

State of Colorado
Oil and Gas Conservation Commission



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

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: 66571

Name of Operator: OXY USA WTP LP

Address: 760 Horizon Drive, Suite 101

City: Grand Junction State: CO Zip: 81506

Contact Name and Telephone:

Blair K. Rollins

No: (970) 263-3637

Fax: (970) 263-3694

API Number: _____

County: Garfield

Facility Name: 605-2 spill (REM #8898)

Facility Number: REM #8898

Well Name: Cascade Creek

Well Number: 605-2

Location: (QtrQtr, Sec, Twp, Rng, Meridian): _____ Latitude: _____ Longitude: _____

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Produced water & Condensate

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

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

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Silas loam, 1 to 12% slopes

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Conn Creek ~320 feet south of the spill location, groundwater

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

Impacted Media (check):



Soils



Vegetation



Groundwater



Surface Water

Extent of Impact:

113 cubic yards

Not applicable

Not applicable

Not applicable

How Determined:

Laboratory analytical data, field observations

Visual, limited to well pad surface

Confining shale layer below release

Laboratory analytical data, field observations

REMEDIALTION WORKPLAN

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

Please reference document # 2313835 received by the COGCC on February 2, 2015.

Describe how source is to be removed:

Oxy has completed four quarters of down-gradient surface water sampling to monitor potential impacts associated with the small amount of remaining contamination (estimated as <25 CY) below the separator unit on the well pad. Oxy has completed four quarters of down-gradient surface water monitoring to assess potential migration of the existing contamination and have found no exceedances to COGCC Table 910-1 surface water standards.

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.:

The remaining impacted materials below the separator unit has been treated with Microblaze and any residual contamination will be characterized and remediated at the end of the well pads useful production.

FOR OGCC USE ONLY

OGCC Employee:



Tracking No:



REMEDIATION WORKPLAN (Cont.)

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

OGCC Employee: _____

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):
During excavation of the impacted soil no groundwater was encountered. Oxy has collected four quarters of surface water samples from two sampling points: 1) a pond immediately adjacent to the well pad; 2) down-gradient surface water in the creek. These samples have demonstrated that no impacts to surface or groundwater have been encountered as a result of this spill.

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.

At the end of the production life of the well pad, Oxy will remove the separator unit and characterize and remediate any residual contamination found to be present due to the spill. Following completion of characterization and remediation, if required, Oxy will complete reclamation of the well pad following all COGCC 1000 series Reclamation Regulations.

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:

The remaining impacted materials below the separator unit has been treated with Microblaze and any residual contamination will be characterized and remediated at the end of the well pads useful production.

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

Oxy requests closure of this Remediation project as part of the approved Form 27 plan as Oxy has demonstrated that groundwater and surface water impacts are not present in the area due to the spill. The remaining impacted materials below the separator unit has been treated with Microblaze and any residual contamination will be characterized and remediated at the end of the well pads useful production.

IMPLEMENTATION SCHEDULE

| | | |
|--|--|---|
| Date Site Investigation Began: 9/23/14 | Date Site Investigation Completed: 10/1/14 | Date Remediation Plan Submitted: 2/2/15 |
| Remediation Start Date: 9/25/14 | Anticipated Completion Date: 12/31/15 | Actual Completion Date: 12/31/15 |

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

Print Name: Blair K. Rollins

Signed:

Title: HES Specialist

Date: 12/31/15

OGCC Approved: _____ Title: _____ Date: _____

| 605-2 Spill Surface Water Monitoring | | | | | | | | | | |
|--------------------------------------|--------------------------|-----------------|-----------------------|---------------------|----------------------------|--------------------|---------------------------|--|---|-----|
| Location /Date | Organics in Water (mg/L) | | | | | | Anions in Water (mg/L) | | | |
| | TPH DRO <0.1 | TPH GRO <0.1 | Benzene 0.005 mg/L | Toluene 1.0 mg/L | Ethylbenzene 10000 mg/L | Xylenes 10 mg/L | Total Dissolved Solids | Chloride (Cl ⁻) <1.25 X Background | Sulfate (SO ₄ ²⁻) <1.25 X Background | pH |
| Pond Outlet | | | | | | | | | | |
| 09/23/2014 | 0.10 | <0.1 | <0.001 | <0.005 | <0.001 | <0.003 | 280.0 | 3.3 | 10 | 9 |
| 06/04/2015 | <0.1 | <0.1 | <0.001 | <0.005 | <0.001 | <0.003 | 322.0 | 9.45 | 55.8 | |
| 09/23/2015 | 0.29 | <0.1 | <0.001 | <0.005 | <0.001 | <0.003 | 430.0 | 10.3 | 36.2 | |
| 12/17/2015 | 0.27 | <0.1 | <0.001 | <0.005 | <0.001 | <0.003 | 358.0 | 8.94 | 19.1 | |
| Downgradient Stream | | | | | | | | | | |
| 09/23/2014 | <0.1 | <0.1 | <0.001 | <0.005 | <0.001 | <0.003 | 380.0 | 11 | 53 | 8.2 |
| 06/04/2015 | <0.1 | <0.1 | <0.001 | <0.005 | <0.001 | <0.003 | 339.0 | 9.91 | 47.5 | |
| 09/23/2015 | <0.1 | <0.1 | <0.001 | <0.005 | <0.001 | <0.003 | 385.0 | 16.4 | 44.7 | |
| 12/17/2015 | <0.1 | <0.1 | <0.001 | <0.005 | <0.001 | <0.003 | 396.0 | 10.2 | 62.5 | |