

# State of Colorado Oil and Gas Conservation Commission

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401396923

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09/12/2017

Report taken by:

Stan Spencer

## Site Investigation and Remediation Workplan (Supplemental Form)

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. However, this shall not preclude the Operator from taking immediate action to protect public health or safety, the environment, wildlife, or livestock.

This Form 27 describes site conditions as currently understood by the Operator; approval of this Form 27 by COGCC is based on the site conditions accurately described herein; any changes in site conditions identified during or subsequent to the performance of the approved workplan may necessitate additional investigation or remediation which shall be described on a supplemental Form 27. This Form 27 is intended to provide basic information regarding the proposed site investigation and remediation actions, but the workplan may be more fully described in attached documentation.

Refer to Rules 340, 905, 906, 907, 908, 909, and 910

### OPERATOR INFORMATION

Name of Operator: <u>URSA OPERATING COMPANY LLC</u>	Operator No: <u>10447</u>	<b>Phone Numbers</b>
Address: <u>792 BUCKHORN DR</u>		Phone: <u>(970) 329-4367</u>
City: <u>RIFLE</u>	State: <u>CO</u>	Zip: <u>81650</u>
Contact Person: <u>Dwayne Knudson</u>	Email: <u>dknudson@ursaresources.com</u>	Mobile: <u>( )</u>

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 10352Initial Form 27 Document #: 401361769

#### PURPOSE INFORMATION

- |  |  |
|--|--|
| <input type="checkbox"/> 901.e. Sensitive Area Determination                                       | <input type="checkbox"/> 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water                   |
| <input type="checkbox"/> 909.c.(1), Rule 905: Pit or PW vessel closure                             | <input type="checkbox"/> Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b. |
| <input checked="" type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation                 | <input type="checkbox"/> Rule 909.e.(2)B.: Closure of remediation project                                  |
| <input type="checkbox"/> 909.c.(3), Rule 907.e.: Land treatment of oily waste                      | <input type="checkbox"/> Rule 906.c.: Director request   |
| <input type="checkbox"/> 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure | <input type="checkbox"/> Other _____   |

#### SITE INFORMATION

N Multiple Facilities ( in accordance with Rule 909.c. )

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>451316</u>	API #: _____	County Name: <u>RIO BLANCO</u>
Facility Name: <u>Around Tank Containment</u>		Latitude: <u>39.856130</u>	Longitude: <u>-108.338640</u>
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: <u>SWSE</u>	Sec: <u>24</u>	Twp: <u>2S</u>	Range: <u>98W</u>
		Meridian: <u>6</u>	Sensitive Area? <u>Yes</u>

#### SITE CONDITIONS

General soil type - USCS Classifications SCMost Sensitive Adjacent Land Use rangelandIs domestic water well within 1/4 mile? NoIs surface water within 1/4 mile? YesIs groundwater less than 20 feet below ground surface? No

#### Other Potential Receptors within 1/4 mile

Black Sulphur Creek lies approximately 100ft to the north

## SITE INVESTIGATION PLAN

### TYPE OF WASTE:

☒ E&P Waste

☐ Other E&P Waste

☐ Non-E&P Waste

☒ Produced Water

☐ Workover Fluids

☐ Oil

☐ Tank Bottoms

☒ Condensate

☐ Pigging Waste

☐ Drilling Fluids

☐ Rig Wash

☐ Drill Cuttings

☐ Spent Filters

☐ Pit Bottoms

☐ Other (as described by EPA)

### DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	20ft in depth & ~15ft horizontally	Visual, field screening, and confirmation data

### INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

Initial investigation activities consisted of confirming the vertical and horizontal impacts around the production tank containment to a depth of approximately 20ft below ground surface (bgs) where a solid hard pan layer was encountered.. The tank secondary containment structure was removed on the western side and the liner pulled back to the closest tank. The impacted soils under the containment were excavated in sections, removing the impacted soils to the total vertical depth of impacts or until the hard pan layer is encountered. Confirmation samples for hydrocarbons (TPH) and BTEX were collected from each section prior to backfilling with clean native soil from the surrounding pad.

