

State of Colorado Oil and Gas Conservation Commission

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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: HIGHPOINT OPERATING CORPORATION	Operator No: 10071	Phone Numbers
Address: 555 17TH ST STE 3700		
City: DENVER	State: CO Zip: 80202	
Contact Person: Rusty Frishmuth	Email: rfrishmuth@hpres.com	
		Phone: (303) 312-8718
		Mobile: (303) 518-2290

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 12261

Initial Form 27 Document #: 401841711

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: SPILL OR RELEASE	Facility ID: 456514	API #:	County Name: WELD
Facility Name: Production Tank Overflow		Latitude: 40.916450	Longitude: -104.411525
		** correct Lat/Long if needed: Latitude:	Longitude:
QtrQtr: SESE	Sec: 15	Twp: 11N	Range: 63W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use Agriculture

Is domestic water well within 1/4 mile? No

Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

None.

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	570 square feet	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.

Confirmation soil sampling was conducted following the release on 10/23/18. Four surficial (0-6") samples (SS01 through SS04) were collected throughout the release area for analysis of TPH as GRO and BTEX by USEPA Method 8260 and TPH as DRO by USEPA Method 8015. One sample was submitted for analysis of EC by USEPA Method 120.1, pH by USEPA Method 6020, and SAR by calculation. Laboratory analytical results indicated soil samples SS02 and SS03 exceeded the COGCC Table 910-1 standard for TPH at concentrations of 530.67 mg/kg and 661.9 mg/kg, respectively. All other results were compliant with applicable standards. Highpoint applied a biological soil amendment (Micro-Blaze) to accelerate attenuation of the affected area.

On 11/12/18, confirmation soil sampling was conducted at the locations SS02 and SS03 for analysis of BTEX and TPH as GRO/DRO to monitor soil remedial progress. Laboratory analytical results indicated that sample SS02 was compliant with Table 910-1 standards, but sample SS03 exceeded the Table 910-1 standard for TPH with a concentration of 4,600 mg/kg.

The results summary table and sample location figure are attached.

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):

On May 6, 2019, LTE collected soil samples from seven locations inside the earthen berm containment to delineate the lateral and vertical extent of hydrocarbon impact remaining. Samples were collected at each location from the surface (0 to 6 inches bgs) and from 18 to 24 inches bgs. Laboratory analytical results indicated that samples SS01@0"-6", SS02@0"-6", SS04@0"-6", SS07@0"-6", and SS05@18"-24" exceeded the COGCC Table 910-1 concentration levels for TPH. Sample SS05@0"-6" exceeded the COGCC Table 910-1 standard for pH. All other results of the May 2019 soil sampling event were compliant with the applicable COGCC Table 910-1 standards.

On September 20, 2019, one soil boring was advanced at the location of soil sample SS05@18"-24" to vertically delineate the TPH impact identified in May 2019. On soil sample (SS05@48") was collected for analysis of BTEX, TPH-GRO/DRO/ORO. Laboratory results indicated that sample SS05@48" was compliant with applicable COGCC Table 910-1.

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):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 21

Number of soil samples exceeding 910-1 6

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 570

NA / ND

-- Highest concentration of TPH (mg/kg) 2632

-- Highest concentration of SAR 3.3

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 4

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 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.

Site investigation activities indicate the lateral extent of impact is confined to within the earthen berm containment and the vertical extent of impact is delineated to less than 4 feet below grade. The remaining impact will be treated in-situ by Microblaze application throughout the impacted area to promote biological breakdown of the remaining hydrocarbon impact at the site.

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.

Annual confirmation soil sampling will be conducted at the 6 locations where TPH impact was identified to monitor remedial progress. Confirmation samples will be submitted for analysis of BTEX and TPH as GRO/DRO/ORO. If confirmation sample results remain above applicable COGCC Table 910-1 standards after monitoring for 2-years (October 2021), excavation or other remedial strategies will be implemented pending evaluation of TPH concentrations at that time.

Soil Remediation Summary

☒ In Situ

Yes _____ 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.

NA

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Post site investigation sampling

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

☒ Other Soil Remedial Progress report

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? No

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.

Impacts limited to operating oil and gas production facility - no reclamation required

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. 08/07/2018

Actual Spill or Release date, if known. 08/06/2018

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/23/2018

Date of commencement of Site Investigation. 03/01/2019

Date of completion of Site Investigation. 09/20/2019

REMEDIAL ACTION DATES

Date of commencement of Remediation. _____

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

The remaining impact will be treated in-situ by Microblaze application throughout the impacted area to promote biological breakdown of the remaining hydrocarbon impact at the site. Annual confirmation soil sampling will be conducted at the 6 locations where TPH impact was identified to monitor remedial progress. Confirmation samples will be submitted for analysis of BTEX and TPH as GRO/DRO/ORO. If confirmation sample results remain above applicable COGCC Table 910-1 standards after monitoring for 2-years (October 2021), excavation or other remedial strategies will be implemented pending evaluation of TPH concentrations at that time.

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

Signed: Rusty Frishmuth

Title: Director EHS

Submit Date: _____

Email: rfrishmuth@hpres.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: 12261

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

402203531	ANALYTICAL RESULTS
402203536	ANALYTICAL RESULTS
402203539	ANALYTICAL RESULTS
402203541	ANALYTICAL RESULTS
402206596	MAP

Total Attach: 5 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)