared value limit \$500.

☐ FedEx Envelope\*

☐ FedEx Pak\*

☐ FedEx  
Box

☒ FedEx  
Tube

☒ Other

**6 Special Handling and Delivery Signature Options**

☐ **SATURDAY Delivery**

NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ **No Signature Required**  
Package may be left without  
obtaining a signature for delivery.

☐ **Direct Signature**  
Someone at recipient's address  
may sign for delivery. *Fee applies.*

☐ **Indirect Signature**  
If no one is available at recipient's  
address, someone at a neighboring  
address may sign for delivery. For  
residential deliveries only. *Fee applies.*

**Does this shipment contain dangerous goods?**

One box must be checked.

☒ No

☐ Yes  
As per attached  
Shipper's Declaration.

☐ Yes  
Shipper's Declaration  
not required.

☐ **Dry Ice**  
Dry ice, 5, UN 1845

☒ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging  
or placed in a FedEx Express Drop Box.

☐ **Cargo Aircraft Only**

**7 Payment Bill to:**

Enter FedEx Acct. No. or Credit Card No. below.

Obtain recip.  
Acct. No. ☐

☐ **Sender**  
Acct. No. in Section

☒ **Recipient**

☐ **Third Party**

☐ **Credit Card**

☐ **Cash/Check**

Total Packages

Total Weight

\*Check Card Avg.

Seal Broken By:

**CUSTODY SEAL**

Date:

Time:

11/13/13 11:12 AM

Company:

INTERTECH

**ALS Environmental**

3352 128th Avenue  
Holland, Michigan 49424  
Tel. +1 616 399 6070  
Fax. +1 616 399 6185



449

fedex.com 1800.GoFedEx 1800.463.3339

fedex.com 1800.GoFedEx 1800.463.3339

Sample Receipt Checklist

Client Name: **INTERTECH**

Date/Time Received: **14-Nov-13 09:30**

Work Order: **1311784**

Received by: **DS**

Checklist completed by Diane Shaw 14-Nov-13  
eSignature Date

Reviewed by: Ann Preston 16-Nov-13  
eSignature Date

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.2 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>11/14/2013 1:33:23 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes:

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



## ANALYTICAL SUMMARY REPORT

August 06, 2011

Whiting Petroleum Corporation  
2500 County Road 26  
Rifle, CO 81641

Workorder No.: G11070820

Quote ID: G228 - COGCC Table 910-1 for Soil - Normal TAT

Project Name: Soil\_Sampling

Energy Laboratories Inc. Gillette WY received the following 9 samples for Whiting Petroleum Corporation on 07/28/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
G11070820-001	SO_Boies_Background_Sect_1_1	07/27/11 10:00	07/28/11	Soil	Metals by ICP/ICPMS, Total Cations, sat. paste Saturated Paste Electrical Conductivity Mercury in Solid by CVAA Diesel Range Organics Gasoline Range Organics Saturated Paste pH Digestion, Total Metals Digestion, Mercury by CVAA Saturated Paste Extraction Sodium Adsorption Ratio Volatile Organic Compounds - Short List
G11070820-002	SO_Boies_Background_Sect_1_2	07/27/11 10:30	07/28/11	Soil	Same As Above
G11070820-003	SO_Boies_Background_Sect_2_1	07/27/11 11:30	07/28/11	Soil	Same As Above
G11070820-004	SO_Boies_Background_Sect_2_2	07/27/11 11:00	07/28/11	Soil	Same As Above
G11070820-005	SO_Boies_Background_Sect_2_3	07/27/11 11:45	07/28/11	Soil	Same As Above
G11070820-006	SO_Boies_Background_Sect_3_1	07/27/11 12:00	07/28/11	Soil	Same As Above
G11070820-007	SO_Boies_Background_Sect_3_2	07/27/11 12:15	07/28/11	Soil	Same As Above
G11070820-008	SO_Boies_Background_Sect_3_3	07/27/11 13:00	07/28/11	Soil	Same As Above
G11070820-009	SO_Boies_Background_Sect_3_4	07/27/11 13:20	07/28/11	Soil	Same As Above

This report was prepared by Energy Laboratories, Inc., 400 W. Boxelder Rd., Gillette, WY 82718. As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By:

## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_1\_1  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-001

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 10:00  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192838

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
----------	--------	-------	----	-----------	--------	--------------------

### PETROLEUM HYDROCARBONS-VOLATILE

Gasoline Range Organics (GRO)	ND	mg/kg	2.0		SW8015B	08/01/11 15:39 / eli-b
Total Purgeable Hydrocarbons	ND	mg/kg	2.0		SW8015B	08/01/11 15:39 / eli-b
Surr: Trifluorotoluene	98.0	%REC	70-130		SW8015B	08/01/11 15:39 / eli-b

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.

- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.

### PETROLEUM HYDROCARBONS-SEMI-VOLATILE

Diesel Range Organics (DRO)	ND	mg/kg	10		SW8015B	08/02/11 15:45 / eli-b
Total Extractable Hydrocarbons	31	mg/kg	10		SW8015B	08/02/11 15:45 / eli-b
Surr: o-Terphenyl	98.0	%REC	50-150		SW8015B	08/02/11 15:45 / eli-b

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.

- Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

### VOLATILE ORGANIC COMPOUNDS

Benzene	ND	mg/kg	0.20		SW8260B	07/29/11 19:06 / eli-b
Ethylbenzene	ND	mg/kg	0.20		SW8260B	07/29/11 19:06 / eli-b
Toluene	ND	mg/kg	0.20		SW8260B	07/29/11 19:06 / eli-b
m+p-Xylenes	ND	mg/kg	0.20		SW8260B	07/29/11 19:06 / eli-b
o-Xylene	ND	mg/kg	0.20		SW8260B	07/29/11 19:06 / eli-b
Xylenes, Total	ND	mg/kg	0.20		SW8260B	07/29/11 19:06 / eli-b
Surr: Dibromofluoromethane	100	%REC	70-132		SW8260B	07/29/11 19:06 / eli-b
Surr: 1,2-Dichloroethane-d4	84.0	%REC	60-136		SW8260B	07/29/11 19:06 / eli-b
Surr: Toluene-d8	104	%REC	75-138		SW8260B	07/29/11 19:06 / eli-b
Surr: p-Bromofluorobenzene	110	%REC	78-160		SW8260B	07/29/11 19:06 / eli-b

### SATURATED PASTE

Conductivity, sat. paste	1.13	mmhos/cm	0.05	D	ASAM10-3	08/02/11 09:44 / eli-h
pH, sat. paste	7.6	s.u.	0.1		ASAM10-3.2	08/02/11 07:51 / eli-h
Calcium, sat. paste	7.13	meq/L	0.05		SW6010B	08/03/11 13:00 / eli-h
Magnesium, sat. paste	2.29	meq/L	0.08		SW6010B	08/03/11 13:00 / eli-h
Sodium, sat. paste	1.69	meq/L	0.04		SW6010B	08/03/11 13:00 / eli-h
Sodium Adsorption Ratio (SAR)	0.8	unitless	0.1		USDA20b	08/03/11 10:49 / eli-h

### METALS, TOTAL

Arsenic	10	mg/kg	5		SW6010B	08/02/11 14:37 / eli-h
Barium	321	mg/kg	5		SW6010B	08/02/11 14:37 / eli-h
Cadmium	ND	mg/kg	1		SW6010B	08/02/11 14:37 / eli-h
Chromium	35	mg/kg	5		SW6010B	08/02/11 14:37 / eli-h
Copper	11	mg/kg	5		SW6010B	08/02/11 14:37 / eli-h
Lead	12	mg/kg	5		SW6010B	08/03/11 12:35 / eli-h
Mercury	ND	mg/kg	0.5		SW7471A	08/02/11 09:50 / eli-h
Nickel	15	mg/kg	5		SW6010B	08/02/11 14:37 / eli-h
Selenium	ND	mg/kg	5		SW6010B	08/02/11 14:37 / eli-h

**Report** RL - Analyte reporting limit.

**Definitions:** QCL - Quality control limit.

D - RL increased due to sample matrix.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_1\_1  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-001

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 10:00  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192838

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
<b>METALS, TOTAL</b>						
Silver	ND	mg/kg	5		SW6010B	08/03/11 15:31 / eli-h
Zinc	42	mg/kg	5		SW6010B	08/02/11 14:37 / eli-h

**Report**  
**Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_1\_2  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-002

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 10:30  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192839

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
<b>PETROLEUM HYDROCARBONS-VOLATILE</b>						
Gasoline Range Organics (GRO)	ND	mg/kg	2.0		SW8015B	08/01/11 16:14 / eli-b
Total Purgeable Hydrocarbons	ND	mg/kg	2.0		SW8015B	08/01/11 16:14 / eli-b
Surr: Trifluorotoluene	96.0	%REC	70-130		SW8015B	08/01/11 16:14 / eli-b
- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene. - Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.						
<b>PETROLEUM HYDROCARBONS-SEMI-VOLATILE</b>						
Diesel Range Organics (DRO)	ND	mg/kg	10		SW8015B	08/02/11 04:42 / eli-b
Total Extractable Hydrocarbons	10	mg/kg	10		SW8015B	08/02/11 04:42 / eli-b
Surr: o-Terphenyl	104	%REC	50-150		SW8015B	08/02/11 04:42 / eli-b
- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28. - Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.						
<b>VOLATILE ORGANIC COMPOUNDS</b>						
Benzene	ND	mg/kg	0.20		SW8260B	07/29/11 19:33 / eli-b
Ethylbenzene	ND	mg/kg	0.20		SW8260B	07/29/11 19:33 / eli-b
Toluene	ND	mg/kg	0.20		SW8260B	07/29/11 19:33 / eli-b
m+p-Xylenes	ND	mg/kg	0.20		SW8260B	07/29/11 19:33 / eli-b
o-Xylene	ND	mg/kg	0.20		SW8260B	07/29/11 19:33 / eli-b
Xylenes, Total	ND	mg/kg	0.20		SW8260B	07/29/11 19:33 / eli-b
Surr: Dibromofluoromethane	99.0	%REC	70-132		SW8260B	07/29/11 19:33 / eli-b
Surr: 1,2-Dichloroethane-d4	86.0	%REC	60-136		SW8260B	07/29/11 19:33 / eli-b
Surr: Toluene-d8	103	%REC	75-138		SW8260B	07/29/11 19:33 / eli-b
Surr: p-Bromofluorobenzene	109	%REC	78-160		SW8260B	07/29/11 19:33 / eli-b
<b>SATURATED PASTE</b>						
Conductivity, sat. paste	0.51	mmhos/cm	0.05	D	ASAM10-3	08/02/11 09:45 / eli-h
pH, sat. paste	7.5	s.u.	0.1		ASAM10-3.2	08/02/11 07:52 / eli-h
Calcium, sat. paste	3.90	meq/L	0.05		SW6010B	08/03/11 13:03 / eli-h
Magnesium, sat. paste	0.73	meq/L	0.08		SW6010B	08/03/11 13:03 / eli-h
Sodium, sat. paste	1.13	meq/L	0.04		SW6010B	08/03/11 13:03 / eli-h
Sodium Adsorption Ratio (SAR)	0.7	unitless	0.1		USDA20b	08/03/11 10:49 / eli-h
<b>METALS, TOTAL</b>						
Arsenic	ND	mg/kg	5		SW6010B	08/03/11 12:39 / eli-h
Barium	189	mg/kg	5		SW6010B	08/02/11 14:40 / eli-h
Cadmium	ND	mg/kg	1		SW6010B	08/02/11 14:40 / eli-h
Chromium	29	mg/kg	5		SW6010B	08/02/11 14:40 / eli-h
Copper	13	mg/kg	5		SW6010B	08/02/11 14:40 / eli-h
Lead	14	mg/kg	5		SW6010B	08/03/11 12:39 / eli-h
Mercury	ND	mg/kg	0.5		SW7471A	08/02/11 09:52 / eli-h
Nickel	13	mg/kg	5		SW6010B	08/02/11 14:40 / eli-h
Selenium	ND	mg/kg	5		SW6010B	08/02/11 14:40 / eli-h

