

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:
402087811
Receive Date:
09/12/2019
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) 429-5745
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 #: 13703 Initial Form 27 Document #: 402065733

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 Multiple Facilities (in accordance with Rule 909.c.)

Facility Type: SPILL OR RELEASE	Facility ID: 464101	API #: _____	County Name: JACKSON
Facility Name: Patriot 0880 12-32H5	Latitude: 40.629891	Longitude: -106.395316	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSE	Sec: 29	Twp: 8N	Range: 80W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications GC Most Sensitive Adjacent Land Use Livestock grazing

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

An unnamed irrigation ditch is located adjacent to the south edge of the pad, approximately 100 feet from the spill, and is currently in use. Little Grizzly Creek is approximately 1,500 feet west of the spill and Grizzly Creek is approximately 1,725 feet north of the spill. Water well Permit 29-WCB, Receipt C290029 is 0.48 miles north from the spill with a similar elevation as the spill location. The water well static water level is 10 feet below ground surface (bgs) and was used to estimate the spill location static groundwater level, estimated to be 20 feet bgs.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> E&P Waste | <input checked="" type="checkbox"/> Other E&P Waste | <input type="checkbox"/> Non-E&P Waste |
| <input type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids | |
| <input type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input type="checkbox"/> Condensate | <input type="checkbox"/> Pigging Waste | |
| <input checked="" 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 checked="" type="checkbox"/> Other (as described by EPA) Oil based mud (OBM) | |

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	SOILS	375 square feet	Form 19 Initial Report

INITIAL ACTION SUMMARY

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

At approximately 0500 while drilling ahead, the sensor on the flow line to the gas buster blew off releasing approximately 5 bbls. of drilling fluid and OBM into secondary containment within the substructure and tip tank, and 1 bbl. of fluid and OBM outside of secondary containment between the trip tank and mud tanks. The derrick man was standing at the shakers at the time of occurrence and he notified the driller to shut the pump off. Derrick man was also able to close valve going up the gas buster to isolate gas buster from draining back to the flow line preventing a larger release. A new gasket and bolts were placed on the flow line sensor and reinstalled. Site cleanup began immediately and the contaminated material was being scraped into the mud bins to be loaded into trucks for disposal at Twin Environmental Landfill located in Milner, CO. Due to ongoing drilling operations, further excavation of potential impacted materials were postponed until access was permissible. The anticipated date of initiation is 6/5/2019.

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):

A characterization sample (1 or more) will be collected from a waste pile of impacted material from the spill area, planned for 6/6/2019. All samples will be sent to an analytical lab for applicable table 910 analyses.

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) 800

NA / ND

-- Highest concentration of TPH (mg/kg) 36351

-- Highest concentration of SAR 2.55

BTEX > 910-1 Yes

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?

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. Soil waste was hauled to Twin Enviro for disposal. Waste manifests will be provided with the Form 27 Supplemental closure request.

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.

Excavation of the spill area and potentially impacted materials will begin 6/5/2019. The extent of impacted materials will be determined using a PID which will guide excavation efforts. Upon PID confirmation screening, confirmation samples (at least 2 but depending upon field screening and excavation size) will be collected to determine that all impacted materials have been removed. All samples will be sent to an analytical lab for applicable table 910 analyses.

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) _____ 201
- _____ 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 Closure Request

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 scraped from the surface and hauled to Twin Enviro in Milner, CO.

Volume of E&P Waste (solid) in cubic yards 201

E&P waste (solid) description OBM and drilling fluid impacted soil.

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: Twin Enviro

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? Yes

Does the previous reply indicate consideration of background concentrations? Yes

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? _____

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. 04/22/2019

Actual Spill or Release date, if known. 04/22/2019

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/22/2019

Date of commencement of Site Investigation. 06/05/2019

Date of completion of Site Investigation. 06/06/2019

REMEDIAL ACTION DATES

Date of commencement of Remediation. 04/22/2019

Date of completion of Remediation. 06/11/2019

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

SandRidge is requesting closure of Remediation Project #13703. All confirmation sample analyses were below Table 910-1 acceptable concentrations, excluding Arsenic. All samples collected on 6/6/2019 had arsenic concentrations above the Table 910-1 limit of 0.39 mg/kg. 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: 09/12/2019

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: 09/26/2019

Remediation Project Number: 13703

COA Type**Description**

	Based on review of the information provided, it appears that no further action is necessary at this time and COGCC approves the closure request. Should conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards, or, if groundwater is found to be significantly impacted, further investigation and/or remediation activities may be required at the site.
--	---

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**

402087811	FORM 27-SUPPLEMENTAL-SUBMITTED
402088333	MAP
402088335	OTHER
402088337	ANALYTICAL RESULTS
402088338	PHOTOS
402088342	OTHER
402088352	DISPOSAL MANIFESTS
402088669	ANALYTICAL RESULTS
402095467	SOIL SAMPLE LOCATION MAP

Total Attach: 9 Files

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

Environmental	Arsenic concentrations inside excavation are consistent with those of background concentrations.	09/25/2019
---------------	--	------------

Total: 1 comment(s)