FORM 2A Rev 04/01

# State of Colorado
# Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80205 Phone: (303) 894-2100 Fax: (303) 894-2109

| DE | ET | OE | ES |
|---|---|---|---|

Document Number: 400231814

## Oil and Gas Location Assessment

☐ New Location ☒ Amend Existing Location Location#: 335549

Submit original plus one copy. This form is to be submitted to the COGCC prior to any ground disturbance activity associated with oil and gas development operations. This Assessment may be approved as a standalone application or submitted as an informational report accompanying an Application for Permit-To-Drill, Form 2. Approval of this Assessment will allow for the construction of the below specified location; however, it does not supersede any land use rules applied by the local land use authority. This form may serve as notice to land owners and other interested parties, please see the COGCC web site at http://colorado.gov/cogcc/ for all accompanying information pertinent to this Oil and Gas Location Assessment.

Location ID: **335549**

Expiration Date: **01/19/2015**

☐ This location assessment is included as part of a permit application.

## 1. CONSULTATION

☐ This location is included in a Comprehensive Drilling Plan. CDP #

☒ This location is in a sensitive wildlife habitat area.

☐ This location is in a wildlife restricted surface occupancy area.

☐ This location includes a Rule 306.d.(1)A.ii. variance request.

## 2. Operator

Operator Number: 10079

Name: ANTERO RESOURCES PICEANCE CORPORATION

Address: 1625 17TH ST STE 300

City: DENVER State: CO Zip: 80202

## 3. Contact Information

Name: Hannah Knopping

Phone: (303) 357-6412

Fax: (303) 357-7315

email: hknopping@anteroresources.com

## 4. Location Identification:

Name: Gentry Number: B Pad

County: GARFIELD

QuarterQuarter: SENW Section: 17 Township: 6S Range: 92W Meridian: 6 Ground Elevation: 5626

Define a single point as a location reference for the facility location. This point should be used as the point of measurement in the drawings to be submitted with this application. When the location is to be used as a well site then the point shall be a well location.

Footage at surface: 1995 feet FNL , from North or South section line, and 1602 feet FWL , from East or West section line.

Latitude: 39.528397 Longitude: -107.694308 PDOP Reading: 1.3 Date of Measurement: 12/15/2006

Instrument Operator's Name: SCOTT AIBNER

## 5. Facilities (Indicate the number of each type of oil and gas facility planned on location):

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Special Purpose Pits: | | Drilling Pits: | | Wells: | 14 | Production Pits: | | Dehydrator Units: | |
| Condensate Tanks: | 2 | Water Tanks: | 4 | Separators: | 4 | Electric Motors: | | Multi-Well Pits: | |
| Gas or Diesel Motors: | | Cavity Pumps: | | LACT Unit: | | Pump Jacks: | | Pigging Station: | 1 |
| Electric Generators: | | Gas Pipeline: | 1 | Oil Pipeline | 1 | Water Pipeline: | 1 | Flare: | |
| Gas Compressors: | | | | VOC Combustor: | 1 | Oil Tanks: | | Fuel Tanks: | |

Other: Note: Gas, oil & water pipelines will be constructed along access road. See attached list for details

## 6. Construction:

Date planned to commence construction: 02/15/2012 Size of disturbed area during construction in acres: 3.60

Estimated date that interim reclamation will begin: 02/14/2013 Size of location after interim reclamation in acres: 1.60

Estimated post-construction ground elevation: 5626 Will a closed loop system be used for drilling fluids: Yes [X]

Will salt sections be encountered during drilling: Yes [ ] No [X] Is H2S anticipated? Yes [ ] No [X]

Will salt (>15,000 ppm TDS Cl) or oil based muds be used: Yes [ ] No [X]

Mud disposal: Offsite [X] Onsite [ ] Method: Land Farming [ ] Land Spreading [ ] Disposal Facility [X]

Other: Onsite if app, see comments

## 7. Surface Owner:

Name: _____ Phone: _____

Address: _____ Fax: _____

Address: _____ Email: _____

City: _____ State: _____ Zip: _____ Date of Rule 306 surface owner consultation: 06/12/2007

Surface Owner: [X] Fee [ ] State [ ] Federal [ ] Indian

Mineral Owner: [X] Fee [ ] State [ ] Federal [ ] Indian

The surface owner is: [ ] the mineral owner [ ] committed to an oil and gas lease [ ] is the executer of the oil and gas lease [ ] the applicant

