

FORM  
**27**  
Rev 6/99

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



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

#6069

FOR OGCC USE ONLY  
**RECEIVED**  
8/18/2011

OGCC Employee:  
 Spill  Complaint  
 Inspection  NOAV  
Tracking No:

**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 Operator Number: <u>66571</u>	Contact Name and Telephone: <u>Daniel I. Padilla</u>
Name of Operator: <u>OXY USA WTP LP</u>	No: <u>970.263.3628</u>
Address: <u>760 Horizon Drive, Suite 101</u>	Fax: <u>970.263.3694</u>
City: <u>Grand Junction</u> State: <u>CO</u> Zip: <u>81506</u>	
API Number: <u>05-045-09844</u>	County: <u>Garfield</u>
Facility Name: <u>Oxy Mesa PP Federal 23-15 (Pit)</u>	Facility Number: <u>273649</u>
Well Name: <u>OXY FEDERAL</u>	Well Number: <u>23-15</u>
Location: (QtrQtr, Sec, Twp, Rng, Meridian): <u>NWSW, Sec 15, T6S, R97W, 6 PM</u>	Latitude: <u>39.521167</u> Longitude: <u>-108.21307</u>

**TECHNICAL CONDITIONS**

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Not Applicable

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.): Non-crop land rangeland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Parachute-trigul-Rhone 25-50 % slopes

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Nearest natural drainages are ~313' on South, East and West sides of the pad.

The nearest surface water is an unnamed intermittent drainage ~ 400' to the West. The nearest water well is an Oxy owned monitoring well (282304) and is ~3,474' to the Southwest.

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

Impacted Media (check):	Extent of Impact:	How Determined:
<input type="checkbox"/> Soils	<u>N/A</u>	<u>Laboratory analytical results</u>
<input type="checkbox"/> Vegetation	<u>N/A</u>	<u>Visual</u>
<input type="checkbox"/> Groundwater	<u>N/A</u>	<u>Visual inspection below pit liner</u>
<input type="checkbox"/> Surface Water	<u>N/A</u>	<u>Visual</u>

**REMEDIATION WORKPLAN**

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

Oxy permitted the pit as a blowdown pit in September of 2004. Oxy closed this pit in 2008 and is providing this pit closure form/plan for COGCC review/approval.

Describe how source is to be removed:

Oxy removed liquids from inside the pit; no solids were encountered. Liquids removed from the pit were disposed of at the Black Mountain Disposal Facility located near DeBeque, Colorado. Oxy disposed of the pit liner at Garfield County Landfill. Based on the sampling results of the pit bottom, all analytes are found to be below allowable concentration levels except for As and electric conductivity (EC). Although the As concentrations are above the COGCC regulated concentration, Oxy collected background samples in undisturbed locations which identified elevated concentrations of As to be above concentrations found in the pit bottom. To account for the elevated EC the pit bottom was buried below a cap of at least three feet to ensure that a sufficient agronomic zone was achieved.

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.:

Liquids were removed from the pit and no solids were encountered. Liquids present in the pit and the 30-mil high-density polyethylene liner were disposed of at commercial disposal facilities. Analytical concentrations found in the pit bottom are below the COGCC's table 910-1 concentrations, except for As and EC. The elevated concentrations of As have been found to be below As concentrations found in background samples. Oxy has submitted a Form 4 Sundry to account for this allowance. Oxy backfilled the pit with cuttings generated on-site. To address the high concentration of EC, Oxy buried the pit bottom below a cap of at least three feet to provide a sufficient agronomic zone for revegetation efforts. Oxy then topped the cap with at least 6 inches of topsoil to ensure a proper seed bed. The backfilled pit was contoured to be level with the existing pad grade to minimize storm water erosion.

Submit Page 2 with Page 1

FORM 27 Rev 6/99

State of Colorado Oil and Gas Conservation Commission 1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax: (303)894-2109



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.):

No groundwater was impacted by the pit. The pit was lined with a 30-mil HDPE liner. This pit was used as a blowdown pit and no solids were encountered in the pit during closure activities. During excavation of the pit liner, an Oxy contractor was present to observe the soil below the liner. The Oxy contractor collected soil samples from below the pit liner to ensure environmental impacts were not present. Laboratory analytical results are included which identify the approximate sampling location within the pit at depth and compliance with the COGCC Table 910-1 allowable concentrations, except for arsenic and EC. Oxy collected background samples in undisturbed locations which identified elevated concentrations of arsenic to be above concentrations found in the pit bottom. To account for the elevated EC the pit bottom was buried below a cap of at least three feet to ensure that a sufficient agronomic zone was achieved. Oxy has submitted a Form 4 requesting to apply a different standard for As.

