FORM 27 Rev 4/21

State of Colorado
Oil and Gas Conservation Commission

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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.
Closure request is not available for an Initial Site Investigation and Remediation Workplan.

OPERATOR INFORMATON

Name of Operator: BAYSWATER EXPLORATION & PRODUCTION LLC Operator No: 10261

Address: 730 17TH ST STE 500

City: DENVER State: CO Zip: 80202

Contact Person: Andy Verbonitz

Phone Numbers
Phone: (303) 893-2503
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Email: averbonitz@bayswater.us

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 17111 Initial Form 27 Document #: 402611297

PURPOSE INFORMATION

- [ ] Rule 913.c.(1): Pit or Cuttings Trench closure.
- [X] Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- [X] Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912.
- [ ] Rule 913.c.(4): Land treatment of Oily Waste pursuant to Rule 905.e.
- [ ] Rule 913.c.(5): Closure of Centralized E&P Waste Management Facilities pursuant to Rule 907.h.
- [X] Rule 913.c.(6): Remediation of impacted Groundwater pursuant to Rule 915.e.(3).D, and the contaminant concentrations in Table 915-1.
- [ ] Rule 913.c.(7): Investigation and remediation of natural gas in soil or Groundwater.
- [ ] Rule 913.c.(8): When requested by the Director due to any potential risk to soil, Groundwater, or surface water.
- [X] Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- [ ] Rule 913.g: Changes of Operator.
- [ ] Rule 915.b: Request to leave elevated inorganics in situ.
- [X] Other: Rule 911 Closure of Oil and Gas Facilities

SITE INFORMATION

No Multiple Facilities

Facility Type: LOCATION Facility ID: 305865 API #: County Name: WELD

Facility Name: DEINES-67N66W 31SENE Latitude: 40.532520 Longitude: -104.815220

** correct Lat/Long if needed: Latitude: Longitude:

QtrQtr: SENE Sec: 31 Twp: 7N Range: 66W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications: SM

Most Sensitive Adjacent Land Use: Building Unit 200' South

Is domestic water well within 1/4 mile? Yes

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

Irrigation Ditch 150' South

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [X] **E&P Waste**
  - [X] Produced Water
  - [ ] 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
No	GROUNDWATER	Initial	Laboratory analytical
Yes	SOILS	60 CU	Laboratory analytical and field screening

INITIAL ACTION SUMMARY

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

Contamination discovered under separator was excavated and hauled to North Weld Landfill. Groundwater was pulled from the excavations and hauled to licensed injection facility. Confirmation soil and groundwater samples were collected and 100 pounds of activated carbon (COGAC™) were emplaced in the open excavation prior to backfilling. Safety Data Sheets for the activated carbon are included as an attachment.

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):

Confirmation soil samples were collected from the lateral extent of the excavation and from the assessment potholes. Please see attached updated soil table, laboratory analytical reports, and updated Site Map. During monitoring well installation, one soil sample will be collected from each boring at a point above groundwater saturation. Soil samples will be analyzed for full Table 915-1 analysis. Additionally, If crop conditional at the time of monitoring well installations allow, background samples will also be collected from an undisturbed offsite location via soil boring to identify natural pH and EC concentrations at depths similar to the confirmation samples.

Proposed Groundwater Sampling

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

Groundwater samples were collected from the open excavation and from the assessment potholes. Please see attached groundwater table, laboratory analytical reports, and Site Map. Following final reclamation implementation, monitoring wells will be installed to ensure no impacts resulting from the historical contamination migrate offsite or persist onsite. Quarterly groundwater monitoring will be conducted for a period of one year following initial receipt of compliant monitoring results.

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):

Two background samples were collected from an adjacent, undisturbed location. EC concentrations exceeded the Table 915-1 allowable concentrations in sample BG02. During monitoring well installation additional background samples will be collected at similar depths to the previously collected confirmation samples.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 13
Number of soil samples exceeeding 915-1: 11
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet): 200

NA / ND

ND — Highest concentration of TPH (mg/kg):
-- — Highest concentration of SAR: 1.6
BTEX > 915-1: No
Vertical Extent > 915-1 (in feet): 5

Groundwater

Number of groundwater samples collected: 4
Was extent of groundwater contaminated delineated? Yes
Depth to groundwater (below ground surface, in feet): 5`
Number of groundwater monitoring wells installed: 0
Number of groundwater samples exceeding 915-1: 1

-- — Highest concentration of Benzene (µg/l): 310
-- — Highest concentration of Toluene (µg/l): 270
-- — Highest concentration of Ethylbenzene (µg/l): 13
-- — Highest concentration of Xylene (µg/l): 87
NA — Highest concentration of Methane (mg/l):

Surface Water

0 Number of surface water samples collected
Number of surface water samples exceeding 915-1
If surface water is impacted, other agency notification may be required.

OTHER INVESTIGATION INFORMATION

[ ] Were impacts to adjacent property or offsite impacts identified?

[X] Were background samples collected as part of this site investigation?

Two background samples (BG01 and BG02) were collected during inital sampling. Sample BG02 exceeded the Table 915-1 standard for EC at 4.6 mmhos/cm.

[X] Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards): 50
Volume of liquid waste (barrels): 153

[X] Is further site investigation required?

Monitoring wells will be installed to ensure no impacts resulting from the historical contamination migrate offsite or persist onsite. Quarterly groundwater monitoring will be conducted for a period of one year following initial receipt of compliant monitoring results.

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.

