

**State of Colorado
Oil and Gas Conservation Commission**

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received 10/30/2014
REM 8736
Pit Facility 257208
DOC 2142401

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☒ Site/Facility Closure ☐ Other (describe): _____

OGCC Employee

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

OGCC Operator Number: 10084Name of Operator: Pioneer Natural Resources USA, Inc.Address: 1401 17th Street, Suite 1200City: Denver State: CO Zip: 80202

Contact Name and Telephone:

David CastroNo: 303-298-8100Fax: 303-298-7800API Number: 05-071-06788County: Las AnimasFacility Name: Antelope 13-32 offsite pitFacility Number: 257208Well Name: AntelopeWell Number: 13-32Location: (QtrQtr, Sec, Twp, Rng, Meridian): NWSW, Sec. 32, T34S, R65W, 6th P.M. Latitude: 37.04037 Longitude: -104.70281

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): produced waterSite Conditions: Is location within a sensitive area (according to Rule 901e)? ☐ Y ☒ N If yes, attach evaluation.Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Submitted on 2aSoil type, if not previously identified on Form 2A or Federal Surface Use Plan: Submitted on 2aPotential receptors (water wells within 1/4 mi, surface waters, etc.): Nearest permitted water well - 14600' (if SEO point is accurate)Nearest surface water - 700' (if live water is present)

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):



Soils



Vegetation



Groundwater



Surface Water

Extent of Impact:

soil within pit

How Determined:

unlined

REMEDIAL WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

Produced water from this well was being stored in this offsite pit. The well is no longer going to the pit.

Describe how source is to be removed:

Produced water is not being sent to this pit and it is no longer needed.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

Produced water may be surface discharged under a CDPS permit, disposed of in a Class II UIC injection well, or utilized for dust suppression.



REMEDIATION WORKPLAN (Cont.)

Tracking Number:	_____
Name of Operator:	_____
OGCC Operator No:	_____
Received Date:	_____
Well Name & No:	_____
Facility Name & No:	_____

OGCC Employee: _____

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

It is not expected that produced water stored in this pit communicated with nor affected groundwater.

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. Use additional sheet for description if required.

If back berm of pit exists, this material will be utilized to backfill pit. Native fill material may be collected from the recontouring of cut and fill slopes. Fill material will be brought onsite, if needed, to adequately backfill pit. The top 3 feet of the pit will be filled with at least 50% native soil. If topsoil exists, this material will be overlain on the fill material. Backfilled material may be contoured in a manner to be utilized as a stormwater BMP.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☐ Y ☒ N If yes, describe:

No impact to the surrounding environment occurred from the use of this pit.

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

Produced water may be surface discharged under a CDPS permit, disposed of in a Class II UIC injection well, or utilized for dust suppression.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: _____	Date Site Investigation Completed: 10/2014	Date Remediation Plan Submitted: 10/30/2014
Remediation Start Date: upon approval	Anticipated Completion Date: 4th qtr 2014	Actual Completion Date: _____

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

Print Name: David Castro

Signed: _____

Title: Environmental Specialist

Date: 10/30/2014

OGCC Approved: _____ Title: _____ Date: _____

Notify COGCC when pit closure process is completed.

METALS

Analytical results demonstrate that background concentrations of arsenic (As) exceed Table 910-1 concentration levels. Analytical results demonstrate that concentrations of As in soils in the pit also exceed Table 910-1 concentration levels and the pit concentrations are greater than the background concentrations. The analytical results are summarized below:

METAL	BACKGROUND CONCENTRATION (MG/KG)	PIT CONTENTS, SOIL/BEDROCK BELOW PIT OR IMPACTED MEDIA (MG/KG)	TABLE 901-1 CONCENTRATION LEVELS (MG/KG)
Arsenic	1.9-4.2	2.1-4.8	0.39

COGCC and CDPHE have consulted and agree that operators do not need to request variances from CDPHE for instances where the concentrations of metals in impacted soils are equal to or less than background concentrations, but do not meet Table 910-1 concentration values. Since these pit contents exceed the background concentrations for As, the operator will need to mix in 30% clean fill material and also must ensure that remaining pit contents are covered with a minimum of 3 feet of backfill and soil. The soil horizons must be replaced in their original relative position, and reclaimed in accordance with 1000 Series Rules.