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.

The pit was constructed at grade with Oxy's Cascade Creek Federal 23-15 well pad, and was approximately 15 feet deep. The pit liner was sent to the Garfield County Landfill for disposal. The reclaimed pit was contoured to be level with the pad grade to minimize stormwater runoff. Final pad reclamation will occur at the end of the life of the 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? [ ] Y [x] N If yes, describe:

Oxy finds that all analytical results are below 910-1 criteria. No further reclamation required. Final pad reclamation will occur at the end of the life of the pad.

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

In 2008, Oxy removed all liquids within the pit and disposed of them at the Black Mountain Disposal Facility located near DeBeque, Colorado. No solids were encountered during removal of the liquids from the pit. Note that the pit liner was disposed of at the Garfield County Landfill.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 11/12/2008 Date Site Investigation Completed: 12/30/2008 Date Remediation Plan Submitted: Remediation Start Date: 11/26/2008 Anticipated Completion Date: Actual Completion Date:

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

Print Name: Daniel Padilla Signed: Date: 8/19/11

OGCC Approved: Chris Canfield EPS NW Region Title: FOR Date: 08/31/2011



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

**SUNDRY NOTICE**

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

1. OGCC Operator Number: <u>66571</u>	4. Contact Name: <u>Daniel I. Padilla</u>	Complete the Attachment Checklist  OP OGCC
2. Name of Operator: <u>OXY USA WTP LP</u>	Phone: <u>970.283.3637</u>	
3. Address: <u>760 Horizon Drive, Suite 101</u>	Fax: <u>970.283.3694</u>	
City: <u>Grand Junction</u> State: <u>CO</u> Zip: <u>81506</u>		
5. API Number: <u>05-045-09844</u>	OGCC Facility ID Number: <u>273649</u>	Survey Plat
6. Well/Facility Name: <u>Oxy Mesa PP Federal Pit</u>	7. Well/Facility Number: <u>23-15</u>	Directional Survey
8. Location (Ctr/Clr, Sec, Twp, Rng, Meridian): <u>NWSW 15 6S 97W</u>		Surface Eqmnt Diagram
9. County: <u>Garfield</u>	10. Field Name: <u>Grand Valley</u>	Technical Info Page
11. Federal, Indian or State Lease Number: _____		Other Lab data, map

**General Notice**

**CHANGE OF LOCATION:** Attach New Survey Plat (a change of surface ownership is substantive and requires a new permit)

Change of Surface Footage from Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of Surface Footage to Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of Bottomhole Footage from Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of Bottomhole Footage to Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Bottomhole location Ctr/Clr, Sec, Twp, Rng, Mer \_\_\_\_\_  
 Latitude \_\_\_\_\_ Distance to nearest property line \_\_\_\_\_ Distance to nearest bldg, public rd, utility or RR \_\_\_\_\_  
 Longitude \_\_\_\_\_ Distance to nearest lease line \_\_\_\_\_ Is location in a High Density Area (rule 603b)? Yes/No \_\_\_\_\_  
 Ground Elevation \_\_\_\_\_ Distance to nearest well same formation \_\_\_\_\_ Surface owner consultation date: \_\_\_\_\_

GPS DATA:  
 Date of Measurement \_\_\_\_\_ PDOP Reading \_\_\_\_\_ Instrument Operator's Name \_\_\_\_\_

**CHANGE SPACING UNIT**       **Remove from surface bond**  
 Formation \_\_\_\_\_ Formation Code \_\_\_\_\_ Spacing order number \_\_\_\_\_ Unit Acreage \_\_\_\_\_ Unit configuration \_\_\_\_\_  
 Signed surface use agreement attached