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_1\_2  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-002

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 10:30  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192839

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
<b>METALS, TOTAL</b>						
Silver	ND	mg/kg	5		SW6010B	08/03/11 15:34 / eli-h
Zinc	48	mg/kg	5		SW6010B	08/02/11 14:40 / eli-h

**Report**  
**Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_2\_1  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-003

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 11:30  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192840

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
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### PETROLEUM HYDROCARBONS-VOLATILE

Gasoline Range Organics (GRO)	ND	mg/kg	2.0		SW8015B	08/01/11 16:50 / eli-b
Total Purgeable Hydrocarbons	ND	mg/kg	2.0		SW8015B	08/01/11 16:50 / eli-b
Surr: Trifluorotoluene	96.0	%REC	70-130		SW8015B	08/01/11 16:50 / eli-b

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.

- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.

### PETROLEUM HYDROCARBONS-SEMI-VOLATILE

Diesel Range Organics (DRO)	ND	mg/kg	10		SW8015B	08/02/11 23:29 / eli-b
Total Extractable Hydrocarbons	53	mg/kg	10		SW8015B	08/02/11 23:29 / eli-b
Surr: o-Terphenyl	101	%REC	50-150		SW8015B	08/02/11 23:29 / eli-b

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.

- Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

### VOLATILE ORGANIC COMPOUNDS

Benzene	ND	mg/kg	0.20		SW8260B	07/29/11 19:59 / eli-b
Ethylbenzene	ND	mg/kg	0.20		SW8260B	07/29/11 19:59 / eli-b
Toluene	ND	mg/kg	0.20		SW8260B	07/29/11 19:59 / eli-b
m+p-Xylenes	ND	mg/kg	0.20		SW8260B	07/29/11 19:59 / eli-b
o-Xylene	ND	mg/kg	0.20		SW8260B	07/29/11 19:59 / eli-b
Xylenes, Total	ND	mg/kg	0.20		SW8260B	07/29/11 19:59 / eli-b
Surr: Dibromofluoromethane	93.0	%REC	70-132		SW8260B	07/29/11 19:59 / eli-b
Surr: 1,2-Dichloroethane-d4	80.0	%REC	60-136		SW8260B	07/29/11 19:59 / eli-b
Surr: Toluene-d8	100	%REC	75-138		SW8260B	07/29/11 19:59 / eli-b
Surr: p-Bromofluorobenzene	106	%REC	78-160		SW8260B	07/29/11 19:59 / eli-b

### SATURATED PASTE

Conductivity, sat. paste	0.70	mmhos/cm	0.05	D	ASAM10-3	08/02/11 09:45 / eli-h
pH, sat. paste	7.6	s.u.	0.1		ASAM10-3.2	08/02/11 07:52 / eli-h
Calcium, sat. paste	4.30	meq/L	0.05		SW6010B	08/03/11 13:06 / eli-h
Magnesium, sat. paste	1.65	meq/L	0.08		SW6010B	08/03/11 13:06 / eli-h
Sodium, sat. paste	1.40	meq/L	0.04		SW6010B	08/03/11 13:06 / eli-h
Sodium Adsorption Ratio (SAR)	0.8	unitless	0.1		USDA20b	08/03/11 10:49 / eli-h

### METALS, TOTAL

Arsenic	ND	mg/kg	5		SW6010B	08/03/11 12:43 / eli-h
Barium	343	mg/kg	5		SW6010B	08/02/11 14:44 / eli-h
Cadmium	ND	mg/kg	1		SW6010B	08/02/11 14:44 / eli-h
Chromium	36	mg/kg	5		SW6010B	08/02/11 14:44 / eli-h
Copper	13	mg/kg	5		SW6010B	08/02/11 14:44 / eli-h
Lead	14	mg/kg	5		SW6010B	08/03/11 12:43 / eli-h
Mercury	ND	mg/kg	0.5		SW7471A	08/02/11 09:54 / eli-h
Nickel	17	mg/kg	5		SW6010B	08/02/11 14:44 / eli-h
Selenium	ND	mg/kg	5		SW6010B	08/02/11 14:44 / eli-h

**Report** RL - Analyte reporting limit.

**Definitions:** QCL - Quality control limit.

D - RL increased due to sample matrix.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_2\_1  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-003

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 11:30  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192840

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
<b>METALS, TOTAL</b>						
Silver	ND	mg/kg	5		SW6010B	08/03/11 15:37 / eli-h
Zinc	48	mg/kg	5		SW6010B	08/02/11 14:44 / eli-h

**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_2\_2  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-004

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 11:00  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192841