The right to construct the location is granted by: [ ] oil and gas lease [X] Surface Use Agreement [ ] Right of Way [ ] applicant is owner

Surface damage assurance if no agreement is in place: [ ] $2000 [ ] $5000 [ ] Blanket Surety ID _____

## 8. Reclamation Financial Assurance:

[X] Well Surety ID: 20040071 [ ] Gas Facility Surety ID: _____ [ ] Waste Mgnt. Surety ID: _____

## 9. Cultural:

Is the location in a high density area (Rule 603.b.): Yes [ ] No [X]

Distance, in feet, to nearest building: 2631 , public road: 671 , above ground utilit: 661

, railroad: 7060 , property line: 198

## 10. Current Land Use (Check all that apply):

Crop Land: [ ] Irrigated [ ] Dry land [ ] Improved Pasture [ ] Hay Meadow [ ] CRP

Non-Crop Land: [X] Rangeland [ ] Timber [ ] Recreational [ ] Other (describe): _____

Subdivided: [ ] Industrial [ ] Commercial [ ] Residential

## 11. Future Land Use (Check all that apply):

Crop Land: [ ] Irrigated [ ] Dry land [ ] Improved Pasture [ ] Hay Meadow [ ] CRP

Non-Crop Land: [X] Rangeland [ ] Timber [ ] Recreational [ ] Other (describe): _____

Subdivided: [ ] Industrial [ ] Commercial [ ] Residential

## 12. Soils:

List all soil map units that occur within the proposed location. Attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" report listing the soil typical vertical profile. This data is to used when segregating topsoil.

The required information can be obtained from the NRCS web site at http://soildatamart.nrcs.usda.gov/ or from the COGCC web site GIS Online map page found at http://colorado.gov/cogcc. Instructions are provided within the COGCC web site help section.

NRCS Map Unit Name: 55: Potts loam, 3 to 6 percent slopes

NRCS Map Unit Name:

NRCS Map Unit Name:

## 13. Plant Community:

Complete this section only if any portion of the disturbed area of the location's current land use is on non-crop land.

Are noxious weeds present: Yes ☐ No ☒

Plant species from: ☒ NRCS or, ☒ field observation Date of observation: 11/15/2011

List individual species: Sagebrush and grasses. See attached NRCS Rangeland Productivity and Plant Composition List.

Check all plant communities that exist in the disturbed area.

- ☐ Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye)
- ☒ Native Grassland (Bluestem, Grama, Wheatgrass, Buffalograss, Fescue, Oatgrass, Brome)
- ☐ Shrub Land (Mahogany, Oak, Sage, Serviceberry, Chokecherry)
- ☐ Plains Riparian (Cottonwood, Willow, Aspen, Maple, Poplar, Russian Olive, Tamarisk)
- ☐ Mountain Riparian (Cottonwood, Willow, Blue Spruce)
- ☐ Forest Land (Spruce, Fir, Ponderosa Pine, Lodgepole Pine, Juniper, Pinyon, Aspen)
- ☐ Wetlands Aquatic (Bullrush, Sedge, Cattail, Arrowhead)
- ☐ Alpine (above timberline)
- ☐ Other (describe):

## 14. Water Resources:

Rule 901.e. may require a sensitive area determination be performed. If this determination is performed the data is to be submitted with the Form 2A.

Is this a sensitive area: ☐ No ☒ Yes Was a Rule 901.e. Sensitive Areas Determination performed: ☒ No ☐ Yes

Distance (in feet) to nearest surface water: 573 , water well: 972 , depth to ground water: 13

Is the location in a riparian area: ☒ No ☐ Yes Was an Army Corps of Engineers Section 404 permit filed ☒ No ☐ Yes

Is the location within a Rule 317B Surface Water Suppl Area buffer zone:

☐ No ☐ 0-300 ft. zone ☐ 301-500 ft. zone ☒ 501-2640 ft. zone

If the location is within a Rule 317B Surface Water Supply Area buffer have all public water supply systems within 15 miles been notified: ☐ No ☒ Yes

## 15. Comments:

This pad is built, however since we are proposing to expand the pad size to approximately 315' X 440' as shown on the Construction Layout Drawing, we are submitting this Form 2A as required. The Reference Area is undisturbed ground immediately adjacent and to the South of the well pad, as shown in the "Looking North" location photo. #4 The Gentry B1 well was used as the reference point for well distance measurements. #6 Mud Disposal: Antero will bury cuttings onsite if disposal meets Table 910 and if there is a provision in SUA which allows for such operation. We have updated the location name to "Gentry B Pad". #14 Water Resources: The depth to ground water was determined by using static water level data of Permit# 42628/Receipt#9114078 which is approximately 388' E of location. Please find attached the notification to public water supply systems within 15 miles per Rule 317B.

