

State of Colorado Oil and Gas Conservation Commission

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Document Number:

401889549

Receive Date:

12/31/2018

Report taken by:

RICK ALLISON

Site Investigation and Remediation Workplan (Initial 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> | Phone Numbers Phone: <u>(303) 518-2290</u> Mobile: <u>()</u> |
| Address: <u>1099 18TH ST STE 2300</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> | |

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 12265Initial Form 27 Document #: 401889549

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: <u>SPILL OR RELEASE</u> | Facility ID: <u>452577</u> | API #: _____ | County Name: <u>WELD</u> |
| Facility Name: <u>Lion Creek 03-14H</u> | | Latitude: <u>40.914786</u> | Longitude: <u>-104.505064</u> |
| | | ** correct Lat/Long if needed: Latitude: _____ | Longitude: _____ |
| QtrQtr: <u>SESE</u> | Sec: <u>14</u> | Twp: <u>11N</u> | Range: <u>64W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u> |

SITE CONDITIONS

General soil type - USCS Classifications GMMost Sensitive Adjacent Land Use Open rangeIs domestic water well within 1/4 mile? NoIs surface water within 1/4 mile? YesIs 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 |
|--------------|----------------|------------------|------------------|
| UNDETERMINED | SOILS | To be determined | To be determined |

INITIAL ACTION SUMMARY

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

Upon discovery 1 bbl of crude oil was reported to be recovered. Subsequent soil sampling did not indicate the presence of any hydrocarbons in excess of Table 910 standards. However, pH and EC were exceeded in nearly all samples - including those that did not contain hydrocarbons. Work was completed by a prior operator. Based on data collected to date it appears that the roadbase material used to construct the site has elevated pH and EC, however, there is not currently sufficient data to document this.

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):

Collect additional soil samples to 1) document lack of hydrocarbon contamination in vicinity of wellhead and 2) document that the pH and EC exceedances observed during prior sampling activities were background. 4 surface soil samples (0 to 6") will be collected from the immediate vicinity of the wellhead and analyzed for BTEX, TPH, pH, EC, and SAR. 'Samples will be collected 5' away from the wellhead in each of the cardinal directions. Additional samples will be collected in a grid spacing across the entire location and analyzed for EC, SAR, and pH. Samples will be collected on a 50'x50' grid across the location. Samples will be collected from the surface (0 to 6") and subsurface (12"-16") or just below the depth of compacted roadbase on location if it is found that roadbase depths exceed 12".

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 11

Number of soil samples exceeding 910-1 11

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

Approximate areal extent (square feet) 40

NA / ND

-- Highest concentration of TPH (mg/kg) 176

-- Highest concentration of SAR 113.0
1

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 1

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 and analyzed for SAR and pH. Sample exceeded Table 910 standard for pH.

☐ 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?

Additional investigation needed to verify lack of hydrocarbon impacts and verify/validate that observed pH and SAR exceedances are background.

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

To be determined

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.

To be determined

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? _____

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: _____

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.

Active oil and gas production facility, no reclamation necessary

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. 10/13/2017

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/13/2017

Date of commencement of Site Investigation. 10/27/2017

Date of completion of Site Investigation. _____

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

| |
|--|
| |
|--|

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

Signed: ` Rusty Frishmuth

Title: EHS Manager

Submit Date: ` 12/31/2018

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: 01/04/2019

Remediation Project Number: 12265

COA Type**Description**

| | |
|--|--|
| | Submit results of the additional investigation by May 1, 2019. |
|--|--|

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**

| | |
|-----------|---------------------------|
| 401889549 | FORM 27-INITIAL-SUBMITTED |
| 401889550 | AERIAL IMAGE |
| 401889552 | ANALYTICAL RESULTS |

Total Attach: 3 Files

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

| | | |
|--|--|---------------------|
| | | Stamp Upon Approval |
|--|--|---------------------|

Total: 0 comment(s)