**CHANGE OF OPERATOR (prior to drilling):**       **CHANGE WELL NAME**      **NUMBER**  
 Effective Date: \_\_\_\_\_ From: \_\_\_\_\_  
 Plugging Bond:  Blanket     Individual      To: \_\_\_\_\_  
 Effective Date: \_\_\_\_\_

**ABANDONED LOCATION:**       **NOTICE OF CONTINUED SHUT IN STATUS**  
 Was location ever built?  Yes     No      Date well shut in or temporarily abandoned: \_\_\_\_\_  
 Is site ready for inspection?  Yes     No      Has Production Equipment been removed from site?  Yes     No  
 Date Ready for Inspection: \_\_\_\_\_      MIT required if shut in longer than two years. Date of last MIT \_\_\_\_\_

**SPUD DATE:** \_\_\_\_\_       **REQUEST FOR CONFIDENTIAL STATUS** (\$ fee from date casing set)

**SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK** \*submit cbl and cement job summaries  
 Method used \_\_\_\_\_ Cementing tool setting/perf depth \_\_\_\_\_ Cement volume \_\_\_\_\_ Cement top \_\_\_\_\_ Cement bottom \_\_\_\_\_ Date \_\_\_\_\_

**RECLAMATION:** Attach technical page describing final reclamation procedures per Rule 1004.  
 Final reclamation will commence on approximately \_\_\_\_\_       Final reclamation is completed and site is ready for inspection.

**Technical Engineering/Environmental Notice**

**Notice of Intent**       **Report of Work Done**  
 Approximate Start Date: \_\_\_\_\_      Date Work Completed: \_\_\_\_\_

Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)

<input type="checkbox"/> Intent to Recomplete (submit form 2)	<input type="checkbox"/> Request to Vent or Flare	<input type="checkbox"/> E&P Waste Disposal
<input type="checkbox"/> Change Drilling Plans	<input type="checkbox"/> Repair Well	<input type="checkbox"/> Beneficial Reuse of E&P Waste
<input type="checkbox"/> Gross Interval Changed?	<input type="checkbox"/> Rule 502 variance requested	<input type="checkbox"/> Status Update/Change of Remediation Plans
<input type="checkbox"/> Casing/Cementing Program Change	<input checked="" type="checkbox"/> Other: Apply different standards	for Spills and Releases

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

Signed: [Signature]      Date: 8/18/11      Email: daniel\_padilla@oxy.com  
 Print Name: Daniel I. Padilla      Title: Regulatory Advisor

OGCC Approved: [Signature]      Title: FOR      Date: 08/31/2011

CONDITIONS OF APPROVAL, IF ANY:  
Chris Canfield  
EPS NW Region

TECHNICAL INFORMATION PAGE



FOR OGCC USE ONLY

1. OGCC Operator Number: <u>66571</u> API Number: <u>05-045-09844</u>
2. Name of Operator: <u>OXY USA WTP LP</u> OGCC Facility ID # <u>273649</u>
3. Well/Facility Name: <u>Oxy Mesa PP Federal 23-15 Pit</u> Well/Facility Number: <u>23-15</u>
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): <u>NWSW 15 6S 97W</u>

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

5. DESCRIBE PROPOSED OR COMPLETED OPERATIONS

OXY USA WTP LP (Oxy) has completed reclamation of the above-mentioned blowdown pit and will apply a different standard (see table on next page) to the COGCC Table 910-1 concentration levels for Arsenic (As). Based on post reclamation levels for As being below undisturbed background levels, Oxy's sundry will waive the COGCC Table 910-1 concentration for As. In this particular situation, the below the pit liner (Post Reclaim 12/30/2008) concentration for As is above COGCC Table 910-1 standards, but is below undisturbed background levels (see sampling locations on included location map).  
The sampling method Oxy employed was to take a representative random grab sample for each background sample location. The analytical concentrations table identifies the COGCC Table 910-1 concentration levels, Oxy's undisturbed background concentrations, and Oxy's post reclamation concentrations (Post Reclaim 12/30/2008). Based on the background sample concentrations, Oxy's sundry notice request to apply different standards to the COGCC Table 910-1 concentration levels due to elevated background concentrations for As.

