

State of Colorado
Oil and Gas Conservation Commission

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402087646

Receive Date:

06/27/2019

Report taken by:

KRIS NEIDEL

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: SANDRIDGE EXPLORATION & PRODUCTION LLC	Operator No: 10598	Phone Numbers
Address: 123 ROBERT S KERR AVE		Phone: (405) 429-5747
City: OKLAHOMA CITY State: OK Zip: 73102		Mobile: (405) 651-6853
Contact Person: Matt Church	Email: mchurch@sandridgeenergy.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 13248 Initial Form 27 Document #: 401988304

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: 463340	API #: _____	County Name: JACKSON
Facility Name: Surprise Unit 0680 /S9	Latitude: 40.509980	Longitude: -106.384040	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NENW	Sec: 9	Twp: 6N	Range: 80W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SC Most Sensitive Adjacent Land Use Livestock Grazing

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

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) snow melt mixed with flowback water

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	1,200	Form 19 Investigation

INITIAL ACTION SUMMARY

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

An Initial Form 19 was submitted on 3/14/2019. At 10:00 on 3/14/2019, approximately 10 to 15 bbls of flowback water was found released onto the SU 9 pad, inside secondary containment. The surface area potentially impacted was 15 feet wide by 80 feet in length, approximately 1,200 square feet total. A hydrovac recovered approximately 12 barrels of fluids spilled with snow melt within the bermed area. A Supplemental Form 19 was submitted on 3/22/2019.

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):

Two soil samples were collected and screened with a photoionization detector (PID) on 3/15/2019. Both samples were grab samples, collected from depths of 0-6 inches below ground surface (BGS), and analyzed for full the full suite of Table 910-1 analyses. SDE_SU_SS_01 (PID - 12.4ppm) was collected at 40.510567, -106.38445. SDE_SU_SS_02 (PID - 27.5ppm) was collected at 40.510549, -106.384436.

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 2

Number of soil samples exceeding 910-1 2

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 1200

NA / ND

-- Highest concentration of TPH (mg/kg) 143

-- Highest concentration of SAR 51.2

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) `

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.

SandRidge has and will continue to conduct source removal of the impacted soil via dig and haul activities.

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.

Further excavation is required to remove SAR and pH impacted soil and will be completed as soon as feasible depending upon when winter conditions subside. Impacted materials will be disposed of at a properly licensed disposal facility. Clean backfill material will be imported when confirmation soil samples confirm all impacted materials have been removed.

Soil Remediation Summary

☐ In Situ

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Air sparge / Soil vapor extraction

_____ Natural Attenuation

_____ Other _____

☒ Ex Situ

Yes _____ Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) _____ 23

Name of Licensed Disposal Facility or COGCC Facility ID # _____ 211979

_____ 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? Yes _____

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

Soil waste was excavated and hauled for disposal to Twin Enviro in Milner, CO.

Volume of E&P Waste (solid) in cubic yards _____ 20

E&P waste (solid) description _____ Excavated produced water impacted soil

COGCC Disposal Facility ID #, if applicable: _____ 211979

Non-COGCC Disposal Facility: _____

Volume of E&P Waste (liquid) in barrels _____ 0

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? _____

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 facility is presently in use and reclamation activities are not warranted at this time onsite.

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. 03/14/2019

Actual Spill or Release date, if known. 03/14/2019

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/14/2019

Date of commencement of Site Investigation. 03/15/2019

Date of completion of Site Investigation. 03/15/2019

REMEDIAL ACTION DATES

Date of commencement of Remediation. 03/15/2019

Date of completion of Remediation. 04/16/2019

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

SandRidge is requesting final closure of this Remediation Project #13687. On 4/3/19, Absaroka collected a confirmation soil sample from the same location as the characterization soil sample (collected on 3/15/19) after excavation was complete. All confirmation soil sample analyses were below Table 910-1 acceptable levels, except elevated SAR (24.4) and (9.09 and 9.19). Since 4/3/19, operations required the pad to be reworked, covering the spill area with road base material. Elevated sodic conditions of the soil, if persisting, are anticipated to naturally attenuate over time and do not pose a negative impact for the intended use of the pad. If any high sodic impacts remain on the site, they will be remediated upon final reclamation of the pad. Background arsenic concentrations have been documented and attached to this document. SandRidge is requesting relief from elevated arsenic concentrations via COGCC FAQ 31.

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

Signed: Joel Mason

Title: Project Manager

Submit Date: 06/27/2019

Email: joel.mason@absarokasolutions.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: KRIS NEIDEL

Date: 08/07/2019

Remediation Project Number: 13248

COA Type**Description**

	Elevated SAR and pH above Table 910-1 shall be addressed during interim and final reclamation.
	Based on review of information presented it appears that no further action is necessary at this time, and 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 significantly impacted, then further investigation and/or remediation activities may be required at the site.
	In the future, a request for sampling other than full table 910-1 should be made prior to collecting samples.
	Soil samples were collected for table 910-1, see document number 401992133 and Form 27 document 401988304.

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**

402087646	FORM 27-SUPPLEMENTAL-SUBMITTED
402087698	OTHER
402087700	ANALYTICAL RESULTS
402087702	PHOTOS
402087704	OTHER
402090031	SITE MAP
402090032	SOIL SAMPLE LOCATION MAP
402090033	ANALYTICAL RESULTS

Total Attach: 8 Files

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

Environmental	COGCC requested the total depth of excavation, response from the operator was, "The ground was frozen during the excavation which was scraping to the extent possible, no more that 0.5 foot in depth." communication can be found in document number 1313007	08/07/2019
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Total: 1 comment(s)