

State of Colorado
Oil and Gas Conservation Commission

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



#4453

FOR OGCC USE ONLY

RECEIVED
11/27/2013

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): _____

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

OGCC Operator Number: 66561
Name of Operator: OXY USA Inc.
Address: 760 Horizon Drive, Suite 101
City: Grand Junction State: CO Zip: 81506

Contact Name and Telephone:
Daniel I. Padilla
No: 970.263.3637
Fax: 970-.263.3694

API Number: _____ County: Mesa
Facility Name: Hawkins 10-9 Facility Number: 334543
Well Name: _____ Well Number: _____
Location: (QtrQtr, Sec, Twp, Rng, Meridian): NESE, Section 10, T10S, R94W, 6th PM Latitude: 39.204306 Longitude: -107.863591

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Filtered produced water
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.): Irrigated and dryland farming
Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Hesperus - Pagoda Complex
Potential receptors (water wells within 1/4 mi, surface waters, etc.): Salt Creek is located ~ 150 ft. east of the bottom of the spill area.

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

Impacted Media (check):	Extent of Impact:	How Determined:
<input type="checkbox"/> Soils	None	Visual, field instruments, lab analysis
<input type="checkbox"/> Vegetation	None	Visual
<input type="checkbox"/> Groundwater	None	Lab analysis, visual
<input type="checkbox"/> Surface Water	None	Lab analysis, visual

REMEDIATION WORKPLAN

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

Please reference REM# 4453, which was obtained following the initial closure plan Form 27 submitted on 11/11/2008. Please reference the attached narrative.

Describe how source is to be removed:

Please reference the attached narrative.

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.:

Please reference the attached narrative.



Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: _____

REMEDIATION WORKPLAN (Cont.)

OGCC Employee: _____

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

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.
Please reference the attached narrative.

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:
Please reference the attached narrative.

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

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 11/12/2013	Date Site Investigation Completed: 11/12/2013	Date Remediation Plan Submitted: 11/11/2008
Remediation Start Date: 12/2008	Anticipated Completion Date: NA	Actual Completion Date: 11/12/2013

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

Print Name: Daniel I. Padilla Signed: [Signature]
Title: Regulatory Advisor Date: 11/27/13

OGCC Approved: _____ Title: _____ Date: _____

OXY USA Inc. (Oxy)
Hawkins 10-9 (Facility ID 334543)
REM # 4453

Form 27 Attached Narrative Cleanup & Closure

Describe how source is to be removed:

Per the COGCC's request Oxy has conducted an investigation of the spill that occurred near the Hawkins 10-9 pad (Location ID 334543) in the fall of 2008. In a letter submitted to the COGCC on September 23, 2011 Oxy outlined its plan of closure of that spill (REM# 4453) to include follow-up sampling to recommend soil remediation or closure, and a follow-up form 27 outlining those findings and recommendations.

Oxy contracted Olsson Associates to conduct a site visit in order to determine any remaining soil impact through visual assessments and soil samples. During the site visit, Olsson Associates could not detect lasting impacts of the spill that occurred in 2008; no soil staining was evident, no hydro-carbon odor was detectable in the soil, and the soil appeared to have no issues sustaining desirable plant life. The soil samples were collected in a manner that mirrored the initial post impact samples. Please reference the *Hawkins 10-9 2008 Spill Follow-up and Closure* document attached.

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.:

Samples of the soil located in the original spill pathway were collected and sent to ESC for laboratory analysis. All samples were found to be below table 910-1 standards with the exception of Arsenic (As). Oxy collected background samples from native undisturbed locations in the area, and found them to be above COGCC table 910-1 standards. Oxy has submitted and attached an accompanying form 4 (Electronic submittal #400518298) to address As exceedances. Please see attached documentation for all laboratory results, sampling narrative, and sample map.

If Groundwater has been impacted, describe proposed monitoring plan:

Upon the initial suspicion of a release; PXP, who was the operator at the time, conducted sampling of the Salt Creek located approximately 150 east of the spill extent. This documentation was submitted with the initial Form 27. Please reference REM# 4453.

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.

After spill closure, Oxy intends on the continued use of the Hawkins 10-9 pad and access road. Oxy will continue to monitor the site for stormwater and noxious weeds. Final pad reclamation will occur at the end of the life of pad.

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?

Further site investigation is not required. Please find all analytical results, sampling maps, and supporting documentation attached. Upon approval of this form 27; Oxy requests a notice of no further action to complete final closure documentation for this spill.

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

No impacted soil was encountered during the follow-up sampling investigation. Oxy will continue to monitor the site for stormwater and noxious weeds.

State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80205 Phone: (303) 894-2100 Fax: (303) 894-2109



DE	ET	OE	ES
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Submit By Other Operator

Document Number:

400518298

Date Received:

SUNDRY NOTICE

Submit a signed original. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full in Comments or provide as an attachment. Identify Well by API Number; identify Oil and Gas Location by Location ID Number; identify other Facility by Facility ID Number.

OGCC Operator Number: 66561 Contact Name Daniel I. Padilla
 Name of Operator: OXY USA INC Phone: (970) 263-3637
 Address: PO BOX 27757 Fax: (970) 263-3694
 City: HOUSTON State: TX Zip: 77227 Email: Daniel_Padilla@oxy.com

Complete the Attachment
Checklist

OP OGCC

API Number : 05- 077 00 OGCC Facility ID Number: 334543
 Well/Facility Name: HAWKINS RANCH-610S94W Well/Facility Number: 10NESE
 Location QtrQtr: NESE Section: 10 Township: 10S Range: 94W Meridian: 6
 County: MESA Field Name: PLATEAU
 Federal, Indian or State Lease Number: _____

Survey Plat

Directional Survey

Srvc Eqpmt Diagram

Technical Info Page

Other

CHANGE OF LOCATION OR AS BUILT GPS REPORT

☐ Change of Location * ☐ As-Built GPS Location Report ☐ As-Built GPS Location Report with Survey

* Well location change requires new plat. A substantive surface location change may require new Form 2A.

SURFACE LOCATION GPS DATA Data must be provided for Change of Surface Location and As Built Reports.

Latitude _____ PDOP Reading _____ Date of Measurement _____
 Longitude _____ GPS Instrument Operator's Name _____

LOCATION CHANGE (all measurements in Feet)

Well will be: _____ (Vertical, Directional, Horizontal)

Change of **Surface** Footage **From** Exterior Section Lines:

Change of **Surface** Footage **To** Exterior Section Lines:

Current **Surface** Location **From** QtrQtr NESE Sec 10

New **Surface** Location **To** QtrQtr _____ Sec _____

Change of **Top of Productive Zone** Footage **From** Exterior Section Lines:

Change of **Top of Productive Zone** Footage **To** Exterior Section Lines:

Current **Top of Productive Zone** Location **From** Sec _____

New **Top of Productive Zone** Location **To** Sec _____

Change of **Bottomhole** Footage **From** Exterior Section Lines:

Change of **Bottomhole** Footage **To** Exterior Section Lines:

Current **Bottomhole** Location Sec _____ Twp _____

New **Bottomhole** Location Sec _____ Twp _____

Is location in High Density Area? _____

Distance, in feet, to nearest building _____, public road: _____, above ground utility: _____, railroad: _____,

property line: _____, lease line: _____, well in same formation: _____

Ground Elevation _____ feet Surface owner consultation date _____

FNL/FSL		FEL/FWL	
2450	FSL	1338	FEL
Twp 10S	Range 94W	Meridian 6	
Twp	Range	Meridian	
			**
Twp	Range		
Twp	Range		
			**
			** attach deviated drilling plan

OTHER CHANGES

☐ **REMOVE FROM SURFACE BOND** Signed surface use agreement is a required attachment

☐ **CHANGE OF WELL, FACILITY OR OIL & GAS LOCATION NAME OR NUMBER**

From: Name HAWKINS RANCH-610S94W Number 10NESE Effective Date: _____

To: Name _____ Number _____

☐ **ABANDON PERMIT: Permit can only be abandoned if the permitted operation has NOT been conducted. Field inspection will be conducted to verify site status.**

☐ WELL: Abandon Application for Permit-to-Drill (Form2) – Well API Number _____ has not been drilled.

☐ PIT: Abandon Earthen Pit Permit (Form 15) – COGCC Pit Facility ID Number _____ has not been constructed (Permitted and constructed pit requires closure per Rule 905)

☐ CENTRALIZED E&P WASTE MANAGEMENT FACILITY: Abandon Centralized E&P Waste Management Facility Permit (Form 28) – Facility ID Number _____ has not been constructed (Constructed facility requires closure per Rule 908)

OIL & GAS LOCATION ID Number: _____

☐ Abandon Oil & Gas Location Assessment (Form 2A) – Location has not been constructed and site will not be used in the future.