### PROPOSED SAMPLING PLAN

#### Proposed Soil Sampling

☒ Will soil samples be collected as part of this investigation? ( Number, type (grab/composite), analyses, and locations of samples ):

Soil samples were collected from each section of the area excavated along the western side of the tank containment. As these impacts are believed to be from production water and possibly condensate, Ursa sampled for a reduced analyte list to consist of total petroleum hydrocarbons (TPH) and BTEX.

#### Proposed Groundwater Sampling

☐ Will groundwater samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

No

#### Proposed Surface Water Sampling

☒ Will surface water samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

As a BMP, Ursa collected one (1) upgradient and one (1) downgradient surface water sample from Black Sulphur Creek for constituents outlined in the COGCC 317B analyte list.

### Additional Investigative Actions

☐ Additional alternative investigative actions described in attached Site Investigation Plan ( summary ):

No

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 10

Number of soil samples exceeding 910-1 2

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 800

### NA / ND

-- Highest concentration of TPH (mg/kg) 4560

-- Highest concentration of SAR 12.7

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 15

### Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 25

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 910-1 0

Highest concentration of Benzene (µg/l)

Highest concentration of Toluene (µg/l)

Highest concentration of Ethylbenzene (µg/l)

Highest concentration of Xylene (µg/l)

Highest concentration of Methane (mg/l)

### Surface Water

2 Number of surface water samples collected

0 Number of surface water samples exceeding 910-1

If surface water is impacted, other agency notification may be required.

## OTHER INVESTIGATION INFORMATION

☐ Were impacts to adjacent property or offsite impacts identified?

☐ Were background samples collected as part of this site investigation?

☐ Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards)

Volume of liquid waste (barrels)

☐ Is further site investigation required?

## REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? No \_\_\_\_\_

### SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Excavation via trackhoe and hand equipment when operating around lines & valves.

### REMEDIATION SUMMARY

Describe how remediation of existing impacts to soil and groundwater is to be accomplished (i.e. summarize remedial action plan). Provide a brief narrative description including: technical justification, schedule for implementation, estimated time to attain NFA status, plus plans and specifications for the selected remedial action technology.

Excavation of the impacted soils was completed in sections to ensure tank containment integrity. One section of the impacts area was excavated, field screened, sampled for confirmation, then backfilled and compacted.

As impacts were excavated to the hardpan layer (~19-20 bgs), any trace amount or de-minimis impacts remaining were treated in-situ via bioremediation product. It is not anticipated that impacts remain or are present, the bioremediation product was added as a best management practice (BMP) to ensure all impacted media is properly managed.

### Soil Remediation Summary

#### ☒ In Situ

Yes \_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

No \_\_\_\_\_ Chemical oxidation

No \_\_\_\_\_ Air sparge / Soil vapor extraction

No \_\_\_\_\_ Natural Attenuation

No \_\_\_\_\_ Other \_\_\_\_\_

#### ☒ Ex Situ

Yes \_\_\_\_\_ Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 400

Name of Licensed Disposal Facility or COGCC Facility ID # \_\_\_\_\_

No \_\_\_\_\_ Excavate and onsite remediation

\_\_\_\_\_ Land Treatment

\_\_\_\_\_ Bioremediation (or enhanced bioremediation)

\_\_\_\_\_ Chemical oxidation

\_\_\_\_\_ Other \_\_\_\_\_

### Groundwater Remediation Summary

No \_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

No \_\_\_\_\_ Chemical oxidation

No \_\_\_\_\_ Air sparge / Soil vapor extraction

No \_\_\_\_\_ Natural Attenuation

No \_\_\_\_\_ Other \_\_\_\_\_

### GROUNDWATER MONITORING

If groundwater has been impacted, describe proposed monitoring plan, including # of wells or sample points, monitoring schedule, analytical methods, points of compliance. Attach a groundwater monitoring location diagram.