Approximately 60 cubic yards of potentially impacted soil were excavated and hauled to Waste Management's North Weld Landfill, in Ault, Colorado for disposal.

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.

Additional background soil samples will be collected during final reclamation and/or monitoring well installation for laboratory analysis of pH and EC. The soil sample analytical data will be compared to the previously collected soil samples and Table 915-1 allowable concentrations. Groundwater monitoring wells will be installed during the 3rd quarter of 2021 at the source area and to establish down gradient and cross gradient points of compliance. Groundwater monitoring of BTEX, naphthalene, 1,2,4 trimethylbenzene, 1,3,5 trimethylbenzene, TDS, chloride, and sulfate will be conducted on a quarterly basis. If groundwater concentration exceeding Table 915-1 are encountered, remediation options will be evaluated. If compliant groundwater results are obtained during the first round of quarterly monitoring, groundwater monitoring will continue for three additional quarters.

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

Yes Bioremediation (or enhanced bioremediation)

Yes 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.

Once monitoring wells are installed, groundwater monitoring of BTEX, naphthalene, 1,2,4 trimethylbenzene, 1,3,5 trimethylbenzene, TDS, chloride, and sulfate will be conducted on a quarterly basis. If groundwater concentrations exceeding Table 915-1 are encountered, remediation options will be evaluated. If compliant groundwater results are obtained during the first round of quarterly monitoring, groundwater monitoring will continue for three additional quarters. Approximately eight monitoring wells will be installed as depicted on the attached Figure 1, Site Map.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

[X] Quarterly [ ] Semi-Annually [ ] Annually [ ] Other

[ ] **Request Alternative Reporting Schedule:**

[ ] Semi-Annually [ ] Annually [ ] Other

Rule 913.e:
After initial approval of a Form 27, the Operator will provide quarterly update reports in a Supplemental Form 27 to document progress of site investigation and remediation, unless an alternative reporting schedule has been requested by the Operator and approved by the Director. The Director may request a more frequent reporting schedule based on site-specific conditions.

Report Type: [X] Groundwater Monitoring [ ] Land Treatment Progress Report [ ] O&M Report

[ ] Other

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? Yes

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

All waste was disposed of at licensed disposal facilities.

Volume of E&P Waste (solid) in cubic yards 50

E&P waste (solid) description Hydrocarbon Bearing Soil

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Waste Management's North Weld Landfill, in Ault, Colorado

Volume of E&P Waste (liquid) in barrels 153

E&P waste (liquid) description Potentially impacted groundwater

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Licensed injection facility

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No

If YES:

[ ] Compliant with Rule 913.h.(1).

[ ] Compliant with Rule 913.h.(2).

[ ] Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards?

Does the previous reply indicate consideration of background concentrations?

Does Groundwater meet Table 915-1 standards?

Is additional groundwater monitoring to be conducted?

Operator shall comply with the COGCC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

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.

Following abandonment and decommissioning, all former locations of oil and gas facilities will be re-contoured and reclaimed in accordance with COGCC 1000 series regulations.

Is the described reclamation complete? No

Does the reclamation described herein constitute interim or final reclamation of the Oil and Gas Location?

☐ Interim ☐ Final

Did the Surface Owner provide the seed mix? No

If YES, does the seed mix comply with local soil conservation district recommendations?

Did the local soil conservation district provide the seed mix? No

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 05/12/2021

Proposed date of completion of Reclamation.

IMPLEMENTATION SCHEDULE

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

PRIOR DATES

Date of Surface Owner notification/consultation, if required. 02/17/2021

Actual Spill or Release date, or date of discovery.

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/15/2021

Proposed site investigation commencement.

Proposed completion of site investigation.

REMEDIAL ACTION DATES

Proposed start date of Remediation.

Proposed date of completion of Remediation.

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

☐ Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

OPERATOR COMMENT

Form has been updated to include updated soil analytical table, updated site map showing proposed monitoring well locations, and verbiage discussing soil sampling of full Table 915-1 analysis to be conducted during monitoring well installation.

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

Signed:` Andy Verbonitz Title: Environmental Coordinator

Submit Date:` 08/20/2021 Email: averbonitz@bayswater.us

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: 09/09/2021

Remediation Project Number: 17111

Condition of Approval

COA Type	Description
	Additional analytes in groundwater may be required depending on results of soil sample analysis in monitoring wells.
1 COA	

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
402741350	FORM 27-SUPPLEMENTAL-SUBMITTED
402746506	SAFETY DATA SHEETS
402746512	SAFETY DATA SHEETS
402746513	ANALYTICAL RESULTS
402746515	ANALYTICAL RESULTS
402746516	SITE MAP
402746518	PHOTO DOCUMENTATION
402746541	ANALYTICAL RESULTS
402746544	ANALYTICAL RESULTS
402746546	ANALYTICAL RESULTS
402746547	ANALYTICAL RESULTS
402746549	ANALYTICAL RESULTS
402746551	ANALYTICAL RESULTS
402746553	DISPOSAL MANIFESTS
402786854	ANALYTICAL RESULTS
402786857	ANALYTICAL RESULTS
402786861	SITE MAP

Total Attach: 17 Files

General Comments

User Group	Comment	Comment Date
Environmental	REturn to Draft: 1. Operator to attach analytical summary table 2. additional monitoring well(s) need to be placed closer to GW07 pothole. 3. All soil samples should be analyzed for the complete Table 915-1.	07/21/2021

Total: 1 comment(s)