☐ Keep Oil & Gas Location Assessment (Form 2A) active until expiration date. This site will be used in the future.

Surface disturbance from Oil and Gas Operations must be reclaimed per Rule 1003 and Rule 1004.

☐ **REQUEST FOR CONFIDENTIAL STATUS**

☐ **DIGITAL WELL LOG UPLOAD**

☐ **DOCUMENTS SUBMITTED** Purpose of Submission: _____

RECLAMATION

INTERIM RECLAMATION

☐ Interim Reclamation will commence approximately _____

Per Rule 1003.e.(3) operator shall submit Sundry Notice reporting interim reclamation is complete and site is ready for inspection when vegetation reaches 80% coverage.

☐ Interim reclamation complete, site ready for inspection. Per Rule 1003.e(3) describe interim reclamation procedure in Comments below or provide as an attachment and attach required location photographs.

Field inspection will be conducted to document Rule 1003.e. compliance

FINAL RECLAMATION

☐ Final Reclamation will commence approximately _____

Per Rule 1004.c.(4) operator shall submit Sundry Notice reporting final reclamation is complete and site is ready for inspection when vegetation reaches 80% coverage.

☐ Final reclamation complete, site ready for inspection. Per Rule 1004.c(4) describe final reclamation procedure in Comments below or provide as an attachment.

Field inspection will be conducted to document Rule 1004.c. compliance

Comments:

ENGINEERING AND ENVIRONMENTAL WORK

☐ NOTICE OF CONTINUED TEMPORARILY ABANDONED STATUS

Indicate why the well is temporarily abandoned and describe future plans for utilization in the COMMENTS box below or provide as an attachment, as required by Rule 319.b.(3).

Date well temporarily abandoned _____ Has Production Equipment been removed from site? _____

Mechanical Integrity Test (MIT) required if shut in longer than 2 years. Date of last MIT _____

☐ SPUD DATE: _____

TECHNICAL ENGINEERING AND ENVIRONMENTAL WORK

Details of work must be described in full in the COMMENTS below or provided as an attachment.

☐ NOTICE OF INTENT Approximate Start Date _____

☒ REPORT OF WORK DONE Date Work Completed 11/12/2013

- | | | |
|--|---|--|
| <input type="checkbox"/> Intent to Recomplete (Form 2 also required) | <input type="checkbox"/> Request to Vent or Flare | <input type="checkbox"/> E&P Waste Mangement Plan |
| <input type="checkbox"/> Change Drilling Plan | <input type="checkbox"/> Repair Well | <input type="checkbox"/> Beneficial Reuse of E&P Waste |
| <input type="checkbox"/> Gross Interval Change | <input type="checkbox"/> Rule 502 variance requested. Must provide detailed info regarding request. | |
| <input checked="" type="checkbox"/> Other <u>See Below</u> | <input type="checkbox"/> Status Update/Change of Remediation Plans for Spills and Releases | |

COMMENTS:

Oxy is requesting an application of a different standard in regards to Arsenic concentrations in post remediation samples. See operator comments below. This Form 4 is in support of Oxy's Form 27 submittal (request for no further action)

H2S REPORTING

Data Fields in this section are intended to document Sample and Location Data associated with the collection of a Gas Sample that is submitted for Laboratory Analysis.

Gas Analysis Report must be attached.

H2S Concentration: _____ in ppm (parts per million) Date of Measurement or Sample Collection _____

Description of Sample Point:

Absolute Open Flow Potential _____ in CFPD (cubic feet per day)

Description of Release Potential and Duration (If flow is not open to the atmosphere, identify the duration in which the container or pipeline would likely be opened for servicing operations.):

Distance to nearest occupied residence, school, church, park, school bus stop, place of business, or other areas where the public could reasonably be expected to frequent: _____

Distance to nearest Federal, State, County, or municipal road or highway owned and principally maintained for public use: _____

COMMENTS:

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Best Management Practices**No BMP/COA Type****Description**

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Operator Comments:

Oxy has completed the investigation and follow-up sampling of a spill that occurred on the Hawkins 10-9 pad (Reference REM #4453), and requests to apply a different standard to the COGCC Table 910-1 concentration level for Arsenic (As), based on post remediation samples being statistically equal or within 10% of undisturbed background levels. Oxy's sundry requests to waive the COGCC Table 910-1 concentration for As. In this particular situation, the post remediation samples (11/12/2013) As concentrations are above COGCC table 910-1 standards, but are within 10% of undisturbed background levels (see sampling locations on included location maps).

The sampling method Oxy employed was to take a representative random grab sample for each background sample location. The analytical concentration tables identify the COGCC Table 910-1 concentration levels, Oxy's undisturbed background concentrations, and the post remediation concentrations. Based on the background sample concentrations, Oxy's sundry notice requests to apply a different standard to the COGCC Table 910-1 concentration level in regards to As.

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

Signed: _____ Print Name: Daniel I. Padilla
 Title: _____ Email: Daniel_Padilla@oxy.com Date: _____

Based on the information provided herein, this Sundry Notice (Form 4) complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: _____ Date: _____

CONDITIONS OF APPROVAL, IF ANY:**COA Type****Description**

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General Comments**User Group****Comment****Comment Date**

--	--	--

Total: 0 comment(s)

Attachment Check List**Att Doc Num****Name**

400518492	OTHER
400518493	OTHER
400518494	OTHER
400518495	OTHER
400518496	OTHER
400519625	OTHER
400519626	OTHER

Total Attach: 7 Files

Hawkins 10-9 2008 Spill Follow-up Sampling and Closure

COGCC Location ID: 334543, REM # 4453,

Form 4 Electronic Submittal # 400518298

This sampling narrative outlines the follow-up sampling and requested closure of the release that occurred in November 2008 located at the Hawkins 10-9 pad (Location ID 334543). This is being provided in response to the COGCC's letter requesting a status update sent from Carlos Lujan to Daniel I. Padilla on November 8, 2013. In the fall of 2008 PXP submitted a spill report and accompanying form 27 (REM# 4453). Oxy acquired the PXP assets in December of 2008. Oxy submitted a follow-up letter dated September 23, 2011 stating that additional soil samples would be collected in order to determine if soil remediation would be necessary or if closure was appropriate. This narrative details what closure, and background samples were taken, where they were taken, and for what purpose.

Follow-Up Closure Sample 11/12/2013(L668251)

- Oxy contracted Olsson Associates to conduct a site visit to visually assess any remaining evidence of the spill that occurred in the fall of 2008 and to collect follow-up soil samples for characterization. The follow-up samples consisted of eight grab samples taken from various points located along the spill pathway down the drainage ditch. The samples were placed in a manner to be as close to the locations of the original spill samples as possible. Each sample was collected from 0"-6" deep from the soil surface. The spill pathway was located directly west of the pad and extended approximately 675 feet North down the access road. The post remediation samples are represented in the Hawkins 10-9 '08 Spill Closure tabulated data spreadsheet and are in columns 3-10 labeled as "Spill Area – Post Remediation". The post remediation sample date is 11/12/2013. The Sample Names from the data tabulation describe the approximate sample locations. The attached Hawkins 10-9 '08 Spill Sample Location Map shows post remediation samples as yellow dots and are referenced in the legend as *Spill follow up Sample Locations*. The lab data reports for these samples are attached. The sample values can be found on lab report L668251 and the Sample IDs from the lab report are *NORTH HALF 1 0-6 IN* found on pages 2-3, *NORTH HALF 2 0-6 IN* found on pages 4-5, *NORTH HALF 3 0-6 IN* found on pages 6-7, *NORTH HALF 4 0-6 IN* found on pages 8-9, *SOUTH HALF 8 0-6 IN* found on pages 10-11, *SOUTH HALF 7 0-6 IN* found on pages 12-13, *SOUTH HALF 6 0-6 IN* found on pages 14-15, and *SOUTH HALF 5 0-6 IN* found on pages 16-17.

- Post remediation values showed all analytes to be within COGCC Table 910-1 standards with the exception of Arsenic (As). Native background soil samples within the area showed elevated concentrations of naturally occurring As to be present within the area, reference the Background Samples section below.