State of Colorado Oil and Gas Conservation Commission

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Table with columns DE, ET, OE, ES

SUNDRY NOTICE

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

Form with 11 numbered fields: 1. OGCC Operator Number: 66571, 2. Name of Operator: OXY USA WTP LP, 3. Address: P.O. Box 27757, City: Houston, State: TX, Zip: 77227-7757, 4. Contact Name: Daniel Padilla, Phone: (970) 263-3637, Fax: (970) 243-2525, 5. API Number: 05-045-09844, OGCC Facility ID Number: 273648, 6. Well/Facility Name: OXY FEDERAL, 7. Well/Facility Number: 23-15, 8. Location: NWSW, Sec 15, T6S, R97W, 6th PM, 9. County: Garfield, 10. Field Name: Grand Valley 31290, 11. Federal, Indian or State Lease Number: COC-056300

Complete the Attachment Checklist

OP OGCC

Attachment Checklist table with rows: Survey Plat, Directional Survey, Surface Eqpm Diagram, Technical Info Page, Other: Pit Name & Type (marked X)

General Notice

General Notice section with checkboxes for: CHANGE OF LOCATION, CHANGE SPACING UNIT, CHANGE OPERATOR, CHANGE WELL NAME, ABANDONED LOCATION, NOTICE OF CONTINUED SHUT IN STATUS, SPUD DATE, REQUEST FOR CONFIDENTIAL STATUS, SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK, RECLAMATION.

Technical Engineering/Environmental Notice

Technical Engineering/Environmental Notice section with checkboxes for: Notice of Intent, Report of Work Done, Intent to Recomplete, Request to Vent or Flare, E&P Waste Disposal, Change Drilling Plans, Repair Well, Beneficial Reuse of E&P Waste, Gross Interval Changed?, Rule 502 variance requested, Status Update/Change of Remediation Plans, Casing/Cementing Program Change, Other: Change from Blowdown to Production for Spills and Releases.

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

Signed: Daniel I. Padilla, Date: 10/21/08, Email: daniel\_padilla@oxy.com, Print Name: Daniel Padilla, Title: Regulatory Coordinator

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

CONDITIONS OF APPROVAL, IF ANY:

TECHNICAL INFORMATION PAGE



FOR OGCC USE ONLY

1. OGCC Operator Number:	66571	API Number:	05-045-09844
2. Name of Operator:	OXY USA WTP LP	OGCC Facility ID #	273648
3. Well/Facility Name:	OXY Mesa PP Federal 23-15 PIT	Well/Facility Number:	23-15
4. Location (QtrQtr, Sec, Twp, Rng, Meridian):	NWSW, 15, 6S, 97W, 6th		

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

5. DESCRIBE PROPOSED OR COMPLETED OPERATIONS

**Name change:**

Original name: MCM 82-92  
New name: OXY Mesa PP Federal 23-15 Pit

**Change of pit type:**

The OXY Mesa PP Federal 23-15 Pit was relined and dimensions changed by Sundry (approved on 5/2/08); OXY would like to request a change in pit use, from a blowdown pit to a production pit.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires July 31, 2010

**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.*

5. Lease Serial No.  
COC-56300

6. If Indian, Allottee or Tribe Name  
N/A

**SUBMIT IN TRIPLICATE – Other instructions on page 2.**

1. Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other		7. If Unit of CA/Agreement, Name and/or No. N/A
2. Name of Operator OXY USA WTP LP		8. Well Name and No. Oxy Mesa PP Federal 23-15 Pit
3a. Address P.O. Box 27757 Houston, TX 77227-7757	3b. Phone No. (include area code) (970)263-3637	9. API Well No. 05-045-09844
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) NWSW, Sec 15, T6S, R97W, 6 PM		10. Field and Pool or Exploratory Area Grand Valley 31290
		11. Country or Parish, State Garfield, CO

**12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>Pit Closure</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13 Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

OXY USA WTP LP (Oxy) has completed reclamation of the above-mentioned blowdown pit located on the Oxy Federal 23-15 Pad. Attached please find the closure documentation for the pit which was submitted to the COGCC

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) Daniel I. Padilla		Title Regulatory Advisor
Signature 		Date 8/18/11

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

## Pit Reclaims - Collbran

<b>Pad #:</b>	Fed 23-15
<b>Sample Date:</b>	12/30/2008
<b>Clearance Achieved Date:</b>	