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

Signed: Date: 12/28/2011 Email: hknopping@anteroresources.com

Print Name: Hannah Knopping Title: Permit Representative

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: David S. Neslin **Director of COGCC** Date: 1/20/2012

**CONDITIONS OF APPROVAL, IF ANY:**

**All representations, stipulations and conditions of approval stated in this Form 2A for this location shall constitute representations, stipulations and conditions of approval for any and all subsequent operations on the location unless this Form 2A is modified by Sundry Notice, Form 4 or an Amended Form 2A.**

GENERAL SITE COAs:

Operator must implement best management practices to contain any unintentional release of fluids, including any fluids conveyed via temporary surface pipelines or buried pipelines.

Any pit constructed to hold fluids (reserve pit, production pit, frac pit; except for flare pit, if built) must be lined, or a closed loop system (as indicated by operator on the Form 2A) must be implemented .

Operator must ensure secondary containment for any volume of fluids contained at well site during drilling and completion operations; including, but not limited to, construction of a berm or diversion dike, diversion/collection trenches within and/or outside of berms/dikes, site grading, or other comparable measures (i.e., best management practices (BMPs) associated with stormwater management) sufficiently protective of nearby surface water. Any berm constructed at the well pad location will be stabilized, inspected at regular intervals (at least every 14 days), and maintained in good condition.

The moisture content of any drill cuttings in a cuttings pit, trench, or pile shall be as low as practicable to prevent accumulation of liquids greater than de minimis amounts. At the time of closure, if drill cuttings are to remain/disposed of onsite, or to be recycled and used offsite, the drill cuttings must also meet the applicable standards of table 910-1.

Flowback and stimulation fluids must be sent to tanks, separators, or other containment/filtering equipment before the fluids can be placed into any pipeline or pit located on the well pad or into tanker trucks for offsite disposal. The flowback and stimulation fluid tanks, separators, or other containment/filtering equipment must be placed on the well pad in an area with additional downgradient perimeter berming. The area where flowback fluids will be stored/reused must be constructed to be sufficiently impervious to contain any spilled or released material.

Berms or other containment devices shall be constructed to be sufficiently impervious to contain any spilled or released material around crude oil, condensate, and produced water storage tanks.

## Attachment Check List

| Att Doc Num | Name |
|---|---|
| 2034126 | CORRESPONDENCE |
| 400231814 | FORM 2A SUBMITTED |
| 400232043 | HYDROLOGY MAP |
| 400232044 | MULTI-WELL PLAN |
| 400232045 | SURFACE AGRMT/SURETY |
| 400232411 | LOCATION DRAWING |
| 400232412 | LOCATION PICTURES |
| 400232827 | NRCS MAP UNIT DESC |
| 400232828 | OTHER |
| 400235834 | EQUIPMENT LIST |
| 400236270 | CONST. LAYOUT DRAWINGS |
| 400236271 | 317B NOTIFICATION |

Total Attach: 12 Files

## General Comments

| User Group | Comment | Comment Date |
|---|---|---|
| Permit | LGD/public comments waived. Final Comprehensive Review Status--passed | 1/20/2012 8:02:11 AM |
| DOW | This well pad location is within the boundary of the Antero - CPW Wildlife Mitigation Plan.The BMPs and COAs were developed and agreed upon in consultation of the Wildlife Mitigation Plan.The BMPs and COAs of the WMP are applicable<br><br>and are appropriate for the site and species effected.<br><br>Friday, December 30, 2011 at 10:00 a.m. | 12/30/2011 10:00:12 AM |
| Permit | 14 well pad with four wells already drilled and 10 APD's approved. ready to approve in permitting. | 12/30/2011 8:00:57 AM |
| OGLA | Initiated/Completed OGLA Form 2A review on 12-29-11 by Dave Kubeczko; requested acknowledgement of fluid containment, spill/release BMPs, lined pits/closed loop, moisture content cuttings, flowback to tanks, and tank berming COAs from operator on 12-29-11; received acknowledgement of COAs from operator on 01-10-12; added BMPs from Antero-CPW WMP for Gravel Trend Lease; passed by CPW on12-30-11 with operator BMPs and WMP acceptable; passed OGLA Form 2A review on 01-19-12 by Dave Kubeczko; fluid containment, spill/release BMPs, lined pits/closed loop, moisture content cuttings, flowback to tanks, and tank berming COAs. | 12/29/2011 9:25:20 AM |