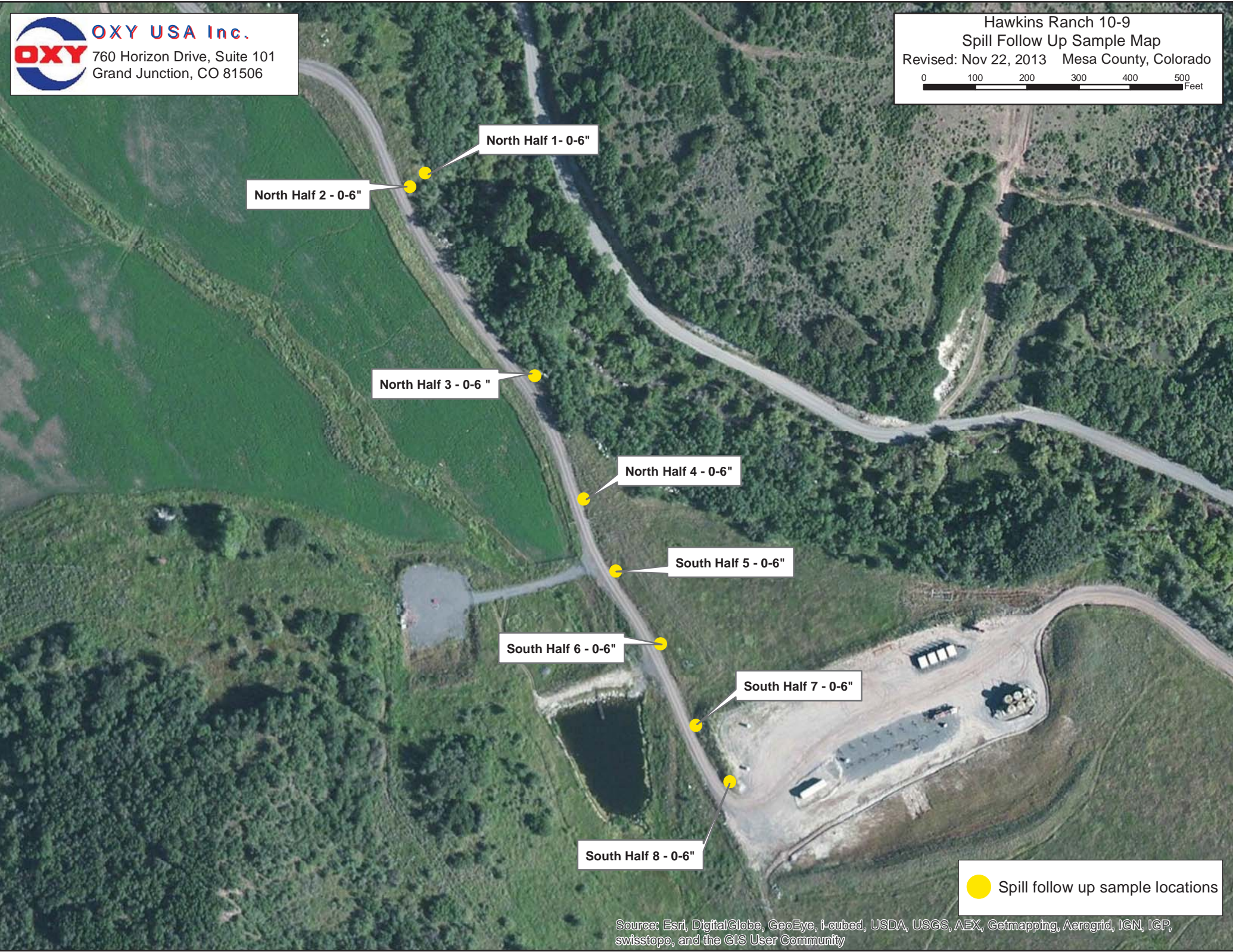
Background Samples 06/07/2012 (L579427)

- In an effort to identify naturally occurring concentrations of As similar to that which was previously identified in the Post Remediation samples, Oxy collected background samples from native undisturbed locations around the area. Based on the effort to demonstrate the high variability of As located in the area, Oxy is presenting two of the many samples collected during the 06/07/2012 As investigation. The background samples were collected on 06/07/2012 and can be found on the Hawkins 10-9 '08 Spill Closure tabulated data in columns 11 and 12. The Sample Names from the data tabulation are *S1-2-5.0-BG*, and *S4-1-2.5-BG*. Sample Type for the above mentioned samples is defined as Background on the

tabulated data spreadsheet. The sample values can be found on lab report L579427 and the sample IDs from the lab report are *S1-2-5.0-BG* found on pages 7 and 9, and *S4-1-2.5-BG* found on pages 32 and 34. These samples are shown on the Hawkins 10-9 Background Sampling Locations Map as Green dots and are referenced in the legend as Background Soil Samples.

- The sampling effort yielded a background As concentration within ten percent of those found in the Post Remediation samples.

In conclusion, this release has been closed and meets the COGCC 900 series and 1000 series rules for spill closure. All analyte concentrations were found to be below COGCC table 910-1 allowable concentrations, or statistically equal to native background levels.



S4-1-2.5-BG

Hawkins 10-9

Hawkins Ranch 11-13

S1-2-5.0-BG

- Spill follow up sample locations 11/12/2013
- Background sample locations 06/07/2012

Hawkins 10-9 08' Spill Closure

Pad #:	Hawkins 10-9
Sample Date:	11/12/2013

		Sample Identifications (mg/kg)									
Lab Report #		L668251	L668251	L668251	L668251	L668251	L668251	L668251	L668251	L579427	L579427
Date Sampled		11/12/2013	11/12/2013	11/12/2013	11/12/2013	11/12/2013	11/12/2013	11/12/2013	11/12/2013	6/7/2012	6/7/2012
Sample Type		Spill Area - Post Remediation	Spill Area - Post Remediation	Spill Area - Post Remediation	Spill Area - Post Remediation	Spill Area - Post Remediation	Spill Area - Post Remediation	Spill Area - Post Remediation	Spill Area - Post Remediation	Background	Background
Sample Name		North Half 1 0-6"	North Half 2 0-6"	North Half 3 0-6"	North Half 4 0-6"	South Half 5 0-6"	South Half 6 0-6"	South Half 7 0-6"	South Half 8 0-6"	S1-2-5.0-BG	S4-1-2.5-BG
Organics in Soil											
	MCL (mg/Kg)										
TPH - GRO		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
TPH - DRO	500	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Benzene	0.17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Toluene	85	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Ethylbenzene	100	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Xylenes	175	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Organics in Soil (PAH's)											
Acenaphthene	1000	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Anthracene	1000	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Benzo(A)anthracene	0.22	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Benzo(B)fluoranthene	0.22	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Benzo(K)fluoranthene	2.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Benzo(A)pyrene	0.022	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Chrysene	22	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Dibenzo(A,H)anthracene	0.022	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Fluoranthene	1000	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Fluorene	1000	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Indeno(1,2,3,C,D)pyrene	0.22	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Napthalene	23	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Pyrene	1000	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Inorganics in Soil											
EC	<4 mmhos/cm or 2X background	0.26	0.34	0.37	0.37	0.31	0.16	0.35	0.50	0.21	0.13
SAR	<12	0.88	0.53	0.40	0.30	0.73	0.65	0.71	0.59	NA	NA
pH	6-9	8.1	8.2	8.2	8.3	8.2	8.3	8.3	8.4	8.3	7.5
Metals in Soils											
Arsenic	0.39	5.3	6.0	6.8	6.3	5.0	5.5	5.5	4.6	6.2	5.1
Barium (LDNR True Total)	15,000	220.0	170.0	150.0	230.0	180.0	130.0	150.0	230.0	NA	NA
Cadmium	70	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Chromium III	120,000	18.0	20.0	23.0	16.0	18.0	18.0	18.0	14.0	NA	NA
Chromium VI	23	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Copper	3100	14.0	13.0	14.0	13.0	18.0	14.0	15.0	16.0	NA	NA
Lead	400	9.8	7.9	9.0	8.4	10.0	11.0	11.0	12.0	NA	NA
Mercury	23	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Nickel	1600	14.0	15.0	15.0	20.0	20.0	14.0	15.0	22.0	NA	NA
Selenium	390	1.8	1.6	1.5	1.8	1.8	1.9	1.8	1.7	NA	NA
Silver	390	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA
Zinc	23,000	44.0	44.0	45.0	39.0	43.0	43.0	44.0	42.0	NA	NA

Company Name/Address:

OXY USA Inc.
760 Horizon Drive, Suite 101
Grand Junction, CO 81506

Report to:

daniel_padilla@oxy.com

Billing Information:

Email To:

brollins@olssonassociates.com

Project Description: Hawkins 10-9 '08 spill confirmation

City/State
Collected: CO

Phone: 970-263-6013

Client Project #

013-0624

Fax:

Collected by (print):

Lilly Griffin

Site/Facility ID #

Hawkins 10-9

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Same Day200%

Next Day100%

Two Day50%

Three Day25%

Date Results Needed

Email? No ☒ YesFAX? ☒ No ☐ YesNo.
of
Cnts

Immediately
Packed on Ice N ☐ Y ☒

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnts	V8260BTEX, GRO	DRO	SV8270PAHSIM	SAR, SPCON, pH	MRCRA8 + Cu, Ni, Zn	CR3, CR6SS						
North Half #1	Grab	SS	0-6"	11/12/2013	1205	3	X	X	X	X	X	X						OT
North Half #2					1215													OT
North Half #3					1230													OT
North Half #4					1240													OT
South Half #8					1255													OT
South Half #7					1320													OT
South Half #6					1330													OT
South Half #5					1340													OT

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: lgriffin@olssonassociates.com

Relinquished by: (Signature)

Date:

11/12/13

Time:

1615

Received by: (Signature)

pH Temp

Flow Other

Samples returned via: ☐ UPS☐ FedEx ☐ Courier ☐

Temp: °C Bottles Received:

3.8 24802

Date: Time:

11-13-13 0930

Relinquished by: (Signature)

Date:

11/12/13

Time:

1700

Received by: (Signature)

Received for lab by: (Signature)

Relinquished by: (Signature)

Date:

Time:

562234791398

Hold #

Condition: (lab use only)

COC Seal Intact: Y N NA

pH Checked:

NCF:



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Est. 1970

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

Report Summary

Monday November 18, 2013

Report Number: L668251

Samples Received: 11/13/13

Client Project: 013-0624

Description: Hawkins 10-9 08 spill confirmation

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Mark W. Beasley , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation
Sample ID : NORTH HALF 1 0-6 IN
Collected By : Lilly Griffin
Collection Date : 11/12/13 12:05

ESC Sample # : L668251-01
Site ID : HAWKINS 10-9
Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	50.	mg/kg	3060A/7196A	11/16/13	25
Chromium, Trivalent	18.	0.50	mg/kg	Calc.	11/17/13	1
ORP	130		mV	2580 B-2011	11/16/13	1
pH	8.1		su	9045D	11/15/13	1
Sodium Adsorption Ratio	0.88			Calc.	11/15/13	1
Specific Conductance	260		umhos/cm	9050AMod	11/16/13	1
Mercury	BDL	0.020	mg/kg	7471	11/14/13	1
Arsenic	5.3	0.38	mg/kg	6010B	11/16/13	1
Barium	220	0.25	mg/kg	6010B	11/16/13	1
Cadmium	BDL	0.25	mg/kg	6010B	11/16/13	1
Chromium	18.	0.50	mg/kg	6010B	11/16/13	1
Copper	14.	1.0	mg/kg	6010B	11/16/13	1
Lead	9.8	0.25	mg/kg	6010B	11/16/13	1
Nickel	14.	1.0	mg/kg	6010B	11/16/13	1
Selenium	1.8	1.0	mg/kg	6010B	11/16/13	1
Silver	BDL	0.50	mg/kg	6010B	11/16/13	1
Zinc	44.	1.5	mg/kg	6010B	11/16/13	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	11/13/13	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	101.		% Rec.	602/8015	11/13/13	5
Benzene	BDL	0.0050	mg/kg	8260B	11/14/13	5
Toluene	BDL	0.025	mg/kg	8260B	11/14/13	5
Ethylbenzene	BDL	0.0050	mg/kg	8260B	11/14/13	5
Total Xylenes	BDL	0.015	mg/kg	8260B	11/14/13	5
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	11/14/13	5
Dibromofluoromethane	103.		% Rec.	8260B	11/14/13	5
a,a,a-Trifluorotoluene	97.4		% Rec.	8260B	11/14/13	5
4-Bromofluorobenzene	95.4		% Rec.	8260B	11/14/13	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	11/17/13	1
Surrogate recovery(%) o-Terphenyl	89.1		% Rec.	3546/DRO	11/17/13	1

Polynuclear Aromatic Hydrocarbons

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L668251-01 (CR6) - diluted due to sample color
L668251-01 (PH) - 8.1@20.4c



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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation

ESC Sample # : L668251-01

Sample ID : NORTH HALF 1 0-6 IN

Site ID : HAWKINS 10-9

Collected By : Lilly Griffin
Collection Date : 11/12/13 12:05

Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Naphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
1-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Chloronaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Surrogate Recovery						
Nitrobenzene-d5	92.7		% Rec.	8270C-SIM	11/18/13	1
2-Fluorobiphenyl	82.7		% Rec.	8270C-SIM	11/18/13	1
p-Terphenyl-d14	82.4		% Rec.	8270C-SIM	11/18/13	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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L668251-01 (CR6) - diluted due to sample color
L668251-01 (PH) - 8.1@20.4c



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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation
Sample ID : NORTH HALF 2 0-6 IN
Collected By : Lilly Griffin
Collection Date : 11/12/13 12:15

ESC Sample # : L668251-02

Site ID : HAWKINS 10-9

Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	50.	mg/kg	3060A/7196A	11/16/13	25
Chromium, Trivalent	20.	0.50	mg/kg	Calc.	11/17/13	1
ORP	140		mV	2580 B-2011	11/16/13	1
pH	8.2		su	9045D	11/15/13	1
Sodium Adsorption Ratio	0.53			Calc.	11/15/13	1
Specific Conductance	340		umhos/cm	9050AMod	11/16/13	1
Mercury	BDL	0.020	mg/kg	7471	11/14/13	1
Arsenic	6.0	0.38	mg/kg	6010B	11/16/13	1
Barium	170	0.25	mg/kg	6010B	11/16/13	1
Cadmium	BDL	0.25	mg/kg	6010B	11/16/13	1
Chromium	20.	0.50	mg/kg	6010B	11/16/13	1
Copper	13.	1.0	mg/kg	6010B	11/16/13	1
Lead	7.9	0.25	mg/kg	6010B	11/16/13	1
Nickel	15.	1.0	mg/kg	6010B	11/16/13	1
Selenium	1.6	1.0	mg/kg	6010B	11/16/13	1
Silver	BDL	0.50	mg/kg	6010B	11/16/13	1
Zinc	44.	1.5	mg/kg	6010B	11/16/13	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	11/14/13	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	100.		% Rec.	602/8015	11/14/13	5
Benzene	BDL	0.0050	mg/kg	8260B	11/14/13	5
Toluene	BDL	0.025	mg/kg	8260B	11/14/13	5
Ethylbenzene	BDL	0.0050	mg/kg	8260B	11/14/13	5
Total Xylenes	BDL	0.015	mg/kg	8260B	11/14/13	5
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	11/14/13	5
Dibromofluoromethane	110.		% Rec.	8260B	11/14/13	5
a,a,a-Trifluorotoluene	99.0		% Rec.	8260B	11/14/13	5
4-Bromofluorobenzene	104.		% Rec.	8260B	11/14/13	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	11/17/13	1
Surrogate recovery(%) o-Terphenyl	83.8		% Rec.	3546/DRO	11/17/13	1

Polynuclear Aromatic Hydrocarbons

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L668251-02 (CR6) - diluted due to sample color
L668251-02 (PH) - 8.2@20.3c



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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation

ESC Sample # : L668251-02

Sample ID : NORTH HALF 2 0-6 IN

Site ID : HAWKINS 10-9

Collected By : Lilly Griffin
Collection Date : 11/12/13 12:15

Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Naphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
1-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Chloronaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Surrogate Recovery						
Nitrobenzene-d5	83.4		% Rec.	8270C-SIM	11/18/13	1
2-Fluorobiphenyl	81.8		% Rec.	8270C-SIM	11/18/13	1
p-Terphenyl-d14	83.1		% Rec.	8270C-SIM	11/18/13	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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L668251-02 (CR6) - diluted due to sample color

L668251-02 (PH) - 8.2@20.3c



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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation
Sample ID : NORTH HALF 3 0-6 IN
Collected By : Lilly Griffin
Collection Date : 11/12/13 12:30