	MCL (mg/kg)	Sample Identifications (mg/kg)	
		Post Reclaim	Background 12/15/2010
Organics in Soil			697-15-01 Road
<b>TPH (GRO and DRO) - Sen Area</b>	<b>500</b>	<b>&lt;0.50 / &lt;4.0</b>	-
<b>Benzene</b>	<b>0.17</b>	<b>&lt;0.0025</b>	-
<b>Toluene</b>	<b>85</b>	<b>&lt;0.025</b>	-
<b>Ethylbenzene</b>	<b>100</b>	<b>&lt;0.0025</b>	-
<b>Xylenes</b>	<b>175</b>	<b>&lt;0.0075</b>	-
Organics in Soil (PAH's)			
<b>Acenaphthene</b>	<b>1000</b>	NA	-
<b>Anthracene</b>	<b>1000</b>	NA	-
<b>Benzo(A)anthracene</b>	<b>0.22</b>	NA	-
<b>Benzo(B)fluoranthene</b>	<b>0.22</b>	NA	-
<b>Benzo(K)fluoranthene</b>	<b>2.2</b>	NA	-
<b>Benzo(A)pyrene</b>	<b>0.022</b>	NA	-
<b>Chrysene</b>	<b>22</b>	NA	-
<b>Dibenzo(A,H)anthracene</b>	<b>0.022</b>	NA	-
<b>Fluoranthene</b>	<b>1000</b>	NA	-
<b>Flourene</b>	<b>1000</b>	NA	-
<b>Indeno(1,2,3,C,D)pyrene</b>	<b>0.22</b>	NA	-
<b>Napthalene</b>	<b>23</b>	NA	-
<b>Pyrene</b>	<b>1000</b>	NA	-
Inorganics in Soil			
<b>EC</b>	<b>&lt;4 mmhos/cm or 2X background</b>	20.0	0.018
<b>SAR</b>	<b>&lt;12</b>	1.2	0.7
<b>pH</b>	<b>6-9</b>	7.8	6.7
Metals in Soils			
<b>Arsenic</b>	<b>0.39</b>	1.7	9.0
<b>Barium (LDNR True Total)</b>	<b>15000</b>	Not Sampled	-
<b>Boron (Hot Water Soluble)</b>	<b>2 (mg/L)</b>	0.21 (SPLP)	-
<b>Cadmium</b>	<b>70</b>	0.42	-
<b>Chromium</b>	<b>12000</b>	41.0	-
<b>Chromium VI</b>	<b>23</b>	NA	-
<b>Copper</b>	<b>3100</b>	14.0	-
<b>Lead</b>	<b>400</b>	11.0	-
<b>Mercury</b>	<b>23</b>	<b>&lt;0.020</b>	-
<b>Molybenum</b>	<b>(3) - See Below</b>	0.860	-
<b>Nickel</b>	<b>1600</b>	18.0	-
<b>Selenium</b>	<b>(3)/390</b>	3.0	-
<b>Silver</b>	<b>390</b>	<b>&lt;0.50</b>	-
<b>Zinc</b>	<b>23000</b>	41.0	-

(3) - Per the Old COGCC Rules, "Considerations are dependent on site specific conditions"



**OXY USA WTP LP**

760 Horizon Drive, Suite 101  
Grand Junction, CO 81506

# Fed 23-15 Blowdown Pit Sampling Location

Revised: June 17, 2011 Garfield County, Colorado

0 0.005 0.01 0.015 0.02 0.025 Miles



**Federal 23-15 pad**

● Post Reclaim sample location (12/30/2008)



-  Post Reclaim sample location (12/30/2008)
-  Background sample location another project



ENVIRONMENTAL  
SCIENCE CORP.

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

David Spencer  
Walsh Env.- Grand Junction  
535 Grand Avenue

Grand Junction, CO 81501

Report Summary

Thursday January 08, 2009

Report Number: L381801

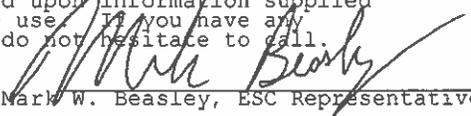
Samples Received: 01/03/09

Client Project: 7830-240

Description: Pit Bottom Sampling

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 - I-2327, CT - PH-0197, FL - E87487  
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140  
NJ - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233  
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

2 Samples Reported: 01/08/09 15:59 Printed: 01/08/09 15:59

Page 1 of 3



ENVIRONMENTAL  
SCIENCE CORP.

