

FORM  
**27**  
Rev 8/99

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



#7524

FOR OGCC USE ONLY

RECEIVED  
1/23/2013

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

**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.

OGCC Employee:  
 Spill  Complaint  
 Inspection  NOAV  
Tracking No: 2231270

**CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED**

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

OGCC Operator Number: <u>10079</u>	Contact Name and Telephone: <u>Jerry Alberts</u>
Name of Operator: <u>Antero Resources Piceance Corporation</u>	No: <u>303-357-7341</u>
Address: <u>1625 17th Street Suite 300</u>	Fax: <u>303-357-7315</u>
City: <u>Denver</u> State: <u>CO</u> Zip: <u>80202</u>	
API Number: <u>05-045-11983</u> County: <u>Garfield</u>	
Facility Name: <u>Castle Springs Federal U Pad</u> Facility Number: <u>335055</u>	
Well Name: <u>CSF</u> Well Number: <u>31B-07-07-91</u>	
Location: (QtrQtr, Sec, Twp, Rng, Meridian): <u>SENW Sec. 7 T7S R91W 6th PM</u> Latitude: <u>39.46317</u> Longitude: <u>-107.59852</u>	

**TECHNICAL CONDITIONS**

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Produced Water with some condensate

Site 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.): open rangeland (Federal)

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Morval loam

Potential receptors (water wells within 1/4 mi, surface waters, etc.): unnamed intermittent drainage ~ 940 feet

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

Impacted Media (check):	Extent of Impact:	How Determined:
<input checked="" type="checkbox"/> Soils	<u>TBD</u>	<u>Limited site characterization</u>
<input type="checkbox"/> Vegetation		
<input type="checkbox"/> Groundwater		
<input type="checkbox"/> Surface Water		

**REMEDIATION WORKPLAN**

Describe initial action taken (if previously provided, refer to that form or document):  
See previously submitted Form 19 spill tracking number 2231270

Describe how source is to be removed:  
The vertical extent of impacted soils exceed 4 ft in depth, therefore the pipeline plumbing and the production tanks will be removed to allow for sufficient remediation. Remediation will involve the excavation of impacted soils using a track hoe. Excavation will occur around the affected area identified on Attachment A of the Form 19 submitted to the COGCC on November 28, 2012. Attachment A is also provided with this submittal.

A new line corrugated steel containment structure installed after excavation activities to prevent future releases from impacting underlying soils.

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.:  
Impacted soil from the release will be excavated to levels below Table 910-1 standards. Prior to excavation, the old unlined containment will be dismantled, the tanks and associated piping will be removed, and the dump lines leading to the tanks will be cut off so as not to hinder remedial activities. The impacted soil will be identified by visual and odor observations. Field screening will also be utilized during the removal process until the readings meet Table 910-1 for TPH. Confirmation samples will also be collected and sent to a lab to demonstrate compliance with Table 910-1 standards. Excavated material will be disposed of at a properly permitted disposal facility. Due to the topography of the site, it is not anticipated that groundwater will be encountered during the excavation process.

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

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REMEDIATION WORKPLAN (Cont.)

OGCC Employee:

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

Based on the topographical setting of the pad, the vegetative cover, and the depth to groundwater (~590 feet) from the nearest well located 3,597 feet to the west, it is not anticipated groundwater has been impacted from this release.

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.

After the area is excavated until the underlying soil/gravel meets Table 910-1 standards, the area will be backfilled and compacted with clean native material. The area to be excavated is located around the production tanks at this site which is currently under daily operations. As such, the backfill will be compacted and filled until the area is level with the general elevation of the pad. During backfill activities the production tanks and associated piping will be re-installed and a lined steel containment system will be installed. Seeding this area is not necessary because the site currently operational. Final reclamation at this site will occur when the wells are plugged and abandoned and the site is no longer needed for daily operations.

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? [X] Y [ ] N If yes, describe:

Confirmatory samples will be collected after the area is excavated. The analytical data from the confirmation samples will be sent to the COGCC via Sundry Form 4.

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

Based on the volume of material removed, a cost analysis will be performed to determine the most cost efficient method of dealing with the E&P material. As stated on page 1, the soil will either be treated on-site or disposed of a properly permitted disposal facility.

IMPLEMENTATION SCHEDULE

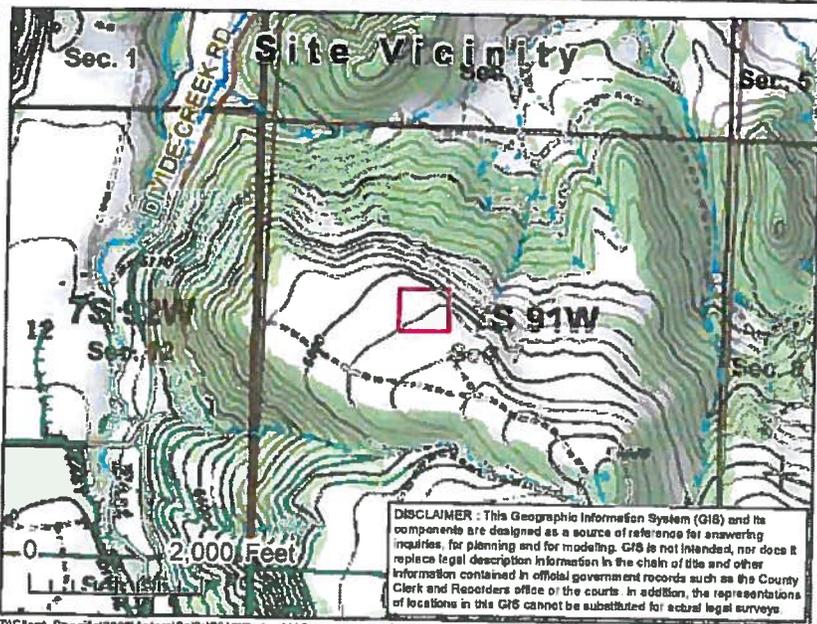
Date Site Investigation Began: 11/19/2012 Date Site Investigation Completed: TBD Date Remediation Plan Submitted: 1/23/2013 Remediation Start Date: TBD Anticipated Completion Date: February 2013 Actual Completion Date:

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

Print Name: Cole Kilstrom Signed: [Signature] Title: Environmental Specialist Date: 1/23/2013

OGCC Approved: [Signature] Title: Env. Supr. Date: 1/25/13

Please notify COGCC, Alex Fischer at alex.fischer@state.co.us and 303-894-2100 x5138 72 hours prior to initiate fieldwork.



DISCLAIMER: This Geographic Information System (GIS) and its components are designed as a source of reference for answering inquiries, for planning and for modeling. GIS is not intended, nor does it replace legal description information in the chain of title and other information contained in official government records such as the County Clerk and Recorder's office or the courts. In addition, the representations of locations in this GIS cannot be substituted for actual legal surveys.

Attachment A--Spill Location Map  
 Location: Federal U  
 Antero Resources Piceance Corp.

- Legend**
- Confirmation Sample
  - PLSS
    - ▭ Township
    - ▭ Section
  - Highways
  - Public Roads
  - Perennial Stream
  - - - Intermittent Stream
  - ▬ Ditch/Canal