ESC Sample # : L668251-03

Site ID : HAWKINS 10-9

Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	50.	mg/kg	3060A/7196A	11/16/13	25
Chromium, Trivalent	23.	0.50	mg/kg	Calc.	11/17/13	1
ORP	140		mV	2580 B-2011	11/16/13	1
pH	8.2		su	9045D	11/15/13	1
Sodium Adsorption Ratio	0.40			Calc.	11/15/13	1
Specific Conductance	370		umhos/cm	9050AMod	11/16/13	1
Mercury	BDL	0.020	mg/kg	7471	11/14/13	1
Arsenic	6.8	0.38	mg/kg	6010B	11/16/13	1
Barium	150	0.25	mg/kg	6010B	11/16/13	1
Cadmium	BDL	0.25	mg/kg	6010B	11/16/13	1
Chromium	23.	0.50	mg/kg	6010B	11/16/13	1
Copper	14.	1.0	mg/kg	6010B	11/16/13	1
Lead	9.0	0.25	mg/kg	6010B	11/16/13	1
Nickel	15.	1.0	mg/kg	6010B	11/16/13	1
Selenium	1.5	1.0	mg/kg	6010B	11/16/13	1
Silver	BDL	0.50	mg/kg	6010B	11/16/13	1
Zinc	45.	1.5	mg/kg	6010B	11/16/13	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	11/14/13	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	102.		% Rec.	602/8015	11/14/13	5
Benzene	BDL	0.0050	mg/kg	8260B	11/14/13	5
Toluene	BDL	0.025	mg/kg	8260B	11/14/13	5
Ethylbenzene	BDL	0.0050	mg/kg	8260B	11/14/13	5
Total Xylenes	BDL	0.015	mg/kg	8260B	11/14/13	5
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	11/14/13	5
Dibromofluoromethane	107.		% Rec.	8260B	11/14/13	5
a,a,a-Trifluorotoluene	98.1		% Rec.	8260B	11/14/13	5
4-Bromofluorobenzene	91.5		% Rec.	8260B	11/14/13	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	11/17/13	1
Surrogate recovery(%) o-Terphenyl	89.4		% Rec.	3546/DRO	11/17/13	1

Polynuclear Aromatic Hydrocarbons

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L668251-03 (PH) - 8.2@20.4c
L668251-03 (CR6) - diluted due to sample color



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REPORT OF ANALYSIS

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OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation

ESC Sample # : L668251-03

Sample ID : NORTH HALF 3 0-6 IN

Site ID : HAWKINS 10-9

Collected By : Lilly Griffin
Collection Date : 11/12/13 12:30

Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Naphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
1-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Chloronaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Surrogate Recovery						
Nitrobenzene-d5	83.2		% Rec.	8270C-SIM	11/18/13	1
2-Fluorobiphenyl	80.4		% Rec.	8270C-SIM	11/18/13	1
p-Terphenyl-d14	79.1		% Rec.	8270C-SIM	11/18/13	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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L668251-03 (PH) - 8.2@20.4c

L668251-03 (CR6) - diluted due to sample color



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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation
Sample ID : NORTH HALF 4 0-6 IN
Collected By : Lilly Griffin
Collection Date : 11/12/13 12:40

ESC Sample # : L668251-04

Site ID : HAWKINS 10-9

Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	11/16/13	1
Chromium, Trivalent	16.	2.0	mg/kg	Calc.	11/17/13	1
ORP	140		mV	2580 B-2011	11/16/13	1
pH	8.3		su	9045D	11/15/13	1
Sodium Adsorption Ratio	0.30			Calc.	11/15/13	1
Specific Conductance	370		umhos/cm	9050AMod	11/16/13	1
Mercury	BDL	0.020	mg/kg	7471	11/14/13	1
Arsenic	6.3	0.38	mg/kg	6010B	11/16/13	1
Barium	230	0.25	mg/kg	6010B	11/16/13	1
Cadmium	BDL	0.25	mg/kg	6010B	11/16/13	1
Chromium	16.	0.50	mg/kg	6010B	11/16/13	1
Copper	13.	1.0	mg/kg	6010B	11/16/13	1
Lead	8.4	0.25	mg/kg	6010B	11/16/13	1
Nickel	20.	1.0	mg/kg	6010B	11/16/13	1
Selenium	1.8	1.0	mg/kg	6010B	11/16/13	1
Silver	BDL	0.50	mg/kg	6010B	11/16/13	1
Zinc	39.	1.5	mg/kg	6010B	11/16/13	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	11/14/13	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	102.		% Rec.	602/8015	11/14/13	5
Benzene	BDL	0.0050	mg/kg	8260B	11/14/13	5
Toluene	BDL	0.025	mg/kg	8260B	11/14/13	5
Ethylbenzene	BDL	0.0050	mg/kg	8260B	11/14/13	5
Total Xylenes	BDL	0.015	mg/kg	8260B	11/14/13	5
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	11/14/13	5
Dibromofluoromethane	107.		% Rec.	8260B	11/14/13	5
a,a,a-Trifluorotoluene	102.		% Rec.	8260B	11/14/13	5
4-Bromofluorobenzene	101.		% Rec.	8260B	11/14/13	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	11/17/13	1
Surrogate recovery(%) o-Terphenyl	89.7		% Rec.	3546/DRO	11/17/13	1

Polynuclear Aromatic Hydrocarbons

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L668251-04 (PH) - 8.3@20.1c



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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation
Sample ID : NORTH HALF 4 0-6 IN
Collected By : Lilly Griffin
Collection Date : 11/12/13 12:40

ESC Sample # : L668251-04

Site ID : HAWKINS 10-9

Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Naphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
1-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Chloronaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Surrogate Recovery						
Nitrobenzene-d5	93.5		% Rec.	8270C-SIM	11/18/13	1
2-Fluorobiphenyl	84.5		% Rec.	8270C-SIM	11/18/13	1
p-Terphenyl-d14	84.8		% Rec.	8270C-SIM	11/18/13	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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L668251-04 (PH) - 8.3@20.1c



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Est. 1970

REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation
Sample ID : SOUTH HALF 8 0-6 IN
Collected By : Lilly Griffin
Collection Date : 11/12/13 12:55

ESC Sample # : L668251-05

Site ID : HAWKINS 10-9

Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	10.	mg/kg	3060A/7196A	11/16/13	5
Chromium, Trivalent	14.	10.	mg/kg	Calc.	11/17/13	1
ORP	140		mV	2580 B-2011	11/16/13	1
pH	8.4		su	9045D	11/15/13	1
Sodium Adsorption Ratio	0.59			Calc.	11/15/13	1
Specific Conductance	500		umhos/cm	9050AMod	11/16/13	1
Mercury	BDL	0.020	mg/kg	7471	11/15/13	1
Arsenic	4.6	0.38	mg/kg	6010B	11/16/13	1
Barium	230	0.25	mg/kg	6010B	11/16/13	1
Cadmium	BDL	0.25	mg/kg	6010B	11/16/13	1
Chromium	14.	0.50	mg/kg	6010B	11/16/13	1
Copper	16.	1.0	mg/kg	6010B	11/16/13	1
Lead	12.	0.25	mg/kg	6010B	11/16/13	1
Nickel	22.	1.0	mg/kg	6010B	11/16/13	1
Selenium	1.7	1.0	mg/kg	6010B	11/16/13	1
Silver	BDL	0.50	mg/kg	6010B	11/16/13	1
Zinc	42.	1.5	mg/kg	6010B	11/16/13	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	11/14/13	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	102.		% Rec.	602/8015	11/14/13	5
Benzene	BDL	0.0050	mg/kg	8260B	11/16/13	5
Toluene	BDL	0.025	mg/kg	8260B	11/16/13	5
Ethylbenzene	BDL	0.0050	mg/kg	8260B	11/16/13	5
Total Xylenes	BDL	0.015	mg/kg	8260B	11/16/13	5
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	11/16/13	5
Dibromofluoromethane	107.		% Rec.	8260B	11/16/13	5
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	11/16/13	5
4-Bromofluorobenzene	101.		% Rec.	8260B	11/16/13	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	11/17/13	1
Surrogate recovery(%) o-Terphenyl	73.5		% Rec.	3546/DRO	11/17/13	1

Polynuclear Aromatic Hydrocarbons

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L668251-05 (PH) - 8.4@20.9c
L668251-05 (CR6) - diluted due to sample color



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Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation
Sample ID : SOUTH HALF 8 0-6 IN
Collected By : Lilly Griffin
Collection Date : 11/12/13 12:55

ESC Sample # : L668251-05

Site ID : HAWKINS 10-9

Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Naphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
1-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Chloronaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Surrogate Recovery						
Nitrobenzene-d5	81.5		% Rec.	8270C-SIM	11/18/13	1
2-Fluorobiphenyl	77.5		% Rec.	8270C-SIM	11/18/13	1
p-Terphenyl-d14	65.4		% Rec.	8270C-SIM	11/18/13	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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L668251-05 (PH) - 8.4@20.9c