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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

David Spencer  
Walsh Env.- Grand Junction  
535 Grand Avenue  
Grand Junction, CO 81501

January 08, 2009

Date Received : January 03, 2009  
Description : Pit Bottom Sampling  
Sample ID : FED 23-15 0-6IN  
Collected By : David Spencer  
Collection Date : 12/30/08 10:00

ESC Sample # : L381801-01

Site ID :

Project # : 7830-240

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
SPLP Extraction	-			1312	01/06/09	1
Boron	0.21	0.20	mg/l	6010B	01/07/09	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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Reported: 01/08/09 15:59 Printed: 01/08/09 16:00



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Est. 1970

REPORT OF ANALYSIS

David Spencer  
Walsh Env.- Grand Junction  
535 Grand Avenue  
Grand Junction, CO 81501

January 08, 2009

Date Received : January 03, 2009  
Description : Pit Bottom Sampling  
Sample ID : FED 23-15 0-6IN  
Collected By : David Spencer  
Collection Date : 12/30/08 10:00

ESC Sample # : L381801-02  
Site ID :  
Project # : 7830-240

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	7.8		su	9045D	01/08/09	1
Sodium Adsorption Ratio	1.2			Calc.	01/04/09	1
Specific Conductance	20000		umhos/cm	9050AMod	01/07/09	1
Mercury	BDL	0.020	mg/kg	7471	01/06/09	1
Arsenic	1.7	1.0	mg/kg	6010B	01/06/09	1
Beryllium	0.59	0.10	mg/kg	6010B	01/06/09	1
Cadmium	0.42	0.25	mg/kg	6010B	01/06/09	1
Chromium	41.	0.50	mg/kg	6010B	01/06/09	1
Copper	14.	1.0	mg/kg	6010B	01/06/09	1
Lead	11.	0.25	mg/kg	6010B	01/06/09	1
Molybdenum	0.86	0.25	mg/kg	6010B	01/06/09	1
Nickel	18.	1.0	mg/kg	6010B	01/06/09	1
Selenium	3.0	1.0	mg/kg	6010B	01/06/09	1
Silver	BDL	0.50	mg/kg	6010B	01/06/09	1
Zinc	41.	1.5	mg/kg	6010B	01/06/09	1
Benzene	BDL	0.0025	mg/kg	8021/8015	01/03/09	5
Toluene	BDL	0.025	mg/kg	8021/8015	01/03/09	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	01/03/09	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	01/03/09	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	01/03/09	5
Surrogate Recovery-%						
a, a, a-Trifluorotoluene (FID)	93.7		% Rec.	8021/8015	01/03/09	5
a, a, a-Trifluorotoluene (PID)	99.4		% Rec.	8021/8015	01/03/09	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	01/05/09	1
Surrogate recovery(%)						
o-Terphenyl	51.9		% Rec.	3546/DRO	01/05/09	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 01/08/09 15:59 Printed: 01/08/09 16:00  
L381801-02 (PH) - 7.8@20.1c

Summary of Remarks For Samples Printed  
01/08/09 at 16:00:06

TSR Signing Reports: 134  
R5 - Desired TAT

Sample: L381801-01 Account: WALSHGJCO Received: 01/03/09 09:00 Due Date: 01/09/09 00:00 RPT Date: 01/08/09 15:59  
Rotate SPLP for BORON  
Sample: L381801-02 Account: WALSHGJCO Received: 01/03/09 09:00 Due Date: 01/09/09 00:00 RPT Date: 01/08/09 15:59

Company Name/Address:  
**Walsh Env. - Grand Junction**

535 Grand Avenue  
 Grand Junction, CO 81501

Alternate billing information:

Analysis/Container/Preservative

Prepared by:  
**ENVIRONMENTAL SCIENCE CORP.**  
 12065 Lebanon Road  
 Mt. Juliet, TN 37122  
 Phone (615) 758-5858  
 Phone (800) 767-5859  
 FAX (615) 758-5859  
 F121

