

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

402523926

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	<b>Phone Numbers</b>
Address: 555 17TH ST STE 3700		
City: DENVER	State: CO Zip: 80202	
Contact Person: Rusty Frishmuth	Email: rfrishmuth@hpres.com	
		Phone: (303) 293-9100
		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 ):

Eight soil samples were collected on October 20th, 2020 from various intervals at the six locations where exceedances have been previously identified: Loc 2, Loc 3, Loc 5, Loc 6, Loc 8 and Loc 10. All samples were submitted for analysis of TPH as GRO, DRO and ORO, except the 0-6" interval of Loc 8, which was submitted for analysis of pH only.

Based on the results of the October 2020 sampling, additional soil sampling will occur at the remaining TPH impacted locations (Loc 3 from 0-6" and 6-12", Loc 8 from 18-24", and Loc 10 from 0-6") in October of 2021.

See operator comment for additional details of the October 2020 and 2021 sampling events.

### 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 35

Number of soil samples exceeding 910-1 14

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) 4600

-- 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 Annually for two total years

**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.

The site is an active production facility. Reclamation will occur upon decommissioning 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. 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**

Due to the duplication of soil sample names that occurred over multiple soil sampling events, the sampling locations have been named Location 1 (Loc 1) through Location 10 (Loc 10) as displayed on the attached map and table. Soil sample names can be tied to each location using either document.

Eight soil samples were collected on October 20th, 2020 from various intervals at the six locations where exceedances have been previously identified: Loc 2, Loc 3, Loc 5, Loc 6, Loc 8 and Loc 10. All samples were submitted for analysis of TPH as GRO, DRO and ORO, except the 0-6" interval of Loc 8, which was submitted for analysis of pH only.

Analytical results of the October 20, 2020 sampling event indicate that four samples from three locations exceed the Table 910-1 TPH standard of 500 mg/kg: Loc 3 from the 0-6" (3,732 mg/kg) and 6-12" (2,470 mg/kg) intervals, Loc 8 from the 18-24" interval (770 mg/kg), and Loc 10 from the 18-24" interval (1,980 mg/kg). One sample is outside of the Table 910-1 allowable pH range of 6-9, collected from the 0-6" interval of Loc 8. (9.09). The remaining analytical results of the samples collected on October 20, 2020 are below their respective Table 910-1 standards.

Concentrations of TPH reported for samples collected at Loc 2, Loc 5 and Loc 6 have attenuated from above the Table 910-1 standard for TPH to below the standard. All values of TPH reported above the Method Detection Limit for this sampling event are lower than their respective representative samples collected from the same location and interval prior.

Additional soil sampling will occur at the remaining TPH impacted locations (Loc 3 from 0-6" and 6-12", Loc 8 from 18-24", and Loc 10 from 0-6") in October of 2021. If confirmation sample results remain above applicable COGCC Table 910-1 standards, 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**

402523929	ANALYTICAL RESULTS
402524924	SOIL SAMPLE LOCATION MAP
402524925	ANALYTICAL RESULTS

Total Attach: 3 Files

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

Environmental	Return to Draft, Operator to revise proposed remediation plan	12/16/2020
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Total: 1 comment(s)