

State of Colorado  
Oil and Gas Conservation Commission

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02/25/2021  
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: HIGHPOINT OPERATING CORPORATION	Operator No: 10071	Phone Numbers Phone: (303) 3128718 Mobile: (303) 5182290
Address: 555 17TH ST STE 3700		
City: DENVER	State: CO	Zip: 80202
Contact Person: Rusty Frishmuth	Email: rfrishmuth@phres.com	

PROJECT, PURPOSE & SITE INFORMATION

**PROJECT INFORMATION**  
Remediation Project #: 16230 Initial Form 27 Document #: 402565881

**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 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: LOCATION	Facility ID: 332705	API #: _____	County Name: WELD
Facility Name: NHF-LAURA-65N63W 20NESW	Latitude: 40.383850	Longitude: -104.462120	
	** correct Lat/Long if needed: Latitude: 40.383798	Longitude: -104.462762	
QtrQtr: NESW	Sec: 20	Twp: 5N	Range: 63W
	Meridian: 6	Sensitive Area? Yes	

SITE CONDITIONS

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

Is domestic water well within 1/4 mile? No      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**

Riverside intake canal is located approximately 0.23 miles south of the location.

# 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	bottom of tank grave	Soil Sampling

## INITIAL ACTION SUMMARY

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

A partially buried water vault was removed from the Site. On January 8, 2021, WSP assessed the tank grave to investigate any potential petroleum hydrocarbon impacts to soil or water related to the tank. Each sidewall of the tank grave was field screened for VOC concentration using a PID and the soil was observed for potential hydrocarbon impact such as staining and/or odor. Odor was observed in soil on the north sidewall but not staining/odor or elevated PID readings were observed in any of the soil samples. One grab soil sample (SS01@4') was collected from the north sidewall which exhibited odor and the highest VOC concentration (23 ppm). One grab soil sample (SS02@5') was collected from the floor of the tank grave. The soil samples were per USEPA methods and strict chain-of-custody protocols were followed. The samples were submitted for laboratory analysis of benzene, toluene, ethylbenzene, and total xylene (BTEX) and total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) by USEPA Method 8260, and TPH as diesel and oil range organics (DRO and ORO) by USEPA Method 8015. The floor sample was also submitted for laboratory analysis of electrical conductivity (EC) by USEPA Method 9050A, SAR by USDA Ag Handbook 60 method 20B, and pH by USEPA Methods. Laboratory analytical results indicated the floor sample SS02@5' exceeded the COGCC Table 910-1 standard for EC at 7.52 mmhos/cm. All other analytes were compliant with applicable COGCC concentration levels. The sample location map, results summary table, and laboratory analytical report 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 ):

Additional sampling was conducted on January 20, 2021, to delineate the EC impact identified in SS02@5'. Three hand auger borings (SB03-SB05) were advanced on the floor of the water vault grave and were advanced to a total depth of 10 feet bgs and samples were collected from at 8 feet bgs and 10 feet bgs. All samples collected at 8' were submitted for laboratory analysis of BTEX and TPH as GRO/DRO/ORO, EC, and pH. Samples SS03@8' and SS05@8' exceeded the COGCC Table 910-1 concentration levels for pH at 9.68 and 9.18, respectively. SS03@10' was run for pH and SS05@10' was run for EC and pH. All other analytes were compliant with applicable COGCC concentration levels which vertically delineated the EC impact to within 8 feet of ground surface and the pH to within 10 feet of ground surface. The sample location map, results summary table, and laboratory analytical report is attached.

### Proposed Groundwater Sampling

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

Groundwater was not encountered.

### 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 7  
Number of soil samples exceeding 910-1 3  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 4

### NA / ND

--          Highest concentration of TPH (mg/kg) 112.4  
--          Highest concentration of SAR 7.13  
         BTEX > 910-1 No  
         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) 0'  
Number of groundwater monitoring wells installed 0  
Number of groundwater samples exceeding 910-1 0

         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  
0 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 sample was taken and analyzed for electrical conductivity

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.

See below.

## 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.

EC and pH impact to soil was identified at 5 feet bgs on the floor of the water vault tank grave and impacts were vertically delineated to 8 feet bgs and 10 feet bgs, respectively. The maximum root depth of the planned revegetation seed mix is 5 feet bgs and thus the elevated EC and SAR levels should not affect successful reclamation. The seed mix with associated root depths for each plant species is attached for reference.

## 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.



# 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). 01/07/2021

Date of commencement of Site Investigation. 01/08/2021

Date of completion of Site Investigation. 01/20/2021

## **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**

Soils exceeding EC and pH Table 915 standard will be left in place. Impacts have been delineated and soils with elevated pH and EC will be below the root zone of all species to be planted on location as part of final reclaim activities.

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: 02/25/2021 \_\_\_\_\_

Email: rfrishmuth@phres.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: 03/05/2021 \_\_\_\_\_

Remediation Project Number: 16230 \_\_\_\_\_

**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 groundwater is found to be impacted, then further investigation and/or remediation activities may be required.
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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**

402602822	FORM 27-SUPPLEMENTAL-SUBMITTED
402609558	OTHER
402609639	SOIL SAMPLE LOCATION MAP
402609644	ANALYTICAL RESULTS
402609646	ANALYTICAL RESULTS
402609649	ANALYTICAL RESULTS

Total Attach: 6 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)