N/A - It is not suspected that groundwater has been impacted as total vertical depth of impacts has been delineated and no groundwater was encountered

## REMEDIATION PROGRESS UPDATE

### PERIODIC REPORTING

**Frequency:** ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Notice of Completion (NOC)

**Report Type:** ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report

☒ Other Closure

### WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? Yes

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

Impacted soils excavated were profiled and approved for disposal to Oilfield Water Logistics (OWL) located in Rio Blanco County. No beneficial reuse of waste is needed

Volume of E&P Waste (solid) in cubic yards 400

E&P waste (solid) description hydrocarbon impacted soils

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Oilfield Water Logistics (OWL)

Volume of E&P Waste (liquid) in barrels 0

E&P waste (liquid) description n/a

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: n/a

## REMEDIATION COMPLETION REPORT

### REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? Yes

Do all soils meet Table 910-1 standards? Yes

Does the previous reply indicate consideration of background concentrations? Yes

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface?

Does Groundwater meet Table 910-1 standards? Yes

Is additional groundwater monitoring to be conducted? No

## RECLAMATION PLAN

### RECLAMATION PLANNING

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.

Excavation of the impacted soils has been completed and backfilled with clean native soils from the surrounding pad. As this release was discovered in the active portions of the pad and operations are expected to continue on site, no final or interim reclamation is warranted at this time.

Is the described reclamation complete? Yes

Does the reclamation described herein constitute interim or final reclamation of the Oil and Gas Location?

☒ Interim? ☐ Final?

Did the Surface Owner approve the seed mix? Yes

If NO, does the seed mix comply with local soil conservation district recommendations? Yes

## IMPLEMENTATION SCHEDULE

### **PRIOR DATES**

Date of Surface Owner notification/consultation, if required. \_\_\_\_\_

Actual Spill or Release date, if known. \_\_\_\_\_

### **SITE INVESTIGATION DATES**

Date of Initial Actions described in Site Investigation Plan (start date). 06/26/2017

Date of commencement of Site Investigation. 07/06/2017

Date of completion of Site Investigation. 08/16/2017

### **REMEDIAL ACTION DATES**

Date of commencement of Remediation. 08/08/2017

Date of completion of Remediation. 08/16/2017

### **SITE RECLAMATION DATES**

Date of commencement of Reclamation. 08/18/2017

Date of completion of Reclamation. 08/25/2017

**OPERATOR COMMENT**

Stan - attached is the remediation summary for the C-24O historical impacts discovered on the western side of the production tank containment. All impacted material has been excavated and disposed and confirmation data indicates soils satisfy COGCC Table 910-1. Ursa is requesting the release & REM# 10352 be closed out with no further action.

(please forward onto Stan Spencer for review)

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

Signed: ` Kris Rowe

Title: Env. Consultant

Submit Date: ` 09/12/2017

Email: krowe@hrlcomp.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: Stan Spencer

Date: 09/14/2017

Remediation Project Number: 10352

**COA Type****Description**

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**Attachment Check List**

Upon approval, the approved Form 27 and all listed attachments will be indexed to the Remediation Project file. Only the approved Form 27 will also be indexed to the related Facilities.

**Att Doc Num****Name**

401396923	FORM 27-SUPPLEMENTAL-SUBMITTED
401396966	ANALYTICAL RESULTS
401396968	ANALYTICAL RESULTS
401396973	ANALYTICAL RESULTS
401396974	ANALYTICAL RESULTS
401401187	ANALYTICAL RESULTS
401401191	MAP

Total Attach: 7 Files

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

Environmental	Based on the information presented, it appears that no further action is necessary at this time and the COGCC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards or if ground water is found to be impacted, then further investigation and/or remediation activities may be required. In addition, the surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules.	09/14/2017
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Total: 1 comment(s)