

State of Colorado Oil and Gas Conservation Commission

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402139295

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 INFORMATION

Name of Operator: CRESTONE PEAK RESOURCES OPERATING LLC	Operator No: 10633	Phone Numbers Phone: (303) 7743985 Mobile: (720) 2365525
Address: 1801 CALIFORNIA STREET #2500		
City: DENVER	State: CO Zip: 80202	
Contact Person: David Tewkesbury	Email: David.Tewkesbury@CrestonePR.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 13765

Initial Form 27 Document #: 402087748

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 checked="" 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 checked="" type="checkbox"/> Other Facility decommissioning in support of final reclamation. |

SITE INFORMATION

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

Facility Type: LOCATION	Facility ID: 330869	API #: _____	County Name: WELD
Facility Name: ECHEVERRIA-62N67W 2SWSW		Latitude: 40.160987	Longitude: -104.865603
		** correct Lat/Long if needed: Latitude: 40.162418	Longitude: -104.863668
QtrQtr: SWSW	Sec: 2	Twp: 2N	Range: 67W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

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

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

Occupied structures

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
No	GROUNDWATER	Defined by sample "Echeverria"	Laboratory analysis
Yes	SOILS	53' x 68' x 12'	Laboratory analysis

INITIAL ACTION SUMMARY

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

This form has been prepared to support removal of the partially-buried produced-water vessel associated with this location. In accordance with COGCC Rule 905.b, soil samples, and groundwater samples if present, will be collected during closure of the buried or partially-buried produced water vessels to assure compliance with COGCC Table 910-1 allowable limits. The initial investigation will be conducted using excavation equipment. Field screening of disturbed soils will be conducted during equipment removal and samples will be collected for laboratory analysis if any indications of impacts are identified. Identified impacts will be reported as required for each discovery, and a Form 19 will be submitted.

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):

If no suspected release is identified, one discrete grab soil sample will be collected from directly beneath the produced-water vessel upon removal and submitted for laboratory analysis of organic constituents (TPH and BTEX) and inorganics (SAR, EC and pH). If a release is discovered and confirmed through soil screening and/or laboratory analysis, and/or groundwater is encountered during removal activities, additional excavations may be conducted to further delineate horizontally and vertically. If the extent of impacts is reached and/or remaining impact analytical results are needed for future remediation activities, discrete soil samples will be collected from the sidewalls and base (if groundwater is not present) and analyzed for organic (TPH and BTEX) and inorganic (SAR, EC and pH) constituents.

Proposed Groundwater Sampling

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

If groundwater is encountered during excavation activities, one sample will be collected and analyzed for BTEX.

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):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 21
Number of soil samples exceeding 910-1 1
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 3604

NA / ND

-- Highest concentration of TPH (mg/kg) 1820
ND Highest concentration of SAR
BTEX > 910-1 No
Vertical Extent > 910-1 (in feet) 2

Groundwater

Number of groundwater samples collected 1
Was extent of groundwater contaminated delineated? Yes
Depth to groundwater (below ground surface, in feet) 10'
Number of groundwater monitoring wells installed 0
Number of groundwater samples exceeding 910-1 0

-- Highest concentration of Benzene (µg/l) 3
-- Highest concentration of Toluene (µg/l) 21
-- Highest concentration of Ethylbenzene (µg/l) 3
-- Highest concentration of Xylene (µg/l) 279
NA 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.

Once a release was discovered during the closure of the produced-water vessel, additional excavations were conducted, and impacted soil was treated using hydrogen peroxide treatment (also known as soil shredding). Additionally, 843 barrels of groundwater were removed and transported to a disposal facility. Transport and disposal records will be kept on file under usual and customary practice and are available upon request. Approximately 1300 cubic yards of soil were removed from the excavation and subsequently treated on site. Soil and water samples were collected and analyzed for organic (TPH and BTEX) and inorganic constituents (SAR, EC and pH) until the horizontal and vertical extents of the excavation were within COGCC Table 910-1 allowable limits.

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.

These source removal and remediation activities are linked a previously reported release (Spill/Release ID 9252).

Soil Remediation Summary

☒ **In Situ**

Yes Bioremediation (or enhanced bioremediation)

Yes Chemical oxidation

Air sparge / Soil vapor extraction

Natural Attenuation

Other _____

☒ **Ex Situ**

No Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) _____

Name of Licensed Disposal Facility or COGCC Facility ID # _____

Yes Excavate and onsite remediation

No Land Treatment

No Bioremediation (or enhanced bioremediation)

Yes Chemical oxidation

Yes Other Soil treatment _____

Groundwater Remediation Summary

Yes Bioremediation (or enhanced bioremediation)

Yes 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 impacts on site are likely associated with a previously reported release (Spill/Release ID 9252) and will continue to be monitored on a quarterly basis until four consecutive quarters of clearance are reached.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☐ Other _____

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? Yes _____

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? Yes _____

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.

Reclamation activities will be completed in accordance with 1000 Series Rules, in collaboration with the landowner, and reported in a Form 4 (Sundry Notice) with proper documentation to demonstrate compliance with requirements for final reclamation.

Is the described reclamation complete? No _____

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). 06/25/2019

Date of commencement of Site Investigation. 06/26/2019

Date of completion of Site Investigation. 07/26/2019

REMEDIAL ACTION DATES

Date of commencement of Remediation. 07/08/2019

Date of completion of Remediation. 07/26/2019

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

This form has been prepared to document successful closure of the partially-buried produced-water vessel at this location. Please find attached a summary of the 2019 remediation activities and findings, including lab results. Quarterly groundwater remediation summaries associated with Spill/Release ID 9252 will be provided separately.

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

Signed: Maggie Graham

Title: Senior Project Manager

Submit Date: _____

Email: Maggie.Graham@apexcos.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: 13765

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

402141504	SITE INVESTIGATION REPORT
402141688	REMEDIAL ACTION PROGRESS REPORT

Total Attach: 2 Files

General Comments

User Group

Comment

Comment Date

	trouble withh attachment as doc 402141499	08/12/2019
Environmental	changed to spill 1814971 (doc #) and subsequent REM 9252 in submit comments and in remediation summary	08/12/2019

Total: 2 comment(s)