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
<b>PETROLEUM HYDROCARBONS-VOLATILE</b>						
Gasoline Range Organics (GRO)	ND	mg/kg	2.0		SW8015B	08/01/11 20:22 / eli-b
Total Purgeable Hydrocarbons	ND	mg/kg	2.0		SW8015B	08/01/11 20:22 / eli-b
Surr: Trifluorotoluene	98.0	%REC	70-130		SW8015B	08/01/11 20:22 / eli-b
- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene. - Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.						
<b>PETROLEUM HYDROCARBONS-SEMI-VOLATILE</b>						
Diesel Range Organics (DRO)	ND	mg/kg	10		SW8015B	08/02/11 05:32 / eli-b
Total Extractable Hydrocarbons	45	mg/kg	10		SW8015B	08/02/11 05:32 / eli-b
Surr: o-Terphenyl	108	%REC	50-150		SW8015B	08/02/11 05:32 / eli-b
- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28. - Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.						
<b>VOLATILE ORGANIC COMPOUNDS</b>						
Benzene	ND	mg/kg	0.20		SW8260B	07/29/11 20:26 / eli-b
Ethylbenzene	ND	mg/kg	0.20		SW8260B	07/29/11 20:26 / eli-b
Toluene	ND	mg/kg	0.20		SW8260B	07/29/11 20:26 / eli-b
m+p-Xylenes	ND	mg/kg	0.20		SW8260B	07/29/11 20:26 / eli-b
o-Xylene	ND	mg/kg	0.20		SW8260B	07/29/11 20:26 / eli-b
Xylenes, Total	ND	mg/kg	0.20		SW8260B	07/29/11 20:26 / eli-b
Surr: Dibromofluoromethane	109	%REC	70-132		SW8260B	07/29/11 20:26 / eli-b
Surr: 1,2-Dichloroethane-d4	95.0	%REC	60-136		SW8260B	07/29/11 20:26 / eli-b
Surr: Toluene-d8	116	%REC	75-138		SW8260B	07/29/11 20:26 / eli-b
Surr: p-Bromofluorobenzene	123	%REC	78-160		SW8260B	07/29/11 20:26 / eli-b
<b>SATURATED PASTE</b>						
Conductivity, sat. paste	0.85	mmhos/cm	0.05	D	ASAM10-3	08/02/11 09:46 / eli-h
pH, sat. paste	7.6	s.u.	0.1		ASAM10-3.2	08/02/11 07:53 / eli-h
Calcium, sat. paste	5.84	meq/L	0.05		SW6010B	08/03/11 13:09 / eli-h
Magnesium, sat. paste	1.23	meq/L	0.08		SW6010B	08/03/11 13:09 / eli-h
Sodium, sat. paste	2.12	meq/L	0.04		SW6010B	08/03/11 13:09 / eli-h
Sodium Adsorption Ratio (SAR)	1.1	unitless	0.1		USDA20b	08/03/11 10:49 / eli-h
<b>METALS, TOTAL</b>						
Arsenic	8	mg/kg	5		SW6010B	08/02/11 14:48 / eli-h
Barium	267	mg/kg	5		SW6010B	08/02/11 14:48 / eli-h
Cadmium	ND	mg/kg	1		SW6010B	08/02/11 14:48 / eli-h
Chromium	39	mg/kg	5		SW6010B	08/02/11 14:48 / eli-h
Copper	16	mg/kg	5		SW6010B	08/02/11 14:48 / eli-h
Lead	14	mg/kg	5		SW6010B	08/03/11 12:47 / eli-h
Mercury	ND	mg/kg	0.5		SW7471A	08/02/11 10:04 / eli-h
Nickel	18	mg/kg	5		SW6010B	08/02/11 14:48 / eli-h
Selenium	ND	mg/kg	5		SW6010B	08/02/11 14:48 / eli-h

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_2\_2  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-004

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 11:00  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192841

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
<b>METALS, TOTAL</b>						
Silver	ND	mg/kg	5		SW6010B	08/03/11 15:40 / eli-h
Zinc	53	mg/kg	5		SW6010B	08/02/11 14:48 / eli-h

**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_2\_3  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-005

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 11:45  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192842

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
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### PETROLEUM HYDROCARBONS-VOLATILE

Gasoline Range Organics (GRO)	ND	mg/kg	2.0		SW8015B	08/01/11 19:11 / eli-b
Total Purgeable Hydrocarbons	ND	mg/kg	2.0		SW8015B	08/01/11 19:11 / eli-b
Surr: Trifluorotoluene	91.0	%REC	70-130		SW8015B	08/01/11 19:11 / eli-b

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.

- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.

### PETROLEUM HYDROCARBONS-SEMI-VOLATILE

Diesel Range Organics (DRO)	ND	mg/kg	10		SW8015B	08/02/11 20:58 / eli-b
Total Extractable Hydrocarbons	25	mg/kg	10		SW8015B	08/02/11 20:58 / eli-b
Surr: o-Terphenyl	106	%REC	50-150		SW8015B	08/02/11 20:58 / eli-b

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.

- Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

### VOLATILE ORGANIC COMPOUNDS

Benzene	ND	mg/kg	0.20		SW8260B	07/29/11 23:04 / eli-b
Ethylbenzene	ND	mg/kg	0.20		SW8260B	07/29/11 23:04 / eli-b
Toluene	ND	mg/kg	0.20		SW8260B	07/29/11 23:04 / eli-b
m+p-Xylenes	ND	mg/kg	0.20		SW8260B	07/29/11 23:04 / eli-b
o-Xylene	ND	mg/kg	0.20		SW8260B	07/29/11 23:04 / eli-b
Xylenes, Total	ND	mg/kg	0.20		SW8260B	07/29/11 23:04 / eli-b
Surr: Dibromofluoromethane	100	%REC	70-132		SW8260B	07/29/11 23:04 / eli-b
Surr: 1,2-Dichloroethane-d4	84.0	%REC	60-136		SW8260B	07/29/11 23:04 / eli-b
Surr: Toluene-d8	110	%REC	75-138		SW8260B	07/29/11 23:04 / eli-b
Surr: p-Bromofluorobenzene	120	%REC	78-160		SW8260B	07/29/11 23:04 / eli-b

### SATURATED PASTE

Conductivity, sat. paste	0.56	mmhos/cm	0.05	D	ASAM10-3	08/02/11 09:47 / eli-h
pH, sat. paste	7.6	s.u.	0.1		ASAM10-3.2	08/02/11 07:53 / eli-h
Calcium, sat. paste	4.34	meq/L	0.05		SW6010B	08/03/11 13:12 / eli-h
Magnesium, sat. paste	0.89	meq/L	0.08		SW6010B	08/03/11 13:12 / eli-h
Sodium, sat. paste	0.65	meq/L	0.04		SW6010B	08/03/11 13:12 / eli-h
Sodium Adsorption Ratio (SAR)	0.4	unitless	0.1		USDA20b	08/03/11 10:49 / eli-h