L668251-05 (CR6) - diluted due to sample color



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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation
Sample ID : SOUTH HALF 7 0-6 IN
Collected By : Lilly Griffin
Collection Date : 11/12/13 13:20

ESC Sample # : L668251-06

Site ID : HAWKINS 10-9

Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	11/16/13	1
Chromium, Trivalent	18.	2.0	mg/kg	Calc.	11/17/13	1
ORP	130		mV	2580 B-2011	11/16/13	1
pH	8.3		su	9045D	11/15/13	1
Sodium Adsorption Ratio	0.71			Calc.	11/15/13	1
Specific Conductance	350		umhos/cm	9050AMod	11/16/13	1
Mercury	BDL	0.020	mg/kg	7471	11/15/13	1
Arsenic	5.5	0.38	mg/kg	6010B	11/16/13	1
Barium	150	0.25	mg/kg	6010B	11/16/13	1
Cadmium	BDL	0.25	mg/kg	6010B	11/16/13	1
Chromium	18.	0.50	mg/kg	6010B	11/16/13	1
Copper	15.	1.0	mg/kg	6010B	11/16/13	1
Lead	11.	0.25	mg/kg	6010B	11/16/13	1
Nickel	15.	1.0	mg/kg	6010B	11/16/13	1
Selenium	1.8	1.0	mg/kg	6010B	11/16/13	1
Silver	BDL	0.50	mg/kg	6010B	11/16/13	1
Zinc	44.	1.5	mg/kg	6010B	11/16/13	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	11/14/13	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	101.		% Rec.	602/8015	11/14/13	5
Benzene	BDL	0.0050	mg/kg	8260B	11/16/13	5
Toluene	BDL	0.025	mg/kg	8260B	11/16/13	5
Ethylbenzene	BDL	0.0050	mg/kg	8260B	11/16/13	5
Total Xylenes	BDL	0.015	mg/kg	8260B	11/16/13	5
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	11/16/13	5
Dibromofluoromethane	107.		% Rec.	8260B	11/16/13	5
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	11/16/13	5
4-Bromofluorobenzene	101.		% Rec.	8260B	11/16/13	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	11/17/13	1
Surrogate recovery(%) o-Terphenyl	96.3		% Rec.	3546/DRO	11/17/13	1

Polynuclear Aromatic Hydrocarbons

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L668251-06 (PH) - 8.3@21.0c



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Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation

ESC Sample # : L668251-06

Sample ID : SOUTH HALF 7 0-6 IN

Site ID : HAWKINS 10-9

Collected By : Lilly Griffin
Collection Date : 11/12/13 13:20

Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Naphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
1-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Chloronaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Surrogate Recovery						
Nitrobenzene-d5	91.1		% Rec.	8270C-SIM	11/18/13	1
2-Fluorobiphenyl	81.1		% Rec.	8270C-SIM	11/18/13	1
p-Terphenyl-d14	81.8		% Rec.	8270C-SIM	11/18/13	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation
Sample ID : SOUTH HALF 6 0-6 IN
Collected By : Lilly Griffin
Collection Date : 11/12/13 13:30

ESC Sample # : L668251-07

Site ID : HAWKINS 10-9

Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	10.	mg/kg	3060A/7196A	11/16/13	5
Chromium, Trivalent	18.	10.	mg/kg	Calc.	11/17/13	1
ORP	130		mV	2580 B-2011	11/16/13	1
pH	8.3		su	9045D	11/15/13	1
Sodium Adsorption Ratio	0.65			Calc.	11/15/13	1
Specific Conductance	160		umhos/cm	9050AMod	11/16/13	1
Mercury	BDL	0.020	mg/kg	7471	11/15/13	1
Arsenic	5.5	0.38	mg/kg	6010B	11/16/13	1
Barium	130	0.25	mg/kg	6010B	11/16/13	1
Cadmium	BDL	0.25	mg/kg	6010B	11/16/13	1
Chromium	18.	0.50	mg/kg	6010B	11/16/13	1
Copper	14.	1.0	mg/kg	6010B	11/16/13	1
Lead	11.	0.25	mg/kg	6010B	11/16/13	1
Nickel	15.	1.0	mg/kg	6010B	11/16/13	1
Selenium	1.9	1.0	mg/kg	6010B	11/16/13	1
Silver	BDL	0.50	mg/kg	6010B	11/16/13	1
Zinc	43.	1.5	mg/kg	6010B	11/16/13	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	11/14/13	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	103.		% Rec.	602/8015	11/14/13	5
Benzene	BDL	0.0050	mg/kg	8260B	11/16/13	5
Toluene	BDL	0.025	mg/kg	8260B	11/16/13	5
Ethylbenzene	BDL	0.0050	mg/kg	8260B	11/16/13	5
Total Xylenes	BDL	0.015	mg/kg	8260B	11/16/13	5
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	11/16/13	5
Dibromofluoromethane	105.		% Rec.	8260B	11/16/13	5
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	11/16/13	5
4-Bromofluorobenzene	101.		% Rec.	8260B	11/16/13	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	11/17/13	1
Surrogate recovery(%) o-Terphenyl	91.8		% Rec.	3546/DRO	11/17/13	1

Polynuclear Aromatic Hydrocarbons

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L668251-07 (PH) - 8.3@20.6c
L668251-07 (CR6) - diluted due to sample color



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(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

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Est. 1970

REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation
Sample ID : SOUTH HALF 6 0-6 IN
Collected By : Lilly Griffin
Collection Date : 11/12/13 13:30

ESC Sample # : L668251-07

Site ID : HAWKINS 10-9

Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Naphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
1-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Chloronaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Surrogate Recovery						
Nitrobenzene-d5	84.3		% Rec.	8270C-SIM	11/18/13	1
2-Fluorobiphenyl	83.9		% Rec.	8270C-SIM	11/18/13	1
p-Terphenyl-d14	83.6		% Rec.	8270C-SIM	11/18/13	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 11/18/13 15:59 Printed: 11/18/13 17:22

L668251-07 (PH) - 8.3@20.6c

L668251-07 (CR6) - diluted due to sample color



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation
Sample ID : SOUTH HALF 5 0-6 IN
Collected By : Lilly Griffin
Collection Date : 11/12/13 13:40

ESC Sample # : L668251-08
Site ID : HAWKINS 10-9
Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	11/16/13	1
Chromium, Trivalent	18.	2.0	mg/kg	Calc.	11/17/13	1
ORP	130		mV	2580 B-2011	11/16/13	1
pH	8.2		su	9045D	11/15/13	1
Sodium Adsorption Ratio	0.73			Calc.	11/15/13	1
Specific Conductance	310		umhos/cm	9050AMod	11/16/13	1
Mercury	BDL	0.020	mg/kg	7471	11/15/13	1
Arsenic	5.0	0.38	mg/kg	6010B	11/16/13	1
Barium	180	0.25	mg/kg	6010B	11/16/13	1
Cadmium	BDL	0.25	mg/kg	6010B	11/16/13	1
Chromium	18.	0.50	mg/kg	6010B	11/16/13	1
Copper	18.	1.0	mg/kg	6010B	11/16/13	1
Lead	10.	0.25	mg/kg	6010B	11/16/13	1
Nickel	20.	1.0	mg/kg	6010B	11/16/13	1
Selenium	1.8	1.0	mg/kg	6010B	11/16/13	1
Silver	BDL	0.50	mg/kg	6010B	11/16/13	1
Zinc	43.	1.5	mg/kg	6010B	11/16/13	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	11/14/13	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	102.		% Rec.	602/8015	11/14/13	5
Benzene	BDL	0.0050	mg/kg	8260B	11/15/13	5
Toluene	BDL	0.025	mg/kg	8260B	11/15/13	5
Ethylbenzene	BDL	0.0050	mg/kg	8260B	11/15/13	5
Total Xylenes	BDL	0.015	mg/kg	8260B	11/15/13	5
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	11/15/13	5
Dibromofluoromethane	111.		% Rec.	8260B	11/15/13	5
a,a,a-Trifluorotoluene	101.		% Rec.	8260B	11/15/13	5
4-Bromofluorobenzene	99.7		% Rec.	8260B	11/15/13	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	11/17/13	1
Surrogate recovery(%) o-Terphenyl	90.4		% Rec.	3546/DRO	11/17/13	1

Polynuclear Aromatic Hydrocarbons

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L668251-08 (PH) - 8.2@20.3c



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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

November 18, 2013

Date Received : November 13, 2013
Description : Hawkins 10-9 08 spill confirmation
Sample ID : SOUTH HALF 5 0-6 IN
Collected By : Lilly Griffin
Collection Date : 11/12/13 13:40