Total: 4 comment(s)

## BMP

| Type | Comment |
|---|---|
| Wildlife | Wildlife Mitigation Plan Supplemental Best Management Practices Antero Rifle-Silt (Gravel Trend) Leasehold – March 24, 2010<br><br>1.Drilling and Production<br>No reserve, drill cuttings or frac/flowback pits will be constructed.<br>Well pads will be constructed with perimeter berm on downslope area.<br>Well pads, access roads will be graveled to reduce fugitive dust, sediment run-off.<br>Above-ground facilities will be located to minimize visual effects (e.g. production tanks will be low profile tanks and painted to mitigate visual impacts).<br>Combustor controls will be used to mitigate odors from production tanks.<br>Well completions will utilize flowback completion technologies and/or flares to reduce odors from plug drillout, and venting of salable and non-salable gas.<br>High level alarms will be installed on production tanks.<br>Production tank containment area will be lined with plastic.<br><br>2.Invasive Non-Native Vegetation Control<br>Weed management plan will be developed and implemented to monitor and control noxious and invasive weeds.<br>Noxious weed control includes three treatments per year.<br>Existing weed infestations will be mapped prior to the development of each pad, access road and pipeline when practicable.<br>Reclamation/revegetation will be used as a weed management tool.<br><br>3.Planning Infrastructure and Development Activities<br>Directional drilling will be implemented to minimize habitat loss and habitat fragmentation.<br>Remote monitoring using SCADA systems to reduce truck traffic, fugitive dust.<br>Water pipeline infrastructure will be installed concurrently with the gas pipeline infrastructure where possible.<br>SPCC inspections will be conducted quarterly.<br>Water used for well completions will be recycled as practicable.<br>Baseline and post drilling/completion water well testing will be performed for permitted water wells within ½ mile of down-hole location.<br>Annual planning meeting to be conducted with Rifle-Silt-New Castle Community. |

| | |
|---|---|
| | 4.Stormwater Management<br>Facilities will be operated with a Water Quality Control Division (WQCD) stormwater construction permit.<br>Stormwater BMPs in accordance with the Stormwater Management Plan will be implemented in a manner that minimizes erosion, transport of sediment offsite, and site degradation.<br>Inspections will be conducted every two weeks or monthly and in accordance with WQCD General Permit to confirm that applicable BMPs are in place, maintained and functioning properly.<br><br>5.Public Water System Protection Section 317B(d)<br>Best management practices will be implemented to contain any unintentional releases of fluids for locations within 500 feet of surface water Locations within 500 feet of surface water will ensure 110 percent secondary containment for any volume of fluids contained at a well site during drilling and completion operations.<br><br>6.Mitigation Plan Best Management Practices<br>Mitigation Plan signed by Ron Velarde, CDOW NW Regional Manager and Kevin Kilstrom, Antero Resources VP Production, on March 24, 2010.<br>Closed loop (pitless) drilling system.<br>Participation in raptor and other birds (great blue heron) monitoring and surveying with protocol to be developed by CDOW and implemented by Antero when practicable.<br>Buried water and gas pipelines as means to reduce truck traffic.<br>Seasonal raptor RSOs for species not included in new COGCC rules will be considered where practicable.<br>Avoidance/seclusion area in the northeast corner of the CDP (Burning Mountain) unless lease expiration warrants development.<br>Restricted rig operation to less than 2 per section within the big game seclusion areas during the winter (to be determined in consultation with CDOW).<br>Maintaining a ¼ mile no surface occupancy buffer around active bald eagle nests.<br>New pad construction not to exceed 3 acres.<br>Pad density not to exceed 1 pad per 120 acres.<br>Bury all gas and water pipelines adjacent to roads whenever possible.<br>The mitigation opportunities/projects will be defined by the Mitigation Plan for each well pad.<br>The mitigation opportunities/projects will be determined cooperatively with the CDOW during the annual Antero Mitigation Plan Review.<br>CDOW Actions to Minimize Adverse Impacts to Wildlife Resources is attached to the March 22, 2010 Mitigation Plan. |

Total: 1 comment(s)