FORM 27 Rev 3/16

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109

Document Number: 402269469
Receive Date: 12/24/2019
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 INFORMATON

Name of Operator: HIGHPOINT OPERATING CORPORATION Operator No: 10071
Address: 555 17TH ST STE 3700
City: DENVER State: CO Zip: 80202
Contact Person: Rusty Frishmuth

Phone Numbers
Phone: (303) 518-2290
Mobile: (303) 518-2290
Email: rfrishmuth@hpres.com

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 12269 Initial Form 27 Document #: 401889561

PURPOSE INFORMATION

- [ ] 901.e. Sensitive Area Determination
- [ ] 909.c.(1), Rule 905: Pit or PW vessel closure
- [x] 909.c.(2), Rule 906: Spill/Release Remediation
- [ ] 909.c.(3), Rule 907.e.: Land treatment of oily waste
- [ ] 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure
- [ ] 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water
- [ ] Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b.
- [x] Rule 909.e.(2)B.: Closure of remediation project
- [ ] Rule 906.c.: Director request
- [ ] Other

SITE INFORMATION

Y Multiple Facilites (in accordance with Rule 909.c.)

Facility Type: SPILL OR RELEASE Facility ID: 451669 API #: County Name: WELD
Facility Name: Critter Creek 19-23H Emergency Tank Latitude: 40.913560 Longitude: -104.407905
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWNW Sec: 23 Twp: 11N Range: 63W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 451737 API #: County Name: WELD
Facility Name: SPILL/RELEASE POINT Latitude: 40.913850 Longitude: -104.407675
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWNW Sec: 23 Twp: 11N Range: 63W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications GM
Most Sensitive Adjacent Land Use Open range
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:

- [x] **E&P Waste**
  - [x] Produced Water
  - [x] Oil
  - [ ] Condensate
  - [ ] Drilling Fluids
  - [ ] Drill Cuttings
- [ ] **Other E&P Waste**
  - [ ] Workover Fluids
  - [ ] Tank Bottoms
  - [ ] Pigging Waste
  - [ ] Rig Wash
  - [ ] Spent Filters
  - [ ] Pit Bottoms
  - [ ] Other (as described by EPA) _____
- [ ] **Non-E&P Waste** _____

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	300'x200'x1'	Analytical data

INITIAL ACTION SUMMARY

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

After both releases the previous operator removed free liquids via vacuum truck. On September 6, 2017, and January 14, 2018, 22 soil samples were collected from the roadbase pad material throughout the impacted area for laboratory analysis of BTEX, TPH-GRO/DRO, EC, SAR and pH. Laboratory results indicated that one sample (SB06@0-6") located within the tank battery earthen containment in the southeast corner exceeded the COGCC Table 910-1 standard for TPH and multiple samples exceeded the COGCC Table 910-1 standards for pH and SAR. All remaining results were compliant with the COGCC Table 910-1 standards for BTEX and TPH.

The analytical reports and sample location map for the 2017 and 2018 sampling events are attached.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

- [x] Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

By December 2019, LTE will conduct additional site assessment activities and advance hand auger soil borings where hydrocarbon impact was previously identified. Soil borings will be advanced at the previous SB06 location and at two additional locations to laterally delineate identified hydrocarbon impact within the tank battery's earthen berm containment. Samples will be collected from each boring from 0"-6" bgs and 18"-24" bgs for analysis of BTEX and TPH-GRO/DRO/ORO. A proposed sample location map is attached.

No further sampling will be conducted regarding the elevated inorganic levels identified during the 2017 and 2018 sampling events since the sample locations are on an active pad. Upon final site closure, final reclamation will be in accordance with 1000 series rules and any remaining elevated inorganic levels will be addressed at that time.

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: 50

Number of soil samples exceeeding 910-1: 27

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

Approximate areal extent (square feet): 6000

NA / ND

-- Highest concentration of TPH (mg/kg): 782.4

-- Highest concentration of SAR: 40.71

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?

Two background samples were collected, however, they were not collected from unimpacted road base and hence the data cannot be used to assess the origin of the elevated concentrations of pH and SAR observed across the location.

☐ 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.

Inorganic impact remains onsite and will be addressed upon final reclamation in accordance with 1000 series regulations

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.

REMEDIATION 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: _____

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? Yes

Do all soils meet Table 910-1 standards? No

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? No

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. Final reclamation will be in accordance with 1000 series rules.

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. 08/08/2017

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/08/2017

Date of commencement of Site Investigation. 09/06/2017

Date of completion of Site Investigation. 11/18/2019

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

Since submitting the initial work plan, it has been determined that the nature and extent of inorganic (pH, EC, SAR) impact will be addressed upon final pad reclamation in accordance with 1000 series rules. Thus, five soil samples were collected on 11/18/2019 and submitted for analysis of TPH from three hand auger borings (SS23, SS24, SS25). These borings were advanced in the vicinity of the former TPH exceedance reported for the soil sample SB06 0-9" collected on 9/6/2017. Samples were collected from the 0-6" interval of SS25 and the 0-6" and 18-24" intervals of SS23 and SS24. Analytical results reported for these samples are compliant with table 910-1 standards for TPH. Boring locations for 11/18/2019 are shown in orange on the attached map.

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:` 12/24/2019 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: 12269

COA Type	Description
	Soil sample analytical results indicate that impacts to soil are limited to elevated pH and Sodium Adsorption Ratio (SAR) at sample locations within an active oil and gas facility. These inorganic impacts appear limited to the road base material in the upper 6 inches of the facility. Results for Electrical Conductivity, BTEX, TPH-GRO and TPH-DRO indicate that soil at the location complies with Table 910-1 Concentration Levels. The location must comply with Rule 1003 and 1004 for interim and final reclamation. SAR and pH must be addressed to ensure successful final reclamation. Therefore, 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.

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
402269469	FORM 27-SUPPLEMENTAL-SUBMITTED
402269475	ANALYTICAL RESULTS
402269476	ANALYTICAL RESULTS
402269477	SOIL SAMPLE LOCATION MAP
402269478	ANALYTICAL RESULTS
402269479	ANALYTICAL RESULTS
402269480	ANALYTICAL RESULTS

Total Attach: 7 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)