### METALS, TOTAL

Arsenic	ND	mg/kg	5		SW6010B	08/03/11 12:58 / eli-h
Barium	201	mg/kg	5		SW6010B	08/02/11 14:51 / eli-h
Cadmium	ND	mg/kg	1		SW6010B	08/02/11 14:51 / eli-h
Chromium	32	mg/kg	5		SW6010B	08/02/11 14:51 / eli-h
Copper	14	mg/kg	5		SW6010B	08/02/11 14:51 / eli-h
Lead	13	mg/kg	5		SW6010B	08/03/11 12:58 / eli-h
Mercury	ND	mg/kg	0.5		SW7471A	08/02/11 10:06 / eli-h
Nickel	15	mg/kg	5		SW6010B	08/02/11 14:51 / eli-h
Selenium	ND	mg/kg	5		SW6010B	08/02/11 14:51 / eli-h

**Report** RL - Analyte reporting limit.

**Definitions:** QCL - Quality control limit.

D - RL increased due to sample matrix.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_2\_3  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-005

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 11:45  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192842

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
<b>METALS, TOTAL</b>						
Silver	ND	mg/kg	5		SW6010B	08/03/11 15:43 / eli-h
Zinc	47	mg/kg	5		SW6010B	08/02/11 14:51 / eli-h

**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_3\_1  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-006

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 12:00  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192843

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
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### PETROLEUM HYDROCARBONS-VOLATILE

Gasoline Range Organics (GRO)	ND	mg/kg	2.0		SW8015B	08/01/11 21:32 / eli-b
Total Purgeable Hydrocarbons	1.8	mg/kg	2.0	J	SW8015B	08/01/11 21:32 / eli-b
Surr: Trifluorotoluene	100	%REC	70-130		SW8015B	08/01/11 21:32 / eli-b

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.  
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.

### PETROLEUM HYDROCARBONS-SEMI-VOLATILE

Diesel Range Organics (DRO)	11	mg/kg	10		SW8015B	08/02/11 17:31 / eli-b
Total Extractable Hydrocarbons	55	mg/kg	10		SW8015B	08/02/11 17:31 / eli-b
Surr: o-Terphenyl	99.0	%REC	50-150		SW8015B	08/02/11 17:31 / eli-b

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.  
- Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

### VOLATILE ORGANIC COMPOUNDS

Benzene	ND	mg/kg	0.20		SW8260B	07/29/11 23:31 / eli-b
Ethylbenzene	ND	mg/kg	0.20		SW8260B	07/29/11 23:31 / eli-b
Toluene	ND	mg/kg	0.20		SW8260B	07/29/11 23:31 / eli-b
m+p-Xylenes	ND	mg/kg	0.20		SW8260B	07/29/11 23:31 / eli-b
o-Xylene	ND	mg/kg	0.20		SW8260B	07/29/11 23:31 / eli-b
Xylenes, Total	ND	mg/kg	0.20		SW8260B	07/29/11 23:31 / eli-b
Surr: Dibromofluoromethane	128	%REC	70-132		SW8260B	07/29/11 23:31 / eli-b
Surr: 1,2-Dichloroethane-d4	105	%REC	60-136		SW8260B	07/29/11 23:31 / eli-b
Surr: Toluene-d8	140	%REC	75-138	S	SW8260B	07/29/11 23:31 / eli-b
Surr: p-Bromofluorobenzene	151	%REC	78-160		SW8260B	07/29/11 23:31 / eli-b

### SATURATED PASTE

Conductivity, sat. paste	0.65	mmhos/cm	0.05	D	ASAM10-3	08/02/11 09:47 / eli-h
pH, sat. paste	7.7	s.u.	0.1		ASAM10-3.2	08/02/11 07:54 / eli-h
Calcium, sat. paste	4.72	meq/L	0.05		SW6010B	08/03/11 13:15 / eli-h
Magnesium, sat. paste	1.94	meq/L	0.08		SW6010B	08/03/11 13:15 / eli-h
Sodium, sat. paste	1.05	meq/L	0.04		SW6010B	08/03/11 13:15 / eli-h
Sodium Adsorption Ratio (SAR)	0.6	unitless	0.1		USDA20b	08/03/11 10:49 / eli-h

### METALS, TOTAL

Arsenic	5	mg/kg	5		SW6010B	08/03/11 13:02 / eli-h
Barium	382	mg/kg	5		SW6010B	08/02/11 14:55 / eli-h
Cadmium	ND	mg/kg	1		SW6010B	08/02/11 14:55 / eli-h
Chromium	37	mg/kg	5		SW6010B	08/02/11 14:55 / eli-h
Copper	23	mg/kg	5		SW6010B	08/02/11 14:55 / eli-h
Lead	14	mg/kg	5		SW6010B	08/03/11 13:02 / eli-h
Mercury	ND	mg/kg	0.5		SW7471A	08/02/11 10:16 / eli-h
Nickel	19	mg/kg	5		SW6010B	08/02/11 14:55 / eli-h
Selenium	ND	mg/kg	5		SW6010B	08/02/11 14:55 / eli-h

**Report** RL - Analyte reporting limit.

**Definitions:** QCL - Quality control limit.

D - RL increased due to sample matrix.

S - Spike recovery outside of advisory limits.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.

J - Estimated value. The analyte was present but less than the reporting limit.



## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_3\_1  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-006

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 12:00  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192843

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
<b>METALS, TOTAL</b>						
Silver	ND	mg/kg	5		SW6010B	08/03/11 15:52 / eli-h
Zinc	63	mg/kg	5		SW6010B	08/02/11 14:55 / eli-h

**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_3\_2  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-007

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 12:15  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192844

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
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### PETROLEUM HYDROCARBONS-VOLATILE

Gasoline Range Organics (GRO)	ND	mg/kg	2.0		SW8015B	08/01/11 18:01 / eli-b
Total Purgeable Hydrocarbons	3.3	mg/kg	2.0		SW8015B	08/01/11 18:01 / eli-b
Surr: Trifluorotoluene	82.0	%REC	70-130		SW8015B	08/01/11 18:01 / eli-b

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.

- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.

### PETROLEUM HYDROCARBONS-SEMI-VOLATILE

Diesel Range Organics (DRO)	ND	mg/kg	10		SW8015B	08/02/11 22:39 / eli-b
Total Extractable Hydrocarbons	50	mg/kg	10		SW8015B	08/02/11 22:39 / eli-b
Surr: o-Terphenyl	103	%REC	50-150		SW8015B	08/02/11 22:39 / eli-b

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.

- Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

### VOLATILE ORGANIC COMPOUNDS

Benzene	ND	mg/kg	0.20		SW8260B	07/29/11 23:57 / eli-b
Ethylbenzene	ND	mg/kg	0.20		SW8260B	07/29/11 23:57 / eli-b
Toluene	ND	mg/kg	0.20		SW8260B	07/29/11 23:57 / eli-b
m+p-Xylenes	ND	mg/kg	0.20		SW8260B	07/29/11 23:57 / eli-b
o-Xylene	ND	mg/kg	0.20		SW8260B	07/29/11 23:57 / eli-b
Xylenes, Total	ND	mg/kg	0.20		SW8260B	07/29/11 23:57 / eli-b
Surr: Dibromofluoromethane	111	%REC	70-132		SW8260B	07/29/11 23:57 / eli-b
Surr: 1,2-Dichloroethane-d4	98.0	%REC	60-136		SW8260B	07/29/11 23:57 / eli-b
Surr: Toluene-d8	114	%REC	75-138		SW8260B	07/29/11 23:57 / eli-b
Surr: p-Bromofluorobenzene	124	%REC	78-160		SW8260B	07/29/11 23:57 / eli-b

### SATURATED PASTE

Conductivity, sat. paste	0.82	mmhos/cm	0.05	D	ASAM10-3	08/02/11 09:48 / eli-h
pH, sat. paste	7.8	s.u.	0.1		ASAM10-3.2	08/02/11 07:55 / eli-h
Calcium, sat. paste	5.94	meq/L	0.05		SW6010B	08/03/11 13:24 / eli-h
Magnesium, sat. paste	1.57	meq/L	0.08		SW6010B	08/03/11 13:24 / eli-h
Sodium, sat. paste	2.30	meq/L	0.04		SW6010B	08/03/11 13:24 / eli-h
Sodium Adsorption Ratio (SAR)	1.2	unitless	0.1		USDA20b	08/03/11 10:49 / eli-h

### METALS, TOTAL

Arsenic	6	mg/kg	5		SW6010B	08/03/11 13:06 / eli-h
Barium	354	mg/kg	5		SW6010B	08/02/11 14:59 / eli-h
Cadmium	ND	mg/kg	1		SW6010B	08/02/11 14:59 / eli-h
Chromium	29	mg/kg	5		SW6010B	08/02/11 14:59 / eli-h
Copper	14	mg/kg	5		SW6010B	08/02/11 14:59 / eli-h
Lead	14	mg/kg	5		SW6010B	08/03/11 13:06 / eli-h
Mercury	ND	mg/kg	0.5		SW7471A	08/02/11 10:18 / eli-h
Nickel	16	mg/kg	5		SW6010B	08/02/11 14:59 / eli-h
Selenium	ND	mg/kg	5		SW6010B	08/02/11 14:59 / eli-h

**Report** RL - Analyte reporting limit.

**Definitions:** QCL - Quality control limit.

D - RL increased due to sample matrix.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_3\_2  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-007

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 12:15  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192844

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
<b>METALS, TOTAL</b>						
Silver	ND	mg/kg	5		SW6010B	08/03/11 15:55 / eli-h
Zinc	46	mg/kg	5		SW6010B	08/02/11 14:59 / eli-h

**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_3\_3  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-008

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 13:00  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192845

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
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### PETROLEUM HYDROCARBONS-VOLATILE

Gasoline Range Organics (GRO)	ND	mg/kg	2.0		SW8015B	08/02/11 02:15 / eli-b
Total Purgeable Hydrocarbons	ND	mg/kg	2.0		SW8015B	08/02/11 02:15 / eli-b
Surr: Trifluorotoluene	82.0	%REC	70-130		SW8015B	08/02/11 02:15 / eli-b

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.  
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.

### PETROLEUM HYDROCARBONS-SEMI-VOLATILE

Diesel Range Organics (DRO)	ND	mg/kg	10		SW8015B	08/02/11 09:44 / eli-b
Total Extractable Hydrocarbons	20	mg/kg	10		SW8015B	08/02/11 09:44 / eli-b
Surr: o-Terphenyl	103	%REC	50-150		SW8015B	08/02/11 09:44 / eli-b

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.  
- Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

### VOLATILE ORGANIC COMPOUNDS

Benzene	ND	mg/kg	0.20		SW8260B	07/30/11 00:23 / eli-b
Ethylbenzene	ND	mg/kg	0.20		SW8260B	07/30/11 00:23 / eli-b
Toluene	ND	mg/kg	0.20		SW8260B	07/30/11 00:23 / eli-b
m+p-Xylenes	ND	mg/kg	0.20		SW8260B	07/30/11 00:23 / eli-b
o-Xylene	ND	mg/kg	0.20		SW8260B	07/30/11 00:23 / eli-b
Xylenes, Total	ND	mg/kg	0.20		SW8260B	07/30/11 00:23 / eli-b
Surr: Dibromofluoromethane	91.0	%REC	70-132		SW8260B	07/30/11 00:23 / eli-b
Surr: 1,2-Dichloroethane-d4	76.0	%REC	60-136		SW8260B	07/30/11 00:23 / eli-b
Surr: Toluene-d8	100	%REC	75-138		SW8260B	07/30/11 00:23 / eli-b
Surr: p-Bromofluorobenzene	109	%REC	78-160		SW8260B	07/30/11 00:23 / eli-b

