

State of Colorado Oil and Gas Conservation Commission

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



FOR OGCC USE ONLY

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 Operator Number: 10079

Name of Operator: Antero Resources Piceance Corporation

Address: 1625 17th Street, Suite 300

City: Denver State: CO Zip: 80202

Contact Name and Telephone:

Gerard G Alberts

No: 303-357-7341

Fax: 303-357-7315

API Number: NA

County: Garfield

Facility Name: River Ranch A Pad access road

Facility Number: NA

Well Name: NA

Well Number: NA

Location: (QtrQtr, Sec, Twp, Rng, Meridian): SESE, Sec 7, T6S, 92W, 6th PM Latitude: 39.536077 Longitude: -107.700495

TECHNICAL CONDITIONS

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

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☒ Y ☐ N If yes, attach evaluation. GW < 20 feet deep

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Gravel mining, irrigated land

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Sandy loam and river gravels

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Surface water seeps in the gravel pit approximately 150 feet west.

Surface ponds are located 1,140 feet north.

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

Impacted Media (check):



Soils

Extent of Impact:

Unknown

How Determined:

TBD through future site assessment



Vegetation



Groundwater

Unknown

TBD through future site assessment



Surface Water

Limited to groundwater seeps

Visual and laboratory analytical results

REMEDIAL WORKPLAN

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

A Form 19 was submitted on 8/10/10 (Spill # not available).

Describe how source is to be removed:

A subsequent Form 27 explaining remediation details will be provided following the site assessment. See attached workplan for an initial proposed remediation technology.

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.:

See above.



REMEDIAL WORKPLAN (Cont.)

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Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: NA NA
Facility Name & No: River Ranch A Pad access road NA

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

Antero is currently conducting site assessment activities. Groundwater monitoring will be conducted using the wells installed during the site assessment. A detailed plan and monitoring frequency will be provided in a subsequent Form 27.

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.

NA

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:

The Antero consultant is currently conducting site assessment activities at the site. Initially, delineation will begin at the pipeline release site and radiate outward until clean boundaries are established via point of compliance wells. A soil boring may be advanced inside the gravel pit to assess bedrock conditions and rule out bedrock impacts from weathered fracture flow. As there is a gravel pit liner present west of the release and it will be determine if impacts have migrated along the liner. Previous plans detailed multiple borings in the gravel pit. This has now changed to delineation east of the gravel pit boundary and liner. See attached workplan.

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

Investigation derived waste will be segregated depending on the level of impact. Impacted soil will be stored at the onsite equipment storage area. Depending on the volume of waste brought to the surface, the company will decide on the most effective means of treatment or disposal.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 7/27/10 Date Site Investigation Completed: NA Date Remediation Plan Submitted: 8/18/10
Remediation Start Date: NA Anticipated Completion Date: NA Actual Completion Date: NA

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

Print Name: Gerard G Alberts

Signed: _____

Title: Manager, Environmental & Regulatory

Date: 8/18/10

OGCC Approved: _____ Title: _____ Date: _____