ESC Sample # : L668251-08

Site ID : HAWKINS 10-9

Project # : 013-0624

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Naphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/18/13	1
1-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
2-Chloronaphthalene	BDL	0.020	mg/kg	8270C-SIM	11/18/13	1
Surrogate Recovery						
Nitrobenzene-d5	82.2		% Rec.	8270C-SIM	11/18/13	1
2-Fluorobiphenyl	80.4		% Rec.	8270C-SIM	11/18/13	1
p-Terphenyl-d14	78.8		% Rec.	8270C-SIM	11/18/13	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 11/18/13 15:59 Printed: 11/18/13 17:22
L668251-08 (PH) - 8.2@20.3c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L668251-01	WG692433	SAMP	Chromium,Hexavalent	R2855940	O
L668251-02	WG692433	SAMP	Chromium,Hexavalent	R2855940	O
L668251-03	WG692433	SAMP	Chromium,Hexavalent	R2855940	O
L668251-05	WG692433	SAMP	Chromium,Hexavalent	R2855940	O
L668251-07	WG692433	SAMP	Chromium,Hexavalent	R2855940	O

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
0	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

OXY USA WTP LP. -
Grand Junction, CO
760 Horizon Dr., Ste 101
Grand Junction, CO 81506

Alternate billing information:

Report to: Daniel Padilla / Blair Rollins
Email to: daniel_padilla@oxy.com, blai

Analysis/Container/Preservative

Chain of Custody
Page 1 of 2

Prepared by:

E152

ENVIRONMENTAL
SCIENCE CORP.

12065 Lebanon Road
Mt. Juliet, TN 37122

Phone (615) 758-5858

Phone (800) 767-5859

FAX (615) 758-5859

Project Description: HAWKINS 10-9 BG

City/State
Collected

Phone: (970) 263-3601
FAX:

Client Project #:

ESC Key:

Collected by:

Site/Facility ID#: HAWKINS
10-9 BG

P.O.#:

Collected by (signature):

Rush? (Lab MUST Be Notified)

Same Day.....200%
Next Day.....100%
Two Day.....50%

Date Results Needed:

Email? ☐ No ☒ Yes

FAX? ☐ No ☐ Yes

No.

of

Cntrs
To

Packed on Ice N

Sample ID

Comp/Grab

Matrix*

Depth

Date

Time

S1-1-2.5-BG

2.5ft.

6/7/12

09:46

1

X

X

X

X

X

S1-1-2.5-BG

2.5ft.

6/7/12

09:46

1

X

X

X

X

X

S1-2-5.0-BG

5.0ft.

6/7/12

09:57

1

X

X

X

X

X

S1-2-5.0-BG

5.0ft.

6/7/12

09:57

1

X

X

X

X

X

S2-1-2.5-BG

2.5ft.

6/7/12

10:47

1

X

X

X

X

X

S2-1-2.5-BG

2.5ft.

6/7/12

10:47

1

X

X

X

X

X

S2-2-5.0-BG

5.0ft.

6/7/12

10:58

1

X

X

X

X

X

S2-2-5.0-BG

5.0ft.

6/7/12

10:58

1

X

X

X

X

X

S3-1-2.5-BG

2.5ft.

6/7/12

11:35

1

X

X

X

X

X

*Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

5040 0624 6233

pH

Temp

Remarks: PLEASE ANALYZE FOR ARSENIC 4 TIMES EACH SAMPLE

Flow

Other

Relinquished by: (Signature)	Date: 6/07/12	Time: 3:51	Received by: (Signature)	Samples returned via: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: (lab use only) TO
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1°	Bottles Received: 15-802
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 6-8-12	Time: 0900
				pH Checked:	NCF: YFS

OXY USA WTP LP. -
Grand Junction, CO
760 Horizon Dr., Ste 101
Grand Junction, CO 81506

Alternate billing information:

Report to:
Daniel Padilla / Blair Rollins

Email to:
daniel_padilla@oxy.com, blai

Analysis/Container/Preservative

Chain of Custody
Page 2 of 2

Prepared by:

 ENVIRONMENTAL
SCIENCE CORP.

12065 Lebanon Road
Mt. Juliet, TN 37122

Phone (615) 758-5858

Phone (800) 767-5859

FAX (615) 758-5859

Project
Description: HAWKINS 10-9 BG

City/State
Collected

Phone: (970) 263-3601
FAX:

Client Project #:

ESC Key:

Collected by:

Site/Facility ID#: HAWKINS 10-9 BG

P.O.#:

Collected by (signature):

Rush? (Lab MUST Be Notified)

Same Day.....200%
Next Day.....100%
Two Day.....50%

Date Results Needed:

Email? ☐ No ☒ Yes

FAX? ☐ No ☐ Yes

Packed on Ice ☒ N ☐ Y

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs						Remarks/Contaminant	Sample # (lab only)
S3-2-4.0-BG			4.0 ft.	6/7/12	12:00	1	X	X	X	X	X		26/27/28/29/30
S3-1-2.5-BG			2.5 ft.	6/7/12	11:35	1	X	X	X	X	X		
S4-1-2.5-BG			2.5 ft.	6/7/12	12:32	1	X	X	X	X	X		31/32/33/34/35
S4-1-2.5-BG			2.5 ft.	6/7/12	12:32	1	X	X	X	X	X		
S4-2-5.0-BG			5.0 ft.	6/7/12	12:56	1	X	X	X	X	X		36/37/38/39/40
S4-2-5.0-BG			5.0 ft.	6/7/12	12:56	1	X	X	X	X	X		

*Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: PLEASE ANALYZE FOR ARSENIC 4 TIMES EACH SAMPLE

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature)	Date: <u>06/07/12</u>	Time: <u>3:51</u>	Received by: (Signature)	Samples returned via: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: <u>OK</u> (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: <u>3.1°C</u>	Bottles Received: <u>15-802</u>
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: <u>6-8-12</u>	Time: <u>0900</u>
				pH Checked:	NCF: <u>YES</u>



L·A·B S·C·I·E·N·C·E·S

NON-CONFORMANCE FORM

Login No.: L579427

Date: 6-8-12

Evaluated by: Foy Day

Client: OXFORD

Non-Conformance (check applicable items)

- ☐ Parameter(s) past holding time
☐ Improper temperature
☐ Improper container type
☐ Improper preservation
☐ Container lid not intact
- ☒ Login Clarification Needed
☐ Chain of custody is incomplete
☐ Chain of Custody is missing (see below)
☐ Broken container(s) (See below)
☐ Broken container: sufficient sample volume remains for analysis requested (See below)

If no COC: Received by _____ Date: _____ Time: _____
Temp: _____ Cont. Rec. _____ pH: _____
☐ Fedex ☐ UPS ☐ SWA ☐ Other _____
Tracking # _____

☐ Insufficient packing material around container
☐ Insufficient packing material inside cooler
☐ Improper handling by carrier (FedEx / UPS / Courier)
☐ Sample was frozen

Comments: Client listed all IDs twice on the COC. Except for S3-2-4.0-BG at 1200. Are the IDs that are the same, the same sample? Please clarify.

Login Instructions:

TSR Initials: MB

Client informed by call / email / fax / voice mail date: 6/8/12 time: 1610

Client contact:

-Log by sample IDs -> Log AS208 as 4 dash numbers



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
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Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

Report Summary

Wednesday June 13, 2012

Report Number: L579427

Samples Received: 06/08/12

Client Project:

Description: Hawkins 10-9 BC

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Mark W. Beasley , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979

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Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S1-1-2.5-BG

Collected By :
Collection Date : 06/07/12 09:46

ESC Sample # : L579427-01

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	8.0		su	9045D	06/11/12	1
Specific Conductance	220		umhos/cm	9050AMod	06/12/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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L579427-01 (PH) - 8.0 @ 20.3c



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1-800-767-5859
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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S1-1-2.5-BG

Collected By :
Collection Date : 06/07/12 09:46

ESC Sample # : L579427-02

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	5.6	0.32	1.0	mg/kg		6010B	06/13/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

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Reported: 06/13/12 14:08 Printed: 06/13/12 14:09



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Mt. Juliet, TN 37122
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1-800-767-5859
Fax (615) 758-5859

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S1-1-2.5-BG

Collected By :
Collection Date : 06/07/12 09:46

ESC Sample # : L579427-03

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	5.3	0.32	1.0	mg/kg		6010B	06/13/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S1-1-2.5-BG

