

# State of Colorado Oil and Gas Conservation Commission

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402269691

Receive Date:

12/25/2019

Report taken by:

RICK ALLISON

## 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>HIGHPOINT OPERATING CORPORATION</u>	Operator No: <u>10071</u>	<b>Phone Numbers</b>
Address: <u>555 17TH ST STE 3700</u>		Phone: <u>(303) 293-9100</u>
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80202</u>
Contact Person: <u>Rusty Frishmuth</u>	Email: <u>rfrishmuth@hpres.com</u>	Mobile: <u>(303) 518-2290</u>

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 12263Initial Form 27 Document #: 401888728

#### 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 Facilities ( in accordance with Rule 909.c. )

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>453495</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Critter Creek 5-10H</u>		Latitude: <u>40.930916</u>	Longitude: <u>-104.412222</u>
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESE</u>	Sec: <u>10</u>	Twp: <u>11N</u>	Range: <u>63W</u>
Meridian: <u>6</u>		Sensitive Area? <u>Yes</u>	

#### SITE CONDITIONS

General soil type - USCS Classifications GMMost Sensitive Adjacent Land Use AgricultureIs domestic water well within 1/4 mile? NoIs surface water within 1/4 mile? NoIs groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

None

## 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	10' x 10' to 18" bgs	Soil samples

### INITIAL ACTION SUMMARY

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

Free liquids were recovered (1 bbl crude oil and 2 bbls produced water). Surface soils were sampled on 1/13/2018. All initial response actions were completed by prior operator. The lateral and vertical nature and extent of soil contamination was not determined during the January 2018 soil sampling event. Furthermore, the extent of contamination discovered is indicative of a release that was larger than the 3 bbls originally reported.

The laboratory analytical report from the 1/13/2018 sampling event is 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 September 20, 2019, LT Environmental conducted a site assessment to investigate the remaining impact existing at the site. 11 soil borings were advanced with a hand auger to 2' bgs throughout the area where previous impacts were identified. Soil samples were collected from each boring at 0"-6" bgs and 18"-24" bgs. The soil samples were submitted for laboratory analysis of BTEX, TPH-GRO/DRO/ORO, EC, pH, and SAR. Laboratory analytical results indicated that sample SS07@0"-6" exceeded the COGCC Table 910-1 standard for TPH with a concentration of 550 mg/kg. All other soil sample results were compliant with applicable COGCC Table 910-1 standards.

The results summary table, sample location and results figure, and laboratory analytical report are attached. Initial January 2018 sampling is summarized under Operator Comments.

#### 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 30

Number of soil samples exceeding 910-1 5

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

Approximate areal extent (square feet) 100

### NA / ND

-- Highest concentration of TPH (mg/kg) 25110

-- Highest concentration of SAR 0.735

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 0

### 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?

One background sample was collected in January 2018, predominantly to document background pH, EC and SAR

☐ 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.

NA

### **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.

NA

### **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.

## REMEDATION 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? 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: \_\_\_\_\_

## REMEDATION COMPLETION REPORT

### REMEDATION 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? Yes

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 an active production facility. Reclamation will be in accordance with series 1000 regulations

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. 12/19/2017

### **SITE INVESTIGATION DATES**

Date of Initial Actions described in Site Investigation Plan (start date). 12/19/2017

Date of commencement of Site Investigation. 01/13/2018

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**

Initial soil confirmation sampling was conducted in January of 2018. Six surficial samples were collected in the vicinity of the release and submitted for analysis of BTEX, TPH-GRO, TPH-DRO, pH, EC and SAR. TPH was reported to exceed the table 910-1 standard for soil samples SS01, SS02, SS05 and SS06. Benzene was reported to exceed the table 910-1 standard for soil sample 0.78.

On September 20, 2019, 22 confirmation soil samples were collected from the 0-6" and 18-24" intervals of 11 borings in the vicinity of the release. Samples were submitted for analysis of BTEX, TPH-GRO, TPH-DRO, TPH-ORO, pH, EC and SAR. Total Petroleum Hydrocarbons was reported above the table 910-1 standard for TPH in soil sample SS07@0-6" at 550 mg/kg.

A confirmation soil sample was collected 11/18/2019 at SS07@0-6" and submitted for analysis of TPH-GRO, TPH-DRO and TPH-ORO to confirm the natural attenuation of total petroleum hydrocarbons at the site. Results for the confirmation sample, SS07@0-6", are reported as below laboratory detection limits and are compliant with the table 910-1 standard for TPH.

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: ` 12/25/2019

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: RICK ALLISON

Date: 01/03/2020

Remediation Project Number: 12263

**COA Type****Description**

	Based on the information presented, it appears that no further action is necessary at this time and the COGCC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards or if ground water is found to be impacted, then further investigation and/or remediation activities may be required. In addition, the surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules.
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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**

402269691	FORM 27-SUPPLEMENTAL-SUBMITTED
402269692	ANALYTICAL RESULTS
402269693	ANALYTICAL RESULTS
402269694	SOIL SAMPLE LOCATION MAP
402270249	ANALYTICAL RESULTS
402270250	SOIL SAMPLE LOCATION MAP
402270251	ANALYTICAL RESULTS

Total Attach: 7 Files

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

Environmental	This submittal complies with the COA on Form 27 Document #402206798, which required a submittal of soil sampling results by January 31, 2019. The date was an error and results were due by January 31, 2020.	01/03/2020
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Total: 1 comment(s)