Report to: *David Spencer*

Email to: *dspencer@earthlink.com*

Project Description: *Pit Bottom Sampling*

City/State Collected: *CO*

Phone: (970) 241-4636

Client Project #: *7830-240*

ESC Key:

FAX:

*7830-240*

Collected by: *David Spencer*

Site/Facility ID#:

P.O.#:

Collected by (signature): *[Signature]*

**Rush?** (Lab MUST Be Notified)

Date Results Needed:

Immediately

Same Day..... 200%  
 Next Day..... 100%  
 Two Day..... 50%  
 Three Day..... 25%

Email? \_\_\_ No \_\_\_ Yes  
 FAX? \_\_\_ No \_\_\_ Yes

Packed on Ice N \_\_\_ Y

Sample ID

Comp/Grab

Matrix\*

Depth

Date

Time

No. of Cans

*FDL 23-15*

*Comp SS*

*0-6"'*

*12-2008 10:00*

*2*

*[Handwritten scribble]*

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

Remarks: *[Handwritten notes]*

Relinquished by: (Signature) *[Signature]*

Date: *1-17-08*

Time: *17:00*

Received by: (Signature) *[Signature]*

Received by: (Signature) *[Signature]*

Samples returned via:  UPS  FedEx  Courier

Condition: *[Handwritten mark]*

Code/Seals Intact: *[Handwritten mark]*

Relinquished by: (Signature) *[Signature]*

Date: *1-17-08*

Time: *17:00*

Received by: (Signature) *[Signature]*

Received by: (Signature) *[Signature]*

Samples returned via:  UPS  FedEx  Courier

Condition: *[Handwritten mark]*

Code/Seals Intact: *[Handwritten mark]*

Relinquished by: (Signature) *[Signature]*

Date: *1-17-08*

Time: *17:00*

Received by: (Signature) *[Signature]*

Received by: (Signature) *[Signature]*

Samples returned via:  UPS  FedEx  Courier

Condition: *[Handwritten mark]*

Code/Seals Intact: *[Handwritten mark]*

Relinquished by: (Signature) *[Signature]*

Date: *1-17-08*

Time: *17:00*

Received by: (Signature) *[Signature]*

Received by: (Signature) *[Signature]*

Samples returned via:  UPS  FedEx  Courier

Condition: *[Handwritten mark]*

Code/Seals Intact: *[Handwritten mark]*

Lab use only: *[Handwritten mark]*



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Tax I.D. 62-0814289

Est. 1970

Brett Kennedy  
Oxy USA WTP LP - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

### Report Summary

Thursday December 23, 2010

Report Number: L493782

Samples Received: 12/15/10

Client Project:

Description: 697-15-01-Road

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 - I-2327, CT - PH-0197, FL - E87487  
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140  
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233  
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,  
TX - T104704245, OK-9915

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 Est. 1970

REPORT OF ANALYSIS

Brett Kennedy  
 Oxy USA WTP LP - Grand Junction, CO  
 760 Horizon Dr., Ste. 101  
 Grand Junction, CO 81506

December 23, 2010

Date Received : December 15, 2010  
 Description : 697-15-01-Road  
 Sample ID : 697-15-01-BACKGROUND-121310  
 Collected By : Jake Harris  
 Collection Date : 12/13/10 10:00

ESC Sample # : L493782-01  
 Site ID :  
 Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
pH	6.7			su		9045D	12/18/10	1
Sodium Adsorption Ratio	0.69					Calc.	12/20/10	1
Specific Conductance	18.			umhos/cm		9050AMo	12/20/10	1
Arsenic	9.0	0.32	1.0	mg/kg		6010B	12/22/10	1

U = ND (Not Detected)  
 MDL = Minimum Detection Limit = LOD  
 RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:  
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Reported: 12/23/10 12:57 Printed: 12/23/10 12:57  
 L493782-01 (PH) - 6.7@18.3c

Summary of Remarks For Samples Printed  
12/23/10 at 12:57:53

TSR Signing Reports: 134  
R5 - Desired TAT

Sample: L493782-01 Account: OXYWTPGJCO Received: 12/15/10 09:00 Due Date: 12/22/10 00:00 RPT Date: 12/23/10 12:57