Collected By :
Collection Date : 06/07/12 09:46

ESC Sample # : L579427-04

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	4.8	0.32	1.0	mg/kg		6010B	06/13/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

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1-800-767-5859
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S1-1-2.5-BG

Collected By :
Collection Date : 06/07/12 09:46

ESC Sample # : L579427-05

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	6.0	0.32	1.0	mg/kg		6010B	06/13/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

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Reported: 06/13/12 14:08 Printed: 06/13/12 14:09



12065 Lebanon Rd.
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Est. 1970

REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S1-2-5.0-BG

Collected By :
Collection Date : 06/07/12 09:57

ESC Sample # : L579427-06

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	8.3		su	9045D	06/11/12	1
Specific Conductance	210		umhos/cm	9050AMod	06/12/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 06/13/12 14:08 Printed: 06/13/12 14:09
L579427-06 (PH) - 8.3 @ 20.2c



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Mt. Juliet, TN 37122
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Est. 1970

REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S1-2-5.0-BG

Collected By :
Collection Date : 06/07/12 09:57

ESC Sample # : L579427-07

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	5.7	0.32	1.0	mg/kg		6010B	06/13/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S1-2-5.0-BG

Collected By :
Collection Date : 06/07/12 09:57

ESC Sample # : L579427-08

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	6.2	0.32	1.0	mg/kg		6010B	06/13/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S1-2-5.0-BG

Collected By :
Collection Date : 06/07/12 09:57

ESC Sample # : L579427-09

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	5.8	0.32	1.0	mg/kg		6010B	06/13/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S1-2-5.0-BG

Collected By :
Collection Date : 06/07/12 09:57

ESC Sample # : L579427-10

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	6.0	0.32	1.0	mg/kg		6010B	06/13/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S2-1-2.5-BG

Collected By :
Collection Date : 06/07/12 10:47

ESC Sample # : L579427-11

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	7.7		su	9045D	06/11/12	1
Specific Conductance	180		umhos/cm	9050AMod	06/12/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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L579427-11 (PH) - 7.7 @ 20.2c



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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S2-1-2.5-BG

Collected By :
Collection Date : 06/07/12 10:47

ESC Sample # : L579427-12

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	1.7	0.32	1.0	mg/kg		6010B	06/13/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S2-1-2.5-BG

Collected By :
Collection Date : 06/07/12 10:47

ESC Sample # : L579427-13

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	1.3	0.32	1.0	mg/kg		6010B	06/13/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

Daniel Padilla
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760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S2-1-2.5-BG

Collected By :
Collection Date : 06/07/12 10:47

ESC Sample # : L579427-14

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	2.0	0.32	1.0	mg/kg		6010B	06/13/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S2-1-2.5-BG

Collected By :
Collection Date : 06/07/12 10:47

ESC Sample # : L579427-15

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	2.5	0.32	1.0	mg/kg		6010B	06/13/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S2-2-5.0-BG

Collected By :
Collection Date : 06/07/12 10:58

ESC Sample # : L579427-16

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	7.8		su	9045D	06/11/12	1
Specific Conductance	77.		umhos/cm	9050AMod	06/12/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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L579427-16 (PH) - 7.8 @ 19.7c



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760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S2-2-5.0-BG

Collected By :
Collection Date : 06/07/12 10:58

ESC Sample # : L579427-17

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	2.7	0.32	1.0	mg/kg		6010B	06/13/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S2-2-5.0-BG

Collected By :
Collection Date : 06/07/12 10:58

ESC Sample # : L579427-18

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	1.0	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S2-2-5.0-BG

Collected By :
Collection Date : 06/07/12 10:58

ESC Sample # : L579427-19

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	1.2	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S2-2-5.0-BG

Collected By :
Collection Date : 06/07/12 10:58

ESC Sample # : L579427-20

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	1.1	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S3-1-2.5-BG

Collected By :
Collection Date : 06/07/12 11:35

ESC Sample # : L579427-21

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	6.7		su	9045D	06/11/12	1
Specific Conductance	47.		umhos/cm	9050AMod	06/12/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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L579427-21 (PH) - 6.7 @ 20.0c



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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S3-1-2.5-BG

Collected By :
Collection Date : 06/07/12 11:35

ESC Sample # : L579427-22

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	2.4	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S3-1-2.5-BG

Collected By :
Collection Date : 06/07/12 11:35

ESC Sample # : L579427-23

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	2.2	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S3-1-2.5-BG

Collected By :
Collection Date : 06/07/12 11:35

ESC Sample # : L579427-24

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	2.9	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S3-1-2.5-BG

Collected By :
Collection Date : 06/07/12 11:35

ESC Sample # : L579427-25

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	2.2	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S3-2-4.0-BG

Collected By :
Collection Date : 06/07/12 12:00

ESC Sample # : L579427-26

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	6.7		su	9045D	06/11/12	1
Specific Conductance	61.		umhos/cm	9050AMod	06/12/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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L579427-26 (PH) - 6.7 @ 20.0c



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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S3-2-4.0-BG

Collected By :
Collection Date : 06/07/12 12:00

ESC Sample # : L579427-27

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	3.1	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S3-2-4.0-BG

Collected By :
Collection Date : 06/07/12 12:00

ESC Sample # : L579427-28

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	2.8	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S3-2-4.0-BG

Collected By :
Collection Date : 06/07/12 12:00

ESC Sample # : L579427-29

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	3.5	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

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Fax (615) 758-5859

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Est. 1970

REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S3-2-4.0-BG

Collected By :
Collection Date : 06/07/12 12:00

ESC Sample # : L579427-30

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	3.0	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S4-1-2.5-BG

Collected By :
Collection Date : 06/07/12 12:32

ESC Sample # : L579427-31

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	7.5		su	9045D	06/11/12	1
Specific Conductance	130		umhos/cm	9050AMod	06/12/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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L579427-31 (PH) - 7.5 @ 19.7c



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REPORT OF ANALYSIS

Daniel Padilla
OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S4-1-2.5-BG

Collected By :
Collection Date : 06/07/12 12:32

ESC Sample # : L579427-32

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	2.4	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S4-1-2.5-BG

Collected By :
Collection Date : 06/07/12 12:32

ESC Sample # : L579427-33

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	5.1	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC
Sample ID : S4-1-2.5-BG
Collected By :
Collection Date : 06/07/12 12:32

ESC Sample # : L579427-34

Site ID : HAWKINS 10-9BG
Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	3.0	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S4-1-2.5-BG

Collected By :
Collection Date : 06/07/12 12:32

ESC Sample # : L579427-35

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	U	1.6	5.0	mg/kg	O	6010B	06/12/12	5

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S4-2-5.0-BG

Collected By :
Collection Date : 06/07/12 12:56

ESC Sample # : L579427-36

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	7.4		su	9045D	06/11/12	1
Specific Conductance	130		umhos/cm	9050AMod	06/12/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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L579427-36 (PH) - 7.4 @ 19.9c



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OXY USA Inc - Grand Junction, CO
760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S4-2-5.0-BG

Collected By :
Collection Date : 06/07/12 12:56

ESC Sample # : L579427-37

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	2.7	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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REPORT OF ANALYSIS

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760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S4-2-5.0-BG

Collected By :
Collection Date : 06/07/12 12:56

ESC Sample # : L579427-38

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	2.6	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

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Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S4-2-5.0-BG

Collected By :
Collection Date : 06/07/12 12:56

ESC Sample # : L579427-39

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	U	0.32	1.0	mg/kg		6010B	06/12/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

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760 Horizon Dr., Ste. 101
Grand Junction, CO 81506

June 13, 2012

Date Received : June 08, 2012
Description : Hawkins 10-9 BC

Sample ID : S4-2-5.0-BG

Collected By :
Collection Date : 06/07/12 12:56

ESC Sample # : L579427-40

Site ID : HAWKINS 10-9BG

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	U	1.6	5.0	mg/kg	O	6010B	06/12/12	5

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L579427-01	WG597091	SAMP	pH	R2205573	T8
L579427-06	WG597091	SAMP	pH	R2205573	T8
L579427-11	WG597091	SAMP	pH	R2205573	T8
L579427-16	WG597091	SAMP	pH	R2205573	T8
L579427-21	WG597091	SAMP	pH	R2205573	T8
L579427-26	WG597091	SAMP	pH	R2205573	T8
L579427-31	WG597091	SAMP	pH	R2205573	T8
L579427-35	WG597235	SAMP	Arsenic	R2206257	O
L579427-36	WG597091	SAMP	pH	R2205573	T8
L579427-40	WG597235	SAMP	Arsenic	R2206257	O

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

[illegible]