### SATURATED PASTE

Conductivity, sat. paste	0.49	mmhos/cm	0.05	D	ASAM10-3	08/02/11 09:48 / eli-h
pH, sat. paste	7.9	s.u.	0.1		ASAM10-3.2	08/02/11 07:55 / eli-h
Calcium, sat. paste	1.73	meq/L	0.05		SW6010B	08/03/11 13:27 / eli-h
Magnesium, sat. paste	0.83	meq/L	0.08		SW6010B	08/03/11 13:27 / eli-h
Sodium, sat. paste	2.74	meq/L	0.04		SW6010B	08/03/11 13:27 / eli-h
Sodium Adsorption Ratio (SAR)	2.4	unitless	0.1		USDA20b	08/03/11 10:49 / eli-h

### METALS, TOTAL

Arsenic	6	mg/kg	5		SW6010B	08/03/11 13:10 / eli-h
Barium	305	mg/kg	5		SW6010B	08/02/11 15:02 / eli-h
Cadmium	ND	mg/kg	1		SW6010B	08/02/11 15:02 / eli-h
Chromium	33	mg/kg	5		SW6010B	08/02/11 15:02 / eli-h
Copper	17	mg/kg	5		SW6010B	08/02/11 15:02 / eli-h
Lead	12	mg/kg	5		SW6010B	08/03/11 13:10 / eli-h
Mercury	ND	mg/kg	0.5		SW7471A	08/02/11 10:21 / eli-h
Nickel	18	mg/kg	5		SW6010B	08/02/11 15:02 / eli-h
Selenium	ND	mg/kg	5		SW6010B	08/02/11 15:02 / eli-h

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_3\_3  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-008

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 13:00  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192845

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
<b>METALS, TOTAL</b>						
Silver	ND	mg/kg	5		SW6010B	08/03/11 15:58 / eli-h
Zinc	54	mg/kg	5		SW6010B	08/02/11 15:02 / eli-h

**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_3\_4  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-009

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 13:20  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192846

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
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### PETROLEUM HYDROCARBONS-VOLATILE

Gasoline Range Organics (GRO)	ND	mg/kg	2.0		SW8015B	08/02/11 03:25 / eli-b
Total Purgeable Hydrocarbons	18	mg/kg	2.0		SW8015B	08/02/11 03:25 / eli-b
Surr: Trifluorotoluene	96.0	%REC	70-130		SW8015B	08/02/11 03:25 / eli-b

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.

- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.

### PETROLEUM HYDROCARBONS-SEMI-VOLATILE

Diesel Range Organics (DRO)	21	mg/kg	10		SW8015B	08/02/11 10:35 / eli-b
Total Extractable Hydrocarbons	52	mg/kg	10		SW8015B	08/02/11 10:35 / eli-b
Surr: o-Terphenyl	94.0	%REC	50-150		SW8015B	08/02/11 10:35 / eli-b

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.

- Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

### VOLATILE ORGANIC COMPOUNDS

Benzene	ND	mg/kg	0.20		SW8260B	07/30/11 00:50 / eli-b
Ethylbenzene	ND	mg/kg	0.20		SW8260B	07/30/11 00:50 / eli-b
Toluene	ND	mg/kg	0.20		SW8260B	07/30/11 00:50 / eli-b
m+p-Xylenes	ND	mg/kg	0.20		SW8260B	07/30/11 00:50 / eli-b
o-Xylene	ND	mg/kg	0.20		SW8260B	07/30/11 00:50 / eli-b
Xylenes, Total	ND	mg/kg	0.20		SW8260B	07/30/11 00:50 / eli-b
Surr: Dibromofluoromethane	92.0	%REC	70-132		SW8260B	07/30/11 00:50 / eli-b
Surr: 1,2-Dichloroethane-d4	81.0	%REC	60-136		SW8260B	07/30/11 00:50 / eli-b
Surr: Toluene-d8	95.0	%REC	75-138		SW8260B	07/30/11 00:50 / eli-b
Surr: p-Bromofluorobenzene	106	%REC	78-160		SW8260B	07/30/11 00:50 / eli-b

### SATURATED PASTE

Conductivity, sat. paste	0.38	mmhos/cm	0.05	D	ASAM10-3	08/02/11 09:49 / eli-h
pH, sat. paste	7.8	s.u.	0.1		ASAM10-3.2	08/02/11 07:56 / eli-h
Calcium, sat. paste	2.67	meq/L	0.05		SW6010B	08/03/11 13:31 / eli-h
Magnesium, sat. paste	0.84	meq/L	0.08		SW6010B	08/03/11 13:31 / eli-h
Sodium, sat. paste	0.70	meq/L	0.04		SW6010B	08/03/11 13:31 / eli-h
Sodium Adsorption Ratio (SAR)	0.5	unitless	0.1		USDA20b	08/03/11 10:49 / eli-h

### METALS, TOTAL

Arsenic	8	mg/kg	5		SW6010B	08/02/11 15:13 / eli-h
Barium	245	mg/kg	5		SW6010B	08/02/11 15:13 / eli-h
Cadmium	ND	mg/kg	1		SW6010B	08/02/11 15:13 / eli-h
Chromium	28	mg/kg	5		SW6010B	08/02/11 15:13 / eli-h
Copper	14	mg/kg	5		SW6010B	08/02/11 15:13 / eli-h
Lead	11	mg/kg	5		SW6010B	08/03/11 13:15 / eli-h
Mercury	ND	mg/kg	0.5		SW7471A	08/02/11 10:23 / eli-h
Nickel	16	mg/kg	5		SW6010B	08/02/11 15:13 / eli-h
Selenium	ND	mg/kg	5		SW6010B	08/02/11 15:13 / eli-h

