

State of Colorado  
Oil and Gas Conservation Commission

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Report taken by:  
ROB YOUNG

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 INFORMATON

Name of Operator: WESTERN OPERATING COMPANY	Operator No: 95620	<b>Phone Numbers</b>
Address: 1165 DELAWARE STREET #200		Phone: (303) 893-2438
City: DENVER State: CO Zip: 80204		Mobile: ( )
Contact Person: Steven James	Email: steve@westernoperating.com	

PROJECT, PURPOSE & SITE INFORMATION

**PROJECT INFORMATION**  
Remediation Project #: 12652 Initial Form 27 Document #: 401940938

**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 checked="" 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 Facilites ( in accordance with Rule 909.c. )

Facility Type: LOCATION	Facility ID: 313944	API #: _____	County Name: MORGAN
Facility Name: CHALLIS-64N59W 34NWSE	Latitude: 40.267440	Longitude: -103.968500	
	** correct Lat/Long if needed: Latitude: 40.267121	Longitude: -103.968477	
QtrQtr: NWSE	Sec: 34	Twp: 4N	Range: 59W Meridian: 6 Sensitive Area? Yes

**SITE CONDITIONS**

General soil type - USCS Classifications SM      Most Sensitive Adjacent Land Use Range

Is domestic water well within 1/4 mile? Yes      Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? Yes

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

Surface water feature is located approximately 0.18 miles east-northeast. Irrigation ditch is located approximately 0.15 miles east-northeast.

# SITE INVESTIGATION PLAN

## TYPE OF WASTE:

- |  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste      | <input type="checkbox"/> Other E&P Waste             | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids             | _____                                  |
| <input checked="" type="checkbox"/> Oil            | <input type="checkbox"/> Tank Bottoms                | _____                                  |
| <input type="checkbox"/> Condensate                | <input type="checkbox"/> Pigging Waste               |  |
| <input type="checkbox"/> Drilling Fluids           | <input type="checkbox"/> Rig Wash                    |  |
| <input type="checkbox"/> Drill Cuttings            | <input type="checkbox"/> Spent Filters               |  |
|  | <input type="checkbox"/> Pit Bottoms                 |  |
|  | <input type="checkbox"/> Other (as described by EPA) | _____                                  |

## DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	7 cubic yards	Site Assessment

## INITIAL ACTION SUMMARY

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

On February 1, 2019, LT Environmental, Inc. (LTE) conducted a site assessment to identify potential petroleum hydrocarbon impact to soil caused by the leaking tank identified in the January 9, 2019, COGCC inspection (Document Number 688000243). An LTE technician advanced five soil borings at the Site manually using a hand auger. One soil boring was located at the release origin and the remaining four soil borings were located in cardinal directions approximately 10 feet from the release origin. Laboratory analytical results indicated that TPH in soil sample SS01@1' exceeded the applicable COGCC Table 910-1 standard with a concentration of 809 milligrams per kilogram (mg/kg). All other laboratory soil analytical results were compliant with applicable COGCC Table 910-1 standards. The results of the site assessment were presented in the Form 27 initial (Document number 401940938).

## 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 ):

Based on the results of the February 1, 2019 site assessment, Western conducted source removal excavation to remove the impact identified in soil sample SS01@1'. The final extent of excavation was approximately 6-feet by 10-feet to a total depth of 3 feet below grade. After excavation activities, on February 15, 2019, one confirmation soil sample (SS01@3') was collected from the floor of the excavation to verify that the impacted soil identified was removed. Soil sample SS01@3' was submitted for laboratory analysis of BTEX, TPH as GRO, TPH as DRO, TPH as ORO, pH, and EC. Laboratory soil analytical results for SS01@3' indicated that all concentrations and levels were compliant with COGCC Table 910-1 allowable levels. The analytical results are summarized in the attached Table 1.

### Proposed Groundwater Sampling

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

Groundwater was not encountered during assessment activities.

### Proposed Surface Water Sampling

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

NA

## Additional Investigative Actions

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

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 7

Number of soil samples exceeding 910-1 0

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

Approximate areal extent (square feet) 60

### NA / ND

-- Highest concentration of TPH (mg/kg) 809

NA Highest concentration of SAR         

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 0

### Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet)         

Number of groundwater monitoring wells installed         

Number of groundwater samples exceeding 910-1         

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

0 Number of surface water samples collected

         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.

Source removal excavation. Approximately 7 cubic yards of impacted soil was excavated and disposed of at the Waste Management Buffalo Ridge Facility.

## 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.

Source removal excavation and confirmation soil sampling.

## Soil Remediation Summary

In Situ

- \_\_\_\_\_ Bioremediation ( or enhanced bioremediation )
- \_\_\_\_\_ Chemical oxidation
- \_\_\_\_\_ Air sparge / Soil vapor extraction
- \_\_\_\_\_ Natural Attenuation
- \_\_\_\_\_ Other \_\_\_\_\_

Ex Situ

- Yes \_\_\_\_\_ Excavate and offsite disposal
- If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 7
- Name of Licensed Disposal Facility or COGCC Facility ID # \_\_\_\_\_
- No \_\_\_\_\_ Excavate and onsite remediation
- Yes \_\_\_\_\_ Land Treatment
- \_\_\_\_\_ Bioremediation (or enhanced bioremediation)
- \_\_\_\_\_ Chemical oxidation
- \_\_\_\_\_ Other \_\_\_\_\_

## Groundwater Remediation Summary

- \_\_\_\_\_ Bioremediation ( or enhanced bioremediation )
- \_\_\_\_\_ Chemical oxidation
- \_\_\_\_\_ Air sparge / Soil vapor extraction
- \_\_\_\_\_ Natural Attenuation
- \_\_\_\_\_ 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.

NA

# REMEDIATION PROGRESS UPDATE

## PERIODIC REPORTING

Frequency:  Quarterly  Semi-Annually  Annually  Other Final Report

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

Other Form 27 Supplemental to report confirmation soil sampling results

## 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:

None

Volume of E&P Waste (solid) in cubic yards 7

E&P waste (solid) description Stained soil

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Waste Management - Buffalo Ridge

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

E&P waste (liquid) description

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

## REMEDIATION COMPLETION REPORT

### REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No

Do all soils meet Table 910-1 standards? Yes

Does the previous reply indicate consideration of background concentrations? No

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.

Site is active. Reclamation will be addressed during P&A activities.

Is the described reclamation complete?

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?

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

## 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). 02/01/2019

Date of commencement of Site Investigation. 02/01/2019

Date of completion of Site Investigation. 02/15/2019

### REMEDIAL ACTION DATES

Date of commencement of Remediation. 02/15/2019

Date of completion of Remediation. 02/15/2019

### SITE RECLAMATION DATES

Date of commencement of Reclamation. \_\_\_\_\_

Date of completion of Reclamation. \_\_\_\_\_

### OPERATOR COMMENT

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

Signed: Steven James

Title: President

Submit Date: 06/04/2019

Email: steve@westernoperating.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: ROB YOUNG

Date: 06/07/2019

Remediation Project Number: 12652

### COA Type

### Description

	Provide soil confirmation samples from the extent of the excavation prior to requesting project closure.
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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.

<u>Att Doc Num</u>	<u>Name</u>
401954837	FORM 27-SUPPLEMENTAL-SUBMITTED
401986677	SITE MAP
401986681	SOIL SAMPLE LOCATION MAP
401986687	ANALYTICAL RESULTS
401986688	ANALYTICAL RESULTS
402062243	DISPOSAL MANIFESTS

Total Attach: 6 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)