FORM 27 Rev 4/21

State of Colorado
Oil and Gas Conservation Commission

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Document Number: 402726237
Receive Date:
Report taken by:

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

Phone Numbers

Address: 1165 DELAWARE STREET #200 Phone: (303) 893-2438
City: DENVER State: CO Zip: 80204 Mobile: ( )
Contact Person: Steve James Email: steve@westernoperating.com

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 7315 Initial Form 27 Document #: 2230511

PURPOSE INFORMATION

- [ ] Rule 913.c.(1): Pit or Cuttings Trench closure.
- [ ] Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- [ ] Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912.
- [ ] Rule 913.c.(4): Land treatment of Oily Waste pursuant to Rule 905.e.
- [ ] Rule 913.c.(5): Closure of Centralized E&P Waste Management Facilities pursuant to Rule 907.h.
- [ ] Rule 913.c.(6): Remediation of impacted Groundwater pursuant to Rule 915.e.(3).D, and the contaminant concentrations in Table 915-1.
- [ ] Rule 913.c.(7): Investigation and remediation of natural gas in soil or Groundwater.
- [ ] Rule 913.c.(8): When requested by the Director due to any potential risk to soil, Groundwater, or surface water.
- [ ] Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- [ ] Rule 913.g: Changes of Operator.
- [ ] Rule 915.b: Request to leave elevated inorganics in situ.
- [X] Other: SENSITIVE AREA DETERMINATION

SITE INFORMATION

No Multiple Facilities

Facility Type: WELL Facility ID: API #: 075-05841 County Name: LOGAN
Facility Name: NELSON A-6 Latitude: 40.661400 Longitude: -103.440030
** correct Lat/Long if needed: Latitude: 40.665675 Longitude: -103.447055
QtrQtr: SENW Sec: 17 Twp: 8N Range: 54W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use PASTURE
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 855' NW; BUILDING 2,510' NW; WATER WELL 3,315' N; & GROUNDWATER ~22' BGS.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

[X] **E&P Waste**	[ ] **Other E&P Waste**	[ ] **Non-E&P Waste**
[X] 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	39,500 sqaure feet	visual observation and soil samples

INITIAL ACTION SUMMARY

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

In June and October 2012, LT Environmental Inc. (LTE) conducted pit closure sampling associated with the produced water pit and oil skim pit at the Nelson A-6 Tank Battery. Final sampling results indicated that all COGCC cleanup criteria for pit closures was achieved. Additionally, in June 2012 an area downgradient of the produced water pit with stressed vegetation was assessed by collecting composite samples from two locations (SS01 and SS02) in the impacted area. At each location, samples were collected from 0 - 0.5 feet below ground surface (bgs) and 1.5 – 2 feet bgs. Analytical results indicated that all composite samples exceeded COGCC Table 910-1 standards for pH, electrical conductivity (EC), and sodium adsorption ratio (SAR). In December 2012, the Site was tilled, reseeded, and a liquid calcium soil amendment was applied to mitigate the elevated pH, EC, and SAR. The results of the 2012 pit closure sampling and salt impact reclamation activity was presented in the LTE report titled Nelson A-6 Pit Closure/Salt Impact Remediation dated February 8, 2013 (COGCC Document Number 2145722).

In May 2014, LTE inspected the Site and indicated that vegetation had not fully reestablished.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

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

In July 2021, composite samples will be recollected from the prior locations and depths (SS01@0-0.5', SS01@1.5-2', SS02@0-0.5', SS02@1.5-2') for analysis of pH, EC, and SAR to evaluate current concentrations.

Proposed Groundwater Sampling

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

Proposed Surface Water Sampling

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

Additional Investigative Actions

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

Photographs will be taken of the salt impacted area to assess the current state of revegetation.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 8
Number of soil samples exceeeding 915-1: 5
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet): 39500

NA / ND

-- Highest concentration of TPH (mg/kg): 2430
-- Highest concentration of SAR: 65
BTEX > 915-1: No
Vertical Extent > 915-1 (in feet): 2

Groundwater

Number of groundwater samples collected: 0
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet): `
Number of groundwater monitoring wells installed:
Number of groundwater samples exceeding 915-1:

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
0 Number of surface water samples exceeding 915-1
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 was conducted to remove hydrocarbon impact identified in the pits. Salt impacts are being treated in place.

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.

The site was tilled, reseeded, and a liquid calcium amendment was applied to mitigate elevated inorganic concentrations.

Soil Remediation Summary

☐ **In Situ**

Bioremediation (or enhanced bioremediation)

Chemical oxidation

Air sparge / Soil vapor extraction

Natural Attenuation

Other _____

☐ **Ex Situ**

Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) _____

Name of Licensed Disposal Facility or COGCC Facility ID # _____

Excavate and onsite remediation

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.

GROUNDWATER IS ESTIMATED TO BE AT A DEPTH OF AT LEAST 22 FEET AT THE SITE. NO GROUNDWATER SAMPLES WILL BE COLLECTED DURING ASSESSMENT ACTIVITIES.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

☐ Quarterly ☐ Semi-Annually ☐ Annually ☐ Other

☐ **Request Alternative Reporting Schedule:**

☐ Semi-Annually ☐ Annually ☐ Other

Rule 913.e:
After initial approval of a Form 27, the Operator will provide quarterly update reports in a Supplemental Form 27 to document progress of site investigation and remediation, unless an alternative reporting schedule has been requested by the Operator and approved by the Director. The Director may request a more frequent reporting schedule based on site-specific conditions.

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

☐ Other

WASTE DISPOSAL INFORMATION

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

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

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

E&P waste (solid) description

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

Volume of E&P Waste (liquid) in barrels

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

If YES:

☐ Compliant with Rule 913.h.(1).

☐ Compliant with Rule 913.h.(2).

☐ Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards?

Does the previous reply indicate consideration of background concentrations?

Does Groundwater meet Table 915-1 standards?

Is additional groundwater monitoring to be conducted?

Operator shall comply with the COGCC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

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.

IF ANALYTICAL RESULTS INDICATE THE SOIL IS COMPLIANT, THE PITS WILL BE BACKFILLED, RECLAIMED TO PREVIOUS GRADE, AND RESEEDED.

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 provide the seed mix? _____

If YES, does the seed mix comply with local soil conservation district recommendations? _____

Did the local soil conservation district provide the seed mix? _____

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. _____

Proposed date of completion of Reclamation. _____

IMPLEMENTATION SCHEDULE

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

PRIOR DATES

Date of Surface Owner notification/consultation, if required. _____

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/29/2012

Proposed site investigation commencement. 06/29/2012

Proposed completion of site investigation. _____

REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/10/2012

Proposed date of completion of Remediation. _____

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

☐ Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

OPERATOR COMMENT

If completion of remediation can be demonstrated by January 15, 2022, Western Operating requests that Table 910-1 standards be used to determine compliance in accordance with COGCC Rule 915 f.

The proposed sampling is scheduled to occur in July 2021. A supplemental Form 27 presenting the results will be submitted to the COGCC by the end of August 2021.

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

Signed:` Steve James Title: President

Submit Date:` 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: Date:

Remediation Project Number: 7315

COA Type	Description

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

Total Attach: 0 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)