**Report** RL - Analyte reporting limit.

**Definitions:** QCL - Quality control limit.

D - RL increased due to sample matrix.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Whiting Petroleum Corporation  
**Site Name:** Boies\_Ranch  
**Project:** Soil\_Sampling  
**Client Sample ID** SO\_Boies\_Background\_Sect\_3\_4  
**Location:**  
**Samp FRQ/Type:** SP  
**Lab ID:** G11070820-009

**Report Date:** 08/06/11  
**Collection Date:** 07/27/11 13:20  
**Date Received:** 07/28/11  
**Sampled By:** Scott Gustin  
**Matrix:** Soil  
**Tracking Number:** 192846

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
<b>METALS, TOTAL</b>						
Silver	ND	mg/kg	5		SW6010B	08/03/11 16:01 / eli-h
Zinc	47	mg/kg	5		SW6010B	08/02/11 15:13 / eli-h

**Report**  
**Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

# Workorder Receipt Checklist



G11070820

Login completed by: Misty Voegelé

Date Received: 7/28/2011

Reviewed by: BL2000\kruff

Received by: mav

Reviewed Date: 7/28/2011

Carrier FedEx  
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature:	16.0°C From Field		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>

Contact and Corrective Action Comments:

None

# Chain of Custody and Analytical Request Record

Page \_\_\_\_ of \_\_\_\_

**PLEASE PRINT (Provide as much information as possible.)**

Company Name: <b>Whiting Petroleum Corp.</b>			Project Name, PWS, Permit, Etc. <b>Boies Ranch / Baseline Soils</b>			Sample Origin State:		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>																																																																													
Report Mail Address: <b>InterTech</b>			Contact Name: <b>Scott Gustin</b>		Phone/Fax: <b>910-262-8679</b>		Email: <b>sgustin@cbm-inc.com</b>		Sampler: (Please Print)																																																																												
Invoice Address: <b>InterTech</b>			Invoice Contact & Phone:				Purchase Order:		Quote/Bottle Order:																																																																												
Special Report/Formats:  <input type="checkbox"/> DW <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP <b>Format:</b> _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC			Number of Containers Sample Type: A W S V B O DW Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water		<b>ANALYSIS REQUESTED</b>  <div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); border: 1px solid black; padding: 2px;">SEE ATTACHED</div> <div style="border: 1px solid black; padding: 5px; margin: 0 5px;"> R U S H </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); border: 1px solid black; padding: 2px;">Standard Turnaround (TAT)</div> </div>				Contact ELI prior to <b>RUSH</b> sample submittal for charges and scheduling - See Instruction Page  Comments:		Shipped by: <b>FedEx</b> Cooler ID(s):  Receipt Temp <b>16.0°C</b> On Ice: <input checked="" type="checkbox"/> <b>Y</b> <input type="checkbox"/> <b>N</b> Custody Seal On Bottle <input checked="" type="checkbox"/> <b>X</b> <input type="checkbox"/> <b>N</b> On Cooler <input checked="" type="checkbox"/> <b>X</b> <input type="checkbox"/> <b>N</b> Intact Signature Match <input checked="" type="checkbox"/> <b>X</b> <input type="checkbox"/> <b>N</b> <b>1070820</b>																																																																										
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:30%;">SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)</th> <th style="width:10%;">Collection Date</th> <th style="width:10%;">Collection Time</th> <th style="width:10%;">MATRIX</th> <th style="width:10%;">SEE ATTACHED</th> <th style="width:10%;">Standard Turnaround (TAT)</th> <th style="width:10%;">RUSH</th> </tr> </thead> <tbody> <tr> <td>50-Boies-Backyard Sect 2-1</td> <td>7/27/11</td> <td>1000</td> <td>4 Soils</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>50-Boies-Backyard Sect 2-2</td> <td></td> <td>1030</td> <td></td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>50-Boies-Backyard Sect 2-1</td> <td></td> <td>1130</td> <td></td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>50-Boies-Backyard Sect 2-2</td> <td></td> <td>1100</td> <td></td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>50-Boies-Backyard Sect 2-3</td> <td></td> <td>1145</td> <td></td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>50-Boies-Backyard Sect 3-1</td> <td></td> <td>1200</td> <td></td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>50-Boies-Backyard Sect 3-2</td> <td></td> <td>1215</td> <td></td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>50-Boies-Backyard Sect 3-3</td> <td></td> <td>1300</td> <td></td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>50-Boies-Backyard Sect 3-4</td> <td></td> <td>1320</td> <td></td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>50-Boies-Backyard Sect</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	SEE ATTACHED	Standard Turnaround (TAT)	RUSH	50-Boies-Backyard Sect 2-1	7/27/11	1000	4 Soils	✓			50-Boies-Backyard Sect 2-2		1030		✓			50-Boies-Backyard Sect 2-1		1130		✓			50-Boies-Backyard Sect 2-2		1100		✓			50-Boies-Backyard Sect 2-3		1145		✓			50-Boies-Backyard Sect 3-1		1200		✓			50-Boies-Backyard Sect 3-2		1215		✓			50-Boies-Backyard Sect 3-3		1300		✓			50-Boies-Backyard Sect 3-4		1320		✓			50-Boies-Backyard Sect												
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<b>Custody Record MUST be Signed</b>			Relinquished by (print): <b>Scott Gustin</b>		Date/Time: <b>7/27/11 1700</b>		Signature: <i>[Signature]</i>		Received by (print):		Date/Time:		Signature:																																																																								
			Relinquished by (print):		Date/Time:		Signature:		Received by (print):		Date/Time:		Signature:																																																																								
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In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

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## Modified Table 910-1

### Organic Compounds in Soil

- TPH (total volatile and extractable petroleum hydrocarbons)

#### VOCs

Benzene

Toluene

Ethylbenzene

Xylenes (Total)

#### Metals

X Arsenic

X Barium

X Cadmium

X Chromium (III)

X Copper

X Lead (inorganic)

X Mercury

X Nickel (soluble salts)

X Selenium

X Silver

X Zinc

#### Physical Parameters

X Electrical Conductivity (EC)

- Sodium Adsorption Ratio (SAR)

- pH