

State of Colorado
Oil and Gas Conservation Commission

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Report taken by:
PETER GINTAUTAS

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 6559 Initial Form 27 Document #: 2216571

PURPOSE INFORMATION

<input type="checkbox"/> 901.e. Sensitive Area Determination	<input checked="" 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>TANK BATTERY</u>	Facility ID: <u>453315</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Bangert 2-19 battery 2-19</u>	Latitude: <u>40.127462</u>	Longitude: <u>-104.814164</u>	
** correct Lat/Long if needed: Latitude: <u>40.126933</u>		Longitude: <u>-104.813002</u>	
QtrQtr: <u>NENE</u>	Sec: <u>19</u>	Twp: <u>2N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications GW 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

WATER WELL 440', SURFACE WATER 570'.

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 type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids | _____ |
| <input type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input checked="" 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	GROUNDWATER	MW-04	Laboratory analysis
Yes	SOILS	To be determined	Investigation pending

INITIAL ACTION SUMMARY

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

PRODUCTION WAS CEASED AT THE TANK BATTERY TO ASSESS IMPACTS AND BEGIN REMEDIATION EFFORTS.

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 previously collected and analyzed for TPH and BTEX. The most recent excavation efforts were completed in 2012 with final extents of 40' x 20' x 15' bgs. Investigation activities in 2012 did not characterize soil impacts at the base of the excavation and identified remaining soil impacts in the location of SS02. As the landowner allows, soil samples will be analyzed for TPH and BTEX as needed to define the vertical and horizontal extents of soil contamination.

Proposed Groundwater Sampling

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

As the landowner allows, groundwater monitoring will be conducted on a quarterly basis. Collected groundwater samples will be analyzed for BTEX until results are below COGCC Table 910-1 allowable limits for four consecutive quarters.

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):

Soil delineation and groundwater delineation efforts are still needed. Delineation efforts are on hold until an access agreement can be negotiated with the landowner.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 4
Number of soil samples exceeding 910-1 1
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 1000

NA / ND

-- Highest concentration of TPH (mg/kg) 1010
NA Highest concentration of SAR
BTEX > 910-1 No
Vertical Extent > 910-1 (in feet) 12

Groundwater

Number of groundwater samples collected 74
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet) 12'
Number of groundwater monitoring wells installed 0
Number of groundwater samples exceeding 910-1 39

-- Highest concentration of Benzene (µg/l) 1360
-- Highest concentration of Toluene (µg/l) 240
-- Highest concentration of Ethylbenzene (µg/l) 1840
-- Highest concentration of Xylene (µg/l) 6220
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?

Soil delineation and groundwater delineation efforts are still needed. Delineation efforts are on hold until an access agreement can be negotiated with the landowner.

REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? Yes _____

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Soils and groundwater may be removed and transported to a licensed facility. Transport and disposal records will be kept on file under usual and customary practice and are available upon request. Additional methodologies may be proposed in subsequent proposals.

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 most recent excavation efforts were completed in 2012 with final extents of 40' x 20' x 15' bgs. Investigation activities in 2012 did not characterize soil impacts at the base of the excavation and identified remaining soil impacts in the location of SS02. Activated carbon was applied to the excavation prior to backfill.

From January 30, 2019 to February 1, 2019, a COGAC™ injection event was performed in the vicinity of monitoring wells MW-01, and MW-02. A total of 32 injection points were advanced with injection intervals ranging from 12 to 18 feet below ground surface. A total of 4,800 pounds of COGAC™ was introduced to the subsurface intervals.

Soil delineation and groundwater delineation efforts are needed at this time. Delineation efforts are on hold at this time due to a pending access agreement with the landowner.

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

Yes _____ Bioremediation (or enhanced bioremediation)
Yes _____ Chemical oxidation
 _____ Air sparge / Soil vapor extraction
Yes _____ 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.

As the landowner allows, groundwater monitoring will be conducted on a quarterly basis. Collected groundwater samples will be analyzed for BTEX until results are below COGCC Table 910-1 allowable limits for four consecutive quarters.

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? No _____

Do all soils meet Table 910-1 standards? _____

Does the previous reply indicate consideration of background concentrations? _____

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? _____

Is additional groundwater monitoring to be conducted? _____

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? Yes _____

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). _____

Date of commencement of Site Investigation. 02/10/2009

Date of completion of Site Investigation. _____

REMEDIAL ACTION DATES

Date of commencement of Remediation. 07/07/2011

Date of completion of Remediation. 12/01/2012

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

This form has been submitted to satisfy the April 15, 2021 remediation update deadline set forth by the COGCC per rule 913.e.(2). Due to a pending landowner access agreement, no work has been conducted at the site since Q1 2020 and all previously installed monitoring wells have been removed. The landowner was contacted April 2, 2020 and April 13, 2021 by phone to request access for remedial investigation activities. The landowner denied access for investigation activities on both occasions. Efforts to negotiate access will continue and will be reported to the COGCC. Subsequent forms will be submitted on an annual basis unless data is collected. If soil or groundwater data is collected, results will be reported via Form 27 supplemental within 30 days of receiving the laboratory report. Crestone requests permission to continue to seek compliance with Table 910-1 under Rule 915.f. until such time that remediation is completed, or until January 15, 2022, whichever comes first.

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

Signed: Chris Rice

Title: Environmental Technician

Submit Date: 04/15/2021

Email: Christopher.Rice@CrestonePR.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: PETER GINTAUTAS

Date: 04/16/2021

Remediation Project Number: 6559

Condition of Approval**COA Type****Description**

	COGCC does not approve Operators request to comply with the version of Table 910-1 that was previously in effect for Remediation #6559 as the current progress suggests that Remediation will not be completed by January 15, 2022.
	Groundwater flow directions can vary seasonally or with local irrigation practice and have not been measured since late 2018. Adequate points of compliance to define the extent of impacts to groundwater are not in place and are required by rule. The extent of impacts to soil have also not been adequately established as required by rule nor have impacted soils been removed and impacted soils are likely source of groundwater impacts. quarterly reporting is required by rule and request to move to annual reporting is not approved as adequate points of compliance have not been established efforts to establish points of compliance must be documented in each quarterly update until adequate points of compliance with respect to soil and groundwater impacts are established.
2 COAs	

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**

402657048	FORM 27-SUPPLEMENTAL-SUBMITTED
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Total Attach: 1 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)